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THE RECOVERY OF THE PERSON
IN THE POST-CRITICAL THOUGHT OF MICHAEL POLANYI

by

DAVID WHITT RUTLEDGE

A THESIS SUBMITTED
IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE

DOCTOR OF PHILOSOPHY

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ABSTRACT

The Recovery of the Person
in the Post-Critical Thought of Michael Polanyi

David W. Rutledge

In this essay I attempt to extricate the notion of the "person" from the writings of Michael Polanyi. Mapping its contours places this notion more exactly within Polanyi's intellectual landscape, illuminates the polemical setting of his work, and demonstrates that his thought can be fruitfully extended beyond epistemology.

A central methodological problem is the difficulty of examining the personal from an objective (impersonal) or scholarly point of view. My solution to this dilemma is a strategy of 'indirection,' in which examples of the personal as it exists in the human feats of knowing, speaking, and acting are exhibited, but not exhaustively defined. This is consistent with Polanyi's distinctive way of philosophizing and with the protean character of the concept of "persons."

In Chapter I Polanyi is placed in context through a discussion of the rise of the objective approach to knowledge in the seventeenth century. The objective paradigm claims that nature is a determinate system, completely specifiable in principle; that physical nature (that which is geometrically extended) is alone real; that knowledge should be patterned after mathematics, the surest model of clarity and certainty; and that knowledge is acquired through the consistent application of a methodological doubt. This model demands that knowledge be
abstract, disincarnate, impersonal, and publicly specifiable, thus excising persons from the search for truth. Its view of man contributes to the currently problematic status of persons. In Polanyi's arguments against such a reduction of full human existence we find his polemical setting.

In Chapter II 'the person as knower' is approached through Polanyi's discussion of "personal knowledge," which is his epistemological alternative to the Objectivism of Chapter I. I focus on the concepts of discovery, tacit knowing, commitment, conviviality, and logical levels, which yield a way of knowing that is bodily, communal, passionate, and self-justifying.

Chapter III examines 'the person as speaker' by considering Polanyi's discussion of articulation, and by showing how his work can be extended and deepened with the help of George Steiner. Both men reject the view of language, stemming from the ideal of objective knowledge, which holds that speaking is subsidiary to knowing; that language is meaningful only when explicitly formulated; that the separation of language as formal system from language as speech is inconsequential; and that the relation of the speaker to his spoken words has no epistemological bearing on those words. Specific attention is given to the linguistic properties of temporality, privacy, alterity, and orality.

In Chapter IV, 'the person as actor,' I show that modern distortions of the concept of the person assimilate "action" to "behavior" (with reference to B.F. Skinner), and "mind" to "brain" (with reference to J.J.C. Smart). I suggest that through Polanyi's concepts of tacit knowing and indwelling, we arrive at a more satisfying account of human action.
In the final chapter I draw together 'knowing,' 'speaking,' and '
acting,' concluding that the central feature of personhood is the
act of commitment, and more particularly, appropriation, in which we
claim our appraisals, our speech, and our achievements as our own. I
suggest that the role of the concept of person should be that of a
metaphor, by which we refer to central elements (unspecifiable in
any complete sense) of our lived experience; I then indicate relevant
theological implications. The thesis is an argument for reformulating
knowledge, language, and agency in terms of their irreducibly personal
core, through which we can resituate ourselves within a meaningful
world.
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Apart from the intellectual assistance indicated in the dissertation itself, I am indebted to a number of persons whose help made this essay possible.

Several scholars who were friends of Michael Polanyi gave moral and material support. William T. Scott, University of Nevada, supplied two papers which I was otherwise unable to obtain. Richard L. Gelwick, Stephens College, commented on an early prospectus for the thesis, and offered continual support. He also invited a presentation to the American Academy of Religion Polanyi Symposium, which gave me the opportunity to clarify my thoughts on the issue of interpreting Polanyi. My greatest debt here is to William H. Poteat, Duke University, in whose seminars I was first drawn to Michael Polanyi's work, and who also commented on an early prospectus; his insights have strongly shaped my own perspective. Finally, I want to thank Elizabeth Sewell for sharing some of her experiences with Polanyi. Though our conversations came after my writing was complete, they confirmed me in my basic views, and deepened my appreciation of Polanyi the man. I alone, of course, am responsible for the interpretation of Polanyi presented in the dissertation.

At Rice University I am indebted to the warm convivial order of teachers and fellow students in Religious Studies, particularly Professor Werner Kelber, for continuing stimulation, support, and friendship; to Stephen Condit and Kevin Maxwell for their comments on early proposals and drafts; to Mrs. Sylvia Louie, my capable typist; and to Rice
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Underlying all these aids is the continuing encouragement and faith of my family. To my wife, Dorothy, particularly, I owe, among many things, ευχαριστώς.
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CHAPTER I

REAPPRAISING THE CRITICAL IDEAL

Introduction

A prominent concern of modern Christian theology has been the transformation of traditional religious thought within a secular, 'post-Christian' culture. In the early years of the Enlightenment, this concern was expressed in pitched battles between clerics and philosophes, and made "faith against reason" a social and political slogan. Today the polemical character of Christianity's self-assessment has largely disappeared, and the consequent relaxation of the defensive postures of "science" and "religion" has allowed deeper, more significant intellectual problems to surface. The question of the relation of believing to reasoning, which was a central but unresolved dilemma of the late medieval period, has revived with a new maturity and a new urgency. The pressures of the twentieth century have led many honest men to discard their allegiances to ideological programmes (both narrowly religious and narrowly rationalistic) whose answers to this question appear in retrospect naively optimistic and superficial. In a few recent minds we can trace the conviction, and in many minds the suspicion, that understanding man and the world is going to prove infinitely more complex and surprising than we had expected. Our traditional assumptions concerning "science," "knowledge," "belief," and "truth" are no longer unproblematic; they do not always fit our lived experience.
It is in this setting of troubled yet open reappraisal that Michael Polanyi's work has its singular value. His writings present the effort of a brilliant and concerned man to come to grips with some of these central issues through his personal experience in the natural sciences. While he cannot be said to solve these major problems, Polanyi does point out the direction from which solutions must come. He writes on matters in science, epistemology, and religion, but rather than constructing systematic theories within these areas, he suggests ways in which a person might live in a world within which both critical thinking and belief are natural elements, like air or water. Throughout the latter half of his career, he worked on the boundaries between various disciplines, addressing in a markedly personal style the general audience of intelligent men and women concerned about their culture. This stance inevitably has shortcomings when measured by academic standards, but it also gives his work a refreshing vitality. Michael Polanyi is, then, a protean, complex thinker, and there is in this very elusiveness a symmetry between his thought and the problems he addresses. It is precisely the unconventional, extra-territorial character of his work that makes him an appropriate guide to a reassessment of our current intellectual sensibility.

In this study we will examine Polanyi's description of the current malaise in our self-understanding, and his suggestions for correcting that image. My particular concern is to clarify the notion of the person which underlies all of Polanyi's thought, but which has not been explicitly treated. Though his readers acknowledge the centrality of this
concept, its dimensions have yet to be fully mapped. This dissertation uses "the person" as a lens within which Polanyi's thought may be brought into focus, and with which certain central philosophical and theological problems can be clarified. My underlying assumption is that these problems have common roots, that our dissatisfaction with elements of scientific rationalism is related to our inability to see meaning in much of traditional theology.

From Polanyi's "unconventional reflection," from his "somewhat massive literature . . . begging to be deciphered," I have extracted three central aspects of personal existence -- knowing, speaking, and acting -- which embody fundamental ways in which we are distinctively human. After examining these areas from a Polanyian perspective, the study concludes with the argument that at the core of the personal is the act of commitment, and more specifically, appropriation, by which we claim our identity, and accept our place and calling as our own.

It is the appropriative act that makes knowing, speaking, and acting personal, that establishes them as ways of being human, rather than as mere "ways of behaving." Polanyi's view of the person proves to be quite different from many traditional formulations. "The person" is best understood not as a mysterious metaphysical entity, as a disposable synonym for other "man" words, or as self-authenticating praxis, but as an indispensable metaphor for the unique event that comes into being when a man owns himself.

It should also be noted that this paper will not focus explicitly on theological issues, though reference will be made to its bearing on
religious thought. In addition to limits of space, there is the more important reason of maintaining consistency with the presuppositions of the thesis. If, as Polanyi suggests, our culture is still embedded within a distorted mental paradigm (very broadly, 'critical thought'), then our language and thought about any matter will reflect that distortion. Theology can be as much a prisoner of prevailing cultural myths as any other enterprise, and the restoration of a meaningful language will be a long and arduous process. The first task of the theologian, when listening to Polanyi, is to resist the urge to immediately thrust Polanyian insights into a theological context. He cannot be used as an ally in some alleged battle between "science" and "religion" — that was not his interest or his purpose, and it presupposes highly dubitable conclusions about his view of science and of religion.

Polanyi's work may properly serve to help untangle some of the knots in our current thinking. It may even clear the ground for some future, as yet unseen reappropriation of faculties, beliefs, and visions from which we are now quite alienated. Certain hints of such promises are mentioned at the conclusion of the thesis. But such promises are there for the religious as well as the non-religious man; we cannot "baptize" Polanyi, who, after all, could never quite baptize himself. 5

The thesis is therefore preliminary, a prolegomenon, to future work in theology. This somewhat oblique approach to religious thought has a venerable history within the Judeo-Christian tradition, most clearly represented in the pseudonymous authorship of Søren Kierkegaard. The ironic mode which he employed throughout his writings reflects a
carefully thought out plan to 'compel men to take notice.' In his words:

... an illusion can never be destroyed directly, and only by indirect means can it be radically removed .... That is, one must approach from behind the person who is under an illusion ... otherwise one will certainly not get the man out of his illusion, a thing which is difficult enough in any case .... The religious writer must, therefore, first get into touch with men.

And, we might add, help men get in touch with themselves. For all of these reasons, theological issues provide a framework, an ultimate horizon to which this essay points and within which its separate elements cohere, but they will not be addressed directly.

Michael Polanyi

As this dissertation does not attempt a complete exposition of Polanyi's thought, and as it relegates much of the secondary literature to footnotes, certain orienting remarks are in order. This section will briefly sketch the background of Polanyi's work and some of the issues which have arisen in Polanyian interpretation. As even these prefatory remarks cannot be complete, an Appendix will give biographical data, and the notes will indicate where particular problems may be pursued. Our aim will be to show the origin of Polanyi's interest in problems of knowledge and belief, the reasons for my way of reading Polanyi, and some of the connections that can be discerned between Polanyi's thought and other currents in the humanities and social sciences. His conception of personal knowledge will be treated in Chapter II. These introductory issues are handled more expansively in Richard Gelwick's recent The Way of Discovery: An Introduction to the Thought of Michael Polanyi.
The Origin of Polanyi's Concern

When first prompted to address non-scientific questions, Polanyi was, by training and practice, a physical chemist. He was led beyond his chosen field by his opposition to the claim of Soviet Marxism, well represented in Britain in the 1930s, that "pure science was a morbid symptom of a class society," and that research should therefore be directed by the State to specific needs of society. Marxism's underlying thesis was that "the mode of production of material life conditions the social, political, and intellectual life process in general. It is not the consciousness of men that determines their social being, but, on the contrary, their social being that determines their consciousness." Science, as an intellectual enterprise, could not, therefore, be said to deal with the true state of nature, but only with the vision of nature belonging to a particular social class:

Your very ideas are but the outgrowth of the conditions of your bourgeois production and bourgeois property, just as your jurisprudence is but the will of your class made into a law for all, a will whose essential character and direction are determined by the economical conditions of existence of your class . . . . The ideas of religious liberty and freedom of conscience, merely gave expression to the sway of free competition within the domain of knowledge.

Polanyi's colleagues at scientific meetings often claimed that the "basic value" of "freedom of thought" was nothing more than an epiphenomenal product of aristocratic wealth, an intellectual justification of a social structure in which the aristocrat was free to dominate the proletariat. Liberalism's espousal of "free thought" simply reflects the liberal's position as controller of the means of production of material life, and it is this social, political, and economic power
which grants to his thought the determinative status of "truth." In themselves, "freedom," "truth," "conscience," and other such values are relative, socially determined, and ancillary to an assessment of the facts of history. Polanyi saw that the philosophical significance of such a claim lay in its severance of knowledge (as embodied in science) from those values which traditionally formed the foundation of science -- freedom, truth, the worth of the individual. Science was no longer considered part of an intellectual search for truth, but was simply one technique for organizing experience.

When Russian scientists were imprisoned for insisting that the "pursuit of truth" was the legitimate motive of science, and when "fanatical cranks" like T. D. Lysenko were elevated to the leadership of the Soviet scientific community, Polanyi was appalled and shaken. The simultaneous rise of Nazism deepened his belief that the basic intellectual convictions of the west were in serious disarray. Although it took years for Polanyi to work out the dynamics of Marxism to his satisfaction, he saw immediately that "this denial of the very existence of independent scientific thought came from a socialist theory which derived its tremendous persuasive power from its claim to scientific certainty." The cognitive underpinnings of science were being destroyed in the name of a more basic 'science,' historical materialism. This was the formidable challenge of Marxism: it could claim to avoid the anti-rationalism of Romanticism and religious fideism while attacking 'orthodox' (liberal) science.

As he began to investigate the nature of scientific research in
the light of this challenge, Polanyi became convinced that "freedom of thought" must mean not only that research would prove more productive if unfettered by government supervision, but that thought required freedom. Thus the researcher must be necessarily allowed freedom in his effort to know; there could be no knowledge otherwise. But Polanyi also saw that to posit values at the foundations of knowledge had implications far beyond the parochial concerns of science or even the philosophy of science. For he was suggesting a subtle relation between moral and cognitive issues, and such a suggestion was "no more acceptable to the dominant schools of western philosophy than to the Marxists." When he looked around at his own professional community, Polanyi found the philosophical reaches of science dominated by a positivism that had become, in effect, a metaphysic. It insisted on the relative, purely utilitarian character of scientific thought, and it predetermined views of human nature and behavior far beyond the narrow confines of the laboratories within which it began.

For the next thirty years, Polanyi was essentially struggling to come to terms with the concept of human knowing expressed in certain forms of scientific positivism, logical positivism, and behaviorism. All of his work must be read against this background of a cultural sensibility inimical to radical ideas of intellectual freedom and traditional beliefs. He thus becomes engaged in "a passionate and profound attack upon empiricism in its stronghold -- the theory of scientific enquiry," but his concern is not solely epistemological. Polanyi became convinced that the excesses of Stalinist communism
(summarized for us today in the symbol of the GULAG 'Archipelago') were closely tied up with the Objectivist rationality that launched Marxism. There are, he suggests, important relations between the growing inhumanity of our age, fascinated with totalitarian regimes in which man is considered only in the aggregate, as a part of a mass, and our devotion to the belief that persons possess no access to true values. In this view truth can only reside in what is certain, and certainty can only be won by impersonal -- objective -- means. Modern man attempts to flee his impotence by submerging his individuality in the power of states (as in communism or fascism) or in the mass of consumers (as in the democracies). The implication, therefore, is that the denigration of the person in modern canons of thought may have led to a culture in which persons no longer occupy any place or possess any value, and that this displacement or "exteriorization" of value from persons to impersonal structures (of thought or of politics) has led to the monstrous mistakes of this century.

Polanyi is not primarily a critic of culture, and he does not develop these suggestions in great detail, though he might have found a number of thinkers who shared his suspicions.\(^\text{17}\) It is important for our purposes, however, that we appreciate the existential concern behind Polanyi's efforts, and that we see the underlying motive for reinstating the personal dimension in our intellectual firmament.

The Development of His Thought

From the new perspective opened up by his research Polanyi rejected what he saw as our culture's dominant conviction that scientific thought
is characterized by radical objectivity, the independence of all real knowledge from any knowing subject.\textsuperscript{18} Taking the act of scientific discovery as a paradigm of coming to know, Polanyi concluded that:

> It is determined at every stage by undefinable powers of thought. No rules can account for the way a good idea is produced for starting an enquiry; and there are no rules either for the verification or the refutation of a proposed solution of a problem. Rules widely current may be plausible enough, but scientific enquiry often proceeds and triumphs by contradicting them.\textsuperscript{19}

Knowledge, he concludes, is irreducibly personal, and it is from that personal center that the values arise which sustain all human endeavor, including science.

There were several stages in the development of this conception. In *Science, Faith and Society* (1946) the social context of science was examined, leading Polanyi to the belief that the scientific community has both authoritative and 'liberating' functions. It cultivates and enforces the tradition of science (including the accepted standard of knowledge in each field), while at the same time it fosters the enriching communication of ideas necessary for further discovery.\textsuperscript{20}

With *Personal Knowledge* (1958), another stage is reached. Here he faces "the task of justifying the holding of unproven traditional beliefs," and concentrates on the role of commitment in the intellectual life.\textsuperscript{21} He also turns more to a consideration of individual cases of knowing or discovery, though the social realm is still in the background. Lastly, this book grounds Polanyi's talk of knowledge genetically in a broad discussion of "the natural history of mankind," where the human mind is envisioned as "the ultimate stage in the awakening of the world."\textsuperscript{22}
After Personal Knowledge a distinctively new period begins, in which Polanyi (1) attempts to state a concrete theory of knowledge based on "tacit knowing" (The Tacit Dimension, 1966), and (2) applies his earlier insights and his new theory to areas outside of science (history -- The Study of Man, 1959; art and religion -- Meaning, with Harry Prosch, 1975; psychology and philosophy -- in various articles, some of which are collected in Knowing and Being, 1969, and in Scientific Thought and Social Reality, 1974).23

Here it must be remarked that insufficient attention has been paid by Polanyi's commentators to possible variations in his thought. A study of his development will show significant changes between Personal Knowledge and the writings which followed, particularly after The Tacit Dimension in 1966.24 This point is important, for it implies that many evaluations of Polanyi have been conditioned by a misreading of his work. Within Personal Knowledge, Polanyi is working out how he can "reasonably" hold on to unproven beliefs, and in the process of untangling some of our most revered intellectual myths concerning reason, he finds that the whole landscape of these terms has shifted. The significant point of the book is its "in-process" character, its self-announced aim of pointing a way, not propounding a theory:

I have arrived at the opening of this last chapter without having suggested any definite theory concerning the nature of things; and I shall finish this chapter without having presented any such theory. This book tries to re-equip men with the faculties which centuries of critical thought have taught them to distrust. The reader has been invited to use these faculties and contemplate thus a picture of things restored to their fairly obvious nature. This is all the book was meant to do.25
This passage and others indicate that Polanyi is not attempting to present a new "theory of knowing" in any traditional sense of those words, though some scholars seem unaware that anything unusual is going on in his work.\textsuperscript{26} Polanyi himself supplies the seeds of this confusion in the later stages of his development. With The Tacit Dimension he begins to examine "tacit knowing" as a foundational structure for all knowledge. In the Introduction he says: "viewing the content of these pages from the position reached in Personal Knowledge and The Study of Man eight years ago, I see that my reliance on the necessity of commitment has been reduced by working out the structure of tacit knowing."\textsuperscript{27} He goes on in later essays to speak of "my theory of knowledge," and in Meaning (1975) he is quite freely applying this "theory" to literature, art, and religion. In the light of these statements it is quite natural that he has been interpreted as simply an epistemologist of scientific bent.

But the reading of Polanyi reflected in this thesis assumes that the implications of his thought are such that we must re-examine the meaning of "theory." Our philosophical tradition has often understood "theory" in terms of a formal, determinate specification of the conditions necessary for knowledge. This is clearly not the kind of theory that Personal Knowledge presents. In Larry Churchill's opinion,

The Polanyian epistemology puts an end to 'theories of knowledge.' This is true because his theoretical statements about our knowledge are less definitional and more descriptive than those of the critical tradition. Polanyi's reformulation of what it means to know something does not define the scope of knowledge in any restrictive way, or attempt to foretell what conditions will necessarily prevail in a knowing situation . . . . In this respect, Polanyi's epistemic work always leads the inquirer beyond his own
formulations and provides a context in which an inquiry can be genuinely exploratory, rather than confirmatory of an a priori reading.\textsuperscript{28}

To ignore the heuristic thrust in Polanyi is to read him as some sort of metaphysician within the mainstream of the philosophical tradition, and to assume that from Personal Knowledge we can abstract an ontology, an anthroplogy, even a nascent theology, in addition to an epistemology. But does Polanyi mean by "mind" or "knowledge" what traditional philosophy has meant? A powerful seduction may be occurring here, leading us to take an innocuous claim like "Polanyi has constructed a new theory of knowledge," and unwittingly interpret it according to philosophical models which Polanyi himself was struggling to overcome. To do so indicates that we do not see Polanyi's approach as fundamentally, even radically, at odds with our usual ways of talking. Such characterizations betray superficial reading, for Polanyi constantly aimed at surmounting those regnant paradigms that blocked a satisfactory view of human knowing. Let us look at an example. At the end of Personal Knowledge, Polanyi speaks about "the mind," but embeds such talk in quite unusual contexts:

So far as we know, the tiny fragments of the universe embodied in man are the only centres of thought and responsibility in the visible world. If that be so, the appearance of the human mind has been so far the ultimate stage in the awakening of the world, and all that has gone before, the strivings of a myriad centres that have taken the risks of living and believing, seem to have all been pursuing ... the aim now achieved by us up to this point. They are all akin to us. For all these centres ... may be seen engaged in the same endeavour towards ultimate liberation.\textsuperscript{29}

Familiar phrases concerning reason are joined here with quite unexpected things. "The mind" is equated with "centres of thought and responsibility,"
which immediately draws us into Polanyi's redefinition of knowing in terms of the body, the convivial extensions of the individual mind, and the person who "unites" these many instances in one center, one knower. "Responsibility" should also jar us -- what does this moral sense have to do with "thinking"? Here again is a clue to the wider circles of knowing which Polanyi discussed under "commitment," "intellectual passions," "affirmations," and "acceptance of calling." Our complete quote also notes that we are "akin" to other "centres that have taken the risks of living and believing," and that the struggle of all of these centres is toward: "ultimate liberation." There is a sense in which this passage echoes a kind of formal rationalism -- man is mind, and that is what defines him in the natural order. But we have been led to subtly adjust our conception of what "mind" might mean to include a wide variety of human modes and activities which would not be so included in traditional accounts. What could be the precise co-ordinates of this Polanyian "theory" of the mind with that of Descartes?

Each of these comments is a warning that intellectual innovation may appear far more strange when we actually encounter it than we could have anticipated. A fundamental change in our way of seeing things threatens our equilibrium, the delicate balance we have constructed over many years between the disparate claims and tensions of experience. In this sense, those philosophers of science who fear that Polanyi is 'destroying the very foundations of rationality' are correct. The concept of reason inherited from the positivist tradition
is being attacked throughout Polanyi's work, and the radicalness of this move is reflected in the way in which his argument is presented. We must take care to avoid the mistake of criticizing stylistic irrelevancies instead of engaging the argument itself. The relation of form to content in Polanyi is important.

We are arguing, then, that Polanyi's view of knowing is such that a total "theory" of it is impossible. Its tacit pattern, its personal co-efficients, its convivial setting, and its focus on a reality which we can never fully or directly grasp make knowing a dynamic activity, an enterprise continually constituted and upheld by the people doing it. We must then also acknowledge that some of Polanyi's later language is dangerously misleading, if not confused, in relation to the view set out in Personal Knowledge, which is accepted here as his central achievement, and the proper base for our critical evaluations.

Polanyi in Broader Context

There are two related reasons for the divergent views of Polanyi's philosophy of knowledge, aside from its conceptual strangeness: first, his style of exposition, and second, his lack of formal philosophical training. Any reader familiar with the ascetic tradition of recent Anglo-American philosophy will find Polanyi, as Michael Oakeshott did, "disordered, repetitive, digressive, and often obscure."31 This sort of frustration has been penetratingly described by William Poteat, who also argues for the deeper significance of Polanyi's rhetorical strategies.32 Polanyi writes in what George Steiner has
called, in another regard, "the tradition of philosophic amplitude," within which the structure of argument does not dictate a precise form and order for each passage, but simply stands as an overall framework or scaffolding within which the author is free to follow the natural train of thought.\textsuperscript{33} This somewhat old fashioned approach to philosophy might be better understood if we remember that Polanyi always remained firmly rooted in, to use Steiner's phrase again, "Central European humanism."\textsuperscript{34} He belonged to those distantly Jewish men and women who, after the emancipation of the ghettos by the French Revolution, contributed so much to "the moral, intellectual, and artistic noon of bourgeois Europe." Marx, Freud, Einstein, Schoenberg, Chagall, Kafka, Heine, Bergson, Durkheim, Proust, Wittgenstein, Popper, Trotsky, Buber, Levi-Strauss, Hannah Arendt — even this partial list suggests the rich ambience within which Polanyi lived his first forty-two years.\textsuperscript{35}

This European background gives Polanyi a certain moral sensitivity, reflecting the "secularized Messianism" which can be found in many of the thinkers mentioned above. This sensitivity leads him to focus on the vital points at which the world of ideas (and for him this is primarily the world of science) affects culture. The philosophy or history of science is examined in order to clarify the relations between political policy and the ideology which stimulates those policies. In the light of this interest in \textit{praxis} and the roots of cultural morality, it is not surprising that he does not always fit in "academic" philosophy. In 1959 he commented on the breadth of his interests:
I have often been asked why I gave up my work in chemistry in favor of economics, sociology, philosophy, and the like. The answer is really quite simple: a desire to go back to normal. We all started with being interested in the whole world; it's the only genuine interest we can have. 36

Scattered through his works are brief references to many of the major figures in western philosophy, but it is apparent that his acquaintance with them has been limited. He feels a congruence at certain points between his thought and that of Plato, Augustine, Dilthey, Collingwood, and Merleau-Ponty; he criticizes, among others, Descartes, Locke, Hume, Bertrand Russell and Gilbert Ryle, but never attempts a careful, sustained analysis of any of these men. 37 His debts, allegiances, and animus are all cryptically expressed, in an almost offhand manner. This obviously opens Polanyi to possible criticism. But we should remember that he is not interested in protecting himself, in guarding his argument from any possible exception, in establishing in a rigorous way the objective validity of his 'theory' over competing theories. Indeed, this would be contrary to the spirit of his writings.

He should be approached, then, as a visionary who is commenting upon ideas which most men can only vaguely sense in their culture's Weltanschauung. This does not excuse Polanyi from criticism, but it may help us to read him correctly. His comments upon his philosophical predecessors and contemporaries are valuable because they stimulate us to re-think certain issues, to look at familiar arguments, categories, and explanations from a new perspective. If, secure in our grasp of the intellectual tradition, we attempt to judge Polanyi
according to his grasp of our tradition, we will be disappointed.
He invites us to share a vision, pointing out as he does so that
there is no safe, convenient bridge over to this new view of things.

I have discussed the issue of how one should read Polanyi at
length because I am convinced that it is the first problem in under-
standing him, and is often overlooked. In this regard Polanyi could
be compared to Wittgenstein, who lacked professional training in the
history of philosophy, wrote in a highly idiosyncratic style, and did
not propound a theory so much as demonstrate a new way of approaching
things. At times Wittgenstein's statements seem clear and simple,
at other times mystical and perversely obtuse. A major element in
his impact on philosophy was the profound effect Wittgenstein the man
had on a large circle of able philosophers who studied under him.
Their conviction that he was "on to something" sustained them in over-
coming all the difficulties in grasping his thought, and in convinc-
ing others of his importance. The Wittgenstein phenomenon displays an
excellent example of Polanyi's view of learning: our understanding is
dependent upon a prior commitment to the importance of a person or an
idea, and it is this conviction of a hidden significance that supports
us in the struggle to see what they have apparently seen. This is
also the attitude with which Polanyi must be read.

I can only briefly mention the more important criticisms of
Polanyi, though some will resurface later. (1) His view of science
has been criticized as excessively rationalistic and Platonic
(neglecting the empirical factor), as 'subjectivistic' and 'obscuran-
tist' (neglecting sufficiently rigorous methods of criticism), and as
obsessively concerned with the process of discovery (to the detriment of his analysis of the structure of theories). His epistemological reflections have been termed unacceptably rationalistic, psychological, and metaphysical. He is, again, considered too much a Platonist and far too 'mystical' or 'subjective.' Some commentators have found him to be completely right, but trivially so; others have rejected his view of man as 'individualistic' in the extreme.

(3) Theologically Polanyi has been criticized for being a conservative elitist, and for trying to bridge the unbridgeable gap between nature and history (or nature and grace).

On the other hand, there are a number of distinguished scholars who have expressed their agreement with, and admiration for, Polanyi. The contributors to his Festschrift and to a volume of essays on his thought demonstrate his wide appeal to persons in the natural and social sciences and the humanities. His peculiar impact has been characterized by Paul Holmer as a matter of 'rekindling hope.' Polanyi breaks up "that cluster of argument and mood, precept and feeling, that sense of frustration, that grips so many intellectuals" in a culture dominated by scientific paradigms. Our society has convinced us that to be unscientific is to be "out of the mainstream, cognitively at least," but "such blocs of conviction and mood are wrong; and the net effect of Polanyi's work . . . is . . . to erode away . . . such constellations. In a peculiar way, Polanyi is a social force, getting intellectual people to take their bearings again."

Let me now summarize those specific virtues which have led me to place Polanyi at the center of this study:

(1) Polanyi writes from the relatively unique perspective of a
distinguished scientist. While sufficiently distant from research in his later years to be able to diagnose the problems in our current view of science, he is thoroughly familiar with the evidence he adduces to reform that view.

(2) He is aware of the important relation between problems in science and philosophical issues, coupling his statement of the errors of the critical tradition with an epistemological alternative. The constructive step is crucial, for it provides us with a new frame of reference, a new paradigm, without which we would be unable to see clearly our previous dilemma. The fecundity of this paradigm also leads us far beyond strictly epistemological concerns.

(3) Polanyi's position outside professional philosophical (and theological, anthropological, and psychological) circles frees him to approach epistemological issues in a new way. While he may seem initially more confusing than the professional philosopher, his extra-territorial stance throws fresh light on traditional problems.

The Displacement of Man

In the somewhat recalcitrant thought of Michael Polanyi that we have just discussed, there is little specific treatment of "the person," and "the personal," or of "man" and "human nature." Yet these terms refer to what I believe to be his central concern. As we examine the implications of Polanyi's thought for knowing, speaking, and acting, we will pick up clues to his view of the personal, and will gradually be enabled to see its wide significance for other areas, including theology.
Our first step, however, must be backward, to examine the historical context out of which this issue arises. We will assume the problematic character of the twentieth century's view of man, as that fact -- the loss of a sense of who we are as human persons -- has been repeatedly proclaimed and analyzed. But while we will not be concerned to establish our present malaise, we will want to discern its shape and its complex history, using Polanyi as our chief guide. What is meant when we speak of a "loss of the self," or of man's "displacement"? There is clearly an affective, existential element in such language -- people feel a certain unease, an alienation, a loss of anchor. We have only to read Pascal or Kierkegaard, Nietzsche, Kafka, or Sartre to understand the seriousness of the problem.

In the remainder of this chapter we will try to find some of the roots of our loss of the personal, those principles which have brought about and governed our displacement. Polanyi, like most of modern philosophy, focuses on the epistemological aspects of the problem, and that will be our primary interest here. It was with Copernicus, according to historians, that man lost his "place" in the center of the Universe. We will suggest, with Alexandre Koyré and William Poteat, that in the changing concepts of science in the seventeenth century were embedded ideas whose implications were to prove disastrous for western society's traditional image of man. To construe the world as uniform, within a homogenous and infinite space, was to deprive man intellectually of his "place," of a site from which all his activities and projections could be oriented. The objective ideal in knowledge,
when pursued to its logical end, removed man entirely from the very
world about which his objective ideal was going to inform him. The
rich world of lived experience, the world upon which epistemology was
dependent, was sacrificed to a goal of intellectual mastery.\footnote{45}

The story is not this simple, of course, but this is its general
pattern. Clarifying the historical nature of our dilemma will prepare
us for Polanyi's alternative vision of man, from which we may recover
clues to finding ourselves once again.

\textbf{The Objective Ideal}

Polanyi's work can be approached from several perspectives, but
for our purposes it is most helpful to view that work as a criticism
of the objective ideal in knowledge, and as an attempt to suggest an
alternative view that is truer to our experience. Polanyi himself
specifically refers to this aim in a number of places, and the legiti-
macy of this way of summarizing his work is indirectly supported by
passages throughout his writings, and will be argued by the entire
thesis.\footnote{46} But we should be aware that other ways of looking at Polanyi
-- as a commentator on culture, a critic of Marxism, an intellectual
historian, or as a professional philosopher of science or epistemologist
-- are subordinated in this section to another interpretation, one which
does not exclude these perspectives but brings them to bear on the
particular issue of the objective goal of knowledge. Here and in the
next section we will set forth what we mean by "Objectivism," and some
of Polanyi's arguments against it. In the following chapter we will
turn to his alternative view of knowledge and the constructive programme which it suggests.

Our examination of the philosophical objectivism which Polanyi opposes will be concise, as a number of studies have been made of this same phenomenon, though often under different rubrics (such as "positivism," "scientism," or "the mechanistic philosophy"). What we want to get clear are those ideas which have coalesced through the years into a narrow, hardened view of the nature of science—a view considerably less flexible than the original vision of science held in the sixteenth and seventeenth centuries. Here, according to current philosophical canons, we incur the risk of slipping into "metaphysics" by dealing with broad, sweeping issues like "the nature of knowledge," which, in the very nature of the case, cannot be exhaustively explained or defined. I believe the risk to be justified, and Whitehead has noted the necessity of such an effort:

When you are criticising the philosophy of an epoch, do not chiefly direct your attention to those intellectual positions which its exponents feel it necessary explicitly to defend. There will be some fundamental assumptions which adherents of all the variant systems within the epoch unconsciously presuppose. Such assumptions appear so obvious that people do not know what they are assuming because no other way of putting things has ever occurred to them. It is the assumptions of the critical period in philosophy which we will try to isolate. Drawing on Polanyi, his commentators, and historians of science, we will trace the development of an objective outlook as one of the major "philosophies of our epoch," and then attempt to specify some of its primary tenets. This historical background is important if we are to unpack from Polanyi's statements the wider
implications of his claims. It provides the polemical setting within which his detailed re-examination of scientific knowing will take on a larger significance.

In beginning we should note that the objective way of thinking is an essential, natural part of human reason. In its most general sense it is the intellectual delight man derives from abstraction, and as such it has been a sign of western culture at least since pre-classical Greece. Polanyi is clearly not saying that such abstraction, in its proper context, is at all objectionable. He is protesting against a distortion and exaggeration of this particular mental activity. The distorted form of objectivism (hereafter designated by the capital "O") which troubles Polanyi cannot be understood as one discrete set of beliefs about man or reality which can be exhaustively specified. It does not have the formal character of a creed or a school manifesto, though there have been certain local attempts to state its tenets (as in Ayer's Language, Truth and Logic in linguistic philosophy).

The one word "Objectivism" is intended rather to describe a way of thinking which might always be found in some form in western history, but which achieved a clarity of focus and cultural dominance only in the modern period. Its form varies considerably through this development, and even at its periods of greatest authority. While we may isolate those times when Objectivism reached clearest definition, we will not attempt to specify its causes or "authors" in any complete way. We are attempting to uncover a sensibility which has often operated unconsciously in our culture, and which today is closely entwined with our most natural ways of looking at and thinking about the world.
We should note again that Polanyi does not work out this critique in great detail, though it is presupposed in all that he does; that he is not interested in defaming science and/or modern philosophy, but in helping them regain their true grounds; and that the very purpose of this section of the thesis is to move beyond omnibus generalities by pointing to particular issues through which our intellectual communities have taken a wrong turn. Our ultimate purpose is therefore constructive, and the delineation of Objectivist tenets which follows the historical survey should be viewed as a typology, on whose clarification much work needs to be done, but which may still serve as a heuristic for understanding Polanyi.

The Historical Background of Objectivism

The historical roots of the scientific temper run deep into our culture. Its precursors can be found in Greek thought, in the Judeo-Christian doctrine of Creation, and in the development through the middle ages of a "habit of definite exact thought . . . a sense of order . . . the inexpugnable belief that every detailed occurrence can be correlated with its antecedents in a perfectly definite manner exemplifying general principles." But despite these preliminary signs, we can firmly locate the rise of a "New Science" (distinct from the 'science of theology') only in the late medieval period. The new attitude was characterized by the nominalist separation of knowledge from belief, a rejection of certain aspects of Aristotelian philosophy, particularly its theory of motion, and a growing interest in the natural world as an end in itself.
Francis Bacon (1561-1626) marks a turning point. While Bacon himself cannot be described as a scientist ("Bacon is the announcer, the buccinator, of modern science, not one of its creators."), his influence in first stating the methodological programme of the scienza nuova was enormous. In addition to the late medieval themes noted above, Bacon emphasized adherence to observed data, inductive inference from that data, empirical testing of hypotheses, and a general suspicion of purely rational speculation. While we can find little evidence of direct influence, these principles of Bacon "all penetrated the leading scientific minds of the middle of the century, especially Robert Boyle, through whom they exercised a notable influence on Newton." This was the beginning of the British empirical tradition, which was expanded after Bacon by Gilbert, Harvey, and Boyle, and reached maturity in Locke and Hume.

Ironically, the seventeenth century founders of the scientific temper were Bacon's intellectual opposites -- the physical theorist Galileo Galilei (1564-1642) and the speculative rationalist René Descartes (1596-1650) -- both of whom had little regard for Bacon's pure empiricism. Galileo's particular strength, the prism through which all of his scientific researches were refracted, was mathematics, "the key to unlock the secrets of the world":

Philosophy is written in that great book which ever lies before our eyes -- I mean the universe -- but we cannot understand it if we do not first learn the language and grasp the symbols, in which it is written. This book is written in the mathematical language, and the symbols are triangles, circles, and other geometrical figures . . . .
It is important to see that mathematics was far more than a mere tool for Galileo, for his thinking was strongly influenced by the fifteenth century revival of Neo-Platonism. Alexandre Koyré even refers to "Galileo the Platonist," though he reminds us that there were at least two forms of Platonism (a mystical arithmology and a mathematical science). The point of noting Galileo's Platonism is to indicate his fundamental disagreement with an Aristotelian metaphysics for which mathematics is inappropriate, "because the nature of physical being is qualitative and vague," and "does not conform to the rigidity and precision of mathematical concepts." Galileo firmly believes, to the contrary, that mathematics has a superior status in physics, to which sense experience is clearly subordinate:

"It is thought, pure unadulterated thought, and not experience or sense-perception . . . that gives the basis for the "new science" of Galileo Galilei. Galileo is perfectly clear about it . . . . Good physics is made a priori. Theory precedes fact. Experience is useless because before any experience we are already in possession of the knowledge we are seeking for. Fundamental laws of motion . . . are laws of a mathematical nature . . . . We find and discover them not in Nature, but in ourselves, in our mind, in our memory, as Plato long ago has taught us."

The 'Platonism' of Galileo should also remind us that his matematizing of Nature was not unprecedented. Though the Pythagorean/Platonic interest in number almost disappeared in the west during the early middle ages, it was powerfully revived in the late medieval period under the impetus of Arabic scholarship. Roger Bacon, da Vinci, Tartaglia, Stevinus, Pacioli, Cardanus, Cavalieri, Viete, Briggs, Napier, Copernicus, Kepler, Digges, and Descartes are only some of the names in the development of mathematics which preceded or coincided with
Galileo. His greatest successors -- Pascal, Newton, and Leibniz -- were also great mathematicians. The primacy of mathematics, then, is the first principle of Galileo's science, reflecting his view that Nature is "a simple, orderly system, whose every proceeding is thoroughly regular and inexorably necessary . . . . Further, this rigorous necessity in nature results from her fundamentally mathematical character -- nature is the domain of mathematics." Galileo transfers the mathematical exactitude that had belonged solely to astronomy to terrestrial entities and events, thus making, with reference to mathematics, all of reality uniform and homogenous.

A second development in Galilean science that will have wide influence later is his analysis of the attributes of matter into primary and secondary qualities. Again, this notion is not unique to Galileo. It had appeared in various ancient philosophical schools, was developed in a sixteenth century revival, and was shared by most of his contemporaries, including Descartes and Kepler. But Galileo gives the concept a forcefulness which firmly establishes it in the scientific canon, greatly influencing Newton and Locke.

The insight of the primary/secondary distinction is closely allied to the mathematical vision of the universe, for it affirms that "the real world is a world of quantitative characteristics only; its differences are differences of number alone." In the things we encounter through sense experience, we can distinguish the primary qualities of number, figure, magnitude, position, and motion, and such secondary qualities as color, temperature, odor, taste, texture, and sound.
Primary qualities denote the more real level of existence, while secondary qualities convey "appearances," deceptive false-images of the underlying entity. The primary qualities are exactly those which are reducible to mathematical notation, and it is in this harmony of number, and in it alone, that man encounters real knowledge: "all certain knowledge must be knowledge of their quantitative characteristics, perfect knowledge is always mathematical." By contrast, the information conveyed through the senses by secondary qualities is vague, contradictory, and unreliable, when compared to the clarity of mathematics. Here is the beginning of the conviction that the experienced world, precisely because it is experienced through the bodily senses, is a lesser world than the mathematically certain realm conveyed by the mind. In Cartesian dualism this tendency will find its archetype, and extend its influence into all areas of philosophy.

The third element of Galilean science which we must note is, again, a consequence of the application of the mathematical, or more precisely, geometrical, method to the explanation of nature. Traditional Aristotelian philosophy had conceived of natural entities qualitatively, in terms of their relation to perfect Being. Its terms are "essence," "actual," "potential," "whole," "order," "Harmony," "equilibrium," "form," "process," "change" -- all terms relative to the quality of being. With Galileo these terms are replaced by concepts of space and time in which the dynamics of motion can be mathematically expressed. Though the consequences were not clear to Galileo, we can already see certain implications of this redefinition. If quality is rejected...
and terms redefined in order that mathematics may apply to terrestrial, as well as to astronomical, phenomena, then the traditional conception of a heterogenous world (earth and the heavens being qualitatively different) must be replaced by a uniform world, a "universe," in which there are only quantitative differences. And when there is no essential difference between earth and heaven, then the universe of our conceptions 'expands' to assume the characteristics once attributed to God. There is now, in the place of a closed world of human proportions, an infinite space and endless time:

The infinite Universe of the New Cosmology, infinite in Duration as well as in Extension, in which eternal matter in accordance with eternal and necessary laws moves endlessly and aimlessly in eternal space, inherited all the ontological attributes of Divinity. Yet only those — all the others the departed God took away with Him.64

What we shall want to ask is whether, in this matematization of the universe, man has suffered the same 'displacement' as the departed God.

But these implications must first be pursued in Descartes, for "it is not Galileo . . . nor Bruno, but Descartes who clearly and distinctly formulated principles of the new science, its dream de reductione scientiae ad mathematicam, and of the new, mathematical cosmology."65 Several features of Descartes' conception should be noted. First, he insisted that one must begin the search for knowledge by assuming an attitude of doubt toward all propositions which lack the kind of clear certainty found in geometrical axioms. The use of this 'methodological doubt' sharpened the skepticism toward tradition that had been growing for centuries, beginning with the dissolution of religious authority
in the late middle ages. A man's received heritage, his "given" cultural values, were to play no epistemological role. Descartes expresses his suspicion toward received opinion both in the *Discourse*:

I learned not to be too confident in any belief to which I had been persuaded merely by example of custom; and thus little by little I delivered myself from many errors powerful enough to darken the natural light, i.e., to incapacitate us from listening to reason ... we cannot but recognize how difficult it is while relying on the labors of others, to achieve what is truly perfect.66

and in the *Meditations*:

If I am to establish anything firm and lasting in the sciences, I must once for all, and by a deliberate effort, rid myself of all those opinions to which I have hitherto given credence, starting entirely anew, and building from the foundations up.67

This procedure was not new -- doubt had, of course, been a highly structured part of scholastic inquiry, based on the Aristotelian logic of the *disputatio* and expressed in the *sic et non* pattern of theological debate. Bacon also rejected the received wisdom of scholasticism, and stressed the need for an open, inquiring mind. But for Bacon, doubt was governed by the empirical test of observation, or sense perception. Descartes, however, made the criterion for doubt "clarity and distinctness," an exclusively mental test. His *dubito* is based on the example of mathematics, which seemed to offer the greatest promise for achieving absolutely reliable knowledge.

The mathematical model for knowledge which, as an *epistemological* model had remained implicit in Galileo, is a second feature of Descartes' thinking which was to become influential. If a proposition could not be held with the kind of certainty we acknowledge in
mathematical proofs, it was not to be considered real or true knowledge, but only custom or opinion. It should be remembered that Descartes' goal was philosophical. That is, he was not claiming that all truth was mathematical, but that the procedures of mathematics should be applied to, or carried over into, thought. Philosophical thinking should acquire the same rigor, order, and certainty possessed by geometry, and by means of such a procedure, it could establish final answers to questions concerning human nature, the soul, and God. For Descartes, mathematical rigor promised to aid rationality in its search for knowledge. With his followers, however, the Cartesians of the late seventeenth century, the focus is increasingly limited to the geometrical method. For the Cartesians, with whom Descartes would have often disagreed, the model for an epistemological tool gradually becomes the standard for knowledge itself.68

It should be mentioned here that Descartes' mathematical philosophy is closely related to his views on the nature of God. Those views attempted to safeguard the notion of Divine sovereignty by severely restricting the degree to which the Divine economy could be known or predicted by man. Teleology should be made as illegitimate in natural science as it is in mathematics. God alone knows his purposes, and His faithfulness is exhibited through His establishment of a knowable, dependable world, to which geometry is the key:

"The world created by the Cartesian God, that is, the world of Descartes, is ... a strictly uniform mathematical world, a world of geometry made real about which our clear and distinct ideas give us a certain and evident knowledge. There is nothing else in this world ... but extension and motion."69
Descartes is therefore rejecting the picture of the world as a closed hierarchical system which God continually animates as First, Efficient, and Final Cause, and he does so precisely to protect the more exalted view of a God who is beyond human understanding. Here is an echo, however faint, of the Ockhamist distinction between what can be apprehended by faith and what by reason, the potentia absoluta and the potentia ordinata, which underlies so much of modern theology. It should serve as a reminder that the "banishment" of God from the rational order of the physical universe was not solely the work of scientists and philosophes, but also of theologians. While we cannot examine the issue here, we must note that the development of the Objective point of view which we are following also has certain subtle theological roots.

A third distinctive element in Descartes is his separation of mind and body in a metaphysical dualism, which renders all substances in nature as either "thinking things" (res cogitans) or "extended things" (res extensa). The significance of this mind/body dualism for our inquiry is twofold. First, it provides grounds for "the application of mechanistic philosophy to biological problems." If everything in nature (and Descartes could never really locate the mind in nature, for "in" is a spatial concept when applied to the natural world, and by definition, the mind has no spatial locus) by virtue of its extension can be reduced to quantifiable "motions of matter," then the human body can also be so reduced. For the purposes of understanding, it becomes completely interchangeable with every other physical entity of equivalent dimensions. The body can therefore be exhaustively grasped in terms of
the laws of mechanics, an assumption which was to lead to great achievements in the growing medical sciences. The second significant feature of this dualism is the necessary consequence that the high degree of indubitability attainable in mental operations is not extended to the physical world. Sense perception itself, being an activity of bodies, was therefore to become an untrustworthy guide to truth in the rationalist tradition. Where Bacon (and the common man) had believed the testimony of the senses to be the guarantor of certainty, Cartesian dualism defined certainty in terms of mathematical reasoning, which was a function of minds, and not bodies. Eventually this separation was to lead to the odd conclusion that reality is limited to the objects of sense experience, while truth (certain knowledge) is limited to the procedures of mathematics and logic.73

A crucial step in the development of this view was taken by Isaac Newton (1642-1727), who was the first man to synthesize the findings of his day into something like a general scientific explanation of the natural world. Despite his own singular achievements, Newton is a part of the development we have been tracing, for "Newton . . . took over without criticism the general view of the physical world and of man's place in it which had developed at the hands of his illustrious predecessors."74 Among the views which he accepted without question were the 'corpuscular' or atomistic philosophy, Cartesian dualism, and the distinction between primary and secondary qualities. But beyond these inherited views, Newton extended and solidified the developing scientific world-view in several crucial ways:75 (1) He insisted
even more than Descartes that positive scientific questions be clearly separated from questions of teleology; (2) he defined such terms as "force" and "mass" quantitatively, thus making physics amenable to mathematics; (3) he implicitly developed a metaphysics to support the mathematical or mechanical view of the world; and (4) most importantly, he unified the mathematical and empirical approaches to nature. Newton shared many of Descartes' views on the nature of knowledge, and was committed to the general application of mathematics to problems of the day. But he was also an inheritor of the empirical tradition of Bacon. In combining these approaches to science, Newton accepted Cartesian mathematics while turning away from Cartesian metaphysics. He thus "vindicated the alliance of geometry with the experimental method against the elaborate deductive system of Descartes."\textsuperscript{76} It was this combination of mathematical method and empirical base that energized science for the next two hundred years. As we will see, however, one of Polanyi's major reservations about current theories of science concerns this very point. While Newton applied mathematics to the data of experience, he still located "truth," as had Descartes, solely in the mathematical realm. There was no effort to extend belief in the certainty and truth of number to the phenomenal world which it seemed to describe. This maintains, then, the separation of mathematical reason from perceived experience. Such a separation preserves the clarity and certainty of numbers, but at the expense of abandoning all hope of saying anything true about the real world. These implications, of course, were not clear to Newton or Descartes at the beginning of the
scientific period, but in retrospect we can see them taking shape even in the seventeenth century.

With the publication of Newton's *Principia* in 1687 the rise of modern science is complete. On the basis of the foundations now laid, classical mechanics enters a two hundred year period during which it captured, dominated, and transformed western culture. The Newtonian world-view was accepted as the true picture of reality, and seemed just as irrefutable to the modern world as Augustinian theology would have seemed in the medieval period.

Though the last seventy-five years of physics have rendered Newtonian mechanics inadequate as grounds for a complete science or a complete metaphysic, the influence which he represents is still strong. Newton and his immediate predecessors "quite definitely" set the agenda, vocabulary, and standards of modern science and philosophy, and we are only beginning to examine the whole of this tradition with a critical eye. 77 Michael Polanyi's work can only become intelligible if seen as a part of this evaluative process.

But the historical background of the Objective perspective is still incomplete. To this point we have mentioned only scientists and philosophers of science — Bacon, Galileo, Descartes, and Newton. But we implied earlier that "Objectivism" designates for Polanyi a cultural sensibility, a mental framework that is far larger than the working principles of any area of science. Here we must acknowledge that it was not scientists, but the Enlightenment philosophes who extended the concepts and methods of the New Science to all areas of human inquiry:
"The discoveries of seventeenth century science were translated into a new outlook and a new world-view, not by scientists themselves, but by the heirs and successors of Fontenelle." It is here that the names of Hobbes, Holbach, and La Mettrie have their singular importance:

For all their differences, the philosophes shared a common outlook. They were the disciples of Newton's Principia Mathematica, and hence enemies to system-making, and admirers of science; of Bayle's Historical and Critical Dictionary, which fed their religious skepticism; and of Locke's Essay . . . with its emphasis on experience . . . . To expand Newtonianism to areas other than physics and astronomy was one of the philosophes' favorite hopes.

This hope was fueled by the social and political tensions of the age, by which the philosophes were encouraged to believe that the employment of the new tools of methodological doubt and empirical verification would not only advance human knowledge, but would finally put an end to l'ancien régime.

Yet despite their use of "the cool vocabulary of science," the philosophes were also passionately moral, advocating a social and political programme "which can be summed up as toleration, secularism, reasonableness, humanity, and freedom." This odd alliance of scientific neutrality and moral passion proved to be a powerful weapon in the philosophes' "struggle for autonomy," but it was to become increasingly problematic in the nineteenth century. For though both science and morality are championed in the Enlightenment, it is assumed that the intellect employed in the service of science has no vital relationship to the reality and truth embodied in the moral law. Values were gradually seen to be a result of man's relationship to nature (as in natural law theory) and nature was increasingly understood in perspectives
provided by science, rather than in traditional fashion as an expression of the Divine economy. Moral values, therefore, could only be properly applied to man considered as an object of scientific investigation (the res extensa of the Cartesian tradition). In keeping with this "objectified" nature, values were found to be mere conventions, for they had no purchase in the primary qualities of man which determined his essential nature. Moral judgements are lumped together with other subjective discriminations as "secondary" qualities. The investigation of man on a mathematical/mechanical basis discloses no privileged places where values could be found, and the scientific rationalist had to conclude that moral beliefs were adventitious concepts formed by accidents of environment or of personal constitution. That "man," "values," "reality," and "truth" were being defined in special ways was not something the philosophes or their successors were in a position to see. In the process of what Koyré has termed "the utter devalorization of being," man's passion for the truth was increasingly defined by criteria which dissociated it from man's passion for the right.82

It is little wonder that, after inheriting such views, the nineteenth century was increasingly troubled by social unrest. On the one hand, the successes of science and technology seemed to vindicate European culture, leading to an optimistic exaltation of the progress and comfort provided by the scientific method. Led by Saint-Simon, Comte, and the English Utilitarians, the optimists wished "to apply the principles of Newton to the affairs of Politics and of morals."83 Their 'religion of science' can be described as a "faith in the existence of an objective reason, impersonal and mechanical, harmonious and determinate, existing entirely apart from individual men and indifferent to
their purposes." It has been propagated mainly by non-scientists, and has been appropriated most readily not by the natural, but by the social and applied sciences.

In addition to furthering this optimism, science and technology were also involved in producing the alienating excesses of the industrial revolution, which provoked Marx' repudiation of traditional 'liberal' values. The clear distinction between facts and values, however, which had been established prior to Marx, enabled him to direct his animus to western morality, while adhering to the primacy of 'scientific' thinking.

Though elements of Polanyi's account of the nineteenth century can be, and have been, criticized, we should note the uniqueness of his reading. He avoids the usual dichotomy between the forces of Reason (science, certain forms of idealism and historicism) and the forces of Romanticism (political extremists, literary romantics, the proto-existentialists). He wants instead to connect these movements at one point where they reflect a common problem: the displacement of traditional values according to an Objectivist model of knowledge.

In elaborating Polanyi's concise treatment of 'the growth of Mechanism,' we have seen how, from the complex world of the Renaissance, a consensus developed concerning the proper methods for acquiring knowledge, the true character of the natural world, the flaws in Christian Aristotelianism, and the promise inherent in mathematics. With Newton these general principles achieved concrete expression in a scientific view of the world, and in the Enlightenment philosophes the model of
science was extended to all of life and thought. By the close of the
nineteenth century these ideas had spread throughout western society,
and were proclaimed in a particularly clear form by positivists and
behaviorists. 86

Tenets of an Objectivist Philosophy

While the historical background should now be clear, at least in
its main outlines, we have yet to clearly specify those elements of
the Western tradition to which Polanyi objects. What claims about
nature and knowledge resulted from the historical development we have
traced? When local differences are removed, what is the common
residue of Objectivism? Answers to these questions have been attempt-
ed by many scholars, but we will specify just those tenets most
relevant to Polanyi's criticism. 87

(1) **Nature is a determinate system**, and our explicit demonstra-
tion of its fixed order is prevented only by our technical inadequac-
ies — we lack tools capable of handling the immense quantity of data
involved. In principle, however, to say that nature is knowable is
to say it is predictable, which, if taken to its logical extreme, is
to say that its processes can be completely grasped in thought. Thus
traditional notions of teleology can be banished from nature, and
Newtonian mechanics can fix the boundaries of natural phenomena.

(2) **Physical nature alone is real, and is ultimately composed**
of particular, isolated bits of matter, moving through space. The
large entities and organisms we encounter in experience are aggregates
of such particulars, and reducible to them in principle, if not in
actual practice. Non-physical phenomena, then, are mere appearances, phantasm, or epiphenomena which have only derivative ontological status. This reduces culture generally, including language, religion, moral beliefs and art, to the role of "conventions" or "artifices," and suggests various forms of relativism. 38

This material view also implies that physical nature is the fundamental in terms of which everything must be understood, resulting, in certain extreme cases, in a thoroughgoing mechanism (as in Hobbes and La Mettrie). The earlier, antithetical tendency to interpret nature in terms of man (through the notions of teleology and creation) must be rejected as subjective and anthropomorphic. We must also acknowledge that if physical nature alone is real, then knowledge of the real arises only from sense experience. Metaphysics, inasmuch as it is the attempt to trace the nature of reality beyond the facts given in physical observation, is to be avoided.

(3) Knowledge is most appropriately modeled after the truths of mathematics, for they provide the surest way to the clarity, distinctness and indubitability that distinguish true knowledge from mere opinion. The critical model states, as Churchill has expressed it,

that 'to know' is 'to be able to think;' 'to think' is to operate according to an explicit method upon 'clear and distinct ideas'; and the paradigmatic clarity and distinctness of ideas is that of mathematical relations as they are imagined to appear in their eternal and disincarnate purity to the mind of a mathematician (or of God). 39

Later this particular brand of rationalism encounters the empiricism mentioned above (1), and the tensions become manifest. The conflation of an empirical tradition, which sees knowledge arising only
from sense experience, with a classical rationalist tradition which sees number and mathematical theory as the highest expression of truth, leads to the uncomfortable conclusion that mathematics does not deal with real knowledge, or to the unacceptable conclusion that legitimate knowledge may arise from a source other than direct sense perception. The Objectivist solution to this problem, which appeared with Newton's great synthesis, is to abandon traditional mathematical claims to be dealing with reality. Mathematics is rather to be understood as a conventional framework of notations which expresses the logical relations of sets of tautologies. Reason is now to be understood as an ability to calculate and order, and must be separated from experience when we speak of knowledge. Its utility lies in ordering empirical data, but there is no intrinsic connection between that ordering (scientific laws) and the reality (the facts of experience) with which it deals.

(a) A first consequence of the mathematical method, when it is coupled with the axiom that reality is comprised of physical atoms, is the mechanical model of the universe. The spectacular productivity of this model in the material realm seems to offer a striking confirmation of its truth. It is therefore only natural to apply the model rigorously to human phenomena as well, if we are to make the same progress in understanding man.

(b) A second implication of the mathematical turn, which is perhaps the primary characteristic of the mental world of modern science, is the mathematization (or geometrization) of nature and of science.
If the reality of a phenomenon is judged by the degree to which it can be numerically expressed (which seems to have been the case with Galileo; see above, p. 27), then all of reality is placed on the same ontological level, as all of mathematics is on the same level. Or more precisely, there is only one level of reality, the mathematical. Everything becomes uniform.

The mathematization of nature means the destruction of the idea of a hierarchically-ordered finite world-structure, of the idea of a qualitatively and ontologically differentiated world, and its replacement by that of an open, indefinite and even infinite universe, united and governed by the same universal laws; a universe in which, in contradiction to the traditional conception with its distinction and opposition of the two worlds of Heavén and of Earth, all things are on the same level of Being.

Reductionism becomes theoretically justified as the attempt to see everything in true, undifferentiated perspective.

(c) Finally, the separation of mind and matter in dualism implies the dissolution of the Subject of cognition. Knowledge exists independently of any knower, based as it is on publicly verifiable experience and explicit rules of logical inference. The knower is the occasion for knowledge, and little more. The knower adds nothing to the knowledge he holds, and to talk of "affirming" or "claiming" knowledge is simply a colorful, though somewhat dangerous, way of referring to "having" knowledge.

(4) Man's approach to knowledge should be by way of a methodological doubt which tests every idea for possible dubiety, for any vagueness or incompleteness which would be grounds for our refusing to give it our certification as knowledge. This principle combines our earlier
tenets in a new form. If experience alone delivers truth, then the established canons of tradition must be accepted only if our own experience confirms them. And, if mathematics is our guide, this confirmation must come with a clarity and certainty that is beyond doubt. From both empirical and rational premises, then, a doubting, skeptical, critical attitude is justified as the hallmark of the true knower. We should not hold unproven beliefs, and where certainty on an issue proves impossible, we are counseled to suspend judgement. Cultural values and institutions ("Authority") have no claim upon us until they meet these standards of veracity.

Thus a pure Objectivism, embracing all of the tenets we have described, would see the world as composed exclusively of atomic bits of matter, "soundless, scentless, colourless," moving hurriedly, endlessly, meaninglessly through empty space. Such a world would be completely grasped through the scientific laws of physics, expressed in a formal, mathematical notation. The man of science, who could obtain such knowledge, would in the moment of his comprehension achieve a "disincarnate, atemporal, instantaneous, clear and distinct intuition of these atomic entities."

Clearly, this description of the Objectivist ideal would not be completely accurate for any one thinker or period; but our aim has not been historical comprehensiveness. Instead we have tried to single out central elements in this particular vision of the world which often remain unconscious or unstated. A determinate Nature, a materialistic physics, a mathematical epistemology, and a programmatic doubt are presuppositions which lie, Polanyi believes, near the center of our present
intellectual framework. Polanyi does not propose that we return to a 'pre-Objectivist' or 'pre-critical' ethos, for in addition to being impossible, such a move would be wrong-headed. We must accept, as Marjorie Grene reminds us, that "intellectually as well as terrestrially, we stand where our generativity has cast us." And it also cannot be denied that certain elements of this Objectivist mosaic, when separated and placed in a proper context, reveal their usefulness and heuristic power. But the pervasiveness of the complete myth in our culture, usually unnoticed or uncritically accepted, has led to a severe weakening in the intellectual fibre of the very culture that gave rise to scientific rationality. Polanyi's critique of this myth is intended to salvage, to re-establish, the vision of human knowing as "the ultimate stage in the awakening of the world." 

A Reassessment of the Objective Canon

Polanyi's attempt to shift our intellectual foundations to firmer ground seldom involves a frontal assault on Objectivism. His comments on the rise of the mechanistic philosophy are not as complete as our brief survey, though he mentions the main themes we have traced. The observations he does make are scattered throughout works written over a thirty year period, so that our picture of the 'modern Objectivist' involved some reconstruction and amplification of Polanyi's stated views. The critical philosophy is always present in his writings, but in the background, as the negative presupposition of Polanyi's own
constructive endeavor. We must also remember that Michael Polanyi was not a professional philosopher, and that his understanding of modern thought originates not in a reading of the history and literature of the period, but in his personal experience of current scientific and political dilemmas. He is often, therefore, simply unaware of the more subtle, more extended, philosophical implications of his thought.

This caveat must be repeated as we turn to a consideration of how the Objectivism we have traced is flawed, according to Polanyi's writings. Ideally, these criticisms would arise naturally enough from a comprehension of the full texture of Polanyi's journey 'towards a post-critical philosophy.' This is, in fact, how they arise in his work, and is also, perhaps, why many readers have difficulty in grasping the precise contours of his argument. He does not come right out and list his objections in propositional form. For our purposes, however, it may be justified to abstract Polanyi's reappraisal of the critical tradition from his work as a whole, for our concern is to prepare the ground for a close examination of the concept of the person.

Polanyi states clearly that his opposition to the Objective ideal is not directed against the scientific enterprise, but against its misinterpretation, particularly within the social sciences:

> In the exact sciences, this false ideal is perhaps harmless, for it is in fact disregarded there by scientists. But 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.\(^{101}\)

It is not science \textit{per se} which is at fault, and neither is it rationality; the fault lies in "the new mentality," the so-called 'scientific world-view,' whose accounts distort what is in fact the case when we
do research or come to know. In a sense, the problem lies in the 'metaphysics' of Objectivism — the construction of a universal theory of man and nature based solely upon certain principles of the physical sciences. At one level of investigation — primarily at the level of analysing matter in the laboratory — an objective standpoint is legitimate and necessary. But as we shall see in the following chapter, this form of objectivism is fundamentally different from the critical version discussed above.

On Impersonalism

We can begin, as does Polanyi, by making the now-commonplace observation that knowledge can never be completely detached and impersonal, as demanded by the critical tradition. In every phase of the scientist's work, from selecting a problem to defending a solution, he is guided by personal acts of appraisal or judgement which cannot be fully specified. Rules formulated by scientific tradition to facilitate and guard the orthodoxy of these processes (such as the "scientific method" learned in school) must be applied to particular cases by a skilled act of judgement on the part of the scientist. This principle applies quite generally throughout the range of scientific research, and is now an accepted axiom within the philosophy of science.\textsuperscript{102} Even as early as Kant, who was "so powerfully bent on strictly determining the rules of pure reason," we find an acknowledgement that "no system of rules can prescribe the procedure by which the
rules themselves are to be applied.\textsuperscript{103} Polanyi is distinctive, however, in the depth of his discernment of just how this personal element operates in knowing, as we shall see in Chapter II.

But though many philosophers of science would acknowledge that scientific research cannot \textit{in practice} be exhaustively explained in impersonal terms, they often insist that the goal is attainable \textit{in principle}, and should be retained as the ideal of all scientific knowledge. Carl Hempel, for example, acknowledges that "it may be impossible" to develop "explicit general criteria" by which science could clearly distinguish between mechanical and living systems. Nevertheless, the reductionist goal of representing all of science in physico-chemical (impersonal) terms should be pursued:

\ldots mechanism is perhaps best construed \ldots as a heuristic maxim, as a principle for the guidance of research. Thus understood, it enjoins the scientist to persist in the search for basic physico-chemical theories of biological phenomena rather than resign himself to the view that the concepts and principles of physics and chemistry are powerless to give an adequate account of the phenomena of life.\textsuperscript{104}

The root fear which Hempel is concerned to banish in this passage is the thought that all of 'the phenomena of life' may not be explicable in terms of physics and chemistry. To entertain such a thought would be a form of 'resignation' for a scientist, as the very heart of science is the goal of complete explanation in ultimately mathematical terms. Hempel is convinced that obstacles to complete specification of scientific laws are contingent solely upon "the course of further scientific research;" that there can be no \textit{intrinsic} limit on the principle is essential to the scientific enterprise.
Polanyi disagrees with each of these convictions, on the grounds that they necessarily presuppose that the scientist has no essential involvement in the laws which he formulates, and that the scientist himself is a construct dissolvable into specifiable physico-chemical quantities. These presuppositions are disproved, he argues, by a close examination of the process of research, and of the history of science. In the next chapter we will see the fruits of such an examination.

A more fundamental criticism of the "specifiable in principle" argument has been made by William Poteat, who notes that "the root innovation" of Polanyi's thought is to "revise -- though not explicitly so -- the force of the phrase 'specifiable in principle.'" Under the canons of the critical tradition, a distinction has been drawn between knowledge, which is that product of thought that can be explicitly stated, and the antecedent conditions of such knowledge, which have generally been relegated to the subordinate realm of psychology. (For Hume, these are the "principles of association;" for Kant, the categories of the understanding.) The formal products of the knowing process thus become the standard representatives of the entire phenomenon of knowledge, while the tacit actions by means of which we establish coherency in experience are ignored. The thoroughly personal processes by which we search, discover, learn, and realize achievements are the facts of knowledge; yet the tradition tends to disregard such facts because they are patently unassimilable to the axiom of explicitness, which is the covert meaning of "in principle." In short, the radicalness of Polanyi's position is seen not by attending to the debate
between "specifiable in principle" and "specifiable in fact," but by attending to the unannounced commitment to completely specifiable knowledge.

Why would the impersonal character of true knowledge become so deeply fixed within the modern sensibility? We can think immediately of certain reasons: the impersonal nature of mathematics, the influence of the scientific procedures of repeatable testing and public verification, the desire to overcome the prejudice, superstition, and custom of social traditions, the amazing success of science. But another, perhaps deeper, reason was adumbrated earlier, when we spoke of the 'mathematization of the Universe' (p. 41). For Alexandre Koyré, modern science begins when the methods of mathematical investigation, formerly applied to astronomy alone, are also applied to the sublunar world. By imposing one mode of understanding on all phenomena, the distinctions between levels of reality and types of understanding disappear. The result of this process was the destruction of a cosmos within which man had a place, a role. It was not, then, the use of mathematics which provoked an Objectivist epistemology, but the belief that the universe "is bound together by the identity of its fundamental components and laws, and is that in which all these components are placed on the same level of being." This is precisely the move which Hempel made in the passage quoted above, from non-specifiable considerations (such as perfection, harmony, meaning, aim, levels of beings, etc.) to the goal of complete specification. On the particular path which science followed, "truth" and "reality"
defined a world within which "man" did not exist. At least not the "man" of common sense, or of the pre-modern world. An epistemological method had, therefore, ontological and anthropological reverberations to which we have just begun to listen. In his struggle with this formidable problem, Polanyi begins at the crucial point by reinserting the person into the world of knowledge, by linking, once again, the knower with the known.

As our reference to Koyré implies, another crucial consequence of the demand for impersonal knowledge is that it severs the relation between knowledge and values. Western society had long assumed that ultimate truth, goodness, and beauty co-inhered in some way, providing a foundation, through a logical circle of belief claims, for all cultural activity. The move in the seventeenth century to an 'absolute,' Archimedean position achieved greater formal certainty, but at the price of destroying rationality's very foundation, the value of truth. It sacrificed varied realms of intelligibility -- audient, tactile, olfactory, gustatory (in short, somatic) -- for the power of abstraction that is found in thought alone. The substitution in epistemology of an undifferentiated, singular activity (abstract thinking) for the heterogeneity of lived experience removes the possibility of distinguishing the relative worth or significance of a given entity or event. There is no essential difference between people and cobblestones; the former is simply more 'complex' than the latter, as calculus is more complex than arithmetic. Indeed, the very notion of "essential difference" becomes problematic where the only dimension is quantity.
Two examples from literature make this point more graphically. In *Nausea*, Jean-Paul Sartre shows compellingly how, within our modern sensibility, it becomes difficult for Roquentin to distinguish lived time, meaningful time, from "the monotonous addition" of "days tacked on to days." Every moment has equal weight, or is equally weightless. And as Albert Camus has observed in *The Stranger*, it has become difficult in our alienation to discriminate between acts, or between values. For Meursault, there is no difference between pulling the trigger to shoot an Arab, and not pulling the trigger. Everything is the same. There is no difference in anything, and therefore no background against which meaning can appear. If things simply are, refusing to allow discriminations, then value has no purchase in reality.\footnote{110}

A first step beyond a critical philosophy must therefore resituate knowledge within lived experience with all of its shifting textures, tonalities, and perspectives. In place of the geometric ideal, Polanyi moves toward an incarnate ideal, in which our reliance on the common meaning of our bodily senses allows a new approach to the idea of a differentiated world of values.

**On Reductionism**

A second concern of Polanyi is the reductionist urge that arises from the belief that the world is essentially homogenous. If that premise is accepted, then the path to knowledge clearly lies in the representation of nature in the terms of one explanatory system.
While, as Hempel claims, "adherence to this maxim has certainly
proved very successful in biophysical and biochemical research," it
becomes hazardous when extended to other areas of inquiry.\textsuperscript{111} W. H.
Thorpe has written:

Many of us / scientists \ hold that because in the last
three hundred years the scientific technique of reduc-
tionism has been so successful in gaining control over the
forces of nature, our present society is far more recep-
tive to rationalistic-mechanistic philosophies than to
others simply because it considers such views as more
"scientific" than other alternatives . . . this is, in
fact, based on a misunderstanding of the nature of
science itself . . . . In all our studies of nature we
find hierarchic order a demonstrable fact.\textsuperscript{112}

The arguments against reductionism have a long history, extending
from Bishop John Bramhall's \textit{Castigations of Mr. Hobbes} (1658) to
current protests over Skinnerian behaviorism or the new sociobiology.

The chief hazard cited by reductionism's opponents is the corro-
sion of the only mental framework within which man can maintain his
equilibrium. To effect a policy of reductionism in the social realm,
science must resolutely push beyond the notions of "freedom" and
"dignity" to the more fundamental level of "stimulus-response" or the
mechanics of moving bodies. Such a view essentially accepts the
LaPlacean world model, in which one would need to have only the mass,
speed, and position of these randomly moving atoms, at one instant in
time, in order to "know" the world. Reductionism's quest for certainty
and control is essentially a simplistic vision of Divine omnipotence,
expressed in scientific, rather than theological language. A leading
sociobiologist predicts that "sooner or later, political science, law,
economics, psychology, psychiatry, and anthropology will all be
branches of sociobiology," which reduces human society to genetics, and which in turn can be considered a specialized branch of chemistry.\textsuperscript{113}

We can discern two separate arguments in Polanyi's writings on reductionism:

(1) Few reductionists consistently follow their own prescriptions. Polanyi notes that in most cases, the reductionist imports into his argument the very 'mental' or 'organismic' concepts which he is trying to exercise. These notions are not openly acknowledged, but are clandestinely smuggled into the debate. Because of their ubiquity in our language system, they can be counted on to assert their meaning, to impose it on the 'neutral' phenomena with which the reductionist is supposedly dealing.\textsuperscript{114}

Anthony Kenny makes a similar observation when he speaks of "the homunculus fallacy" of the reductionists.\textsuperscript{115} The fallacy entails "the reckless application of human-being predicates to insufficiently human-like objects," contradicting Wittgenstein's claim that 'only of a human being can one say: it has sensations; it sees, is blind, hears; is deaf, is conscious or unconscious.'\textsuperscript{116} Language which conveys personal images is used by the reductionist with impersonal subjects, while he claims to have eliminated the need for the construct 'person.' He is actually using metaphoric language while claiming it is 'neutral' or purely descriptive language, bearing only the meaning that he assigns to it. His conclusions are illicit in that their intelligibility depends upon the very meanings which he claims do not exist. Let us consider a concrete example. B. F. Skinner, in \textit{Science and Human}
Behavior, attempts to "dispose of" the "explanatory fiction" of "the self" by redefining it in terms which rigorously exclude any such notion. He therefore states: "it appears that a self is simply a device for representing a functionally unified system of responses."\(^\text{117}\) He then goes on to examine some of these responses, which are organized around "topographical subdivisions," "discriminative stimuli," "deprivation variables" and "emotional variables." The "self" is thus proved to be a superfluous device used to express apparent consistencies in what are actually quite distinct kinds of responses. Skinner seems sure that his new definition adequately explains what "self" traditionally explained, without introducing all of its ambiguities: "The alternative to the use of the concept is simply to deal with demonstrated covariations in the strength of responses."\(^\text{118}\) Both Kenny and Polanyi would object to such talk because, in the latter's words, Skinner has performed a "pseudo-substitution," assuming that his substituted definition is functionally equivalent to the older meaning, when in fact he overtly changes the word's definition, while continuing covertly to use the word in a traditional way. An awareness of the close relation between meaning and use reveals the fallacy in this procedure. Skinner constructs an objectively acceptable formal definition or meaning for those words which to him are suspicious, but then tacitly accepts the older definition by using these words in their usual contexts. He would have us believe that "function," "unity" and "response" are terms which have no necessary relation to a thinker or knower. But it is a knower who decides that an operation accomplishes
some purpose, thereby establishing the function of that operation or entity; it is a knower whose integrations establish a unity among discrete phenomena; and it is a person who answers or responds to being called (or to being "stimulated," to use the acceptable jargon). Scientific words with a ring of technical precision and objective reference ("the cool vocabulary of science" again) can often obscure the embarrassing fact that language is a creation of relatively impenetrable human persons.

(2) A second difficulty with reductionism as a formal programme is its logical incoherency. We have repeatedly said that the mechanistic or materialist impulse is actually a desire for a one-dimensional world, in which all levels, hierarchies, or dimensions are 'flattened' into one. Polanyi points to several examples of physical systems which cannot be so reduced. In the case of a machine, which would seem to be an excellent case for the reductionist point of view, we can see that something more is at work than simply the laws of physics or chemistry. If, for example, we broke the machine -- stopped it by removing a part -- the laws of physics and chemistry would continue to operate or be in effect. And yet the machine would not work. Its parts have clearly been arranged in a certain order, and designed to fit a certain function. The order and function is not a part of the level of physics and chemistry, but is specified by the laws of engineering. The laws of physics and chemistry govern the lowest level of a machine, indicating the possible combinations of alloys, the stress ranges for various parts, and so forth. But those
laws describe conditions which are minimally necessary for solid objects or processes, while the further conditions sufficient for the constitution of a given machine must be supplied by the principles of the next higher level. The "boundary conditions" of the lower level are harnessed by higher principles. 119

Another example is the building of a wall. Bricks and mortar can be understood in terms of the laws of physics and chemistry, but their orderly arrangement into a wall depends upon the skills and art of the bricklayer. His work, in turn, is guided by architectural principles, as it fits into the total design of a building, and the architect's plans are governed by the master plan of a city planner or someone else responsible for the building site as a whole. At each stage, principles come into play which are not a part of the material order to which reductionism always retreats.

Perhaps someone would object here that this analysis holds only for man-made entities, but Polanyi would reply that the same argument can be made in a slightly different way in biology. The 'atoms' and 'molecules' that go to make up a cell are themselves symbolic constructs, models or paradigms which express certain experimental results or expectations. 120 We are today far more conscious of the indeterminate quality of such concepts than the materialists of an earlier period of science. We should also remember that these atoms and molecules that constitute a cell do not, in themselves, (that is, apart from any observer) make up anything. In themselves, they can at best be said to form a field of random events, but what is "randomness"
apart from an act of discrimination, a judgement, by an observer? The biologist selects a certain part of the field as forming a pattern, sees certain patterns as meaningful, designates certain meaningful arrangements as "cells," and establishes the purposes of these cells in the body. Our ability to perceive and talk of particular parts of the natural world reveals an antecedent appraisal of order, of meaningful patterns, in the world. If we could be confronted with the completely reduced field implied by the Objectivist, we would find nothing worth looking at; we would be bored. We will return to this issue, but should note here Polanyi's summary of his argument: The higher principles which characterize a comprehensive entity cannot be defined in terms of the laws that apply to its parts in themselves."

On Skepticism

A third theme in Polanyi is the charge that the Objective view of knowledge distorts science and knowledge generally by claiming that doubt is the way to truth. The skeptical, critical tradition in philosophy, which originates in the late medievalists' suspicion of metaphysics, has become so dominant that, with Descartes in his heated room, we refuse to believe anything that can conceivably be doubted. As Polanyi puts it:

It has been taken for granted throughout the critical period of philosophy that the acceptance of unproven beliefs was the broad road to darkness, while truth was approached by the straight and narrow path of doubt. We were warned that a host of unproven beliefs were instilled in us from earliest childhood . . . . We were urge to resist the pressure of this traditional indoctrination by pitting against it the principle of
philosophic doubt . . . . 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.124

I want to emphasize here that a critique of doubt is not a renunciation of the critical temper. The freedom of reason championed by the Enlightenment is a value which Polanyi accepts. As noted above (see page 7), Polanyi's entrance into epistemological questions was in defense of this very point. The excess of critical doubt appears in its insistence that all beliefs must be doubted until established; such a demand would clearly undermine the principle of universal doubt itself. It is precisely this passionate doubting, Polanyi argues, that has led, by the mechanism of "moral inversion," to the excesses of Stalinist Russia: "Modern fanaticism is rooted in an extreme skepticism which can only be strengthened, not shaken by further doses of universal doubt."125 Polanyi's fears have not been universally shared; the principle of doubt has been stoutly defended up to our day. Bertrand Russell expresses the conviction with characteristic vigor: "Rational doubt alone, if it could be generated, would suffice to introduce the Millenium."126 Against such faith in the principle of skepticism, Polanyi develops two major counter-arguments:

1) It is clear that in ordinary discourse we insist that doubt must be "reasonable."127 The critical habit of "suspending belief" may occasionally be used extensively to question some of our most cherished claims about the world. It must always operate, however,
within a framework that uncritically accepts certain standards by which we judge the belief under question. Three examples will illustrate the point: (a) the antipathy of eighteenth century French scientists to popular traditions surrounding meteorites led them to deny the existence of such bodies, despite an abundance of evidence supporting the phenomena;\textsuperscript{128} (b) before the concept of hypnosis was sufficiently developed in neurology and psychology, British scientists refused to believe that it occurred, despite extensive evidence to the contrary from impeccable authorities;\textsuperscript{129} (c) in law courts, where impartial doubt is considered the proper judicial mode, we find that such doubt operates within carefully developed rules which protect more fundamental beliefs. A man is considered innocent unless proven guilty, beyond a "reasonable doubt," and the law circumscribes this doubt through rulings on admissability of evidence, patterns of interrogation, the charge to the jury, and so forth. These rules are intended to enforce an agnostic attitude in the jury so that doubt may be freely exercised on the facts of the case. They operate, however, within a larger framework of beliefs about justice which demand that such doubt be "reasonable" — that is, appropriate to the purpose of a trial.\textsuperscript{130}

In each example mentioned, we see that critical doubt does not operate in a vacuum, but rather defends a certain point of view in rejecting claims which are not a part of that view. Only in retrospect can a scientific doubt be conclusively judged reasonable or arbitrary —
it is difficult to see now, for example, whether or not the scientific community's antipathy to parapsychology is a "reasonable" doubt or not, given the mixed experimental results that have been recorded.

(2) Another objection to the critical model is that it must postulate an impossibility, namely, that there can be an indubitable point outside all conceptual frameworks from which the verification of phenomena can be conducted. It assumes, in essence, a "presuppositionless" philosophy not simply as provisional methodology, but also as axiological truth. For Polanyi, the simple fact of language reveals the futility of such an ideal:

Our most deeply ingrained convictions are determined by the idiom in which we interpret our experience and in terms of which we erect our articulate systems. Our formally declared beliefs can be held to be true in the last resort only because of our logically anterior acceptance of a particular set of terms, from which all our references to reality are constructed.¹³¹

The extent to which language determines, or at least greatly influences, thought is extended in Polanyi's analysis of the ways thinking is controlled by the degree to which a conceptual paradigm maintains its stability in the face of possible challenges to its claims. He isolates three principles:¹³² (a) the circularity of an intellectual framework refers to the fact that we argue particular points from within a system by reference to other parts of the system not now under dispute. There is, in fact, no other way to argue extensive belief systems. (b) The self-expansion of a conceptual scheme allows it to be elaborated almost indefinitely to account for future eventualities, awkward anomalies, and so forth. This feature rests both on the richness and flexibility of our linguistic resources, and on the
creative ability of the believer to apply a system to novel cases.

(c) Lastly, the principle of suppressed nucleation prevents alternative views from even arising within a particular paradigm. The most basic concepts in an alternative system are only interpreted in such a manner that they can be assimilated or easily rejected as inadequate or meaningless. While self-expansion rests on the polysemy of words, suppressed nucleation carefully restricts the meaning of terms when confronted with a challenge, depriving the challenger of linguistic, conceptual resources.

We can easily think of examples to illustrate these points. An argument between a liberal Democrat and a Marxist is usually inconclusive because both systems employ these strategies to keep the other at bay. Thus they never argue as equals about equivalent alternatives. Their arguments are never on "logical all-fours" because they follow a 'grammar of belief' which is logically prior to the public 'grammar of rhetoric.' Theological apologetics, particularly during the zenith of Protestant scholasticism and the rise of fundamentalism, abundantly illustrates Polanyi's three principles at work.\(^{133}\)

These principles operate together against alien views to maintain the stability of a mental paradigm, which in itself remains perfectly coherent. Universal doubt also operates by using such a conceptual paradigm, and in attacking beliefs which do not meet its standards of explicitness and indubitability, it is applying these principles of stability to maintain itself. Radical doubt is a metaphysic, in that it rests on a conceptual and linguistics world with what we might call 'instincts of self-preservation.' Joined with the work of Kuhn,
Toulmin, and Hanson, Polanyi's analyses render extreme forms of the program of doubt in science illusory.

On the Bifurcation of Knowing

I have discussed the impersonalism, reductionism, and skepticism of the Objectivist model of knowledge, showing how Polanyi responds to that model. I will conclude by treating what is probably Polanyi's most serious criticism -- that Objectivism has resulted in a separation of reason from experience. We can see the point most clearly in historical perspective.

We should first recall that objectivity reflects the human desire for abstract or theoretical knowledge, which can be clearly seen at least as early as the Presocratic philosophers of the sixth century B.C.E. With Pythagoras of Samos we first find the elevation of number to the single explanatory principle of cosmology. The final truth of the universe is order, form, proportion, and this order is revealed to man in mathematics. This view denies that the material world which immediately confronts our senses will reveal truth to man, and insists that numbers alone yield reliable knowledge of the underlying essence of the universe. The knower must turn away (abstract himself) from the immediate witness of his senses to discover Truth. This approach to knowledge, which will eventually be termed rationalistic or deductive, reappears in Copernicus and Kepler, and, I think Polanyi would agree, in Einstein. For Polanyi it is necessary to a theory of
scientific discovery as it denotes the creative, persuasive, heuristic power of human reason.

Another form of theoretical knowledge also emerged, however, in presocratic Greece, culminating in Democritus, whom Polanyi considers the father of materialism. Democritus' claim "by convention sweet and bitter, hot and cold, by convention is color, in reality are atoms and the void,"\textsuperscript{135} asserts that only the mechanical, material properties of things are real, while other properties are derived from these primary qualities by convention.\textsuperscript{136} Galileo and Newton were to agree with this formulation, and "thus emerged the mechanistic conception of the world which prevailed virtually unchanged till the end of the last century."\textsuperscript{137}

The crucial point of this materialism for Polanyi is that while it is still abstract, replacing the evidence of our senses by a theory of the movement of atomistic particles, it no longer associates this theory with a true order underlying the physical world: "Numbers and geometrical forms are no longer assumed to be inherent as such in Nature. Theory no longer reveals perfection; it no longer contemplates the harmonies of Creation."\textsuperscript{138} Gradually mathematical reason became the locus of merely necessary truth, and experience the realm of contingency. This dichotomy between reason and experience was accentuated by the development of non-Euclidean geometry, which tended to restrict mathematics to the statement of tautological truth. Positivism, meanwhile, extended empiricism to the point where it was claimed that scientific theory "must not go beyond experience by affir
that cannot be tested by experience; and above all, scientists must be prepared immediately to drop a theory the moment an observation turns up which conflicts with it.\textsuperscript{139}

The result of this development is the view that scientific theory "is merely a convenient summary of experience. Its purpose is to save time and trouble in recording observation . . . ."\textsuperscript{140} The Pythagorean insistence that the essence of reality lay beyond physical appearances, and that in arriving at mathematical theories man was revealing the "inner core" of reality, has been turned on its head by the inheritors of Atomism. Reality is limited to what can be physically experienced, and reason has no power to go beyond physical evidence to any deeper (more real) truth. It is this view which forms the heart of what Polanyi calls Objectivism, and which he hopes to correct.

But our analysis must go a bit further. We noted that materialism, as well as Pythagorean rationalism, was still a theoretical view, an abstraction to which we reason while ignoring (or perhaps transcending) the evidence of our senses. The scientific positivism to which it leads, however, has also been influenced by empiricism, represented chiefly by Locke and Hume. We should not think of empiricism here as simply the logical opposite of rationalism, for as our remarks have indicated, both "theories" of knowledge affirm the power of reason inasmuch as they are theories, objective constructs which satisfy man's intellectual desire for abstraction. My own experience, and even that of my acquaintances, is far too limited to firmly establish the general hypotheses concerning knowledge which empiricism claims, and it is even
less able, in and of itself, to support our scientific knowledge of the world. We have led ourselves to believe that science only organizes sense experiences, and that the scientific method conforms completely to physical evidence; a more accurate reading of the history of science shows scientists doing something quite different. It is rather the case that

The discovery of objective truth in science consists in the apprehension of a rationality which commands our respect and arouses our contemplative admiration; that such discovery, while using the experience of our senses as clues, transcends this experience by embracing the vision of a reality beyond the impressions of our senses, a vision which speaks for itself in guiding us to an ever deeper understanding of reality . . . .

While empiricism affirmed sense experience as the source of knowledge, it actually, as a result of the critiques of Hume and Kant, separated acts of perception (including all the senses) from knowledge. Knowledge becomes rather a relation of ideas, which are constructed from perception by critical reason. This reason, however, is not that rationality of which Polanyi has just spoken so eloquently; it is rather a reason conceived under the influence of Cartesianism after the example of mathematics. The simple opposition of "rationalism" to "empiricism" is therefore a false dichotomy for Polanyi, obscuring the real issue: the claim of much of modern science, arguably the most rational edifice in the history of western culture, that human reason is impotent. We will now turn to an alternative vision of human knowing, which attempts to recover its power.
NOTES TO CHAPTER I

1 I follow the custom here of beginning "modern theology" with Schleiermacher's Reden (1799). I am assuming that both liberal and orthodox (continental and American varieties) theology can be understood in terms of their opposing reactions to the challenge of modern secularism. See David Tracy, Blessed Rage for Order: The New Pluralism in Theology (New York: Seabury, 1975), pp. 3-27.


4 The descriptive phrases are borrowed from Paul L. Holmer, "Polanyi and Being Reasonable: Some Comments in Review of Intellect and Hope," Soundings 53 (Spring 1970) 95-109. This review contains some perceptive criticisms of Polanyi from a Wittgensteinian perspective.


The Point of View, pp. 24-26.


Karl Marx, quoted in Erich Fromm, Marx's Concept of Man (New York: Frederick Ungar, 1961), p. 17.


Polanyi, Tacit, p. 3.

Polanyi's view of Marxism has received trenchant criticism from Zdzislaw Najder, "Moral Inversion' or Moral Revaluation?" in Langford and Poteat, eds., Intellect and Hope, pp. 364-385.


Polanyi, Personal, p. ix. Or, as Merleau-Ponty has expressed it: "In the name of an apparently rational social doctrine, reason is repudiated just where it shines most brightly / in science/." Maurice Merleau-Ponty, Signs, trans. Richard C. Mc Cleary, Northwestern University Studies in Phenomenology and Existential Philosophy (Chicago: Northwestern University Press, 1964), p. 194. The Objectivist construct will be dealt with in the next section.

Polanyi, Personal, p. ix.

See also Personal, p. ix.

Ibid.


This section, in revised form, was part of a paper entitled "A Caveat on the Rationalism of Polanyi," delivered 20 November 1978 at the American Academy of Religion annual meeting in New Orleans. Some attention to the development of Polanyi's thought was given by Gerald L. Smith, "Tacit Knowing and the Logic of Tradition: A Study in the Thought of Michael Polanyi," (Ph.D. Dissertation Duke University, 1970).
25 Personal, p. 381.

26 See also Personal, pp. xiii, xiv, 269, 299. Interpretations of Polanyi which overlook his radicalness include David W. Long, "Michael Polanyi's Theory of Knowledge," (Ph.D. Dissertation, Florida State University, 1967), esp. pp. 198-216. Long summarizes: "We can say at this point, then, on the basis of our brief examination of some of the conditions under which Polanyi's theory can be considered a theory of knowledge, that his claim of presenting an epistemological program has been substantiated. Contrary to what some of his opponents / Popper / might argue, he is defending primarily an epistemological thesis, and not a thesis in the psychology of knowledge" (pp. 214-215). See also Helmut Kuhn: "With all the daring novelty of its approach personal knowledge does not propose a revolutionary departure from traditional philosophy. On the contrary it is to a larger extent than Polanyi seems to realize a recovery of modes of thought at home and in classical metaphysics." "The Crisis of the Philosophical Tradition," in Langford and Poteat, Intellect and Hope, p. 122. Some of the readers who speak of Polanyi's "theory of knowledge" (Marjorie Grene, Thomas Langford, Ronald Hall) do so advisedly, aware of certain problems in this usage. But others, as we have noted, never seem to recognize the deeper issues involved. Among those who suggest that Polanyi does not state any orthodox sort of epistemology are Oakeshott, Holmer, Poteat, Larry R. Churchill, "Saying and Knowing: Toward a Post-Critical Philosophy of Language," (Ph.D. Dissertation, Duke University, 1973). On this general subject, see Gelwick, Way of Discovery, pp. 55-61, 112-129.

27 Tacit, p. x.


29 Personal, p. 405.

30 Ibid., Chapters 8 and 10.


32 Poteat, "Upon First Sitting Down to Read Personal Knowledge."

33 Steiner's phrase is quoted in a review of Steiner by Hugh Lloyd-Jones: "The Anatomy of Translation," Encounter 44 (June 1975) 64.


35 Steiner's essay, "A Kind of Survivor," is an evocation of this European intellectual world, and of its destruction under Hitler.


38.Relations between the thought of Polanyi and of Wittgenstein have been traced by C.B. Daly, "Polanyi and Wittgenstein," in Langford and Poteat, Intellect and Hope, pp. 136-168; and to a slight extent by Dallas M. High, Language, Persons and Belief: Studies in Wittgenstein's Philosophical Investigations and Religious Uses of Language (New York: Oxford University Press, 1967). Paul Holmer, "Polanyi," takes issue with some of Daly's comparison, but it must be pointed out that while he is thoroughly familiar with Wittgenstein, Holmer does not show an equivalent acquaintance with Polanyi.


43 Holmer, "Polanyi," pp. 103-130. I should note that Holmer's view of Polanyi is generally critical.

44 See, for example, Samuel H. Miller, Dilemma, Chapter 4: "Loss of the Human Center," pp. 60-74; Wylie Sypher, Loss of the Self in Modern Literature and Art (New York: Random House, Vintage, 1964); Richard Schacht, Alienation (Garden City, N.Y.: Doubleday Anchor, 1970); John Macmurray, The Self as Agent (New York: Harper & Brothers,

45 This notion of "displacement" as it relates to the rise of modern science is specifically treated by Alexandre Koyré, From the Closed World to the Infinite Universe (Baltimore, Md.: Johns Hopkins Press, 1957); Metaphysics and Measurement: Essays in Scientific Revolution (Cambridge, Ma.: Harvard University Press, 1968), esp. Chapters 1 & 2; William H. Poteat, "Persons and Places."

46 Personal, pp. ix-xiv, 3-17, 249, 269, 306-307; Tacit, pp. ix-xi, 3-25; Meaning, Chapters 1-3.


49 Polanyi, Personal, p. 3.


There are, of course, many differences of emphasis and interpretation among these sources. As a whole, however, I believe that their findings support Polanyi's construal of the development of science.

52 Koyré, Metaphysics, p. 17, n.1.

53 Burtt, Metaphysical Foundations, pp. 125-126; see also 162-206.

54 Galileo, Opere Complete di Galileo Galilei, Firenze, 1842ff., vol. IV, p. 171, quoted idem., p. 75.
55. Koyré, Metaphysics, p. 39. The title of this particular essay by Koyre is "Galileo and Plato." See also Burtt, Metaphysical Foundations, pp. 82, 93.


57. Ibid., p. 13.


59. Burtt, idem., pp. 74, 75.


62. Ibid. (Italics in original).


64. Koyré, From the Closed World, p. 276.

65. Ibid., p. 99.


73 This is the way in which Polanyi formulates this development; see Personal, pp. 8-9. It should also be noted that even in British empiricism sense perception itself, while remaining the necessary source of the "data" of mental operations, was given secondary status in the theory of knowledge behind "relations of ideas." See Larry Churchill, "Saying and Knowing," pp. 5,9,45-46; Ernst Cassirer, The Philosophy of the Enlightenment, trans. Fritz C.A. Koelln and James P. Pettegrove (Princeton, N.J.: Princeton University Press, 1951), pp. 99-100; Georges Gudorf, Speaking (La Parole), trans. Paul T. Brockelman, Northwestern University Studies in Phenomenology and Existential Philosophy (Evanston, Ill: Northwestern University Press, 1965), pp. xvii-xviii.

74 Burtt, Metaphysical Foundations, p. 231.

75 Ibid., pp. 30-33.

76 Butterfield, Origins, p. 170 (italics added). See also Koyré, From the Closed World, p. 278, n.7.

77 Burtt, Metaphysical Foundations, pp. 34-35, 230. But as Poteat has pointed out ("Persons and Places"), there has always been opposition to this dominant view; see Hiram Haydn, The Counter-Renaissance (New York: Charles Scribner's Sons, 1950).

78 Butterfield, Origins, p. 178.


80 Ibid., p. 889.

81 The phrase "struggle for autonomy" is from Gay, The Enlighten-


82 Koyré, From the Closed World, p. 2.


87 The typology of Objectivist tenets which follows has been drawn from a wide variety of sources, and though they have been formulated to agree with Polanyi's main concerns, they also reflect a wider consensus. See Floyd W. Matson, *The Broken Image*, pp. 3-6; Marjorie Grene, "Hobbes and the Modern Mind," pp. 5-15; Larry R. Churchill, "Saying and Knowing," pp. 4-11; Gordon W. Allport, *Becoming: Basic Considerations for a Psychology of Personality* (New Haven, Conn: Yale University Press, 1955), pp. 7-12; Bruno V. Manno, "The Person and Meaning: A Study in the Post-Critical Thought of Michael Polanyi," (Ph.D. Dissertation, Boston College, 1975), p. 25; Sigmund Koch, "Psychology and Emerging Conceptions," pp. 7-21; Charles C. Gillispie, *The Edge of Objectivity: An Essay in the History of Scientific Ideas* (Princeton, N.J.: Princeton University Press, 1960), p. 10. Gillispie's summation of modern science is that it is characterized by "objectivity," though he does not explain precisely what he means by that word. In addition to the central principles I am listing, these sources mention the following elements that mark the scientific enterprise: impersonalism, nominalism, public verification, quantification of all data, a desire to master and control nature. For comparison, we can quote two different accounts of these tenets: Samuel Enoch Stumpf describes "Positivism": "Positivism is best defined as a general attitude of mind, a spirit of inquiry, an approach to the facts of human existence. Its essential feature is first of all negative, in that it rejects the assumption that nature has some ultimate purpose or end. Secondly, positivism gives up any attempt to discover either the "essence" or the internal or secret causes of things. On the positive side, its spirit is expressed in the attempt to study facts by observing the constant relations between things and formulating the laws of science simply as the laws of constant relations between various phenomena . . . . A corollary of this spirit of research and inquiry was the assumption that knowledge derived from science can be used in the material and social life." Socrates to Sartre: *A History of Philosophy*, 2nd ed. (New York: McGraw-Hill,
"... it is the perennial temptation of critical thought to demand
total explicitness in all things, to bring all background into fore-
ground, to dissolve the tension between the focal and the subsidiary
by making everything focal, to dilute the temporal and intentional
thickness of perception, to de-historicize thought... to lighten
every shadowy place, to dig up and aerate the roots of our being, to
make all interiors exterior, to unsituate all reflection from time and
space, to disincarnate mind, to define knowledge as that which can be
grasped by thought in an absolutely lucid "moment" without temporal
extension, to flatten out all epistemic hierarchy, to homogenize all
logical heterogeneity..."; "George Steiner: The Extra-Territorial
Critic," Soundings 55 (Winter 1972) 4: 428. These excerpts indicate
that there are many other aspects of "Objectivism" that might be
examined, in addition to those mentioned by Polanyi.

This view is being changed somewhat by the impact of contemporary
physics (that is, physics since the theories of quanta and relativity,
1900-1905); see a discussion of some of these changes by Ian G. Barbour,
Myths, Models and Paradigms: A Comparative Study in Science and

89 Churchill, "Saying and Knowing," p. 3.

90 Polanyi, Personal, p. 9.

91 E.g., B.F. Skinner, Science and Human Behavior (New York:

92 This is the central theme of Koyré, From the Closed World; see
p. 2. See also Koyré, Metaphysics, p. 20, and Whitehead, Science,
pp. 19-38.

93 Koyré, Metaphysics, p. 20.


95 See David W. Long, "Michael Polanyi's Theory of Knowledge,"
p. 9; Polanyi, Personal, p. 269. The 'doctrine of doubt' should not
be laid on Descartes' head alone; David Hume's skepticism was a
well-known and influential part of his philosophical position.


98 Marjorie Grene, "Tacit Knowing and the Pre-Reflective Cogito,"
in Langford and Poteat, eds., Intellect and Hope, p. 19.
Polanyi, Personal, p. 405.

Polanyi, Personal, pp. 3-17, 224-245, 269-272; Knowing and Being, pp. 3-23; Tacit, pp. 55-92.


The revision of an extreme positivism in the philosophy of science has been led by such men as Whitehead, Popper, N.R. Hanson, Toulmin, Kuhn, and Koyré, as well as Polanyi; see Ian Barbour, Issues, Chapter 6. But few men have thought through the situation with Polanyi's thoroughness. Witness, for example, how C.C. Gillespie attempts to explain away the necessary involvement of the scientist (the person) in the knowledge he holds: "There is no measurement without an instrument, or ultimately without a physicist. And on the face of it, this might seem to have restored a species of subjectivism to science. Nevertheless, this must not be taken for a reversion to idealism . . . . It is all very well to say that there is no physics without a physicist . . . . But it would, after all, be more accurate to say 'without an instrument,' because for such purposes a physicist is an instrument. We are concerned, that is to say, not with a personal subjectivism, but with an instrumental subjectivism, the kind of which a computer is capable." The Edge of Objectivity, p. 517. This is an excellent demonstration of the main objections to Polanyi: first, the assertion that persons are essential to scientific knowledge is considered trivial (note the faintly arrogant tone of 'it is all very well to say . . . but'), and Gillespie concludes by suggesting that certainly physics needs a physicist -- if, that is, the physicist is like a computer. He thus moots the entire point. Secondly, the notion that a person might be involved in science immediately provokes the red flag of Subjectivism. This in itself is revealing in the extreme. Thirdly, the notion that a person might be involved in science is straightforwardly assimilated to "idealism" (Polanyi has also been accused of being a "metaphysician," and the different epithets mean the same thing: a failure to pay scrupulous attention to empirical data. But why should one automatically think that "person" refers to some non-empirical data?) Lastly, Gillespie suggests that for purposes of measurement, a physicist is an instrument. It does not take a subtle mind to see that such a move overlooks the complexity involved in "measuring," that measurement denotes an act, performed by a person, and that the heart of that act is not simply 'reading off figures,' but 'making discriminations,' 'making judgements.' Thus even contemporary philosophers and historians of science who nod their heads impatiently at Polanyi's "personalism" seldom see the deeper, more radical point behind his claims; namely, that their entire view of scientific knowledge must shift.
103 Polanyi, Knowing and Being, p. 105.


106 Ibid., p. 450.

107 This point is adumbrated by Koyré, From the Closed World, p. 2, and developed by Poteat, "Persons and Places."

108 Koyré, From the Closed World, p. 2.


111 Hempel, Philosophy of Natural Science, p. 106.


125. Ibid., p. 298. But see also the criticisms of Polanyi's view of Marxism in Najder, "Moral Inversion!".


128. Ibid., pp. 138, 274.

129. Ibid., pp. 51-52, 275.

130. Ibid., pp. 277-279.


341. That is to say, the questions that we raise and our doubts depend on the fact that some propositions are exempt from doubt, are as it were like hinges on which those turn.

342. That is to say, it belongs to the logic of our scientific investigations that certain things are in deed not doubted.

343. But it isn't that the situation is like this: We just can't investigate everything, and for that reason we are forced to rest content with assumption. If I want the door to turn, the hinges must stay put.
344. My life consists in my being content to accept many things.

See also sections 331-337, 356-362.


133 A fascinating glimpse into some of these apologetic wars is provided by Owen Chadwick, The Secularization of the European Mind in the Nineteenth Century (Cambridge University Press, 1975), esp. Chapters 7 & 8.

134 Polanyi, Personal, pp. 6-7. This statement could be misinterpreted to reflect a "critical bias" toward Greek rationality over against Hebrew "mysticism." Almost any modern history of philosophy will unproblematically display this bias. Such a simple antithesis needs examination, and Polanyi's position would make such a reevaluation possible. See E.R. Dodds, The Greeks and the Irrational (Berkeley: University of California Press, 1951).


136 Polanyi, Personal, p. 8. The distinction is drawn paradigmatically by John Locke. For a Polanyan criticism of this distinction, see Churchill, "Saying and Knowing," pp. 45-46.

137 Polanyi, Personal, p. 8.

138 Ibid.

139 Ibid., p. 9. 'Positivism' refers more explicitly to the nineteenth century movement represented by Comte, Spencer, and Ernst Mach. It is, therefore, a limited instance of Objectivism, which is a much broader movement in Polanyi's mind. See Richard Gelwick, The Way of Discovery, p. xviii.

140 Polanyi, Personal, p. 9.

141 On the metaphysical character of empiricism, see Whitehead, Science and the Modern World, pp. 43-44.

142 Polanyi, Personal, pp. 5-6.

143 See above, note 73.
CHAPTER II
THE PERSON AS KNOWER

A Post-Critical Philosophy

The charges we levelled in Chapter I against the objective ideal in knowledge would be difficult to sustain on the purely negative ground of Polanyi's criticisms. That critique, however, has a positive side, for it originates in a conviction that knowledge is not what the tradition has claimed it is, and that a truer picture of human knowing can be assembled from examples of scientific discovery. This Chapter will examine the central elements of Polanyi's alternate account, each of which demonstrates the personal component in knowledge.

This account is not the first or the only effort to reconstruct our understanding of the knowing process. Just as resistance to the Objectivist paradigm has arisen in various disciplines, the reconstruction of a "new Humanism" has been proceeding in several fields.\(^1\) Indeed, one can view existentialism, phenomenology, and much of the analytic tradition as efforts to free philosophy from its critical confusions.\(^2\) Thus, while Polanyi is the epistemological model for this essay, he is not utterly unique; in fact, in places his formulations are more adequately expressed by others. He is important because his analysis is comprehensive, because it is uniquely sensitive to the findings of Gestalt psychology, and because it is undertaken within
the realm of science, the chief guarantor of the objective ideal.

Let us first note some characteristic features of Polanyi's approach to epistemology, using *Personal Knowledge* as our main text. (1) Polanyi agrees with the modern mainstream in seeing scientific knowledge as a paradigmatic form of knowledge — if we can be certain of anything, it is of the truths of science.³ He differs, however, in emphasizing the importance of the history of science, and in de-emphasizing efforts to formalize the scientific method. He shares this interest with Thomas Kuhn and Karl Popper.⁴ (2) He is concerned with the process of discovery rather than with the subsequent codification of discovery. He believes that we learn more of knowing by looking at the activities of scientists ("psychology"), than at their formally expressed results ("logic"). For Polanyi, the common definition of epistemology as 'the justification of knowledge claims' is wrong because it discusses "knowledge" that is at least two removes from the knower.⁵ First, it is concerned not with what the person knows, but with his "claims" to knowledge, and these claims are normally articulated as formal, declarative statements about some prior experience. Second, such an epistemology is interested in knowledge claims in relation to "criteria of justification." Polanyi argues that the process of justification is a second-order act consequent upon our already having knowledge, and the elucidation of "criteria" for this process is yet a third level of activity. These levels of activity are necessary, legitimate aspects of the subject, "human knowing," but they cannot be construed as the heart of that
subject. Formal clarifications of knowing presuppose an understanding of what it is to know; they do not provide that understanding. We might summarize these first two characteristics by saying that Polanyi emphasizes the "situatedness" of knowledge. (3) Polanyi can be generally described as a realist in terms of his views of the external world. He is convinced that quite apart from man and his mind, there is a world ("Reality") which confronts man, and with which man must deal:

We can account for this capacity of ours to know more than we can tell if we believe in the presence of an external reality with which we can establish contact. This I do. I declare myself committed to the belief in an external reality gradually accessible to knowing, and I regard all true understanding as an intimation of such a reality which, being real, may yet reveal itself to our deepened understanding in an indefinite range of unexpected manifestations.6

We never thoroughly understand or "grasp" this reality; it remains "hidden;" it continually surprises us. But we do "make contact" with it through the use of our minds (our incarnate minds), and the earnest of this reality is the way in which it will reveal at some future time implications of which we have as yet no inkling. One hundred and forty-four years passed between the declaration of Copernicus' heliocentric theory and its final confirmation in Newton's theory of gravitation; the reality of Copernicus' world was not established by Newton, but it was confirmed by him. This is the possibility which lies open to all of us: to attempt to apprehend (to 'make contact' with) reality in whatever tentative, fragmentary way our means give to us, with the expectation that our colleagues, now or in the distant future, will confirm our vision by extending it.
Two important resources for Polanyi are also characteristic:

(4) He draws first upon *Gestalt psychology* to elucidate the way in which the perceptual field is 'put together' in understanding. In many ways his central concept of "tacit knowing" is a philosophical development of certain insights of the Gestaltists.7 (5) A second constant concern of Polanyi is to trace knowing back into its pre-articulate roots, that is, to look in *biology* for the physiological forerunners of our cognitive powers. The behavior of apes, rats, chickens and babies becomes relevant in Polanyi's mind to the questions "How is it that we can apprehend order and patterns in the world, or that we can establish, through memory, certain constants in our experience? How can we acquire a thousand-fold multiplication of our cognitive abilities through the use of words?"8 Here again Polanyi is ignoring the logic/psychology distinction in order to understand in a comprehensive way how the human animal figures out his world.

If these characteristic strategies are kept in mind, the post-critical view of knowledge which we are elaborating may become clearer. But these general comments on Polanyi's thought will now be substantiated in more detail. The sections which follow will show that all of knowledge can be understood through the example of *discovery*, an act which employs personal skills to appraise a puzzling situation in which we feel that something now hidden may be made accessible. We can discern in every such act of understanding a structure of *tacit knowing*, in which a myriad of subsidiary clues are integrated to a focal whole. The temporal, logical polarity of this structure renders fruitless any
effort to completely specify the elements of knowledge. From our
gereliance on clues we can never fully know, to our sense of a calling
to the intellectual life, we rely on commitments which are never free
of risk, but which we wholeheartedly affirm. Surrounding and sustain-
ing these individual strivings is a convivial order which supplies our
basic conceptual framework, our education in the lore of a particular
discipline, and authoritative canons and mores for the exercise of
our calling. Finally, in logical levels throughout nature we find a
key to the integration of our various types of knowing into a compre-
hensive view of life.

These five aspects of personal knowledge do not begin to exhaust
the contents of Polanyi’s philosophy, but they are of central import-
ance to him, and are especially relevant to the figure of the person
which we are trying to define. Each aspect is applicable to any act
of knowing, as an explanation of one facet of that act. Together they
explain knowing as a personal undertaking — that is to say, as a deed
which can be understood only in terms of intentionality, of projected
meaning, of heuristic effort, of free agency. Each of these comple-
mentary approaches to the knowing process implicitly overcomes the
critical presuppositions of the modern philosophical tradition, and
may allow us, therefore, to overcome our bondage to the distortions
of that tradition. While these terms spring from a scientific setting,
I will assume that they bear on intellectual life in general, conclud-
ing with Polanyi that "the position of science in society is thus seen
to be merely a special feature of the position of thought in society."
Discovery

Knowledge is neither a body of information nor a system of rules for justifying our true beliefs; it is rather an activity, the process of discovering and establishing coherences in our experience of the world. This dynamic drive to situate ourselves can be related to the primitive efforts of microorganisms to orient themselves to stimuli, and to the whole range of sensate activity throughout the animal kingdom. The formal products of knowing that are fixed in texts, conversations, symbol systems, art and ritual are elaborations in particular directions (all, in some sense, in the direction of "abstraction") of a primordial coherency which all animals establish from their experience. This is not to say that human cognition is simply a complex expression of the amoeba's flow — Polanyi is careful to say only that human intellection is "prefigured" in the strivings of animals, and his concept of logical levels in nature preserves the uniqueness of the human mind in the natural world. But there are also crucial connections. Experiments with rats, dogs, and chimpanzees have recorded the ways in which animals may sense a problem, puzzle over various solutions to it, and finally hit upon an answer. Polanyi analyzes the various levels and kinds of "inarticulate intelligence," and locates the crucial skill by which men leave animals behind in the acquisition of language — "By this one single trick in which it surpasses the animal, the child acquires the capacity for sustained thought and enters on the whole cultural heritage of its ancestors."
But our specific concern here is with the wide latitude with which Polanyi defines "intelligence." It suggests not only that "discovery" is a more fruitful synonym for knowledge than "induction" or "calculation," but that discovery is not to be limited solely to the realm of scientific innovation. It may be seen at work in every case of problem-solving, where we struggle to make sense out of something which puzzles us. We can say, then, that all knowing exhibits the principles of discovery, or problem-solving. This implies, in turn, that knowing can never be defined in an explicit, complete way, for discovery or problem-solving is essentially a groping or searching toward a situation which satisfies it, and which it recognizes as the end of its search, as its solution. Problem-solving is, therefore, something more than one type of mental activity; it represents the heart of knowing.12

But how is problem-solving personal? The answer to this question has several parts. (1) We must first recognize that nothing is a problem in itself; someone must be puzzled for a problem to exist. Problems are not universally recognizable as such — a chess problem does not exist for an imbecile, to whom it is meaningless, nor to a chess master, for whom it is obvious.13 At a basic level, then, the solution of an intellectual problem depends upon the level of understanding of the person involved.

(2) Not all problems, however, are equally puzzling, and the decision to pursue one and ignore others is directly dependent upon the individual's curiosity and peculiar interests. Here an awareness
of basic information (or, in intellectual disciplines, of the 'state of research') is essential. It does not seem possible, for example, with the information we now possess, to solve the puzzles generated by various forms of extra-sensory perception. Thus most scientists have decided that ESP problems would not be worth investigating now. Such personal appraisals and judgements are clearly necessary to prevent science from bogging down in the study of nonsense or trivia. Phenomena once labelled "nonsensical" or "non-existent" may at a later day be re-classified as legitimate problems, as we saw in the cases of meteorites and hypnosis (p. 60). In both examples the conceptual framework of the day had no place for the phenomena reported, and they were therefore declared, by scientific fiat, not to exist. This clearly does not imply that any reported fact, however strange, must be provisionally accepted pending some possible future confirmation. Common sense and a host of particular tests will normally eliminate bogus cases. But these exceptional examples should remind us that common sense and testing procedures operate within a larger world of meaning, and their validity depends on personal estimations of the degree to which they cohere with that larger significance.

(3) A final personal factor involved in solving a problem is the assessment of our ability to solve it. We may fail to find a solution to a worthwhile problem simply because we lack the skills necessary for the task. The risk involved in such a choice is considerable; reputations are at stake, of course, but there is also a danger of spending an entire life working at problems that finally
lead nowhere. James Watson, co-discoverer of the chemical structure of DNA, has expressed the impatience of gifted scientists with the "cantankerous fools who unfailingly backed the wrong horses."14 History proved Watson right in his guess about DNA, but before his discovery was accepted by the scientific community, the validity of his choice of a problem was warranted solely by his personal judgement.

After a problem has been selected, we then begin to examine its elements. Our focus or aim in the examination is the solution of our problem -- to see how its elements cohere, to see a significant pattern, to see a meaning emerge. Our careful attention to the problem reveals in certain of its elements a significance that distinguishes them as "clues." They seem to have a special bearing on the problem, or more precisely, on the solution for which we are searching. Here we seem to have encountered a logical circle: if the solution is unknown, how can we identify clues by their bearing on this solution?

This is, as Plato recognized in the _Meno_, the root problem of knowledge -- how can we look for something if we don’t know what it is, and if we know what we want, why should we look for it? Plato’s answer was the doctrine of recollection; Michael Polanyi’s answer stems from the insight of Gestalt psychology that not even the simplest perception is of singular objects or entities.15 We understand a figure in relation to, on the basis of, the background against which it appears. In solving a problem we dimly or incompletely perceive the relation of particular elements of the visual field (clues) to the pattern which will integrate them, and which is their "background."
Thus a problem arises when we perceive only part of an intimated whole, the remainder of which is supplied in the integration which solves the problem. Polanyi's answer to the problem of the _Meno_ is that the process of knowing is always polar; it is a movement from the particulars of an experience to the whole which they jointly constitute. This explanation will become clearer when we look at "tacit knowing," but we should note that Plato conceived of true knowledge according to the model of mathematics, and that the permanency which, he believed, must necessarily characterize true knowledge would be impossible to conceive of as part of a process or a complex event. If knowledge is instantaneous, then it becomes difficult to grasp what a problem or puzzle is. For Polanyi, the gradual process of moving from puzzlement to searching to integration inevitably consumes time — we first perceive a puzzling set of facts or circumstances, after which we begin to struggle to make sense out of them, in the process of which we note some as "significant" in a yet undetermined way, mark others as "unimportant," and so forth. Finally, we see a new configuration of clues which clearly seems "right" — it gives the clues a meaning which they lacked in the moment before the new pattern was first sighted. Polanyi's insertion of the knowing act into a temporal dimension is significant:

Unlike the traditional ideal of a wholly explicit, self-guaranteeing truth, from-to _/_ from particulars, to a whole _/_ knowledge cannot be instantaneous; it is a stretch, not only of attention, but of effort, effort must be lived, and living takes time.\(^\text{16}\)
The solution to a problem is not reached by a straightforward process of induction. The routine application of a set procedure (induction in a weak sense), as in the mathematics problems that students do, does not involve real puzzlement, and is performed not because the solution is interesting in itself, but in order to practice one's method, to sharpen calculating skills. Induction that is more than routine computing (a strong sense) actually involves personal appraisals not stateable in the explicit logical rules of induction. In selecting facts that we deem mutually relevant, or in deciding which "rules" of reason to apply to these facts, and how we should apply them, we confirm that discovery is not a strictly logical performance. We would not seriously want to say, upon picking up a book, that we "discovered" new arrangements of words on every page we turned. We might want to say, however, that we "discovered something about ourselves" after reading a book on psychoanalytic theory, even if we could only vaguely explain the transference (from book to self) which we had accomplished.

We solve a problem, therefore, not simply by adding up clues, but by an act of heuristic passion, in which we cross the 'logical gap' between fragmentary clues and the solution which suddenly unifies them, revealing in the clues a joint meaning. In making this 'leap,' we are motivated by intellectual passions of a decidedly personal nature — the elegance and beauty of the solution, its order, simplicity, and fruitfulness, and the fact that it betokens the true nature of reality. Polanyi is convinced that this last feature of our
creativity must be preserved, though the critical tradition would deny such a "metaphysical" assertion. The stimulus for working on a problem, however, (and we should remember that the work may be difficult, frustrating and take long years to complete) is our belief that the problem betokens a deeper reality behind its puzzling features. We believe that hidden from us, but already existing, is a truer level of experience. The attempt to avoid the term "true" by claiming that the features mentioned (simplicity, beauty, fruitfulness) are the ultimate elements of science is only to make "pseudo-substitutions," for there are simple and beautiful theories which are of no interest to anyone. What matters to us is what is real for us.  

Having arrived at a new vision of reality, the scientist must now secure this view by convincing others of its truth. Here the persuasive passions of the scientist surface, resulting in scientific controversy. When a major insight has been reached, the scientist faces the task of converting the community to a new intellectual paradigm which may be almost incomprehensible within the old. It is his conviction of the truth of his view which drives him to defend it against what is often severe criticism. This last stage of verification or validation exhibits the same network of passions, appraisals, and critical thinking we saw in the various stages of problem-solving.

Polanyi summarizes the whole process of discovery or problem-solving in terms borrowed from Poincaré. There is an initial stage of preparation, which involves both the recognition of a problem — our feeling of puzzlement — and our search for a solution. With effort
and some good fortune we reach the point of illumination, in which we grasp a way of solving the problem. We finally attempt to put our proposed solution to the test at the stage of verification, either practically or through critical reasoning about our proposal.  

Through all of these stages, discovery reveals itself as a preeminently personal, committed act, subject to error at every point, and ultimately supported by our confidence in our own powers of knowing.

**Tacit Knowing**

The critical tradition, sharply distinguishing between knowledge and belief, tended to assert that we could claim to know something only to the degree to which it could be expressed in formal, explicit terms. Polanyi begins by accepting the curious fact that "we can know more than we can tell," and inquires into the reasons for this experience.

A simple example of our inexpressible knowledge is our ability to recognize the face of a friend within a crowd of people. It is impossible to specify exactly how we do this, for even if we could identify the many particular features in the face, we are not able to state how we put them together into a recognition of our friend. If each particular (a nose, an ear, etc.) were isolated from the rest of the face, we would rarely be able to pick it out from a group of similarly abstracted particulars. There is something, then, in the total pattern or configuration which we recognize -- and that 'total pattern of
physiognomic particulars' is just what we mean by a "face."²²

The strength of Polanyi's claim cannot be seen in this example alone, but it gains support from the findings of Gestalt psychology, which established the holistic nature of experience, primarily through experiments on perception.²³ A whole is not simply the sum of its parts, and a specification of parts, however thorough, cannot produce an understanding of the whole. Indeed, "parts of a Gestalt have no meaningful identity independent of their place, role and function in the whole." This whole is constituted, then, by the person who is observing it. The perception of a whole (the face in our example) is "an emergent experience, not present in the stimuli in isolation but dependent upon the relational characteristics of the stimuli."²⁴ The particular stimuli are related by the human mind.

The appeal of this simple truth led Polanyi to apply the principle quite generally to problems of 'how we know.' The fact that a whole is not specifiable in terms of its particulars secured his claim that we know more than we can say. He concluded that there are two kinds of awareness in all of our perceptual experience: an awareness of a phenomenon (object, idea, event, person) to which we attend focally, and an awareness of particular elements in the total experience which we grasp subsidiarily. In our example, discrete facial features are particulars to which we subsidiarily attend while focusing on their joint meaning — the face of a friend. Gestalt theory helps us to see that the face is an emergent from the total perceptual experience, arising from an integration of clues of which we are not aware in
themselves. We clearly experience the particulars, and we also seem
to do something with them, to process them, as in our example of
recognizing a face by scanning a number of faces, elements of which
may bear a close resemblance to elements of our friend's face. Why,
then, does Polanyi insist that these particulars are unspecifiable,
that they are subsidiary?

The reason lies in the fact that we can only center, or focus,
our attention upon one gestalt at a time, and this gestalt is always an
integration of certain particular features of the background situation.
This principle was called by the Gestaltists the law of Pragnanz, and
states that the "organization of any set of impinging stimuli forms
as good a Gestalt or whole as the prevailing conditions allow."25 We
only see wholes; we see by focusing on integral patterns whose con-
stituent parts are of little concern to us. It would be logically
and practically (i.e., physiologically) impossible to focus on both
whole and particulars at the same time, for to focus on particulars
would be to destroy the whole which they constitute.

I must emphasize that Polanyi is not making merely the weak claims
that tacit elements are present in all knowing and that it is important
to acknowledge this. Nor is he simply saying that these particulars
are unspecifiable in fact. He is making the strong claim that such
tacit components are unspecifiable in principle, rendering futile any
epistemology which demands an explicit rendering of the conditions of
knowing.26 Experiments in "subception" by Lazarus and McCleary firmly
established the fact that the particular elements of an integration
cannot be specified, due to our natural focus on the integrated unity of these elements. 27

The polarity of the structure of perception, then, logically prevents the specification of all particular parts of a comprehensive entity. Further, Gestalt theory has shown that a particular or clue changes its appearance as it changes its role in the perceived experience. To focus on a subsidiary clue, as we do in reflective analysis, is certainly possible and sometimes desirable, but we cannot then claim that the particular, focally considered, is the same to us as the particular apprehended subsidiarily as part of a whole. 28

Particulars gain their full identity only in the context of the whole of which they are a part; analysis can specify features of the particular, but in so doing we are not specifying what makes up the whole. The whole is rather an integration of parts, performed by a person, and subsidiarily apprehended.

Polanyi's work continually blurs the traditional distinctions between "psychology of discovery" and "logic of knowledge," as we showed in our talk of discovery. Here he makes the same move, asserting that the structure of perception uncovered in Gestalt theory can be applied in a general way to all intellectual feats:

I am looking at Gestalt . . . as the outcome of an active shaping of experience performed in the pursuit of knowledge. This shaping or integrating I hold to be the great and indispensable tacit power by which all knowledge is discovered and, once discovered, is held to be true. The structure of Gestalt is then recast into a logic of tacit thought, and this changes the range and perspective of the whole subject. 29

In an important sense, all of Polanyi's work after Personal Knowledge
(1958) was an application of this new perspective to a wide range of intellectual endeavors.

**Commitment**

We have seen how basic beliefs are present at the most fundamental stages of intelligent operations, when we trust our intuition that a real solution to a problem lies just beyond our grasp, and when we rely on unspecifiable clues to reach that solution. Thus far, however, we have dealt with a pre-reflective or passive belief, such as our confidence in the reliability of our bodies, or in the laws of gravitation. It is now time to consider the role of belief or commitment in every act of knowing, including the paradigmatic problem-solving of science. 30

From the grounds set forth already, it should not surprise us that Polanyi argues against any view of commitment which reduces it to a specifiable 'moral calculus.' There are no governing rules with which we can always fully explicate our belief and the grounds upon which we affirm it. Utilitarianism, for example, is for Polanyi a case in which an ethical theory has been destructively influenced by the critical model. Its effort to "establish the ideals of humanity scientifically, by rooting them in man's desire for pleasure" actually denies the existence of human responsibility, which is the only ground of morality. 31 Lest this point be misunderstood, we should note that historically the Utilitarians were greatly impressed by the example of the scientific method, and this admiration led them,
Polanyi believed, to assimilate "human pleasure" to "bodily pleasure," which could then be understood physiologically, or at least in quantitative terms. It was in this mental climate that behaviorism arose in the late nineteenth century, attempting to improve society by the rigorous application of behavior modification techniques derived from a stimulus-response model of human action. (In Chapter IV we will look more closely at a contemporary representative of this tradition.)

In the ethical as well as the epistemological realm, Polanyi suspected this was an attempt to avoid responsibility by reducing 'moral reason' to some form of calculation. Without denying the possibility or the need for ethical (or metaethical) discourse, we must relocate our beliefs within a context which preserves their personal and rational character.

We have seen that the isomorphism of perception and knowing establishes the fiduciary base of all knowledge, in that we believe the bodily skills employed in perception to be reliable, and think and act accordingly. At the level of conscious articulation we can discern a structure of commitment which greatly expands and clarifies this primordial reliance. Taking the solution of a scientific problem as our leading example, we see that at a basic level the scientist is motivated by passions which may at first seem purely subjective. But the subjective, for Polanyi, is a state of merely enduring or enjoying our feelings, while the personal, from which it must be distinguished, involves a conscious submission of ourselves to requirements acknowledged to be independent of us.³² The personal participation of the
scientist in the knowledge he affirms differs from subjectivism in that the scientist is not merely attempting to satisfy his own desires, but "seeks a solution to a problem that is satisfying and compelling both for himself and everybody else." While personal knowledge may contradict the consensus of the intellectual community, it does so according to standards established not by the knower but by that community, and which, therefore, may be considered "impersonal" or "objective" (that is, not arbitrary). This act of submission is crucial, for "no one can know universal intellectual standards except by acknowledging their jurisdiction over himself as part of the terms on which he holds himself responsible for the pursuit of his mental efforts." While the subjectivist claims knowledge solely on the basis of his own standards, the personal knower affirms his knowledge with universal intent, submitting to communal standards in a legislative act which establishes an objective pole to this knowing.

We submit to extra-personal standards in the belief that our claim to knowledge speaks of something real, and that it will be confirmed in the future in an indefinite number of unpredictable ways:

An empirical statement is true to the extent to which it reveals an aspect of reality, a reality largely hidden to us, and existing therefore independently of our knowing it. By trying to say something that is true about a reality believed to be existing independently of our knowing it, all assertions of fact necessarily carry universal intent. Our claim to speak of reality serves thus as the external anchoring of our commitment in making a factual statement.

Thus a polar structure of commitment emerges respecting the personal passions, beliefs, and originality of the knower, and yet
avoiding subjectivity by the serious responsibility with which he submits himself to universal standards. In true knowledge, "affirmation, surrender and legislation are fused into a single thought, bearing on a hidden reality."\(^{36}\)

There may yet be a nagging suspicion that Polanyi has only made a rhetorical escape from subjectivity, and is still caught in a logically circular argument. The argument is circular, for it is a statement of Michael Polanyi's personal convictions as to the nature of knowledge, elaborated through an immense range of evidence from the history and philosophy of science. To be consistent with his claim that such knowledge is personal, he cannot conclusively "demonstrate" or "prove" this claim in any straightforward, impersonal way. His argument remains an invitation to share his vision, to indwell his firmament of beliefs. Convinced that personal knowledge is real and true, he is confident that those who indwell the particulars to which he points will share his perspective and his beliefs.

In the context of commitment, circularity must be accepted insofar as "truth is something that can be thought of only by believing it."\(^{37}\) In traditional epistemology one was often urged to withhold belief in a knowledge claim until it had been properly justified, or verified, as true. For Polanyi, such justification is continuous with the assertions of belief implicitly present in the perception, selection and appraisal of the facts relevant to such a claim. Indeed, the very perception of a "fact," Whitehead and Polanyi agree, rests upon our anterior belief in the existence of facts, established through an
inexpressibly large number of experiences of the world.  

To show this more clearly, Polanyi notes Russell's statement of the 'correspondence theory of truth,' where truth is defined as "a coincidence between one's subjective belief and the actual facts." What is happening in this definition is that when we accredit certain facts as "real" or "true" we are within the framework of commitment, expressing our conviction about certain perceptual experiences. Russell then turns to his beliefs and renders them "subjective" by withholding his commitment from them. But to withhold commitment from these beliefs is to contradict the earlier assertion of facts to which these beliefs refer. In the search for Objective knowledge, Russell performs, certainly unconsciously, a sleight-of-hand that obscures the epistemological power of his perception. But

It is self-contradictory to secede from the commitment situation as regards the beliefs held within it, but to remain committed to the same beliefs in acknowledging their factual content as true . . . . You cannot speak without self-contradiction of knowledge you do not believe, or of a reality which does not exist.

This approach to knowledge deviates so from our customary way of speaking that I will try to clarify it by considering other aspects of the effort to establish "necessary conditions of factual knowledge." A common alternative account of problem-solving argues that in selecting facts, the meaning of a term or a scientific law, we rely on "regulative principles" which specify what we are to look for and how we will recognize it. F. Waismann presents a typical list of such principles: (1) simplicity; (2) demands of symbolism; (3) aesthetic principles (mathematical harmony); (4) fruitfulness — that as many
alternatives as possible become decidable; and (5) an historical 'tone of thought' or 'field.'\textsuperscript{42}

These principles are often used to express in explicit form what our criteria are for selecting facts, and for applying logical rules to given propositions. It is assumed that such a specification of principles preserves the reasonableness and public verifiability of the inductive process, without resorting to "subjectivist" notions like "creativity" or "intuition."

There are several objections to be made here. First, the notion of "regulative principles" is in all cases vague, and, in some cases, self-contradictory. It is vague in that any such formulation proves ambiguous in allowing alternatives in a given decision context to be equally arguable. Take, for example, the regulative principle of "simplicity" or "mental economy," and apply it to a particular case, say the problem of deciding the truth of Louis de Broglie's theory that ponderable particles possess a wave nature, which was posited "purely on grounds of intellectual beauty."\textsuperscript{43}

Imagine the puzzled examiners of de Broglie's doctoral thesis having recourse to this criterion as to the scientific value of the work. How could they? Most of the facts which the theory eventually was found to describe were yet undiscovered. They would have had to limit themselves to the facts known to be described by the theory. Should they have arranged a competition to determine whether the new theory was simpler, in the sense that it would make it easier to memorize these facts or to teach them in schools; or that the theory could be written down in a smaller space or in a more familiar vocabulary?\textsuperscript{44}

De Broglie's professors simply did not know how to decide the case, for while they "recognized the originality and depth of thought of the
candidate," they felt his theory referred only to "pure creations of the mind." It was only after Einstein supported the thesis that it was accepted (in 1923), and it was only confirmed by experiments in 1927 and in 1928. Applying a criterion of "simplicity" in this case would have meant first establishing whether such a concept would be meaningful in the context, and secondly, if meaningful, how it might be applied to the given case. Both acts are personal appraisals guided by, but not determined by, regulative principles.

Or consider the principle of simplicity in two further cases: whether or not extraordinary success in card-guessing is due to chance or to ESP, and whether abnormal behavior is due to witchcraft or to some physical aberration. It would seem that ESP and witchcraft are clearly the simplest available explanations, but most scientists would accept any other hypothesis, however complicated, "if only it lay within the scope of hitherto known physical interactions." These scientists are therefore interpreting "simplicity" in these cases to mean "without introducing a new principle if we can possibly manage with those already accepted." Yet in the case of Copernicus' heliocentric theory, many scientists accepted its validity because of its economy in explaining planetary motion, even though it did not lie within the scope of their traditional knowledge. The principle does not decide issues, but explains our decision in retrospect. It is self-contradictory, then, to argue that a principle is the ultimate governor of our rational claims, while at the same time showing that the principle is preceded and interpreted by personal appraisals. We
should term such principles "maxims," for they are actually guides to reasoning formulated in a retrospective analysis of the knowing process.

A second objection could be made to the implied claim that "regulative principles" could be isolated as a priori axioms of empirical inference. They are dependent upon a world of semantic openness and changing historical traditions that, while impossible to completely specify, is yet essential to their meaning. As Whitehead expresses it: "There is not a sentence which adequately states its own meaning. There is always a background of presupposition which defies analysis by reason of its own infinitude." 49 The most technical of terms used in a statement of regulative principles is initially an undefined part of a formless field of meaning, and its precise meaning for a particular situation must be decided by an act of personal judgement on the part of the philosopher.

Personal knowledge advocates the fiduciary nature of knowledge, in which the knower's commitment to the truth of his assertions is accepted as the necessary warrant of their truth. Just consideration of a particular knower's claims requires that we attempt to understand his vision and to examine his evidence in the light of our convictions. These are arguable matters, and our intellectual tradition has given us a number of tools with which we can argue meaningfully, such as the laws of logic, or criteria of evidence. In every case, however, we operate within a tradition upheld at every point by a belief in the inherent rightness of the tradition. This commitment still leaves us free to question certain aspects of the tradition, while holding on to
other parts of it, but we are never "traditionless." There is no certain, acosmic point from which reason can begin: there are only rational people with convictions.

Our mention of the intellectual tradition within which we operate brings to the fore what Polanyi has termed the "involuntary coefficients of commitment," meaning the biological and environmental contexts which establish the limits of our personal activity. At this level our ultimate commitment is required. While in the more extreme versions of a critical framework we are relieved from the responsibility of holding beliefs (knowledge being verified by impersonal criteria of logic or experiment), in the framework of commitment we must accept responsibility for our affirmations, including those espoused generally by the culture into which we were born and by which we were shaped. We make these cultural conditions part of us by submitting to them as the conditions of our calling:

Our believing is conditioned at its source by our belonging .... I shall submit to this fact as defining the conditions within which I am called upon to exercise my responsibility .... I accept these accidents of personal existence as the concrete opportunities for exercising our personal responsibility. This acceptance is the sense of my calling.50

This placing of knowledge within the context of responsibility is, as we will demonstrate below, crucial to an adequate view of human action. Because of the centrality of "commitment" in Polanyi's understanding of persons, we will also return to this subject in the final chapter. We need now to examine more closely that "convivial order" to which we belong, and which conditions our believing.
Conviviality

The convivial order, by which we will mean the whole range of interpersonal relations within which we live, including familial, social and cultural contacts, powerfully shapes our knowing. This is an old truth -- Plato implicitly acknowledges it in The Republic -- but it has usually had little impact on classical epistemological discussions. Over the past one hundred and fifty years our thinking has begun to change, due primarily to the development of the historical sciences in nineteenth century German scholarship.\(^5\) From Hegel and Marx, from Dilthey, Scheler, Weber and the sociology of knowledge, from Freud and Jung, and from the "Humboldt-Sapir-Whorf hypothesis" in linguistics, we have gained increasing, and often disturbing, insight into the influence of socio-cultural phenomena on the way we think. Polanyi, in making the same affirmation, is concerned to show the impossibility of a non-perspectival (Objective) knowledge; in following him, we will be trying to clarify the ways in which conviviality provides the context not only of knowledge, but also of the person.

We can distinguish four ways in which the convivial order is essential for personal knowledge: (1) It provides the setting for the mimetic learning of skills, including language; (2) it satisfies the need for affiliation and fellowship; (3) it is the crucial environment for learning articulate systems of knowledge; and (4) it provides a setting in which values are assimilated. We will examine each of these in turn.
(1) Skills are normally regarded as learned abilities, but we seldom reflect on how many skills we have mastered in growing up. The ability to handle our bodies in the most basic fashion — standing erect, sitting in a chair, using our hands for a variety of tasks — may depend on certain general, inborn faculties, but it cannot be mastered without learning. Abundant psychological literature confirms the importance of imitation, or mimesis, in the development of both physical skills and thought.\textsuperscript{52} In the documented cases of children raised isolated from society, we find severe impairment of both "normal" motor ability (the children would usually run about on all fours) and of speech.\textsuperscript{53} Thus while imitation, or its absence, may not completely determine behavior, it is crucial to normal development. And what must be emphasized, against behaviorist claims, is that mimesis refers to a transmission of knowledge which results in an enrichment of the mind. The child does not simply copy "using a fork," "riding a bicycle," or "meaningful conversation;" he appropriates an understanding, a knowledge, which can then be used in novel situations that are unpredictable from the original context of imitation.\textsuperscript{54}

The fact that our knowledge of these skills can never be completely communicated is, for Polanyi, evidence for the tacit character of skillful knowing. It makes perfectly good sense to say that master pianist Vladimir Horowitz knows Chopin, but it would be, I believe, impossible for him to convey that knowledge to us in some kind of explicit formula. We could only acquire it by a prolonged process of imitation, that is, by becoming an apprentice under the master. We said earlier
that in the view of knowledge opened to us by Polanyi, knowing is best understood as an activity, a form of doing. This implies that we cannot fully state our knowledge while involved in the knowing process, for this would destroy the dynamic character of the activity. Logically we cannot, if knowing is an activity, "catch" it in a frozen instant. The practical result of this fact is our inability to perform a skilled activity while trying to isolate its individual parts. If I focus on an individual finger while playing the piano, I lose a sense of the music on which I need to focus, and the performance is quickly destroyed.

To have a skill then, is both a knowing and a doing which cannot be fully articulated, and must therefore be learned by imitative practice. Whatever explicit rules or aids we have to help us in learning cannot convey all the knowledge we need: "Rules of art can be useful, but they do not determine the practice of an art; they are maxims, which can serve as a guide to an art only if they can be integrated into the practical knowledge of the art. They cannot replace this knowledge."\textsuperscript{55}

The equipping of the individual with skills is therefore an important function of the community, and if it is not clear how this relates to knowledge, we need only point to the example of laboratory research. There are cases where experiments, conducted by different scientists with rigorous attention to identical equipment and conditions, repeatedly yielded different results.\textsuperscript{56} The reason, since confirmed by experimental psychology, is simply that there are normally small variations in the perceptual and motor faculties of different individuals.
The long hours that science students spend in the laboratory are specifically intended to teach common skills which could not be acquired in the classroom, but which must be taught to minimize individual variations. It often happens also that a student may do excellent classroom work, while failing his lab section completely — he is "all thumbs" in the lab. This failing would normally bar him from specializing in that field, unless the discipline also encompassed a purely theoretical area.

If knowledge ultimately involves the use of skills, which must be imparted by example from one person to another, and which cannot be adequately articulated in explicit form, then knowledge rests, in principle, upon unspecifiable particulars. If, as Popper phrases it, "the objectivity of scientific statements lies in the fact that they can be inter-subjectively tested," and testing or experimentation involves the use of unspecifiable bodily skills, then the only "objectivity" available to science is not the "absolutely certain, demonstrable knowledge" of the Objectivist ideal. It is an objectivity resting on the universal standards upheld by a scientific community and its culture, which are transmitted to every scientist through a convivial order.

We have referred only briefly to the most significant human skill — our use of language. We will examine linguistic knowing later, but it is appropriate to point out here that language rests on the same ground of bodily and mental skills already discussed. While speech is creative from very early ages — perhaps the age of three — it nevertheless depends on mimetic learning in a communal setting. To be able to speak or to read indicates a prior reliance on and commitment
to the convivial order made up of our fellow conversationalists.

(2) Man's need for affiliation with his fellows is both a biological and a social fact. This formulation allows us to acknowledge the roots of these sentiments in our biological natures, without restricting them to that level. In its simplest form, the need for affiliation appears in the infant's relationship to its mother, and we can see in the behavior of young animals and children a delight in companionship for its own sake. In childhood play we have "pure" conviviality, the simple sharing of experience. In adult ritual (religious or secular) this same sentiment is expanded into a deeper celebration of convivial existence. Such rituals as graduation ceremonies and weddings affirm our present membership in a community, and in antecedent communities within our cultural history. In religious rituals the self-transcendent character of our conviviality reaches its clearest expression, as we place both our individual persons and our society within an ultimate perspective -- we are "before God." We are claiming here that in everything we do, including our knowing and acting, we are deeply, vitally sensitive to the responses of our fellows: The significance of this "other-directedness" will become apparent when we examine the role of scientific opinion in defining what are to be accepted as "facts," "valid theories," and "truth." Such a factor, as we saw earlier, is often ruled out by a critical temper that would ignore all tradition (or authority) and opinion, and base objective knowledge solely on the experience of the scientist. The ubiquity of our social ground is total:
The atomic, individual human being . . . is literally an abstraction: the real human being exists only in community, in a network of relationships which sustain her or him biologically, psychologically, and culturally and without which he or she could not exist. Attachments among things, therefore, are not extra or optional appurtenances: they are the very stuff of which we are made. Our selfhood is incorrigibly social.  

(3) The convivial order does not only prepare the individual to enter upon cultural life, but also administers those activities, institutions, and cognitive systems which are the highest expressions of that life. We saw earlier how, through the tacit structure of knowing, we rely on subsidiary clues for understanding a focal object or event. We can now apply this same insight to the societal level, and state that we rely subsidiarily on convivial relations in order to attend focally to the articulate lore of that "convivium," or culture. The feeling of fellowship which leads us to accept tutelage in the skills of reading, writing, and talking is extended in the higher levels of education to a trust in the judgements of our colleagues.

The mortar which binds the individual to his culture is trust. We are confident that the tremendous amount of information given us by teachers and other intellectual leaders is true or valid, making it unnecessary for us to test or double-check every transmitted fact. Popper states that "we can utter no scientific statement that does not go far beyond what can be known with certainty 'on the basis of immediate experience.'" Such statements, therefore, are not observation reports of what we have seen, but admissions that our knowledge
is validated by our confidence in the trustworthiness of the scientific community as a whole, both past and present.

The amount of knowledge which we can justify from evidence directly available to us can never be large. The overwhelming proportion of our factual beliefs continue therefore to be held at second hand through trusting others, and in the great majority of cases our trust is placed in the authority of comparatively few people of widely acknowledged standing. . . . the learner, like the discoverer, must believe before he can know.\textsuperscript{62}

Here is an interpretation from within science of the medieval model of reason: \textit{fides quaerens intellectum} -- faith seeking understanding.\textsuperscript{63} It stands in sharp contrast to the critical insistence that we withhold belief from any claim which is not known with total assurance, or with a measurable degree of certainty.

(4) The social order completes the shaping of personal knowledge by providing values to which our articulate powers are dedicated, and a framework within which personal values may be developed. The criticism of tradition which began in the late middle ages and reached its zenith in the Enlightenment liberated men from a sense of historical or theological determinism, but at the price of rejecting those traditional values upon which its protest was founded.\textsuperscript{64} It is true, of course, that to denounce an ideology publicly is not the same thing as to withdraw one's belief in its tenets. It is Polanyi's claim that in the name of "science" or "reason," modern man often rejected orthodox values which had become suspicious, labelling those values "superstition." They then proceeded to rebaptize these same values under scientific rubrics ("virtue" becomes "practical reason," "altruism" becomes "utility," and so forth), which enabled them to satisfy
their moral aspirations and their scientific standards at the same time. Such "pseudo-substitutions" reached their peak in Marxism, the clearest example of a "dynamo-objective coupling" or moral passions with scientific detachment. Polanyi devoted much of his early writing to the exposure of the self-contradiction involved in such a move, and returns to the same theme in his last published work. 65

We should note here that Polanyi is well aware of the danger in recommending a reliance on tradition. The hazards of uncritically accepted social values, of which the Enlightenment philosophers warned so vigorously, still exist, and it is still true that

To accept a belief by yielding to a voluntary impulse, be it my own or that of others placed in a position of authority, is felt to be a surrender of reason. You cannot teach the necessity for doing this without incurring — even in your own heart — the suspicion of obscurantism. At every step of a post-critical philosophy the warning of the critical age will echo in our minds. 66

And this warning must be taken seriously. A complete relativism or obscurantism can only be avoided by arguing 'critically' to a post-critical perspective, which is the task of Polanyi's voluminous writings.

The first stumbling block presented to the critical mind by conviviality is that we are involuntarily conditioned by our "native roots," before critical reason can examine those roots. Accidents of birth -- genetic endowment, family and social environment, historical events -- conspire to infect us with all of the superstitions, fears, prejudices and false opinions which are the enemies of
reason. We saw earlier how Descartes tried to 'deliver' himself from all 'custom' and 'opinion,' so as to begin his intellectual labors at a point of absolute reliability (see above, p. 31).

In opposition to this view, Michael Polanyi sees our social matrix as the ground upon which we must stand if we are to assume responsibility for improving our culture. Any search for a greater rationality operates within a framework which protects it from complete irrationality. It is the acceptance, the appropriation of our heritage which transforms a burden into an opportunity. The person, by indwelling his boundaries, makes them serve as the integrated elements of a higher entity, which is his duty or responsibility.

"Our believing is conditioned at its source by our belonging," admits Polanyi. But he accepts the world into which he is born as the foundation of his hope — our calling is to actualize the possibilities inherent in our situation. Withholding assent from a less-than-perfect society is not a demand of true rationality, but an evasion of its requirements.

In addition to this observation and to those points argued earlier in our discussion of critical doubt, we can indicate several features of science that will clarify our claims concerning the convivial order. There is, first of all, a set of values which operates ubiquitously but tacitly throughout science. For Polanyi, affirmations in science have value to the degree that they possess (1) certainty (precision or accuracy), (2) systematic relevance (or profundity), and (3) intrinsic interest. These factors vary in any one scientific claim. Neo-Darwinism, for example, can claim little
precision in the facts on which it is based or which it predicts, but is generally accepted for its wide explanatory powers and its great intrinsic interest to humanity. In other situations precision may be crucial (as in measuring the wave-lengths of certain X-ray spectra) while the systemic applications and inherent interest are meager. 69

The key to understanding the convivial basis of these criteria of value, however, is to see that they spring from a sense of intellectual beauty which is ultimately related to a vision of reality. We aim in the end at contact with reality, and it is this contact, agreed upon within the scientific community, which provides the standards by which we judge new theories. How do we judge their interest, or plausibility, or systematic relevance? We decide by referring implicitly to our supreme value of "reality," as it has been built up for us through the communal confirmations of many insights into that reality. Again, the "real" is that which will reveal itself to us in unexpected ways in the future. The heliocentric theory of the solar system was originally supported by few facts which did not also support the older geocentric view. But in the succeeding centuries, Copernicus' view was confirmed by a number of different scientists working in different fields on unrelated problems. Each new discovery, first validated in the discoverer's mind by its exemplification of the scientific values mentioned above, was later seen to add to the breadth and/or depth of our vision of reality. These values were not the focus of Copernicus (or any other scientist), but rather the subsidiary clues upon which he relied in order to see the theoretical principle to
which they pointed.

We have not attempted to give an axiomatic definition of "value," but have traced the circle of convictions within which it moves, reality being the center of that circle. This same structure of value operates in other cultural domains, and is developed by using the same structure delineated in tacit knowing: we indwell particulars as we focus on their joint meaning. In this sense, "moral judgements are appraisals and as such are akin to intellectual valuations." 70 That is, they rely on tacit knowings which rest in turn on tacitly assimilated communal beliefs.

To secure (but not to prove) the sharing of passions and standards which uphold a firmament of values, the convivial order must also exercise authority. Our concern here is not with the physical, coercive authority of the civil order, but with the rational authority exercised by the acknowledged leaders of the intellectual community. It is here that our age, understandably enough in view of modern history, is most suspicious of the post-critical stance of someone like Polanyi. In affirming the need for authority, and thereby accepting reform as the necessary alternative to revolution, he seems to reject the moral aspirations of the oppressed for a better, more humane future. 71 While I cannot offer a complete defense of Polanyi here, I do think that his authoritarian emphases are balanced by the dynamism of tacit knowing, and that the "grimness" of his claim that the most liberal of societies must also be profoundly conservative may be mitigated within a larger moral context. 72
Returning to the ways in which the convivial order shapes our intellectual values, we can mention first the values communicated to a student through his mimetic emulation of a master or mentor. This relationship is primarily based not on carefully reasoned conclusions about the validity of the master's position on questions confronting the discipline, but rather on the exciting visions to which his work gives access. A master opens new horizons to us at the farthest reaches of our imagination, spurring us to submit our own judgements and beliefs to his criticism. We also submit to the judgement of periodical editors, publisher's readers, the committees which administer fellowship monies, and to faculty and departmental policies which circumscribe our discipline. In each case, as with a master, we submit not to the power of the authoritative person or group, but to those values which they are believed to appreciate and defend. They guard the standards of the community.

The distinction between our standards of value and the people selected to uphold these standards allows for dissent, reform, and even revolution within the intellectual community. Such challenges to orthodoxy are made on the basis of, not despite, the values upon which the orthodoxy rests. The fact that deep passions are involved in the presentation of a new scientific theory means that agitation for change will often provoke polemics, rhetorical caricature, and personal attacks between the competing camps. Though unpleasant, these battles are inevitable, if we are to challenge a system of values from within that system. They do not, therefore, prove that
no common values exist, but that in searching for truth, all men claim, and are submissive to, standards which transcend their individuality.

It would thus appear that when the premises of science are held in common by the scientific community each must subscribe to them by an act of devotion. The premises form not merely a guide to intuition, but also a guide to conscience; they are not merely indicative, but also normative. 73

The culmination of authoritative control in a community is the gradual elimination of this legislative function through the growing maturity of members. The purpose of communal sanctions in science is to guide the young scientist toward the accepted vision of reality; as he internalizes the community's standards and develops his own abilities, he needs to rely less and less on external authority. "Submission to authority will henceforth form merely a part of the process of discovery, for which -- as for the process as a whole -- he /the scientist/ will assume full responsibility before his own conscience." 74 It is in this process of internalization, which we termed earlier "the acceptance of our calling," that the convivial order grounds individual values, while at the same time yielding to their autonomous power.

Logical Levels

An almost invisible element in the modern view of nature is the assumption that reality is one-dimensional, that nature is accurately apprehended when we see it in terms of an homogenous system. This assumption has traditionally been associated with materialism, but we also saw its influence in the reductionist tendencies in the natural and social sciences (see page 52 above). We saw, too, that Koyré found the modern origins of this view in the extension of mathematical reasoning from astronomical to terrestrial phenomena (see p. 50).
Polanyi rejects this view of nature, and reinstates the concept of logical or hierarchical levels of reality into philosophy. He does not employ the categories or procedures of traditional metaphysics to do this — he does not, that is, resurrect a medieval notion of 'the great chain of being,' though such a conception would not be totally unlike his view. He reaches his conception through an analysis of the knowing process, and through an evaluation of the hierarchical pattern which presents itself in the real existence of complex, especially biological, phenomena. He is therefore suggesting certain analogies between the patterns of knowing and of being.\textsuperscript{75}

In the tacit dimension of knowledge, we attend from unspecifiable particulars to the focal whole which they jointly constitute. We noted that the particulars are unspecifiable in principle as well as in fact, and that a particular only retains its identity as a particular while it remains subsidiary or tacit. To direct our attention to it is to make it the focal whole of a distinctly different integration, different from that integration in which it was only a clue, or subsidiary particular. The logical asymmetry that is present here suggested to Polanyi that there are two levels within the knowing process. The first level, that of particulars, is primordial in relation to the second, higher level of the focal whole. Particulars are the grounds upon which comprehensive entities become possible; in this sense a whole is 'derivative' from its particulars.\textsuperscript{76} But particulars only achieve full meaning as parts of a whole, and are therefore dependent upon that whole (a 'fleshy protuberance' only becomes a "nose" when it is understood to be part of a face). The value gradient that is introduced here — that the level of a comprehensive whole is
dependent upon, but "higher" than, that of its constituent particulars — is not something which Polanyi attempts to "prove"; it is a fundamental belief to which he can only testify. It seems obvious to him that as we look at the spectrum of nature, from inanimate matter to the most impressive artistic and scientific creations of man, we must acknowledge an increase in that which is meaningful and significant for us. Thus persons are more significant than cobblestones, or noses; Shakespeare is more meaningful (more "full of meaning") than an amoeba. This reflects Polanyi's view that

as human beings, we must inevitably see the universe from a centre lying within ourselves and speak about it in terms of a human language shaped by the exigencies of human intercourse. Any attempt rigorously to eliminate our human perspective from our picture of the world must lead to absurdity. 

Thus a sensitivity to our personal point of view reveals in nature certain levels in the meaning with which we are confronted.

When we look carefully at complex entities or processes, we find that they possess a hierarchical pattern which parallels the structure of tacit knowing. In tacit knowing (consider the example of recognizing a friend's face in a crowd) the focal whole only comes into existence as an integration of certain particulars; its reality is "dependent" upon the particulars which comprise it. In a complex entity, a higher level is equally "dependent" upon the limits established by the nature of the particulars which comprise it. Remembering our previous examples (recognizing a face, or building a wall) let us consider another case. In a game of chess, there is an initial level consisting of particular pieces (including the board) and particular rules governing the movement of each piece. These particulars set up certain "boundary conditions" within which the game must be played — we cannot capture opposing
pieces by jumping over them, for that is a rule appropriate to checkers, not to chess. Yet the laws or rules governing the lower level of particulars do not determine the principles of strategy by which we play a certain game of chess. A "French Defense" is a system of principles and a plan of procedure which is quite separate from the rules governing each piece. And yet it is the central reality in an actual "game" of chess, say a match between two competent players.  

The boundary conditions of a lower level are those possibilities for employment (in use or in meaning) which the nature of the particulars allow. The principles of the higher level of a complex entity then operate within these "boundary conditions," but they also employ those particulars in unpredictable ways to create a new reality. We cannot drink from a pile of sand and other chemicals, but using the principles of the glassblower's art, we can create a goblet out of which we can drink. The creation of the goblet is limited by the boundary conditions of the sand and chemicals -- the fire in the kiln must be hot enough to melt the sand, the blowpipe must be turned quickly enough to counter the specific gravity of the molten glass, and the blown glass must be cooled gradually or it will crack. Thus the organizational principles of a higher level exert a "marginal control" over those conditions left open by the particulars of a lower level.  

For Polanyi, this perspective on the stratification that exists throughout experience refutes the claims of reductionism to reduce all phenomena to the single dimension of physico-chemical explanation. That level sets the conditions within which our experience must remain, but those boundaries are wide and indefinite. Within them, life is free
to exercise its own heuristic powers to employ these lower particulars in the creation of a distinctively new, and no less real, entity. The chemistry of printer's ink does not explain the poetry of Dante, and the recognition of that simple truth may open a way to a deeper appreciation of the personal dimensions of life.

This chapter described how Polanyi's analysis of human knowledge yields an awareness of the roles of judgement, intentionality, conviviality and commitment in the knowing process. The irreducibility and centrality of these dimensions in the total scheme of knowledge force us to accept them as fundamentals, as aspects of a primordial reality. The term "person" collectively expresses these fundamental dimensions. Knowing, then, serves as one figuration of personal existence in Polanyi's work. We will continue to bring the contours of personhood to light by deriving from that work a second figure, that of the speaker.
NOTES - CHAPTER II

1 E.g., Floyd W. Matson, The Idea of Man; Gabriel Marcel, The
Existential Background of Human Dignity (Cambridge, Ma: Harvard
University Press, 1963); Rollo May, ed., Existential Psychology (New
York: Random House, 1961); Elizabeth Sewell, The Human Metaphor (n.p.: 

2 Susanne K. Langer, Philosophy in a New Key: A Study in the
Symbolism of Reason, Rite, and Art, 3rd ed. (Cambridge, Ma: Harvard
University Press, 1957); Marjorie Grene, The Knower and the Known
(London: Faber and Faber, 1966); Alfred North Whitehead, Process and
Reality: An Essay in Cosmology (New York: Harper and Row, Torchbooks,
1960). For secondary comments on this reassessment, see William
Barrett, Irrational Man, Richard Rorty, The Linguistic Turn (Chicago,
University of Chicago Press, 1967), and G.J. Warnock, English Philos-
ophy Since 1900 (New York: Oxford University Press, Galaxy Books,
1966). Polanyi writes: "Current writings on the history of science
have confirmed the view I put forward years ago that the pursuit of
science is determined at every stage by unspecifiable powers of
thought, and . . . this fact forms my starting point for developing
a theory of non-explicit thought. You may call such a theory —
using a term coined by Gilbert Ryle — an informal logic of science
and of knowledge in general. Alternatively, you may call it a phenom-
enoLOGY of science and knowledge, by reference to Husserl and Merleau-
Ponty. This would correctly relate my enterprise both to analytic
philosophy and to phenomenology and existentialism." "The Logic of
Inference," in Knowing and Being, p. 155. See also William Poteat,

3 Polanyi: "Nothing is more certain in our world than the estab-
lished results of science." in Mary Harrington Hall (Interviewer),
"A Conversation with Michael Polanyi," Psychology Today 1 (May 1968),
p. 24.

4 Thomas S. Kuhn notes the historical bent he shares with Popper
in "Logic of Discovery or Psychology of Research?" in Paul Schilpp,
ed., The Philosophy of Karl Popper, 2:798-819. Ian Barbour records
the similarities between Kuhn and Polanyi in Issues, p. 156, and
Polanyi mentions the same in "Background and Prospect," Science,
Faith and Society, pp. 12-13. When we compare the development of
Popper and Polanyi against views of science at the turn of the century,
they have a great deal in common. See Encyclopedia of Philosophy, 1967,
s.v. "Popper, Karl Raimund," by Anthony Quinton, and Bryan Magee,
pp. 1-27. But when we read them in terms of particular issues, there are wide differences. Basically, Popper sees the critical temper to be the heart of science, while for Polanyi it is the 'logic' of commitment.

The article by Kuhn just cited indicates one underlying difference between Kuhn/Polanyi and Popper — the sides they take in the logic/psychology debate. Cf. Popper: "I readily admit that only observation can give us 'knowledge concerning facts,' and that we can . . . 'become aware of facts only by observation.' But this awareness, this knowledge of ours, does not justify or establish the truth of any statement. I do not believe, therefore, that the question which epistemology must ask is, "... on what does our knowledge rest? ... or more exactly, how can I, having had the experience S. justify my description of it, and defend it against doubt?" This will not do . . . . In my view, what epistemology has to ask is, rather: how do we test scientific statements by their deductive consequences?" The Logic of Scientific Discovery (New York: Harper & Row, Torchbooks, 1968), p. 98. By the end of this chapter we should be able to see just how radically Polanyi departs from this approach to epistemology. A full length comparative study of Popper and Polanyi is a major desideratum in considering Polanyi's place in the modern philosophy of science. Initial steps in this direction have been taken by T.F. Torrance, "The Place of Michael Polanyi in the Modern Philosophy of Science," in which Popper is briefly discussed; Ronald L. Hall, "The Structure of Inquiry," Chapter IV, pp. 107-143; and David W. Long, "Michael Polanyi's Theory of Knowledge," passim.


6"Knowing and Being," in Knowing and Being, p. 133. Cf.: "Real is that which is expected to reveal itself indeterminately in the future." Science, Faith and Society, p. 10.


10. Personal, pp. 69-77. He is referring here to Kohler's and the Kelloggs' experiments with apes, Skinner's work with rats, and Pavlov's experiments with dogs.

11. Ibid., p. 69.


15. Polanyi, Tacit, pp. 21-25; Marjorie Grene, The Knower and the Known, Chapter I.


17. Polanyi, Personal, pp. 89, 323, 366.

18. Ibid., pp. 123, 132.


20. Polanyi, Personal, pp. 120-122, 288-293.

21. See, for example, Bertrand Russell, A History of Western Philosophy (New York: Simon & Schuster, 1945), pp. 832-834. The first chapter of this thesis presented a detailed explanation of what is meant by "the critical tradition." For a short summary we can refer, with Poteat, to "the period . . . begun in Descartes and culminating but not ended in Kant" (that is, c. 1636 to 1800, and beyond). Intellect and Hope, p. 6. Polanyi himself does not directly explain the "critical" of his "post-critical" philosophy. The more narrow philosophical meaning of the term refers, of course, to Kant. See Stumpf, Socrates to Sartre, pp. 303-308.

22. Polanyi, Tacit, pp. 4-5.


Polanyi, Tacit, pp. 7-8, 95-97.


Polanyi, Tacit, p. 6.

Belief follows the same model or pattern of a continuum which Polanyi applied to personal and objective knowledge. In unreflective, "automatic" mental operations the coefficient of belief may be small and insignificant. It extends, however, throughout the range of intellectual life to those major claims about the nature of reality which reveal a "philosophy of life." See Personal, pp. 320-321. Poteat points out ("Upon First Sitting Down to Read Personal Knowledge," Intellect and Hope, p. 9) that "commitment" is being used in a novel, inclusive way by Polanyi.

See "The Eclipse of Thought," Meaning, Chapter One, pp. 3-21; "Beyond Nihilism," Knowing and Being, p. 14; "The Two Cultures," Knowing and Being, p. 42.

Polanyi, Personal, pp. 300-302.

Ibid., pp. 301, 171-174.

Ibid., p. 303.

Ibid., p. 311 (italics in the original).

Ibid.

Ibid., p. 305 (italics in the original).


40 Ibid., pp. 303, 304.


42 Some explanatory comments must be made here. I have used Waismann here because Polanyi uses him. Polanyi, however, implies that Waismann's conception of verifiability (particularly his theory of "open texture") is incompatible with a view of knowledge as personal (*Personal*, pp. 95, n. 1; 113; 307, n.1). C.B. Daly has criticized Polanyi's reading of Waismann ("Polanyi and Wittgenstein," *Intellect and Hope*, p. 136), and I think he is correct to do so. While Waismann would certainly not agree with much that Polanyi says, he does indicate a sensitivity to the limits of a specification of rules of verification, as the following quotations reveal: "To sum up: An experiential statement is, as a rule, not conclusively verifiable . . . " (p. 130); "A scientific theory is never a slavish imitation of certain features of reality . . . . It is essentially a construction which to a more or less degree reflects our own activity." (p. 149); "Now none of these principles is indispensable, imposed on us by the nature of our understanding." (p. 150)

Here Waismann criticizes Kant's attempt to "condense the tone of thought of the Newtonian age into strict rules"; "Writers on the history of philosophy are inclined to attend too exclusively to one aspect only -- to the ideas explicitly stated -- but disregarding the tone of thought which gives them their impetus." (p. 150). These remarks show that Waismann was not unaware of the tacit features of verification; perhaps his mistake was in calling these principles regulative principles, though he also notes that they guide us in our "theoretical construction of reality." (p. 149). It does seem, however, that Polanyi is right to point to the danger of such a list of principles when it is understood according to the critical tradition. Within that tradition it assumes the status of a legislator of verification, rather than that of a guide. Polanyi's point here, therefore, will be understood to be directed not against Waismann himself, but against a possible misuse of Waismann's principles.


44 Ibid., p. 166.

Ibid., pp. 166 and 168.

47 Ibid., p. 166.

48 Ibid.

49 Alfred North Whitehead, Essays, p. 73, quoted by Polanyi in Personal, p. 88, n.1.

50 From Polanyi, Personal, pp. 322-323 (italics in the original).


52 Polanyi, Personal, p. 206. He refers here to the experimental research of Armstrong, Köhler, and Piaget.


55 Polanyi, Personal, p. 50.

56 Ibid., pp. 19-20, 52; Science, Faith and Society, p. 96.


Polanyi, Personal, p. 211; Polanyi and Prosch, Meaning, p. 118ff. George Steiner has referred to the same link between knowledge and conviviality within a traditional setting: "Denken ist danken: to think is to thank. The old Pietist tag has far more to it than might appear. It tells of the vital affinities between perception and astonished delight, between understanding and celebration." "Wild Laughter,"/a review of S. Karinsky's The Sexual Labyrinth of Nikolai Gogol,/ The New Yorker, 28 February 1977, p. 102.


Popper, Logic, p. 94.

Polanyi, Personal, p. 208.

Polanyi, Science, Faith and Society, p. 45.


Meaning, esp. Chapter 1.

Polanyi, Personal, p. 271.

Ibid., p. 322.


Polanyi, Personal, p. 136.

Ibid., p. 214.

See Polanyi, Personal, pp. 244-245. His position is criticized by Zdzisław Najder, "'Moral Inversion' — or Moral Revaluation?" Intellect and Hope, pp. 364-385; and by Robert Osborn, "Liberation Theology and Michael Polanyi," pp. 6-20.

Support for such a defense of Polanyi's traditionalism is supplied by Gerald Smith, "Tacit Knowing and the Logic of Tradition."
73 Polanyi, Science, Faith, and Society, p. 54.

74 Ibid., pp. 45-46.


77 Polanyi, Personal, p. 3.

78 Polanyi, Tacit, p. 34.

CHAPTER III
THE PERSON AS SPEAKER

The general problem we have set ourselves in this thesis is the locating of personal existence within an intellectual geography which tacitly excludes that concept. We began by following the historical development of certain themes which emphasize the determinate, material character of our experienced world, and the subsumption of reason under a mathematical model and a skeptical method. These themes bear on our concerns to the extent that they have produced a notion of the epistemic subject as disincarnate, atemporal, passive, and thoroughly reflective — a subject so reduced that it serves little purpose beyond linguistic convenience. Even as a mere ideal, such a model of the knower can only alienate him from other dimensions of his existence. The unity of experience which precedes reflection, and in which reflection is grounded, is lost in the subservience of the person to the demands of the mind.

In the view of "personal knowledge" presented by Michael Polanyi, we saw a carefully wrought alternative to the critical ideal. There "knowledge" becomes a skilled act of integration, operating tacitly on the unspecifiable particulars of experience to produce explicit formulations of that experience. It is justified by what I would call an "appropriative submission," in which we accept certain standards as our own, while placing ourselves under their recognizably extrinsic
authority. This notion will be examined more carefully in Chapter V. While not a complete theory of knowledge in the traditional sense, personal knowing can serve as a framework within which all forms of knowing can be better understood. Polanyi argues his case from scientific discovery, but we have also noted that language can be illuminated through his perspective. It is this issue of language, which is somewhat tangential to Polanyi's main concern, that provides the focus for this chapter. Polanyi has attempted to reinstate the person at the heart of knowledge, and we will now show that this view implies that language also presupposes the person at its center. As language is, however, only a penultimate concern of Polanyi, we will extend his views with the help of George Steiner, who echoes some of Polanyi's insights from a quite different perspective.¹

The bridge between Polanyi and Steiner is their mutual awareness of the pivotal significance of language in human activity. For Polanyi, the person remains primarily a knower, while for Steiner he or she is pre-eminently a speaker of words. But both recognize the profundity of language, that it is a manifestation of a deeper reality, a wider range of activity. We are designating that level of reality "the person" in this thesis, and attempting to see the interrelations among its varied projects. We will therefore continue our discussion of Polanyi's personal knower by considering his treatment of language, and then move to the more extensive discussion of language presented by Steiner. Gradually we will be able to see that Steiner's moral and linguistic sensibility is leading him to the same 'center' of explanation that was revealed in Polanyi: the human person, as a
dynamic, situated, ultimately irreducible being. This account of speech in terms of its author will then lead to a discussion of the act that is speaking in Chapter IV. It is crucial for our purposes that we keep each element of the thesis in mind as we proceed — that knowing, speaking, and acting are all ways of expressing our personal reality, of situating ourselves in the world prior to intellectual descriptions of that world, and that such an awareness can immunize us against the paralyzing force of the critical model of man.

Polanyi's View of Articulation

We saw in the last chapter that Polanyi argues for personal knowledge in a rather unconventional way. He attempts to incorporate "skills," "commitments," "passions," and "conviviality" within the legitimate lexicon of epistemology. Another surprising feature of that approach is his interest in language as a way of knowing — not as a tool for expression with merely instrumental value, but as part and parcel of knowledge itself.\(^2\) This turn to language may seem to be just further evidence of Polanyi's eclecticism in epistemology. That conclusion, though understandable, neglects the wider implications of his reform of the critical tradition, in which the role of language is significantly reduced. We must first examine this reduction.

The Traditional Devaluation of Language

There are at least four ways in which modern thought, dependent as it is on the critical view of knowledge, has construed language
to be subservient to more purely cognitive endeavors:

(1) Within the modern philosophical tradition, language has usually been considered secondary in importance to our rational powers, if not an obstacle to knowledge. Our understanding has been defined exclusively in terms of thought, which is assumed to have an "ontological" status prior to that of language.\(^3\) It is through pure reflection that we are enabled to separate knowledge from opinion, thereby establishing the reliability of that knowledge. Language is simply the means we have developed for expressing our thoughts, and its features have therefore been essentially determined by the requirements of thinking. Language is transparent to the thought behind it, acting as a lens which strengthens and focuses the thought passing through it, without otherwise affecting it. Descartes, for example, could abstract himself from everything through methodological doubt, concluding that certainty rested in "cogito, ergo sum," without considering that he had also posited at his indubitable core the whole of the Latin language.\(^4\)

It is true that contemporary interest in language has overcome this sort of linguistic provincialism, but its priorities seem to be still in effect. Antony Flew, for example, locates the source of "all the other characteristic doctrines and assumptions of modern British philosophy" in the "central and fundamental discovery" that "expressions may be grammatically similar and yet logically different." So far, this seems sound. This neutral distinction between logic and grammar, however, rarely retains its neutrality, and it is usually logic that wins out. Thus Professor Flew continues on a
following page, warning of "how easy it is to use sentences which
look all right, which have a close grammatical resemblance to sentences
which are indeed proper, but which are nevertheless logically disrepu-
table . . . ." If there is a "falling out" between language and
logic, the problem will seldom lie in the logical standards by which
we judge language. It is language which will be "disreputable," and
logic which will render the verdict.

As examples of this principle in action, we may refer to criticism
of Heidegger's language by Carnap, and criticism of Tillich's language
by Paul Edwards. In each case many good things are said which should
cause us to re-examine the presuppositions of the man who is being
criticized, but we are nevertheless left with the feeling that little
communication has occurred, that an important and legitimate message
is being ignored. Our dilemma is compounded by the fact that we have
no other ground upon which to object than that claimed by analytic
philosophy. The later work of Wittgenstein and Austin has begun to
move the discussion beyond many of these early confrontations, and
both express the objections to our habitual views of language
that we are listing here. Wittgenstein says (in relation to the prob-
lem of understanding another person's use of the word "pain"): "The
paradox disappears only if we make a radical break with the idea that
language always functions in one way, always serves the same purpose:
to convey thoughts — which may be about houses, pains, good and evil,
or anything else you please." Thus various forms of ordinary lan-
guage philosophy have already anticipated the post-critical view of
language to which Polanyi leads us. 7

(2) We have touched here on a second aspect of the critical view of language, which not only believes language to be subsidiary to thought, but also believes that language is meaningful only to the degree that it is, or can be made to be, explicit, precise, and logical. The grammars of languages, having been uncritically inherited through cultural traditions, are considered to be mere conventions. The Objectivist simply cannot see any inherent, independent validity in language itself. It appears, especially when examined cross-culturally, to be "merely" a social adaptation relative to environmental variables. Standards of validity must be supplied, therefore, from a stable source external to language, and, not surprisingly, logic becomes the model by which we gauge the meaningfulness of language. The adoption of this view has led naturally to the attempt to construct "artificial languages," believed "capable, in principle, of expressing any proposition, any fact, or anything cognitively meaningful;" the last phrase is particularly telling. 8

(3) A further, parallel result of the Objectivist treatment of language is the separation of language understood as a formal system from language understood as speech acts. In itself the distinction is an unobjectionable commonplace in linguistics, stemming from de Saussure's differentiation of la langue from la parole. 9 It is the linking of this distinction with critical presuppositions concerning knowledge that must be resisted, for such a move inevitably favors la langue, the "given" of accepted grammar and usage, as the sole
repository of meaning. The creative, selective parole of an individual speaker is therefore rendered irrelevant to the semantic question. In effect, such a position claims that the knower adds nothing to the knowledge he holds — to speak of "affirming" knowledge would be understood as a colorful, but somewhat loose, way of "stating" knowledge.  

This amounts to an attempt to eliminate the personal ownership of language that is so apparent in speech, for such a personal element would allegedly destroy the epistemological validity of an utterance. It makes no sense to say, under the critical paradigm, things like, "I thought I knew . . .," "I was certain that . . . but now I don't know," "I know it, but I just can't explain it," or "I don't know how I know it, I just do."  

If knowledge is something one holds, then you either have it or you don't, and these locutions are "logically disreputable." The philosopher interested in explicit maps of language proposes, as substitutes for normal speech, precise locutions of the form "here, now, blue," or more expansively, "the body Carnap is in a state of green-seeing." These odd "sentences" result from the attempt to work back to an atomic semantic structure which limits possible meanings within specified boundaries. As with any formal system, there cannot, de jure, be any indeterminate element in la langue, and the uncertainty, temporal density, and openness of expressions like "I thought I knew" are inadmissible when the aim is "cognitive meaningfulness." Another way of approaching this bias is to see that it assimilates orality to textuality, where the textuality of language is understood according to the grammatical structure which underlies it.  

Speech becomes a necessary evil in the analysis of language. It must be constantly overcome by translating its content
back into the logical form it "had" as mental concepts, prior to its verbal expression.

(4) A fourth and final element in a critical philosophy of language is a tendency to ignore the role of unexpressed, "background" features of language in the constitution of meaning. The easiest path to certainty in attempting to understand what words mean is analysis, and the preferred terms of investigation are individual sentences and words. It is assumed, though less often since Wittgenstein, that elements of language can be isolated with no important loss of meaning. Words are isolable both (a) from the act of speaking, and (b) from their place in the whole of language. The first form of isolation abstracts words from the "internal" matrix of pitch, intonation, accent, inflection, and bodily gesture, all of which are considered mere decorative elaborations of the underlying meaning. These "unexpressed" elements of language might be helpful at times in communication, but are themselves irrelevant to the question of cognitive validity, which is solely a function of the congruence of grammatical and logical order.

The second process of isolation excises words or sentences from their natural environment, which is both the world of cultural meaning within which the words are used, and the linguistic system of which those words are a part. It is, however, precisely this background of related meanings that allows us to distinguish the precise bearing of a particular word or sentence. Attention to words or phrases in isolation, with the aim of 'tightening up' the clarity of each of these segments, results in a reconstituted sentence which only
misinterprets language, as we saw in the "here, now, blue" example. Our contention is that such efforts arise from a misguided picture of language, which is itself the product of a distorted epistemology.

The necessarily contextual nature of language can be exhibited by considering a phrase from the Nicene creed: "Begotten of his Father before all worlds, God of God, Light of Light, Very God of Very God." Standing alone, outside their natural linguistic, cultural, and religious context, these words are incomprehensible. They possess, when stripped of their environment, no power to impress some message upon us; they do not communicate. Approached in this fashion — say, with a twentieth century analytic criterion of cognitive meaningfulness in hand — they must be judged "invalid," though we may acknowledge their poetic beauty. It is precisely this effort to fix validity upon one kind of language that led Wittgenstein to protest: "But how many kinds of sentence are there? Say assertion, question, and command? — There are countless kinds: countless different kinds of use of what we call 'symbols,' 'words,' 'sentences.'" The point we wish to press here is that the traditional treatment of language operates from a narrow conviction concerning knowledge, imposing a schema on language which restricts its meaningfulness to a small range of expressions. It therefore overlooks language's indeterminate character, which stems from its origin in the activity of speakers.

We have now suggested that the set of presuppositions criticized by Polanyi in the epistemological realm are also operative in modern linguistic theories and attitudes. A rational ideal of completely
impersonal, objective knowledge immediately creates a confrontation between language as ordinarily used and the standards of validity which certify certain expressions as "knowledge." Language is implicitly assumed to be subsidiary to thought and fully distinguishable from it. The notorious complexity, ambiguity and sheer "messiness" of ordinary language make it an unsuitable partner in the thinking process, and mathematics (logic) is substituted as the appropriate model for cognition. Language may then be said to bear meaning only to the degree to which it can be assimilated to external (logical) criteria of meaningfulness. While this view acknowledges that there are realms of language (expressive, evocative, exhortative, imperative, performative uses) irreducible to such a logical schema, it tacitly claims that such uses are irrelevant to the question of meaning, "meaning" itself being construed according to critical canons. It assumes that "the act of speaking — of actually saying words — can add nothing to the possible sense of the words,"¹⁷ and that the fragmentation of language (into relations of ideas over against speech) is justified by the necessarily analytic character of logical verification.

My argument here is not an attack on the use of logic, the construction of artificial languages, or the analysis of discrete linguistic elements. These tools and methods clearly have an important role to play in the study of language. I am rather calling attention to the unformalized commitments which often underlie this approach to language. Such a critical perspective subordinates language to its
theory of knowledge, which effectively removes the speaker from lan-
guage. These claims are countered in Polanyi, not by direct argument,
but in the implicit contrast between a personal knowledge which includes
human speech and the tradition he opposes. I am attempting here to
state the issues involved and their implications more plainly. Polanyi
is actually expressing the same frustration that the later Wittgenstein
felt at the intractability of our mental habits regarding language.
Thus, though he comes at the issues from a very different angle, he
complements some major themes in linguistic philosophy. Moreover,
he brings to the discussion a context and historical perspective that
are vital for establishing the proper bearing and direction of these
efforts. We will turn now to Polanyi's reinterpretation of language.

Personal Speech

We have suggested that the epistemic biases of the modern period
have often pre-conditioned views of the nature of language, and must
be clarified as part of a thorough study of language. It is appro-
priate, then, that Polanyi discusses speaking within the context of
human knowing, as one vital aspect of the act of knowing. It is
important to repeat, however, that by "the context of knowing" Polanyi
does not mean some theory of mental operations, assimilable to other
such cognitional theories. That is only a small part of his concern.
He is more interested in knowing as a process of "making sense of the
world," as the act of finding meaning or significance in our experience
of the world. And it is his bedrock assumption that when we become
aware of our knowing, we find that we are already living in a world of meaning. Epistemology becomes a process of tracing out how it is that we know, more than an attempt to justify our knowledge, or to establish the conditions under which we can know. This is perhaps the most fundamental difference between Polanyi's approach to language and that of the critical tradition just discussed: the primordial world of meaning into which we are born is for him the foundation and background for all our investigations into its particular manifestations in knowing and in speech.20

This "primitive" grounding of language is the starting point for Polanyi's discussion. Our intellectual striving, the motivation behind our entire mental life, originates in an active principle which we share with all forms of life, particularly with higher animals. We recognize this principle when we speak of the "exploratory movements," the "appetitive drives," the "alertness" or "sentience" of primitive organisms.21 These drives "are 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."22 At higher levels this striving is found in the powers of perception, and at still higher levels (in man) it appears in language and other forms of articulate consciousness. Language is therefore a part of a given meaning-bearing capacity in man. The "givenness" of this striving is reflected in the fact that we do not validate the drives that culminate in language by reference to some completely
independent standard or criterion. Their validity is established within their own act of striving. This kind of self-validation is an expression of the circularity that is necessarily involved in accepting a world of meaning as "given." It will become clearer when we discuss later the validation of meaning.

Having connected language to primordial human drives, Polanyi sets forth various tacit powers employed in the actual use of language. He states that for any group of expressions to function as a language, certain conditions must be met, and he identifies these as the Laws of Poverty, Grammar, Iteration, Consistency, and Manageability. I will display two of these laws briefly to clarify Polanyi's strategy. The Law of Poverty asserts that "a language must be poor enough to allow the same words to be used a sufficient number of times." If, in an effort to remove ambiguities from language, we substituted for every expression a different, distinct code word (of which over one hundred million could be formed from our alphabet), we would have achieved precision, but would be unable to speak. Not only would a person be unable to remember the huge number of words required for such a one-to-one correspondence between word and idea, but the words themselves would be meaningless. "For the meaning of a word is formed and manifested by its repeated usage, and the vast majority of our . . . code words would be used only once or at any rate too rarely to acquire and express a definite meaning." The Law of Consistency simply expresses the fact that the repeated use of words does not in itself guarantee meaning -- they must be
used consistently or regularly. The imprecision of this word — what does it mean to be "consistent?" — reflects the fact that all of these "laws" reflect the various ways in which personal judgement operates on the raw material of sounds and symbols to create language. Whether or not an experience or the idea which expresses it is "new," or whether or not our use of a word is consistent with earlier usage, is a matter of personal judgement. Our selection from the flow of experiences, ideas, words, grammatical structures, and rhetorical strategies which are language can only be guided, not determined or fixed, by rules and conventions. It is ultimately our personal taste and decisions which constitute our speech. In its operation (or enactment) as well as in its origin, language is irreducibly tacit and personal.

Tacit Speech

We saw in Chapter II that the process of appraising and judging facts is explained by Polanyi through the concept of tacit knowing. Since knowledge and language are not rigorously distinguished by Polanyi, but are apprehended as part of a larger world of meaning, the same structure of tacit knowing is applied to linguistic acts. The immediate benefit of this revision is that the learning of a language becomes understandable. For affiliates of the critical model of knowing and language, the way in which a child four years old can master language is problematic. The conception of language as a formal system of rules which govern the assembly of words into
sentences would demand that the child learn a formidable linguistic apparatus before he speaks intelligently. For Polanyi, however, the complex of rules which organize language are acquired subsidiarily and tacitly by the child as he strives to make sense of what others say, to imitate them, and to ask about puzzling experiences. For the Objectivist, who focuses on the formal aspects of language, learning must be understood as a publicly verifiable process, like putting data into a computer, or as the unfolding of "innate" mental structures. The learning skills involved in observation and mimesis are severed from the epistemic act, termed "knowing how," and relegated to psychology. In personal knowing these same skills embody knowledge, demonstrate it, and are the means by which we acquire new knowledge. In learning a language, specifiable linguistic elements — words, syntactical and transformational rules — are assimilated subsidiarily as clues to a comprehensive whole, which is the meaning the child wants to express.

We see this same tacit procedure operating when we read a text. Normally, while we never fully realize (or "know") the exact words being used, so that we could repeat them exactly, we know at a glance what a text means. We have attended from words, which are meaningless in themselves, to their joint bearing, which establishes their meaning. Even in relatively short reading selections, where we can keep all the words before us (explicit) while we grasp their meaning, we cannot specify the tacit operations by which we move from these words to just this meaning. That certain styles of writing may remain opaque to
us, despite our familiarity with the words involved ("I can't make heads or tails of Heidegger"), and that interpretations of the same words may differ, demonstrates the ubiquitous employment of tacit, personal skills when we use language.

We have argued that the critical tradition assumes that to be cognitively meaningful, an assertion must be rule-governed, that is, it must be verifiable according to explicit, specifiable principles which control the way in which experience is organized, or the way in which ideas are logically related. We examined Polanyi's response to such a procedure earlier, but the issues may be more clearly brought out by considering the use of rules in language, particularly as they are applied in denotation. 28

The direct, explicit reference of a word is often easy to establish — "Napoleon Bonaparte" applies to the leader of the French people at the beginning of the nineteenth century in a straightforward act of reference, or denotation. Such easy cases, however, obscure what is actually happening when we select certain words to apply to certain meanings. Let us take a somewhat harder example: "visible." Though we can think of ways in which the word might be used, as part of the activity of speaking, it is more difficult to state exactly what is being denoted here. An attribute? A relation among objects (say, foreground and background)? A relation between object and observer? A physiological state (light impinging on the retina)? How would we distinguish the way in which we denote "visible" and the ways we might denote "perceptible," "present," "discernible," "observable,"
"visual," "manifest," "exposed" — or, to be more exotic, "revealed," or "epiphany"? It is Polanyi's contention that the complex act of denotation does not involve consulting a mental lexicon or grammar which specifies all of the possible situations in which a word and various synonyms should appropriately be used. It is rather the exercise of a skill in which the speaker relies on a tacit awareness of a multitude of clues to focus on that one meaning which is "right" for the occasion.

Now we may say further that the process of applying language to things is also necessarily unformalized; that it is inarticulate. Denotation, then, is an art, and whatever we say about things assumes our endorsement of our own skill in practising this art. 29

The tacit skills which are implied in the terms "denoting," "referring," and "connoting" are also present in the art of defining words, and a glance at this process will also introduce us to the role of confidence in speech. Whereas definition might be thought of as an unproblematic listing of the meanings of a word, it actually involves a high degree of personal judgement. The "meanings" of a word, to begin with, are deduced from its use: "in formulating a definition we must rely on watching the way the art of using a word is authentically practised; or more precisely, watch ourselves applying the term to be defined in ways that we regard as authentic." 30

The compiler of a dictionary must eliminate usage which is "substandard" or limited to a special purpose (such as advertising). He must also designate whether or not a usage is "dialectal," "colloquial," or "slang"; when it is restricted to a particular geographical area or profession (legal, medical terms); or whether or not the word is still considered "foreign." Complicating his decisions are the changes
which words constantly undergo from one category to another.

We can again apply the notion of tacit knowing to understand how this art is practiced, without degrading the compiler's ability to mere "psychological habit," or "having a good ear for words." He has his eye on a problem — the meaning of this word — and is already aware, at a tacit level, of some parts of the solution. This reflects the "given" character of language; we never begin an analysis of language from a "zero point." The compiler pursues a solution to his problem, tacitly integrating various clues which arise from his extensive contact with words. In a sense, it is the solution which "finds" itself — it is the particular puzzle on which he is focusing that guides the compiler's selecting and organizing. Here, of course, we encounter once again the paradox of the *Meno*: how does an unknown solution guide our search for it? There is no mysticism or magic involved in Polanyi's answer if we remember that a solution to a real problem does exist, "in reality," that persons are in touch with this reality (we are already in a world), and that a person qua knower has the power to detect the shape of that reality in the clues at his disposal.31 Our solutions are not simply conventions, creations of a fertile imagination. Neither are they full embodiments of reality. It is more accurate to say that our integrations, when honest, insightful, and fortuitous, illuminate what is. The authority of a good dictionary (a Webster's or the O.E.D.) stems from its claim to express the real "state of the language" at a given time, and not simply from its success at organizing the data attractively. This
authority, however, whether at the definitional level or at the level of philosophical systems, can never claim to be an adequate expression of reality. In language as in science, there is a tentative dimension to our solutions. It is not that what appears to be a bon mot may be wrong in any simple sense, but that it will probably prove incomplete. We cannot "say" everything, just as we cannot "know" everything. In personal knowledge this limitation is frankly admitted, though we do not thereby give up our claim to real knowledge or living speech. Defining words is, then, a complex enterprise which recapitulates the structure of tacit knowing.

The Indeterminacy of Speech

Though there are clearly other causes, ignorance of the indeterminacy of language accounts for many of our conceptual dilemmas. As an example we may note Polanyi's dictum that gains in linguistic precision are often made at the expense of intelligibility. Government or legal documents are examples of language carefully crafted to eliminate as much ambiguity as possible — such documents are, however, notoriously unintelligible to laymen. The mistake we make, partially due to our critical preconceptions, is to discount the skills necessary to use language while assuming that language can be made determinate. But it is skillful knowing (and reading) which renders meaning intelligible, and not words themselves. While we must naturally attempt to express ourselves clearly, our audience must also be able to read skillfully. It must be able to appraise
indeterminate words for the precise meaning which is appropriate to a given context. Thus clear expression promotes understanding, but is, at the same time, dependent upon it.

Sometimes it is not our way of writing which causes problems of understanding as much as it is the inadequacies of our readers. Polanyi gives as an example John Findlay's verbal paraphrase of Gödel's first theorem:

We cannot prove the statement which is arrived at by substituting for the variable in the statement form Y the name of the statement form in question.

This statement actually says of itself that it cannot be demonstrated, and therefore the statement is true. But without "natural aptitude and training," it is extremely difficult to understand the sentence. A logician would probably grasp its import at once, not because he has a "key," decoding formula, or special rule to apply, but because he has developed highly specialized skills of artful knowing. The same kinds of skills may be at work when a phenomenologist is reading Heidegger, when a poet reads Rilke, or when a theologian sees insights in Tillich which are to others only "confusions."

Some scholars have taken this fact of linguistic interpretation to imply complete linguistic relativity, that different realms of discourse have different "logics," and that cognitive standards cannot be transported across these boundaries. This would, for example, protect religious discourse from a destructive exposure to the "logic" of empirical language. This is not the kind of conjecture that
Polanyi's work supports. Though he acknowledges, with Kuhn and others, that world views, or "paradigms," cannot be "proved" to supporters of alternative views or paradigms, he does believe that men can move from one point of view to another, even when a wide "logical gap" supervenes. The personal coefficient which upholds a certain body of knowledge does not isolate us from other domains of knowledge—it simply changes the nature of our intellectual appreciation of rival views.

In noting the indeterminate character of language we depart once more from a critical ideal which conflates "knowledge" with "certainty," and "cognitive meaning" with "determinate meaning." The application of language to things must be an indeterminate activity because language is itself indeterminate, and the personal acts by which speakers appropriate it are beyond explicitation. Our discussion of tacit knowing and what might be called epistemic skills demonstrates the personal density of language users, but we should remind ourselves of the indeterminacy within language itself. In Polanyi's Laws or principles of linguistic operation we saw that the incommensurability between human communicative powers and experience dictates versatility in language. The same words must have multiple meanings, and grammatical structures must be flexible enough to apply to a wide range of cases. The gap between a limited, formal system of indeterminate bearing, and a huge number of concrete experiences which we want to communicate is bridged by the person who appropriates the system and creatively produces meaning from its resources.

If we overcome our predisposition to ignore language in favor of the thought behind it, we will begin to appreciate the role of speech
in sense-making, and this will admit a further indeterminacy into our picture of language. When we attend to speech as a meaningful act in itself, we notice the complexity of the act — it includes sounds of great variety and subtlety, facial expressions, gestures, and postures that are the form of speech. Language requires this incarnation most of the time to be intelligible, and even highly abstract texts (scientific reports) depend on the bodily awareness of the reader for their full interpretation. The many layers of association built up through years of training in a scientific community are tacitly integrated by the scientist to render highly symbolic language concrete. Style also depends on the bodily nature of expression, for the writer imagines how his words sound, how they "scan," and he develops an "ear" that is his best critic. He realizes that the persuasive power of his work, its ability to mean something significant to someone, does not lie in its content alone. Just as we talked of a man indwelling various instruments, we speak of indwelling a language by incorporating its elements as parts of our "body," now reinterpreted. With Merleau-Ponty our body can be described as the way we express ourselves in the world. The body is a locus of meanings for me, and is therefore a "silent partner" in even the most explicit forms of language. Though Polanyi cannot be read as a phenomenologist, he himself indicates the close affinities between his work and that of Merleau-Ponty.36 The embodiment of language in speech is one of their common goals.

In tracing the various correlations between the themes of tacit
knowing and of language, we have repeatedly emphasized their indeterminate status. It may seem once again that such an orgy of uncertainty and imprecision has rendered all knowledge suspect, and signals a retreat from reason, a descent into romantic chaos. In regard to knowledge, Polanyi would agree with Karl Popper that "the old scientific ideal of epistēmē — of absolutely certain, demonstrable knowledge — has proved to be an idol."\textsuperscript{37} This is part of our destiny that must simply be accepted, without glossing over its implications. To the charge of irrationality Polanyi can only respond with his entire corpus, which demonstrates, reasons and persuades toward a new vision of reason, with a complexity and subtlety that grows more consistent and cogent over the years of his authorship. That "lived argument" remains Polanyi's ultimate claim to reasonableness, just as my activity here, considered as a personal act and not simply as a product of reflection, is an argument 'writ large.' Though this crucial dimension of the argument may be granted, we also can and should reason on a more explicit level, and I will now underwrite our talk of linguistic indeterminacy with a discussion of the personal accreditation which makes our speech "reasonable."

Accrediting Speech

All knowledge has a tacit coefficient, which is due to the personal component of knowing — there is no knowledge without a knower. Knowledge can therefore never be validated by a completely objective standard, external to any knower. If validity cannot be established purely extrinsically, then whatever validation there is must involve
the knower himself. This is what Polanyi affirms: "The words I have spoken and am yet to speak mean nothing: it is only I who mean something by them." Here is a crucial element in Polanyi's revaluation of knowledge and speech -- that the act by which we claim knowledge also creates and sustains knowledge. To assert something confidently is to declare that we have judged it meaningful, and to the extent our word is respected, such a claim will be taken seriously.

According to traditional methods of verification (in the natural sciences) or validation (in other disciplines), when we encounter a statement asserting some fact, we evaluate its validity (its truth or meaningfulness) by asking certain questions about it, or by examining its premises. If satisfied that it is indeed true, we can then assert, "The cat is on the mat." For Polanyi, however, the familiarity of this procedure obscures its critical presuppositions. To begin with, if we could consider words and statements apart from any user of language, we would have to say they are meaningless, for they would represent only a formalized residue of language, a symbolic representation of the speech act which underlies them. When we encounter an assertion, therefore, we must inquire as to the assertor, unless the statement refers to experiences with which we are also familiar. In that case we judge the statement from our point of view, from our experiences, to see if it is "true for us." At no point, however, does the statement itself assert itself, or "make an assertion." To talk in that way, of "what the statement asserts," is unobjectionable only as long as we remember that "assertion" is a derivative notion, dependent upon the more basic meaning of "a person who asserts," who
acts in a particular way. For me to say, "P is true," is actually to say "I believe P is true," or simply "I believe P." A fact is not true unless it is true for someone:

No sincere assertion of fact is essentially unaccompanied by feelings of intellectual satisfaction or of a persuasive desire and a sense of personal responsibility. We never say anything that has not a definite impassioned quality. An unasserted sentence is no better than an unsigned cheque; just paper and ink without power or meaning.\(^3^9\)

The language of formal discourse ("Consider a proposition P such that . . .") can conceal this personal element and therefore neutralize it, by implying that the statement has within itself the grounds of its own truth or falsity. We have merely to "run it through its paces" — through certain logical tests or counter-examples — to see whether or not it is true.

This elementary process which seems so natural to us is precisely what Polanyi's reconsideration of scientific knowing brings into question. At every stage of the testing process, personal skills are operative to which the process denies validity: we refuse immediately to even consider that certain "statements" ("oranges are yes") might be "valid;" having accepted a statement as possibly valid, we then select (on what grounds?) those logical tests which seem most fruitful for clarifying its meaning; the way we transpose a sentence from a natural language into a logical formalism for testing purposes is an arguable process; the examples we select as "counter" to what the statement asserts may or may not be accepted by other reasonable men.

How, then, do we establish the truth or falsity of a statement,
given that personal decisions must constitute every level of the inquiry? In one word, Polanyi could answer "trust" — but that one word does not do justice to his full meaning. We discussed earlier how scientific discovery is communicated within the scientific community on the basis of the values shared by members of that community. The new vision of reality opened up by a discovery must be communicated to other scientists in such a way that they will share that vision, indwelling its particulars until they can see what the discoverer sees. The new theory depends upon accurate empirical evidence, which is itself construed according to personal skills, and also upon its congruence with the rest of the scientific system, its intrinsic interest, and the persuasive passion of its discoverer. Each of these factors is governed by communal standards to which all members submit, even in the process of revising them.

This same "structure" or pattern of validation operates when we encounter linguistic innovation. Without our common reliance on a given core of meaning, interpersonal communication would be impossible. Our culture agrees upon certain values regarding the use of language, and each child inherits these values as he learns his language. The values are not absolute — unchanging — and as his reflective powers grow the young person can question accepted usage, flaunt it, or invent his own peer-group jargon. But he always does so against the background belief that his speech is meaningful, and he is constantly striving to increase the meaning carried in his language.
The "trust" implicit in all acts of making sense is first of all a reliance on one's personal or "bodily" skills, understanding the body as the way we express ourselves in the world. We then trust our learning of language, and our ability to use it by understanding others. We also trust the community which "co-creates" meaning with us by constantly engaging us in conversation. The convivial flow of messages between persons anchors me in my world, roots me there with such naturalness that it is only in extreme stages of alienation or reflection that I question my world or language as a totality.

Here we repeat Polanyi's fundamental theme concerning the justification of our knowledge and speech. We can only justify what we know or say from within the framework of commitment by which our knowledge or speech was originally acquired, and by which we continue to affirm it.40 It is persons who speak, and persons who validate their speech, according to standards acquired with the ability to speak. Our commitment to the meaningful reality of our linguistic values sustains those values, and it is the only way in which they can be sustained:

No one can know universal intellectual standards except by acknowledging their jurisdiction over himself as part of the terms on which he holds himself responsible for the pursuit of his mental efforts. I can speak of facts, knowledge, proof, reality, etc. . . . so long as I am committed to them; but they cannot be referred to non-committally. You cannot speak without self-contradiction of knowledge you do not believe, or of a reality which does not exist . . . . Commitment is in this sense the only path for approaching the universally valid.41
What appears to be a "dogmatic subjectivity," a "vicious circularity" in Polanyi's argument must, in one sense, be acknowledged. But if his reinterpretation of knowledge is understood, these terms have lost most of their critical force. We can still talk of the invalidity of circular reasoning or blind subjectivity, but only while remaining committed to other values to which these terms cannot apply. We made this same point when speaking of critical doubt, in affirming that we cannot doubt everything at once, and then still claim to know something. The risk of error which such a critical reliance dictates is an inescapable part of our intellectual life. The risk is made acceptable by the fact that the commitment situation is comprised of both personal and objective poles. When we submit our individual judgements to the standards of a community, when we declare the object of our personal appraisals to be available to others, and when the unexpected manifestation and confirmation of our views demonstrate their contact with a reality, beyond our own individual person, we can be satisfied that we have avoided subjectivism. The assurance we receive from such extrinsic confirmation of our personal knowledge may not be the absolute certainty of legend, but it is sufficient for our noblest aspirations.

Steiner and the Primacy of the Word

Personal knowledge may establish the grounds for a post-critical understanding of language, but Polanyi does not pursue this possibility beyond the preliminary themes we have just traced. To extend
his comments on the tacit, indeterminate, and accreditative dimensions of language, we will turn to the work of George Steiner. His general approach to language and his affinities with Polanyi will be noted before we examine the four additional linguistic dimensions to which he directs our attention — temporality, privacy, alterity, and orality. It should become clear that Polanyi and Steiner share presuppositions and concerns of a 'post-critical' nature.

George Steiner's range of interests is wide, embracing literature, linguistics, translation, the philosophy of language, and cultural criticism. These facets are unified by Steiner's fundamental claim that "language and man are correlate, that they imply and necessitate each other." Since language defines what it means to be "human," the study of language is central to a host of current intellectual problems, including many in philosophy and theology. It is a direct way into an understanding of man, and is therefore crucial to a study of persons. To define man in terms of speech rather than rationality is already a significant step for Steiner to take, when we remember the tendency of our tradition to treat language as the 'step-child' of thought. But the precise shape of this conception will be brought out by looking at his further claims regarding language. We will note these claims briefly, particularly in their bearing on Polanyi.

1) Steiner asserts that language cannot be reduced to neurophysiology or to logical universals (the idealist/rationalist view), to the material or spiritual order alone, for no one account is able to handle the rich semantic multiplicities of a human tongue:
Only this is evident: that the hybrid nature of the language-experience, its material-immaterial, abstract-concrete, physical-mental dualism is a central donné of consciousness . . . . Each assertion based on either the neurophysiological or the transcendental model of speech utterances is defective to the extent that it does not comprehend its opposite.46

At one level Steiner is observing here that language lies at the center of our ambiguity as creatures of both material and immaterial orders. It depends on empirical features of the human body and physical environment, but it also transcends them in man's creations, imaginary and cognitive. The empirical foundation of speech is the easiest to locate. Speech would not exist if it were not for the evolution of the human larynx and a large central nervous system, the lungs (to produce air), the palate, tongue, teeth, nose (as a resonance chamber), ears and other organs unique to man in their precision and versatility. There is clearly a sense in which language "is a matter of comparative anatomy and physiological history."47 And yet, this observation says little, for we intuitively feel a need to attend to a different kind or dimension of discourse. We encounter this 'mental' or 'spiritual' dimension in many places: in thought, in dreams, in "the penumbra of uncertain waking," in the pre-linguistic development of children, in groping for a word, and in the kind of prefiguring of discovery which Polanyi describes.

While language is both physical and mental, there is another level to Steiner's anti-reductionist claim, for he suggests that we sense at times a stream of meaning beyond the linguistic level. These "felt realities 'too deep for words!'" lie at the edges of language, in territory normally frequented by poets, musicians, mathematicians,
and religious mystics. He even echoes Polanyi's language in observing that we may have to acknowledge "the emergence of 'a new realm' within the biosphere."\textsuperscript{48} At several levels, then, adding up the 'bits and pieces' of specifiable discourse does not yield the sum total of our linguistic experience; we find 'something else' left over. While Steiner's discussion of this whole problem is extremely illuminative of the problem of reductionism in language studies, his exposition would be deepened by Polanyi's explanation of the necessity of these various dimensions of language, through his concept of logical levels of reality.

(2) Steiner insists that clues to the nature of language will be found in the natural state of language, where it is used as a means of expression, as communication between persons. This emphasizes context — situatedness — over analysis, and admittedly opens the door to factors which are "far less amenable to formal codification" than grammar alone. Elements of the social, historical, and linguistic setting of a particular locution are crucial to its proper interpretation, and these elements are never completely specifiable. Steiner enunciates this tenet most forcefully while arguing against Noam Chomsky's theory of a generative transformational grammar, but it applies more broadly:

There is room, I submit, for an approach whose bias of interest focuses on languages rather than Language; whose evidence will derive from semantics (with all the implicit stress on meaning) rather than from 'pure syntax'; and which will begin with words, difficult as these are to define, rather than with imaginary strings or 'pro-verbs' of which there can never be any direct presentation. I question whether any context-free system, however 'deep' its location, however formal its \textit{modus operandi}, will
contribute much to our understanding of natural speech and hearing. . . language itself is 'open-ended' and charged with energies of the utmost diversity and intricacy.49

This defense of the "everyday" in language seems strange, however, when set beside Steiner's claim that one of the highest forms of language is literature, which is a somewhat contrived form of language, artificial and removed from the living core of speech. This apparent contradiction does point to a weakness in Steiner, on which I will comment shortly, but his position can be secured by emphasizing that the semantic use of language is the earnest of its naturalness. Speech does lose many of its oral characteristics — its temporality, spontaneous creativity, its convivial setting — when considered solely as an object of analytic investigation. But more importantly, it loses its function as communication between persons, for analysis of linguistic structures isolates the products of speech from its communicants. This destructive feature of analysis is somewhat overcome, however, in examining language as literature, for the artist consciously places his language in a certain form to heighten its communicative power, which also increases its meaning. As the message of the author, it retains its semantic role, despite the contrived nature of its expression. Thus Steiner suggests, reminiscent of Polanyi, that language does not simply convey knowledge, but is knowledge, a way of knowing: "The shaping agencies of intellect. . . . do not, as it were, perform via language. They are inherent in language."50
Here we have come upon a way in which Steiner and Polanyi help us to extend the insights of ordinary language philosophy. To say that meaning is a function of use and context, and that ordinary language is "the first word" in the elucidation of that meaning, should not obscure the fact that the crucial element of use and context is the speaker/listener dialogue. Simply listing all the various ways in which a word or phrase is "used" seduces us into the belief that meaning can be extracted from all of the various "users" in precisely the same abstraction by which we make up our list. But in an important sense meaning is non-transferable from context to analysis, and that sense lies in our inability to fully analyze speakers, "users," or persons. Let me press this point a little more by noting its theological bearing. If meaning arises from ordinary speech, as current linguistic philosophy has convinced us it does, then religious discourse has problems, for it rarely has a place in ordinary twentieth century conversation. We simply do not go around talking like St. Paul. Its uses are restricted, like those of literature, to a relatively contrived and artificial context. If, however, we focus on the intentional activity of the users of such language, we may be able to re-appreciate its efficacy. Context is thus established by speakers, whose creativity and flexibility may impose meaning on what is "ordinarily" meaningless.

(3) The tacit, indeterminate character of language is affirmed by Steiner (though he does not use "tacit" in a formal sense), and its evidence can be seen in many places. First, there is an asymmetry
between our intended meaning and our actual words:

Every understanding is actively interpretative. Even the most literal statement (what, actually, is a 'literal' statement?) has a hermeneutic dimension. It needs decoding. It means more or less or something other than it says . . . . We mean endlessly more than we say.\textsuperscript{51}

This is immediately evocative of Polanyi's central claim that "we can know more than we can tell." A second indeterminacy lies in the essential individuality of language users:

Private connotations, private habits of stress, of elision or periphrase make up a fundamental component of speech . . . . There can be no definitive lexicon or logical grammar of ordinary language or even of parts of it because different human beings, even in simple cases of reference and 'naming,' will always relate different associations to a given word. These differences are the life of normal speech.\textsuperscript{52}

This point will be discussed more fully below. A third recalcitrance in language is constituted by the logical requirement that analyzing language alters it, so that we can never reach an unchanging linguistic residue which can then be exhaustively evaluated. Our linguistic storehouse is continually additive and accumulative, constantly enlarging the fund of possibilities open to us for choosing words and for interpreting them: "What is said, what conventions are observed by our latest uses of meaning and response, modify future forms . . . . I would argue, therefore, that general propositions about language can never be entirely validated. Their truth is a kind of momentary action, an assumption of equilibrium."\textsuperscript{53} Fourth, we must acknowledge that the critical judgements by which we establish the boundaries of "normal" usage cannot be proved, for they are not a matter of demonstration, but a matter of "ear."\textsuperscript{54} Here again the
point confirms Polanyi's discussion of the role of skills and "connoisseurship" in the rational order. Finally, language is indeterminate because the act of speaking is essentially heuristic. There is a 'logical gap' (to use Polanyi's term) between a speaker's reservoir of linguistic resources and the public articulation of his meaning.\footnote{55}

(4) Steiner is convinced that however open we must be to the intellectual revolutions occurring all around us, we must retain our hold on tradition. One apparent casualty of the omnivorous modern intellect has been our confidence in the value and significant import of our past. To this challenge Steiner replies that "ancient recognitions and habits of understanding run deeper than the rigours of time. Tradition and the long ground-swell of unity are no less real than that sense of disorder and vertigo which the new dark ages have loosed upon us."\footnote{56} There are several ways in which our reliance on an uncritically accepted past informs us. First, it is vital to the 'hermeneutic motion' by which we understand, in that we must submit to the intellectual tradition which we confront in our own scholarship:

There is initiative trust, an investment of belief, underwritten by previous experience but epistemologically exposed and psychologically hazardous, in the meaningfulness, in the 'seriousness' of the . . . text. We venture a leap: we grant \emph{ab initio} that there is 'something there' to be understood, that the transfer will not be void. All understanding . . . starts with an act of trust. This confiding will, ordinarily, be instantaneous and unexamined, but it has a complex base.\footnote{57}

Here is a condensed recapitulation of several of the Polanyian themes which we traced earlier: submission to an authoritative tradition,
trust in our convivial order, the conviction that our thought moves
toward something real, and a recognition of the ubiquity and complex-
ity of commitment in the knowing situation.

A second example of Steiner's appreciation of tradition is
in his work as a literary critic, in which he testifies to "the remem-
brance of our great lineage, to the matchless tradition of the high
epic . . . to the splendours of . . . drama, to the masters of the
novel."\(^{58}\) In devoted yet critical commentaries on Homer, the Bible,
Shakespeare, and certain modern authors, Steiner demonstrates his
belief that "literary criticism should arise out of a debt of love."\(^{59}\)
When compared to the dominant schools of literary criticism today,
Steiner's position must seem hopelessly old-fashioned.\(^{60}\) And yet he
knowingly identifies himself with "the old criticism," and states its
fundamental values: it is "engendered by admiration rather than envy;"
it sometimes comments on the moral purpose of a text; it sees litera-
ture and language "as central to the play of historical and political
energies"; it suggests there is a deep connection between great art
and the numinous, between transcendent human creation and the mystery
of God; it accepts the literary heritage and its authority as its
critical standard, and finally, "the old criticism is philosophic in
range and temper," seeking to discern the metaphysic or mythology
behind a work of art.\(^{61}\) These varied tonalities in Steiner's writings
can perhaps be summarized as demonstrating a high serious\hness toward
language and its use in literature: what matters, what means, can be
found in man's use of language. Therefore, the critic's fundamental
posture must be submissive, acknowledging the claim which great art has upon him.

The four features we have selected from Steiner's treatment of language do not exhaust his contributions, or the ways in which his stance resembles Polanyi's. We might have mentioned that he also sees epistemology as the basic framework within which the modern period has examined language; or, that his discussion of 'mimesis' as the appropriative act of the reader or critic parallels Polanyi's notion of "indwelling;" that his view of science, while far less informed, is just as ambivalent as Polanyi's, and for many of the same reasons; and that Steiner argues for, and demonstrates in his own work, that "strategy of indirection" which is apparent in Polanyi. As a whole, George Steiner's work exhibits concerns, beliefs, and strategies similar to those of Michael Polanyi, when each is read with the question of "the person" in mind. There are, of course, possible criticisms or problems with Steiner's work, and differences between Steiner and Polanyi. But the coherences are striking, and, I believe, run deep. To read him from a Polanyian perspective, however, may seem less than fair to Steiner. In order to demonstrate that Steiner himself makes significant contributions to our investigation of the person as "speaker," we will turn now to an examination of three ways in which he extends our search in new directions.

Three Dimensions of Language

Throughout this chapter, the gravamen of our exposition is to
link a post-critical perspective on speech to our earlier discussion of personal knowing, and to illuminate those salient features of Steiner's thought which overcome the dilemmas of an Objectivist sensibility. Both Polanyi and Steiner react instinctively against movements within their disciplines which would denigrate the central role of human judgement and creativity in understanding. Such approaches, in their view, lead finally to a de-humanized world in which the goal of knowing and speaking is to remove the person from these very acts. But ultimately, "man" can only be understood as a free agent, and freedom cannot be interpreted within a teleology of 'absolute certainty.' We find a common ground under Polanyi and Steiner in their confrontation with and acceptance of this hard truth. In the three linguistic dimensions to which we now turn -- temporality, alterity, and privacy -- we find support for an understanding of man's emergent freedom. This aspect of personhood will be considered further in the next chapter.

Temporality

Temporality determines language, but is also determined by language. Speech takes time. It is never instantaneous, but is always delivered and received sequentially, one word after another. It is dependent upon a chain of events in the speaker, the media of transmission (air, radio waves, electronic impulses, a printed text), and in the listener. But this is the "objective" sense in which time and language are related, and is less significant than what we will call
the "personal" sense. Nevertheless, the objective sense alone is sufficient to bring into question any analytic account of language which claims to exhaustively explain it in formal notation, for such notation must always be atemporal or instantaneous. The cognizing of a rule of grammar may seem instantaneous, but the rule is an abstraction from, and is dependent upon, a prior speech act which takes time.

The "personal" sense of time reverses the relationship just mentioned, and states that while language is in time, it is also the shaper of time. This is the strong sense to which Steiner devotes most of his analysis. The ways in which language shapes our conception of temporality can be discovered in the tenses of language, and in an awareness of just how much of our experience is handled by temporal discriminations expressed by those tenses. From the moment we rise in the morning, our living is permeated by memories of yesterday — what we promised we would do today, what we told him and what she said — and by plans for today and tomorrow — I will have to do this before noon, tomorrow is her birthday. Perhaps most of our time, particularly in the busy American setting, is 'tensive' time, which is to say that we are normally expressing or projecting ourselves in the past and future tenses. Since we learn a language naturally with tenses, we cannot fully imagine a world without them, but what would it be like not to have any past tenses? Stalinism has shown how the past can be outlawed and obliterated from public consciousness, and Orwell's *Brave New World* and *1984* show the same awareness of how political reduction of the person must carefully attend to the
reduction of past and future senses. What would happen to experiences of parents and grandparents or of childhood and schooling without past tenses? What would our purchase be on our ancestral country, or our history generally? In fact, "no raw data from the past have absolute intrinsic authority. Their meaning is relational to the present and that relation is realized linguistically. Memory is articulated as a function of the past tense of the verb." The past is the storehouse in which we find materials for all our constructions, and in extreme cases, it can become a world in itself, as when we say, "he is living in the past," or when we read Proust's Remembrance of Things Past.

And finally, in a more fundamental sense, the past tense provides, through the vehicle of myth, the logical foundation for all our talk of ourselves. Whether in the form of the cosmic myths of Genesis or the Timaeus, or in the deeply personal story that begins "I was born," we explicate our integrity, the unity of our person, against the fixed point of a past beginning.

The future is perhaps even more important than the past to this 'logical cohesion' of our person, for the future tense is the prime conveyor of our activity, of our creative power. It has certainly become the dominant intellectual tense for Marxism and for much of recent theology. Initially we must be simply amazed at the wasteful abundance of opportunity provided us by the future tense and its "nuances of anticipation, doubt, provisionality, probabilistic induction, fear, conditionality, hope." But hard on the heels of such abundance comes the realization that freedom of choice is inevitably
linked to uncertainty of outcome, and that the use of the future tense is therefore closely linked to the problems of personal agency.  

Though the connections are still vague, it does seem that the power of the future in western sensibility is intimately tied to its early Hebraic expression in the setting of Divine power and human morality. It was Yahweh who began time, according to the Genesis myth, and after Eden his relation to man became singularly, covenantally linked to continuing human conduct, to consistent obedience to the Divine will. A dialectic began between the expression of God's intent, and the imperfect, rebellious efforts of His people to understand and to fulfill that intention. Both Steiner and Polanyi have observed that this obsession with the future of history has recently reappeared in Marxism. Polanyi argues that the classless society which is the future goal of Marxism is simply a new expression of a basic cultural belief in an intentional, teleological, linear history (from Judeo-Christian eschatological messianism). Our society has also developed a sense of futurity from the "open-ended" character of the scientific universe. If thought is construed mathematically, and separated from the body, then man dwells within a void where he has no natural "place," but only such future directedness as he himself can create. These historical realities have determined the importance of the future to our societal language and thought, but we should also note that the individual is thoroughly immersed in the future tense. Kant notes, for example, that without extending the idea of causation to future affairs, and without the idea of a final, future end to human
affairs, ethics would be impossible. "Futurity is a necessary condition of ethical being," Steiner writes, and like the past, it is inextricably wrapped up in our ability to speak in a future tense.  

Here we should note that we have not claimed that language constitutes or creates time as we might create an artifact -- Steiner wisely speaks of the ways in which language shapes time. Time is not a construct, either conscious or unconscious, which we "make up" in order to segment reality more conveniently. Time is a perspective on lived existence, on being, similar to the way in which space is a perspective on being. What is crucial to time is the person who is that perspective, who initiates and sustains it. The thrusting forth of the person into another present forms time, and language is the way in which we project ourselves. There is, then, no possibility of timelessness for man; if we cannot achieve a god's invisible omnipresence, we can also not achieve his eternality. It is through our situatedness, our setting (what we have here called our perspective) that time appears for us.

Privacy

Privacy is a second dimension of language to which Steiner directs us. He notes in beginning that recent philosophy has made Wittgenstein's discussion of "private language" a canonical text on the subject, but Steiner himself is wary of this discussion, concluding that "'privacy' is being used in a formalized, sharply restrictive sense." In one pregnant sentence Steiner clarifies what he means
here: "It may be that a muddle between 'idiolect' and 'privacy' has frustrated the whole debate."\textsuperscript{81} I believe this sentence can serve to demonstrate Steiner's essential divergence from more critical attitudes to language, and will unpack it briefly.

By "idiolect" Steiner means "a unique idiom," or "one's own speech," that mode of expression which is peculiar to a certain person — the term expresses much of what W.H. Auden said of Kierkegaard's originality: 'he speaks in a voice one has never heard before.' What is crucial in the use of this word is that it respects "uniqueness" and "originality" without introducing the philosophically suspect notions associated with "privacy." Despite the immense relevance of the philosophical discussion, Steiner suggests that it imports an attitude toward "public" and "private" that skews the entire debate.\textsuperscript{82} Language is considered a public reality to begin with, and, upon verificationist grounds, its meaningfulness as language rests on the publicly testable nature of its assertions. To be private, therefore, to be inaccessible to normal modes of intersubjective testing, is to be suspect. If such suspicions are taken to an extreme (as in Ayer's \textit{Language, Truth and Logic}), we can see obvious links to an Objectivist tradition which would insist on the ultimate reducibility of all phenomena to publicly quantifiable entities, and on the restriction of significant meaning to "cognitive meaningfulness," where cognition is modeled after "calculation" of a mathematical sort. In opposition to this entire bias toward the rigorously public, Steiner states:

\begin{quote}
No two human beings share an identical associative context. Because such a context is made up of the totality of an individual existence, because it
comprehends not only the sum of personal memory and experience but also the reservoir of the particular subconscious, it will differ from person to person . . . All speech forms and notations, therefore, entail a latent or realized element of individual specificity. They are in part an idiolect.\textsuperscript{83}

The assumption behind such a claim, of course, is that persons do exist, and that their speech is the starting place of all language. Steiner wants to say that a concept of language based on such an assumption can make better sense of the facts of language and interpretation than the alternative view, which will not accept a "construct" like "the person" until it is proved necessary according to objectively valid criteria. For Steiner, the private language debate shares some of the problems of this alternative approach, and its inconclusiveness is a function of its lack of resources for understanding how there can be a non-public center of meaning.

Rather than considering language in terms of public/private dichotomies, we should think of it in terms of "plurality," of possibilities of meaning as numerous as speakers of language. Each word is invested by each individual user with its own range of associations, reflections, images, and echoes. These associations may be common and fairly superficial (as with connectives like "and," "or," "with" and so forth) or privately powerful (as in the associations upon which psychiatrists depend). Even numbers "do not necessarily satisfy the condition of an identity and universality of associative content" — they may gain sacred, political, sexual, or psychological innuendo of great force.\textsuperscript{84} To a college student of the 1960s, for another example,
there will always be certain words — "gook," "weed," "march," "South-east Asia," "Dallas," to name a few — which have a specific historical valence and imagery unavailable to people twenty years younger. Families, professions, peer-groups and social classes all have distinctive glossaries which are opaque to outsiders.

We must stress here that such unspecifiable variety is not a problem in and of itself. It is, Steiner claims, the reverse: — it is essential to our psychic equilibrium and to our identity as persons. It is in our individual modification of and appropriation of "public" discourse that we find our place in the world of meaning:

Articulated or internalized, language is the principal component and validation of our self-awareness. It is the constantly tested carapace of distinct identity. Yet . . . it is also among the most ubiquitous and common of human properties. There is a sense in which our own skin belongs to every man. This apparent contradiction is resolved by the individuation of associative content. Without that individuation, in the absence of a decided private component in all but the most perfunctory, unreflecting of our speech-acts, language would possess only a surface. Lacking roots in the irreducible singularity of personal remembrance . . . a purely public, common speech would severely impair our sense of self . . . . The ego, with its urgent but vulnerable claims to self-definition, withers among hollow, blank phrases. 85

Man does not have any private languages in the sense of systems of articulation completely hidden away in some unapproachable zone of the psyche. He does not, in fact, have language at all. Language, public or private (as idiolect), is not a thing which we hold, but a way of acting, a way of situating ourselves, a way of expressing who we are. In this sense all language has a personal core which is untranslatable into a public (impersonal) language. Though it is
language which binds us together, that language is rooted in an idio-
lect that also distinguishes us.

These observations gain in importance when we consider the extent
to which speech is taken over today by various public "authorities,"
be they in politics, in the mass media, or in intellectual circles.
The difficulty lies in finding one's own voice when told, implicitly
or explicitly, that an individual voice does not matter in itself;
it must be assimilated to more authoritative voices. To be sure,
this rampant impersonality has certain advantages, and many hide
behind the screens it affords them, but it may also take a greater
toll of our intellectual life than we as yet realize. There have
been a number of responses in the past one hundred years to the devalua-
tion of personal speech, which Steiner catalogues under three rubrics:
hermeticism, silence, and the attempt to create new languages. Re-
gardless of the success or failure of these various attempts to rescue
personal speech from public tyranny, the facts of natural language it-
self are enough warrant for us to reclaim the importance of the

Active inside the 'public' vocabulary and conventions of
grammar are pressures of vital association, of latent
or realized content. Much of this content is irreducibly
individual, and, in the common sense of the term, private.
When we speak to others we speak 'at the surface' of
ourselves . . . beneath which there lies a wealth of sub-
conscious, deliberately concealed or declared associations
so extensive and intricate that they probably equal the
sum and uniqueness of our status as an individual person.
Alernity

The attempt to overcome limitations of our language setting serves to introduce the last linguistic dimension which we should note, that of alernity. Steiner's approach here is by way of one of the four 'contrastive sets' which he discusses, that of truth and falsity. He begins, as he began in talking of "privacy," with the philosophical discussion of truth. Steiner attempts to further the discussion in a way more fruitful for language studies by focusing on the relation of falsity to truth:

I believe that the question of the nature and history of falsity is of crucial importance to an understanding of language and culture. Falsity is not . . . a mere miscorrespondence with a fact. It is itself an active, creative agent. The human capacity to utter falsehood, to lie, to negate what is the case, stands at the heart of speech and of the reciprocities between words and world. It may be that 'truth' is the more limited, the more special of the two conditions. We are a mammal who can bear false witness.

To understand what Steiner means here we must note that he is using "truth" to indicate a successful mapping of reality, an accurate drawing of what things are like as they confront us in experience. "Truth" stands here for something like a "correspondence theory," which claims that language is a kind of one-to-one picture of the world, and propositions resemble the things to which they refer.

"Falsity," then, becomes a general term for linguistic constructions which are not intended to mirror or map reality in any accurate way, but which consciously counter that reality. Expressions of falsity
might include counter-factual conditionals, various negative constructions, hypotheticals, nonsense language, fictions of all sorts, lies and other forms of deceptions, and perhaps even metaphors and symbols. The focus which makes all of these types relevant to one another and to a philosophy of language is Steiner's conviction that "Language is the main instrument of man's refusal to accept the world as it is." 90 In order to designate the larger context of this power to "posit otherness," Steiner coins the word "alternity" for this feature of language. One of the difficulties involved in this particular discussion is the fact that many of the forms of alternity "are so obviously tainted with a twofold indictment, moral and pragmatic." 91 To label man homo loquens, and then to locate the center of language in deception seems to indicate a perverse anthropology. But there are both positive and negative elements of alternity.

Positively, alternity is one of the few forms of transcendence open to man. In saying "no" to the dictates of reality we claim both freedom and knowledge of a "higher" reality, whether it be man himself or a transcendent God. It may also account for the multiplicity of languages in the world, each tongue representing a group's effort to distinguish itself, to define itself against neighboring tribes or clans. And this function of definition is also of the utmost importance in the self-identity of individuals. The process of recognizing who we are and how we fit into a world of others depends upon our learning adequately to imagine -- to imagine what others are like, what they are thinking or what they would do in a given situation; to imagine what we will become: to imagine what it would be like to do
something which we have never before witnessed. Similarly, the development of a moral sense, of a conscience, depends on our ability to discriminate possible consequences of our actions, relevant motives for doing one thing rather than another, and the relative value of our different allegiances to other people or to certain things. In each of these cases, language provides, in its alterity, the freedom to transcend mere passivity and attain a distinctly human mode of being in the world.

This 'access to freedom' is the focus of those concepts we have used to talk of alterity — ambiguity, deception, imagination, and moral valuation. Without our linguistic flexibility, expressed in alternative modes of discourse, we would be bound to that pattern of instinctual, habitual response characteristic of animals. "The uses of language for 'alternity,' for misconstruction, for illusion and play, are the greatest of man's tools by far. With this stick he has reached out of the cage of instinct to touch the boundaries of the universe and of time." In alterity, as well as in temporality, privacy, and orality, language reveals itself as a means of expression, as a manner of situating oneself in a world of meaning. In each of these dimensions language is opaque, continually resisting efforts to capture its essential nature in explicit formulae. A view of language which considers it to be timeless, public, textual and expressive of the truth alone will have arrived at a language which no one could or would wish to speak.

We can summarize George Steiner's conception of language as 'the
way in which the human animal expresses its humanness, its difference from all other animals.' The essence of this humanness is an ability to express more than a purely utilitarian or instinctual communication system would allow. Man is freed by language to transcend reality, to counter it, to transform it, and, even when defeated by that reality, to say "no" to it. It is in this alternative mode of being that man has found his real home, and also his prison, for freedom brings with it the necessity of choice and the awareness of uncertainty and ignorance. The myth of the Garden of Eden is powerful in expressing just these elements of hope and tragedy in the story of man. The value of this view of language lies in its insistence that the human speaker be the starting point of all such discussions. This directs us to an examination of oral discourse, to which we will now turn.

The Centrality of Speech

Despite their sensitivity to the personal anchor of language, neither Polanyi nor Steiner considers the extent to which our talk of articulation is removed from its natural setting, or the ways in which that removal might distort our appreciation of language. Polanyi can discuss the "principles of grammar," and Steiner a poem, without examining the assumption upon which they have proceeded, that the move from oral linguisticality to 'textuality' is innocuous. In this section we will examine this neglect of orality by the modern tradition, for it clearly relates to the subject of the speaker of language. In doing so we will draw from the work of W. Ong and A. Lord.
Our claim here is the deceptively obvious one that orality is the prior form of language, that writing is logically dependent on speech. Speech, in turn, is an act of speakers -- it is persons expressing meaning. The naturalness of these facts is usually obscured in discussions of language, where extended forms of the written word become the essential core of language, and orality is reduced to an incidental property. Topographies of language which claim to be complete must acknowledge the ultimate agent of speech, and that this agent, precisely because he is a center of free action, sets a limit to the completeness and explicitness of the topography.\textsuperscript{95} Speech, like the body with which it is so closely involved, is a fundamental way of being in the world, a primordial way of orienting ourselves. As Polanyi showed, speech follows the tacit pattern of integration which is common to all forms of "sense-making," be it perception, knowing, or saying. It has epistemic significance in and of itself, and it is only because speech is laden with meaning that the formal constructions and abstractions of epistemology are meaningful. We do not learn how to speak meaningfully through philosophy (just as we never learn how to believe through theology), though it can help immeasurably in clarifying how it is that we have come to speak as we do, and how confusions in our speech have inhibited meaning.\textsuperscript{96}

Some of the most careful attention to the larger issues involved in the contrast between orality and textuality has been given by recent biblical scholars, who depend in turn on students of oral tradition.\textsuperscript{97} Their work balances our view of orality and textuality without forcing us to 'choose' one over the other -- both are essential
facets of language. But we should pay more attention than we do to the fact that while we live in an environment of speech, our cognitive descriptions of this lived world are shaped by writing and reading. At the heart of our attempts to understand human life is a fundamental dissonance between our speaking and reading selves. The shape and significance of this dual form of language, and its affect on our understanding of human persons, must be assessed by any post-critical theory of language.

Orality and textuality can be related to the history of Objectivism traced earlier, for the rise of critical rationalism paralleled the dissolution of oral/chirographic culture, and the development of a typographic or print culture. The invention of the printing press made texts easily available, transforming not only the ways in which people sent messages to one another, but also their very patterns of thought. The new mental patterns spawned by printing both shaped and were adopted by the rationalist temper. Ong comments on the change:

By the eighteenth century Descartes' logic of personal inquiry, silent cerebration, had ousted dialectic, an art involving vocal exchange, as the acknowledged sovereign over human intellectual activity. The new logic was not the art of discourse ... as earlier ages, following Cicero, had commonly taken dialectic and/or logic to be. Rather, it was the art of thinking -- that is, of individualized, isolated intellectual activity, presumably uninvolved with communication ... 99

One of the most telling features of this shift in our perception of language is the growing tendency to assimilate all of language, including speech, to the spatial forms necessary to writing. Attempts were made to understand individual sounds as "picted" by the letter or letters which represent them. Through dictionaries, attempts were made to give
vernacular speech the rigor and order of written models. In philosophy the shift has crucial implications:

In "An Essay Concerning Human Understanding"... Locke assimilates the entire sensorium to sight and converts consciousness into a camera obscura, a hollow into which and through which light rays play... Psychology becomes for him maneuvers in space, the mind a tidy container, and the conceptual world out of which words are spoken a construction yard in which unit building blocks, shipped in from 'outside,' are physically assembled.

We also find efforts in the eighteenth century to reduce speech to mathematical models, the letters of the alphabet being assimilated to numbers in geometry, as functioning according to their relationships in space. The very terms used to discuss human knowing take on a visual/spatial/written tone: perceive, see, insight, observation, theory, phenomena.

Another view of the relationship between oral and written is presented by Lord. He has examined some of the ways in which an oral mode of expression imposes particular restraints upon the 'singer of tales,' while at the same time enhancing certain features of this expression. Oral narratives are restricted by the singer's need for formulae and well-established themes, by the interests and limitations of his auditors, and by the constraints of time and energy dictated by the sheer physical labor involved in extended singing. Oral performance tends heavily to traditional themes and forms, is a thoroughly social enterprise (for many people can hear one man at the same moment), and cultivates a sensorium in which auditory and tactile skills are central. Its chief virtues are the creativity which it teaches its practitioners (as each performance of a song is different), and its ability to create a community by drawing people together at a particular place and time.
It is important to remember that speech is always a matter of sounds, which immediately indicates the presence of "bodies" in the background, as speakers and hearers. Speech is an event, an interaction between people which stresses the importance of the present moment. It is therefore fleeting, existing only while going out of existence. It is a performance, an action, an embodiment of a living reality.

Textuality, in contrast, sacrifices the social character and the immediacy of orality, while opening up new possibilities of expression. It is no longer limited by formulae, themes, or time, and is therefore less traditional and more experimental than the song could ever be. More importantly, the audience of the writer is a markedly different one. "Unlike speech, writing is not unreflectively acquired by every normal person who grows up to maturity. Writing requires special reflective training, and terrifying restraints." Writing/reading is also an individualistic enterprise, for the work at either end is normally done alone. It tends, therefore, to stress the unique, personal view of the writer, and to be understood by the lone reader as a message to his personal view of the world.

But in what ways is textuality of limited validity as a total image of language? We have already mentioned that in an important sense, writing and reading are "unnatural" acts -- that is, the effort necessary to acquire them removes us from the 'primal world' of spoken sounds. In the acquisition of writing, the individual also enters into the development of habits of mind which we think of today as paradigmatically "rational." He acquires a sense of analysis, of sequentiality, of segmentation, of structure and relation, of 'reviewing,' and of a
visual/spatial sensorium that were probably only implicit in the purely oral world of childhood. This is not to say that children do not think or reason; it is to say that the movement from child-like ways of perceiving and thinking to adult ways of doing the same things is intimately tied up with the mode of language conveyed by texts. Writing excludes certain ways of being in the world, in favor of other ways of being.

How does the contrast between orality and textuality illumine our talk of the person? In the most basic sense it presents the terms through which people must be understood. Texts can exist without persons, and can even signify without their authors or original audiences — this is the power of the written word. They are therefore impersonal in a fundamental way, not directly reflecting the bodily speaking and hearing of orality. To interpret persons, then, solely in terms of the textual mode is to exclude basic features of what is meant by "person" — "action," "body," "speaking," "listening," "performing," "gesturing" — in favor of another feature of a very different sort: "abstract expression."

Even abstract expression remains dependent, however, on the oral mode for its full realization:

The fecundity of the text, however, is realizable only through its connections with the oral world . . . . For texts are there to produce words, which are irreducibly sounds, realized orally either in externalized utterance or in the interior imagination.

Books, propositions, statements, arguments, theses, systems, theories and hypotheses are peculiarly textual entities, but even as such, they are rooted in orality. The spoken word is not being elevated here so that writing will be devalued — such an either/or approach has no place in the study of language. Writing in fact occupies a supreme
place in our culture which orality, despite radio, television, and recordings, may never re-attain. Walter Ong notes that

Writing has made possible the vast evolution of consciousness that marks the later stages of human history. Without writing . . . the kind of mental processes which go with the composition of even an encyclopedia article, not to mention more massive scholarly and scientific treatises, would be unthinkable in the fullest sense of this term. 104

Orality and text are thus permanently bound in the notion of culture, for speaking has only a limited life without writing, and a text is dead unless it is resurrected by being "restored to the mouth" of a speaker. 105

Focusing on orality and textuality, then, helps us to focus on the differences between a post-critical and a critical view of language. The latter subsumes all of language under the mode of textuality, so that speaking is secondary to thinking. The proper logical place of terms like "truth," "knowledge," "significant," and "meaning" then lies in the grammar of the written word, in all of its explicit, permanent certainty. A post-critical view, on the other hand, recognizes both oral and textual modes as vital spheres of language, but refuses to subjugate the speaker to the "textual" demands of epistemology. Polanyi and Steiner intuitively grasp this point, thus admitting the speaker to the realm of meaningful language.

By considerably expanding Polanyi's discussion of language, we have seen that certain indeterminate, tacit features -- orality, privacy, temporality, and alterity -- appear to be essential to human language. Paralleling the case of knowledge, they betray the necessary presence of the person in all accounts of language, for it is the accrediting or "backing" of words by a person that causes these
tacit dimensions of language to appear. The speaker is the indis-
pensable agent from which our linguistic world originates, and this
recognition adds significant depth to our study of personhood. We
will now turn to a closer consideration of the notion of "agency"
itself.
NOTES - CHAPTER III

1 I was drawn to relate Steiner and Polanyi by William H. Poteat's essay, "George Steiner: The Extra-Territorial Critic," Soundings LV:4 (Winter 1972): 421-437, where he briefly notes the similarities in their respective enterprises. I am developing this suggestion here.


4 Or the French language. Je pense, donc je suis was the original form of the cogito, in the Discourse on Method. It appeared in Latin, and in a different form, in the later Meditations. See Arthur Wollaston, "Introduction," René Descartes, Discourse on Method and Other Writings (Baltimore, Md.: Penguin, 1960), pp. 16-17; Anthony Kenny, Descartes: A Study of His Philosophy (New York: Random House, 1968), pp. 40-41. The point here is that whether the language was French or Latin is considered absolutely irrelevant by the philosophical tradition, and the fact that, at the moment of pure lucidity, Descartes could only express himself by means of language — a quite equivocal phenomenon — is considered trivial. See William H. Poteat, "Reflections on Walker Percy's Theory of Language" (forthcoming). This trivializing of language is endemic to the critical tradition, and is rejected by Polanyi and, more powerfully, by Steiner. See also Ong, Presence, p. 60.

5 Anthony Flew, "Introduction," Logic and Language: (First and Second Series), pp. 9-12.

Mind 74:294 (April 1965) 197-206.


In noting these similarities with Polanyi, I am implicitly suggesting that there are significant differences in linguistic philosophy, from analysts to ordinary language philosophers. It is also to suggest that Polanyi, Wittgenstein and Austin are urging something far more radical than 'being careful about how we use words.'


10 Ibid., p. 105.

11 Ibid., p. 107.


13 This will be pursued below with reference to Walter Ong; see pp. 184-187.


16 Churchill, "Saying," discusses the pre-determination of linguistic issues by epistemic biases. See p. 17.

17 Ibid., p. 89.


19 In addition to Chapters 5 and 8 of *Personal*, Polanyi discusses language in "Sense-Giving and Sense-Reading," *Intelect and Hope*, pp. 402-431, and in Michael Polanyi and Harry Prosch, *Meaning* (Chicago: University of Chicago Press, 1975), Chapter 4, pp. 66-81. Commentaries on Polanyi and language have been cited above for Holmer, Daly, Ramsey, and Poteat.
Important affinities can be seen here with the role of the Lebenswelt in phenomenology and of "ordinary language" in Wittgenstein. See James E. Thomas, "The Problem of Religious Discourse," Chapter II, pp. 51-85.

Polanyi, Personal, pp. 96-120. This striving is dealt with in Chapter 22 as part of the structure of commitment.

Ibid., p. 96.

Ibid., pp. 77-82.

Ibid., p. 78.

Ibid.


Polanyi, Personal, p. 92.


Polanyi, Personal, p. 81.

Ibid., p. 250 (italics in original).


Polanyi, Personal, p. 119.

Ibid., p. 118.

This view has been called "Wittgensteinian Fideism." See the citations in Kai Nielsen, "Wittgensteinian Fideism," Philosophy 42 (July 1967): 191-209. I am not denying that different realms of discourse have their own "grammars." (Sidney Hook, certainly no fideist, says of Reinhold Niebuhr's theological writings: "To hold him to rigorous analytic discourse would be like imposing a proper logical syntax upon a poem." Sidney Hook, Pragmatism and the Tragic Sense of Life (New York: Basic Books, 1974), p. 188), but I am denying that it is impossible to converse or translate across these boundaries. Steiner presents a strong argument for the possibility of meaningful (though not complete) translation in After Babel: Aspects of Language and Translation (New York: Oxford University Press, 1975), especially chapters 4-6, pp. 236-470.
35. Polanyi, Personal, pp. 150-160.

36. Polanyi, "Background and Prospect" (written in 1963), Science, Faith and Society, p. 12; Knowing and Being, pp. 155, 221-222. See also Churchill, "Saying."


41. Polanyi, Personal, p. 303.


43. The reasons which led me to use Steiner in this discussion of language and the person include the following: (1) Language is alive and focal for Steiner. He has done creative writing himself; he is a polyglot who teaches regularly in two languages and writes in three; and his profession of literary critic naturally leads him to see the centrality of language in human life. (2) He has affinities with Polanyi: he is a central European humanist; he is a non-practicing Jew with a respect for religion; he is sensitive to the scientific world-view but also wary of it; he is concerned with the state of culture as a whole. (3) Steiner's approach to language is broad, and post-critical in its fundamental claims. He shows a sensitivity to linguistics, philosophy of language, cultural criticism, and translation, outside of his professional concerns. (4) He is aware of the problem of evil in the twentieth century, and its implications for the intellectual life. In this area he moves considerably further than Polanyi, and opens a new perspective on Polanyi's work.

44. See Poteat, "George Steiner: The Extra-Territorial Critic," and note 1 above.

45. Steiner, Extraterritorial, p. 60. He continues: "Language with its genius and limitations, is unique to man . . . . One cannot overstate this fundamental, all-determining point. Not at a time when it is the fashion to describe man as a "naked ape" . . . . We are, as Hesiod and Xenophon may have been among the first to say, "an animal, a life-form that speaks." Or, as Herder put it, ein Geschöpf der Sprache — a "language creature" and, at the same time, a creation of language. Man's "mamness," human identity as he can state it to himself and to others, is a speech-function . . . . Language is his quiddity and determines his pre-eminence," pp. 60-61.
45. In Extraterritorial, pp. 74-95, Steiner traces the development of an interest in language in philosophy, psychology, and literature. In Chapter 5 of the thesis we will note the relevance of this discussion to current investigations in philosophy and theology.

46. After Babel, p. 129. Language as a median, touching two poles — the material and the 'spiritual,' is also discussed in pp. 81-82, 123-124, 161.

47. Ibid., p. 125. See also Weston LaBarre, The Human Animal (Chicago: University of Chicago Press, 1954), Chapter 5.

48. Ibid., p. 127 (italics added). Steiner is referring here to speculations of Jacques Monod, with which he agrees. See also pp. 25, 45, 83, 204, 222, 228.

49. Ibid., pp. 107-108. See also all of Chapter One, pp. 1-48, and pp. 108-170, 228.

50. After Babel, pp. 82; 229, 170. Extraterritorial, pp. x-xi, 89.


52. Ibid., p. 197.

53. Ibid., pp. 123-124.


55. After Babel, p. 25-82. See also "Humane Literacy" in Language, pp. 3-91.

56. Tolstoy, p. 5. In Bluebeard's Castle is a consideration of the relation of our troubled culture to its past.

57. After Babel, p. 296.

58. Tolstoy, pp. 4-5.

59. Ibid., p. 3. For representative critical essays by Steiner, see Language, Extraterritorial, and The Death of Tragedy (New York: Knopf, 1961).


61. Tolstoy, pp. 4-10.


Extraterritorial, p. 91; "Wild Laughter" (a review), The New Yorker, 28 February 1977, pp. 99-100. See above, Chapter I, pp. 4-5; 68, n. 5.

Some of my problems with Steiner include the following: he is ambivalent about science as a model for the humanities (the ambivalence is natural, but he does not seem to have grasped where his difficulty lies, and in this respect, Polanyi provides a needed substructure to Steiner's thought. See Poteat, "George Steiner: The Extra-Territorial Critic."); he is ambivalent about the promise and the peril of Marxism (Steiner seems much more versed in Marxist thought than Polanyi); his reading of Hebraic/Judaic history is not always defensible, either in the contrasts he sets up between Greek and Hebraic thinking, or in those between Jewish and Christian thought; he points to silence both as "perfect coherence" -- the fulfillment of language -- and as the death of language and of man; he finds the core of language in alterity (the ability to deceive), and yet decries the debasement of language in political and advertising mendacity; he recognizes the necessarily private aspect of language, but also welcomes the publicizing tendencies of the electronic age; he focuses on Wittgenstein's Tractatus to the exclusion of the Investigations, on literary grounds.


I have already noted that Steiner lacks an epistemological framework in which to place his discussion of language, which Polanyi's personal knowledge could provide. Steiner also draws more support for his work from linguistics, while Polanyi uses biology and psychology. He is sympathetic to much of Marxism, while Polanyi was a strong, consistent critic of Marxism, at least in its Soviet excesses. Polanyi eulogizes the "western democracies" of England and America, while Steiner views them pessimistically in terms of their capitalistic excesses.


Ibid., p. 140.

Ibid., p. 132.


The Marxist emphasis is clearly seen in Ernst Bloch. See Steiner, *Language, Marxism and Literature*, pp. 305-392, and *After Babel*, pp. 138-161. In theology, representatives would include Jürgen Moltmann, the Process theologians, and certain eclectics like Teilhard de Chardin.

Steiner, *After Babel*, p. 133.

See Steiner, *In Bluebeard's Castle*, esp. pp. 36-56.


See Koyré, *From the Closed World and Metaphysics*; Steiner, *After Babel*, p. 152; and Poteat, "Persons and Places."

After Babel, p. 144.


Ibid., p. 161.

Ibid., pp. 170-174.

Ibid., p. 170.

Ibid., p. 171.

Ibid., p. 173.
A neighbor has told me of being corrected by his supervisor for writing "I recommend" in a memo, rather than the 'more acceptable' "It is recommended."

After Babel, p. 197.

Ibid., pp. 161, 205.

Ibid., p. 214.

Ibid., pp. 217-218.

Ibid., p. 218.

Ibid., p. 224.

I use "myth" here, of course, in its religiously meaningful sense of a symbolic mode of communication.


Polanyi addresses the problem of speech most directly in Chapter 8 of Personal, "The Logic of Affirmation," pp. 249-268. Here he is specifically concerned (esp. in section 5, "The Personal Mode of Meaning") with the point I am emphasizing, namely, the logically derivative status of language upon the speaker who uses it. And earlier, on p. 77, no. 1, he shows his awareness of what he is not addressing: "... the linguists are concerned, reasonably enough, with the verbal techniques of speech itself: not primarily, as I am, with the nature of spoken truth in view of its inarticulate and unformalizable grounds." It nevertheless seems to me that while he provides a way into a post-critical view of language, Polanyi never quite arrives there himself.

Steiner himself shows an awareness of the oral/written distinction only where he feels it challenged, as in "Tongues of Men" in Extra-territorial, "Night Words" in Language, and "The Distribution of Discourse" in On Difficulty and Other Essays (New York: Oxford University Press, 1978), pp. 61-94. He normally employs "language" and "speech" interchangeably, and often slides from a defense of speech into supporting arguments drawn from literature, which is a rather complex form of textuality. He intuitively recognizes, however, the personal, oral matrix of language, and acknowledges that the purpose of literature is the preservation and enrichment of that private, personal core of meaning against the pressures of mass society, totalitarian ideology, moral ambiguity and boredom. In his polemic with transformational grammarians, he
unproblematically considers speech as it actually is spoken to be the proper object of investigation, rather than a mathematically idealized artificial language.

Both men are, therefore, on the verge of expressing the insights to which Ong, Lord, and others have already come, though they themselves seem unaware of the work that has been done in the area.

96 I would not, as an "orthodox Wittgensteinian" might, want to restrict philosophy or theology to 'cleaning up grammar.' This is the normal interpretation of Wittgenstein's dictum: "What is your aim in philosophy? -- To show the fly the way out of the fly-bottle." Investigations, I, sec. 309. Indeed, if language is re-appropriated as a 'form of life,' or a 'way of being in the world,' then that dictum will prove to intend far more than simply the repair of grammar.

97 In addition to the works by Ong and Lord already cited, see Eric A. Havelock, Preface to Plato (Cambridge, Mass.: Belknap Press of Harvard University Press, 1963); and, from a somewhat different direction, Erhardt Güttgemanns, Offene Fragen zur Formgeschichte des Evangeliums: eine methodologische Skizze der Grundlagen-Problematik der Form- und Redaktionsgeschichte, 2., verb. Aufl. (München: C. Kaiser, 1971). This material, and its implications, was first brought to my attention by Prof. Werner Kelber.

Note, however, that Lord's work examines the oral world of the singer — a musical world — while Ong is more concerned with oral rhetoric and recitation. I am assuming that their conclusions concerning the differences of oral and written are compatible in the general and limited sense in which I have used them. Further work, however, must be done to clarify the ways in which oral forms give rise to variations in oral culture itself. That enterprise is beyond the scope of our present topic.

98 Ong, Presence, pp. 63-64.


102 These oral/written characteristics are discussed by Lord in Chapter Six, "Writing and Oral Tradition," pp. 124-138.

103 Ong, "Maranatha," p. 437

104 Ibid., pp. 435-436.

105 Ibid., p. 437.
CHAPTER IV

THE PERSON AS AGENT

We have explored the ways in which knowledge and language can be reclaimed as the personal enterprises of knowing and speaking. In this chapter we will endeavor to show that each of these ways of disposing ourselves can be further clarified in terms of the fundamental notion of "action." I am not treating these three concepts as identical or synonymous, but I am trying to show their common rootage in the logically primitive concept of "person."

We will first note the construals of human action and agency in behaviorism, which explicitly identifies itself with the mechanist and positivistic traditions in the natural sciences. Turning first to psychological behaviorism in the person of B.F. Skinner, we will specify those principles which most behaviorists would share, and then note the ways in which these principles issue in the dissolution of the concept of "action." Indeed, we will suggest that the Objective paradigm in the social sciences has led many psychologists to construe human "action" as "behavior." We will turn next to a consideration of behaviorism's philosophical counterpart as it is represented in the materialism of J.J.C. Smart. There we examine in some detail Smart's effort to construe the human "mind" as "brain processes," and the implications of that effort for a concept of responsible human agency. Finally, we will present criticisms of these views from the perspective
of Polanyi's work, and note the specific ways in which he aids the recovery of an alternative view of the human agent and his achievements.

"Action" as "Behavior"

Human action, as we think of it in its everyday settings, is unproblematical. People are constantly "doing" various things, from driving to work to cutting the lawn, and we refer to these doings as acts or actions. Reflection might modify this basic understanding, but the notion of action still seems clear. We would immediately agree that the beating of our hearts should not be called an act, while beating a rug should be. But we may wonder about other cases, say the difference between going before the city council to protest our taxes, and "absent-mindedly" swatting at a mosquito flying around our head. Or we may ask about the difference between throwing a glass to the floor in anger, and a wet glass slipping from our hand to break on the floor. We might, after such musings, decide that "act" should be reserved for intentional doings -- "she did it on purpose" -- while unintentional doings, whether "unconscious" or "accidental," should be so qualified, or, perhaps, identified by an altogether different word (such as "movement").¹

These ambiguities within ordinary language, however, are innocuous when compared to a more serious proclivity in the way in which many people think of "action." An influential intellectual view which would reject much of the language we have just used is behaviorism; in
certain of its forms, it would dispense altogether with the traditional idea of "action," substituting "behavior" in its place. This particular attitude toward human activity reflects more than eccentric tastes in vocabulary, for the behaviorist is convinced that the concept "action" preserves superstitious notions about the "freedom" and "integrity" of individual "agents" which obstruct the solution of many social and scientific problems. "Behavior," in contrast, refers unambiguously to publicly confirmable movements of a body, and is therefore more suited to the application of science to human phenomena. Since we cannot locate any measurable entity that corresponds to an "intention" (or "purpose," "will," "desire"), the responsible behavioral scientist must assume that such things do not exist. A little reflection will show that if such an approach to action is carried to its logical extreme, it will result in the dissolution of the concept of "agent," which in turn dissolves our customary notions of morality and responsibility. If we recall that Polanyi's philosophical investigations began as a protest against the scientific repudiation of all values (Chapter One), we can grasp the seriousness of behaviorism's challenge to his view. The behaviorist movement has now permeated the social sciences to a significant degree, and has been influential in other fields, both in academic circles and in society at large. It is one of the most significant expressions of objectivist principles in discussions of human action, and it is therefore appropriate that it be examined in relation to Polanyi's views on the same subject.\(^2\)
There are, however, different varieties of behaviorism, and I want to mention those considerations (in addition to those of space) which have led me to limit the discussion to certain aspects of psychological and philosophical behaviorism.

1. Polanyi's work has been examined as an alternative to Objectivist conceptions of knowledge (Chapters One and Two) and language (Chapter Three), but it has not yet been studied in relation to similar interpretations of action. Our study of behaviorism in this Chapter will address this issue.

2. Polanyi himself refers specifically, though briefly, to both psychological and philosophical forms of behaviorism. The brevity of his comments can produce misunderstandings, and we will expand and clarify those comments here. B.F. Skinner also refers to his differences with Polanyi's "personal knowledge."³

3. Psychological behaviorism has been the most radical branch of the movement, and in its writings we therefore find the issues stated most clearly.

4. We noted earlier that in many ways Polanyi's work overcomes the traditional estrangement between psychology and philosophy in the area of epistemology (this estrangement being expressed in the opposition of "logical" and "empirical" issues, or of the "context of justification" and the "context of discovery").⁴ Our strategy here is in keeping with this Polanyian emphasis.

5. The psychological forms of behaviorism point to the larger metaphysical or ontological aspects of the problem of human action, that is, its implications for a general concept of the human person.
While Polanyi is not a metaphysician, he constantly pushes toward comprehensive answers, so that the psychological discussion is pertinent. On the other hand, the narrow concern of philosophy with linguistic aspects of the concept of action helps to clarify the particular conceptual innovations which Polanyi is suggesting. Behaviorism within these two disciplines helps us to deal with both particular and general elements in Polanyi's argument.

6. Both disciplines have been consciously interested in extending the discussion between them. It was only in the late nineteenth century that psychology began to distinguish itself from philosophy; in the nineteen twenties and thirties, psychologists openly borrowed from writings of logical positivists on the subject of the philosophy of science, and debates about behaviorism have become a standard part of the philosophy of mind and the theory of action.\(^5\)

I will assume here, with Norman Malcolm, that psychological behaviorism can legitimately be considered part of a philosophical enterprise, in that it is concerned to clarify concepts of psychology in an effort to demonstrate its similarity to the natural sciences, and in that it attempts, like logical positivism, "to reduce mental concepts to physical concepts."\(^6\) Our discussion, therefore, is concerned with the philosophical presuppositions of behaviorism, particularly, but not exclusively, as expressed in their psychological form.

"Behavior" has a clear technical meaning in the sciences, being defined as "the externally apparent activity of a whole organism. Its
essential characteristic is movement . . . and it is the result of
external and internal changes called stimuli." The important terms
in this definition are "externally apparent," "movement," and
"stimuli," for together they clearly distinguish behavior from the
common-sense understandings of action mentioned above, which empha-
sized the internal locus and the originating, teleological character
of action. The technical definition stipulates that only externally
visible (or measurable) movements can be counted as behavior, and
that such movements are the results of other forces or influences
("stimuli").

Is there any point to this observation that we use "action" in
everyday conversation, while "behavior" is restricted to a scientific
setting? The claim we want to make is that the implications of this
distinction are crucial to our attempt to recover a notion of personal
existence, for much of our conceptual world has been conditioned by
this distinction, and by the fact that the social sciences generally,
under the impact of behavioral theory, have often assimilated what we
commonly term "action" to "behavior." While such a transfer of mean-
ings might have little significance in the laboratory, where it
legitimately helps in testing various patterns of movement in mice,
chickens, or chimps, it proves destructive when carried outside
that narrow, artificial context. We will now examine the behavioral
perspective in more detail.

The historical origins of the behaviorist point of view are found
in the seventeenth century effort to apply the principles of physical
science to all aspects of life. Descartes's dichotomy between mind and body was an essential step on the road to modern behaviorism, for it eliminated the claim of Scholastic Aristotelianism that the human being was a unity, "soul standing to body as form to matter." Mind and matter having been separated, the new scientific method of Galileo and Newton could be easily applied to the human body. Indeed, for Thomas Hobbes both minds and bodies could be explained by scientific principles through the reduction of thoughts, feelings, and sensations to mechanical motions of matter. The extremism of Hobbes's materialism was shared by French philosophers of the eighteenth century (La Mettrie, Holbach, Cabanis), but was modified by English empiricists of the eighteenth and nineteenth centuries.

The empirical tradition accepted the existence of mental phenomena as entities essentially distinct from bodies, in contrast to the materialists. Nevertheless, their empiricism formed under the assumption that the methodological principles of the natural sciences also determined the nature of human knowledge; if knowledge was to be saved, then man's mental life, which was believed to be inaccessible to science, had to be considered essentially passive. Ideas arose from our sensations of physical events, and were incapable of affecting the material world in any constructive, creative fashion. This development in the philosophy of mind, undertaken in an often unconscious effort to encompass all human activity within the rubrics of science, resulted in the "introspective" psychology of the nineteenth century. The mind was considered to be experiences of "consciousness,"
which included sensations, images, and feelings. As science could
deal only with observables, these non-public, immaterial entities had
to be studied through introspective analysis (the method we associate
with psycho-analysis), and was increasingly irrelevant to those men
who were approaching human activity through physiology and animal
experimentation.

In one sense, this growing tension within psychology represented
the wider split between the tradition of rationalistic philosophy
(considered peculiarly "continental") and that of empiricism (distinc-
tively Anglo-American). The study of man through the application of
scientific methods had begun to gather momentum in the nineteenth
century, particularly after Darwin provided a framework for such
study. Evolutionary theory was generally understood to confirm the
place of man within the natural order, and seemed to justify the
application of natural science to human affairs. Many men were frus-
trated to find upon entering this new field that its view of the human
psyche was largely determined by pre-modern (and thus pre-scientific)
assumptions concerning man and his 'inner nature.' These assumptions
were obstacles to the belief that a transposition of scientific method
to the subject of Mind would yield a new understanding of man. The
dissatisfaction on the part of experimentalists finally resulted in
the behaviorist revolt in the early years of this century. John B.
Watson, the chief spokesman for this revolt within psychology, de-
clared in 1913 that "the time seems to have come when psychology
must discard all reference to consciousness; when it need no longer
delude itself into thinking that it is making mental states the object
of observation."12
While Watson speaks from the psychological school of behaviorism, it should be remembered that its fundamental tenets appear in other disciplines, in different guises. During the period from about 1890 to 1930, the positivist movement in the physical sciences and the logical positivist movement in philosophy displayed attitudes congruent with those of the behaviorists. All of these synchronous movements tended to devaluate mental concepts (whether they were referred to as "mind," "theories," or "metaphysics") in favor of empirically verifiable entities. These similarities should remind us that in speaking of the view of human action held by men and women who would define themselves as "behaviorists," we are not referring to a merely parochial point of view within psychology. The affinities among behaviorists, mechanists, materialists, positivists, physicalists, and reductionists (these being some of the terms used in the literature) do not affect the cogency of the arguments involved, but they do indicate the widespread tendency to translate "action" into "behavior."  

13 I will now sketch some characteristics of the behavioral viewpoint in psychology, and then delineate the shape this viewpoint has taken in contemporary philosophical discussion. This in turn will focus our study of action on two issues, the relation of "mind" and "body," and the possibility of "private" experience. We can then turn to Michael Polanyi, who makes an important contribution to the solution of these difficulties, moving us closer to a retrieval of a concept of human action that is both public and personal.

Behavioral Presuppositions

The modern history of psychological behaviorism, as Sigmund
Koch's categorization suggests, reflects development and variety. There is, therefore, no one mold into which all behaviorists fit, and we certainly cannot lump all experimentalists together as behaviorists. With this qualification in mind, however, we can discern features which characterize behaviorism as a partially unified view of human activity. The following principles are common to most formulations of behavioral theory:

(1) **Objectivism.** Data must be secured by objective (experimental, repeatable, specifiable) techniques, must be expressed in objective form (for example, mathematical equations), and interpreted with an impersonal attitude on the part of the observer. This principle expresses both a rejection of subjective introspection, and a desire to see psychology accepted as a natural science.

(2) **Reductionism.** All psychological phenomena can ultimately be expressed in terms of laws of stimulus-response (the complicated linkage between stimulus (S) and response (R) is acknowledged to require the postulation of "intervening variables"). The S-R mechanism can be reduced further to neural chemistry and the laws of mechanics. Thus a mental concept like "fear" can be described in terms of chemical changes in the body (the response) triggered by some situational (internal or external) stimulus. One consequence of this approach is "peripheralism," which explains "mental" phenomena in terms of events and processes lying at the periphery or boundary of the organism. This reduces the brain to a kind of 'master processor' of nerve
impulses, rather than the originator of behavior. Such reductionism also makes it theoretically attractive, as well as feasible, to apply the results of animal experimentation to human beings, for if all behavior is a matter of physico-chemical processes, then the explanation of a behavioral pattern in animals also explains, by definition, the same pattern in men. The classical distinctions between men and animals on the basis of man's "self-consciousness" or "reasoning" are thus invalidated, for there is no such fact as "self-consciousness" (its "self"-ishness making it unobservable), and man's reason is simply a more complicated version of the animal's S-R mechanisms. The classical terms may have poetic reference, but they have no cognitive reference and are outside the realm of science.

(3) Environmentalism. The explanations of behavior offered by introspectionists and 'vitalists' in terms of "instinct," "will," "character," or teleology must be rejected in favor of explanation in terms of the influence of environment on the organism. If a man is ultimately a S-R mechanism, then according to the demands of the theory he must be infinitely malleable, and his behavior must depend solely on the stimuli he receives. This assumption is followed with unusual thoroughness by B.F. Skinner, who de-emphasizes the inner stimuli of physiology in favor of external variables:

The practice of looking inside the organism for an explanation of behavior has tended to obscure the variables which are immediately available for a scientific analysis. These variables lie outside the organism, in its immediate environment and in its environmental history. They have a physical status to which the usual techniques of science are adapted, and they make it
possible to explain behavior as other subjects are explained in science.\textsuperscript{18}

This approach leads to the same result as peripheralism in denying the presence within the organism of any originating power or agency. This complete dependence of the organism on stimuli provides the basis for Skinner's theory of "operant conditioning," by which all organisms can be controlled through the manipulation of their environment.

There is clearly a certain congruence between the behavioral emphasis on "environment" and the emphasis of personal knowledge on "context" or "situatedness." Both reflect our century's indebtedness to the historical sciences of the nineteenth century, which stressed the degree to which individual, community, and culture are shaped by external influences. But the way in which such influence is construed marks the ultimate commitments which guide the construal. If we believe, with Skinner, that there is no such thing as a self which is an agent in a traditional sense, then the boundary between person and environment dissolves, and we have a field of interacting forces, of which part can be called "man" only because of spatial contiguity, i.e., all of its points of reference are within one area, the "body."

(4) \textbf{Emphasis on learning.} The devaluation of mind makes a new explanation of learning necessary, and the mechanical model makes such an explanation possible. The key to learning becomes the conditioned-reflex, first discovered by Pavlov. When a contrived stimulus is presented to an organism in conjunction with a second stimulus known to produce a particular response, that response will soon be
elicited by the contrived stimulus. The organism has been "conditioned" by the new stimulus. If we regularly flash a red light at a dog as it is being fed, it will soon expect food whenever it sees a red light. Education, under this model, is simply a complicated arrangement of contrived stimuli co-ordinated with already-established responses to other stimuli. The process is infallible when there are no intervening variables; that is, I can no more fail to learn when presented with the properly arranged stimuli than I can fail to jerk my knee when it is struck at the proper point with a rubber hammer. The analogy is apt, for learning in this situation is precisely the kind of passive, involuntary response which is a 'knee jerk.' Reflex language replaces traditional terms such as "trial and error," "acquiring a habit," "learning," and "understanding." 19

(5) Prediction. A corollary of behavioral psychology's goal — scientific status — is its predictive power. Skinner expresses this clearly:

Science . . . is an attempt to discover order . . . . But order is not only a possible end product; it is a working assumption which must be adopted at the very start. We cannot apply the methods of science to a subject matter which is assumed to move about capriciously. Science not only describes, it predicts . . . . Nor is prediction the last word: to the extent that relevant conditions can be altered . . . . /We must assume that behavior is lawful and determined. We must expect to discover that what a man does is the result of specifiable conditions and that . . . we can anticipate and to some extent determine his actions." 20

While we could criticize this passage in a number of ways, let us simply note that Skinner, along with most behaviorists, wants to control human behavior in order to improve it, to make life better, to solve man's social problems. He is therefore a deeply moral man, passionately
committed to achieving a better world through "the management of human affairs." 21

These tenets have been liberally extended into new areas by other behaviorists, and they have also been subjected to severe criticism within psychology. 22 In the last section of this chapter we will consider the objections which can be raised to these principles from a Polanyian point of view. But here we should make the single observation that the picture of natural science held up by behaviorists as a model for psychology is the very picture of science which Polanyi believes to be confused. Skinner claims, for example, that "Science . . . is a disposition to deal with the facts rather than with what someone has said about them . . . . Science rejects even its own authorities when they interfere with the observation of nature." 23 This is naive in the extreme when compared to the evidence Polanyi adduces for the necessarily authoritarian nature of science. 24 It is not surprising that Skinner, having rejected the role of authority in science, believes that facts alone dictate decisions in science: "The subject matter, not the scientist, knows best . . . and . . . facts are accepted no matter how distasteful their momentary consequences." 25 We have noted earlier a number of examples from the history of science (Miller's experiments concerning relativity; early attitudes to meteorites and hypnotism) which show that scientific orthodoxy often decides what is to be accepted as "facts," and that this decision usually determines what the scientist will "see" as a fact. 26 Giving Ernst Mach as his source, Skinner also believes that
"the scientific 'system,' like the law, is designed to enable us to handle a subject matter more efficiently . . . . Science is not concerned with contemplation." This view construes scientific theory as a convenient summary of data, and is rejected by Polanyi because it denies to rational constructions the power to educe conclusions about nature that extend beyond specifiable data; that the mind has such powers is convincingly demonstrated by the theories of relativity. In each of these examples we find Skinner adhering to a picture of the scientific method that leads him to posit ab initio its necessarily impersonal character. He argues that the explanatory progress of science presents an irrefutable argument for the truth of its principles, and thus our understanding of man must be recast according to these principles. The experimental attitude of objectivity is therefore converted into the metaphysical claim (which usually remains implicit) that the meaning or significance of man is extrinsic to his particular form of existence — to this body, these actions, these 'thoughts.' Meaning lies in the method, in the principles by which certainty has been established and by which obscurity has been made to yield clarity.

We can see Skinner's metaphysical presuppositions at work in a typical passage from *Science and Human Behavior*:

The hypothesis that man is not free is essential to the application of scientific method to the study of human behavior. The free inner man who is held responsible for the behavior of the external biological organism is only a prescientific substitute for the kinds of causes which are discovered in the course of a scientific analysis. All these alternative causes lie outside the
individual... These are the things which make the individual behave as he does. For them he is not responsible, and for them it is useless to praise or blame him.  

Skinner is aware, at least in his later writings, that he is philosophizing about science, but this does not seem to cause him to hesitate, and it does justify the more or less philosophical treatment he receives in this thesis. I am certainly not attempting a large-scale critique of Skinner's work, and am not referring at all to his acclaimed research in experimental psychology. I am trying to show (1) his affinity with what we have termed the Objective tradition in philosophy and science, and (2) that his work has concrete implications for an understanding of human action. Numerous criticisms of his work can be found elsewhere.

Skinner's particular relevance to this thesis is that he is consciously developing an alternate anthropology to replace the classical view in which men and women are relatively free agents capable of creative, intentional acts. He is forced to use terms from that classical view ("I believe," "I hope," "I have in mind," etc.) which are meaningless for him unless they are "translated into behavior," that is, redefined behavioristically. He acknowledges that this is unfortunate for his argument, but claims it is necessary, as "no popular vocabulary has yet emerged" to allow purely behavioristic speech. With this brief remark, Skinner attempts to justify using traditional language to show the meaninglessness of that language. Here we find a perfect demonstration of the process of "pseudo-substitution" discussed
earlier (pp. 55-56), in which a hopeless argument is saved by the covert meanings which are smuggled into it by a vocabulary which is denounced within that same argument. It also demonstrates the trivializing of language in favor of "concepts" that we claimed was characteristic of Objectivist thought. Skinner sees no problem in using a language permeated by notions of "freedom," "intentionality," and "value" as long as we keep clear in our minds that such things do not really exist. Words bear no cognitive meaning, but simply arrange and transport thoughts. It is important to remember these points when considering Skinner's view of action, for he constantly uses words such as "mind," "self," "person," and "act" in quite ordinary ways, only occasionally reminding us at critical junctures that for him, these words denote "explanatory fictions" which have been "invented on the analogy of external behavior." 33

Behavioral Substitutions

Before turning to some of the "critical junctures" of Skinner's argument, it might be helpful to look first at his use of "behavior." With "behavior" he refers non-technically to what people or their bodies do, and employs it quite universally in this general sense. 34 It is a replacement for words with questionable associations like "action," "doing," "performance," or "conduct." There are two interesting features of the etymology of "behavior." The first is that the initial meaning of the word arose in the fifteenth and sixteenth centuries to refer to the "manner of conducting oneself in the external relations of life" (Oxford English Dictionary). The word tended to denote public conduct, a manner or style, a "deportment" or "bearing"
which one adopted in order to portray himself to others in a particular way. This meaning remains a slight overtone to the common-sense understanding of behavior as "what one does," "one's actions or conduct." The second interesting development in the word comes primarily in the later half of the nineteenth century, where it begins to denote the more passive "manner in which a thing acts under specified conditions or circumstances, or in relation to other things" (OED). Prior to this, the word had referred to the way persons conduct themselves; it was a way of pointing to the actions of persons, particularly in their "publicity." But in the late nineteenth century comes the full establishment of the word in passive, impersonal contexts, in which it refers more to "movements" or "responses" to external stimuli than to intentional activity. It is used more and more often in scientific literature, until with the behaviorist movement in psychology it attains a certain fixed reference. It is this ambivalence in the word "behavior" that makes it possible for Skinner to use the word to refer to many different things — thinking, hoping, believing, deciding, playing, sleeping, creating, dying — as "behavior."

The point here is that Skinner employs a word which is peculiarly attuned to the external, public aspects of "activity," for it is this aspect which is crucial to Skinner's understanding of man. Let us briefly recount the central features of that understanding, keeping in mind the general behaviorist principles already discussed, Attempting to avoid both "mentalism" and "physicalism," Skinner focuses
his attention on the "molar" unit of behavior, that is, on an easily recognizable unit of activity like "running," "talking," "eating," and so forth. This has the advantage of ruling out things on the "molecular" level, like a heartbeat, as behavior, without necessarily introducing an organizing entity like the "mind." Believing that the main purpose of science is prediction and control, Skinner must then go beyond a simple description of behavior to get at its underlying causes. What, then, causes our behavior, if it is not "the mind," and not brain chemistry? His answer is "environment," but precisely what he means by this needs clarifying. We normally think of environment as "physical surroundings," or we might broaden it to include social and cultural influences which affect us in various ways. This is one aspect of what Skinner means. But by "environment" he also means a person's "genetic history," one's "internal" influences which are the product of biological inheritance. The combined effects, then, of genetics and environment are what we mean by "behavior." We must be clear at this point: Skinner is not saying that behavior is influenced by these effects, but that it is these effects. There is no ultimate entity ("mind" or "person") who behaves or acts, someone who is "responsible for" our behavior. This is precisely the notion -- that of agency -- which is an obstacle to a truly scientific view of man, and which must be eliminated from our conceptual repertoire. This is accomplished by Skinner's environmentalism (or peripheralism), which dispenses with the human mind as an originating organ, and makes it simply the most
complex of a whole network of receptors, effectors, and nerve connections. Thus the explanation of an act is taken out of some central "command post" (mind or brain) and put out at the "boundary" of the organism where the environment affects it, or more precisely, where external stimuli excite specialized receptors. Sigmund Koch comments on this move to the environment as follows:

Sensation and perception are brought to the "outside" merely by denying that such processes mediate between stimulation and response . . . . Imagery and thinking were for Watson "the inner stronghold of a psychology based upon introspection." . . . . He was thus led to the bold maneuver of transferring thought processes to the periphery.\(^\text{38}\)

The reasoning here may be made clearer by considering a typical example. If we reward a mouse with food for running a maze correctly, so that he soon runs the maze without hesitation or error, we cannot say that he has "learned" anything, or that he runs the maze because he "wants" the food. To do this is to postulate a center of judgment or intelligence within the mouse (the mind or the brain), and this is unjustified. As Skinner asks, "Where are these feelings and states of mind?" Of what stuff are they made?\(^\text{39}\) Since traditional psychology cannot give a scientific answer to these questions, the postulation of such attitudes is unjustified. A "scientific" answer is one which can be experimentally tested, and the privacy of feelings and thoughts cannot be publicly tested. Our procedure should rather be to record only what we see, namely, that a given stimulus (food) elicits a particular response (running a maze correctly). This is all that a science of behavior can concern itself with — the responses of organisms to stimuli.
The behaviorist would distinguish between simple cases, of course, (like saying "ouch!" when pricked with a pin), and complex cases (like learning the multiplication tables at school). But all cases share the same basic structure, and complex cases can, at least theoretically, be reduced to simple cases. Now we can understand the implications of this view for the concept of man. In behaviorism, "persons" are only publicly observable behavior patterns, certain regular constellations of movement instigated by environmental stimuli and kept in motion by constant feedback (or re-stimulation) from the nervous system. To say "he is going to the store" really means "Body A is responding to stimuli by moving to the store," where "body" is understood as "certain collateral products of genetic and environmental histories." The self," as we noted earlier in the thesis, is redefined by Skinner as "a functionally unified system of responses," so that the personal pronouns "he," "they," "you" are simply conventional tags for designating systems of responses; they do not refer to any thing over and above the nerve currents that form a S-R system. The first personal pronoun "I" refers to a system of which I have greater knowledge than most, but "there is no reason why it should have any special physical status because it lies within this boundary, and eventually we should have a complete account of it from anatomy and physiology," that is, eventually the first personal pronoun will be superfluous.

This behavioral view of human agency is clearly far removed from the mental world of Michael Polanyi. Indeed, it constitutes a world-
view, a metaphysical system or conceptual framework, which is so different from that of personal knowledge that little direct argumentation is possible from one system to the other. This exemplifies the difficulty in shifting from one paradigm to another which Polanyi and Kuhn have noted. 42

But let us try to focus still further on what Skinner is doing. First, his belief that true knowledge is non-personal (objective) leads naturally to his environmentalism; if we want to understand people, they must be construed objectively. Second, the scientist is believed to have no powers of reasoning beyond what is given to him in visual perception (physically or instrumentally), so that when we watch a mouse run a maze, we have no power to understand what is going on, we can merely report what we see. Here again we see the instrumentalist view of science championed by Ernst Mach and the positivists, in which scientific theory can be nothing more than a convenient ordering of observed data. In effect, the scientist is denying that he has any rational power to grasp the world, even incompletely. And finally, the belief that there are no intentions, beliefs, aims in the world, with real existence apart from their physical context, completely separates values from what is believed to be "reality." They become conventions which are placed upon reality by the people who have political power. This point is important because of the moral passion and practical aims of behaviorism. As Skinner says,

When we say that science and technology have created more problems than they have solved, we mean physical and biological science and technology. It does not follow that
a technology of behavior will mean further trouble. On the contrary, it may be just what is needed . . . . A way of life which furthers the study of human behavior in its relation to that environment should be in the best possible position to solve its major problems . . . In the behavioristic view, man can now control his own destiny because he knows what must be done and how to do it. 43

This noble (though somewhat immodest) call to action issues from a philosophy which has attempted to prove that purposive human action is a figment of our imagination. Michael Polanyi is attempting to free us from this circle of destruction.

"Mind as "Brain"

If psychological behaviorists can be said to have eliminated human action by redefining it in terms of physical behavior, their philosophical counterparts may be said to have eliminated mental acts by redefining them in terms of brain processes. We will now briefly survey these efforts. Again, as with psychology, we find that the label of "behaviorism" has been applied to many different forms of philosophy, and to philosophers as disparate as Hobbes and Wittgenstein. 44 This variety has been categorized in different ways, but in the modern period each variant springs from a common effort to overcome Cartesian dualism in the pursuit of a more unified science. 45 Although Descartes's dichotomy between mind and body was attacked by some of his contemporaries, the rejection of dualism has become universal only in this century, largely under the impact of linguistic philosophy. Wittgenstein's discussion of private language began an assault on dualism that was joined by other philosophers of language,
and by writers in the philosophy of mind. But "the denial of dualism is not equivalent to behaviorism," and we cannot equate an attack on Descartes with an embrace of Skinner. What we can claim is that a rejection of dualism is a necessary prelude to behaviorism, just as Descartes's assertion of dualism was necessary to move beyond the mysterious soul/body unity of Aristotelianism, in order to apply the methods of science to human affairs. It is not surprising, therefore, that after the demolition of 'Descartes's Myth," a number of philosophers concluded that if a mind/body dualism could not exist, on the grounds of the impossibility of private mental experiences, then we must be left with "body" alone. The cohesion of this view with a materialist interpretation of science made the conclusion seem even more plausible.

We will now briefly consider a fairly clear form of this behaviorist position in philosophy, as it is represented by the 'Identity Theory' of J.J.C. Smart. His statement of the theory has been influential, but is only one of a number of such statements, which sometimes disagree with Smart in points of detail. We will take Smart as representative of the view that words denoting 'mental' or 'private' acts or events ("choose," "decide," "intend") can be exhaustively understood as words denoting publicly observable brain processes. The behavior of humans can then be completely explained as movements of a material body resulting from physico-chemical events, and the notion of "free agent" is superfluous as an explanatory term. It may
be helpful to repeat here the rationale for this particular discussion, in light of our overall aim of recovering "actions" and "persons." Jerome Shaffer has made the point well:

Being capable of performing intentional actions is often held to be one of the distinguishing features of creatures with minds. And so, if there is no important difference between intentional actions and non-intentional movements, then to that extent there is no important difference between creatures with minds and mindless things. Furthermore, if there is no important difference here, there are great consequences for moral philosophy as well. For persons to be held morally responsible for their actions, there must be the kind of difference between actions and mere movements which justifies the application of moral concepts to the one but not the other.49

If Polanyi is to maintain his belief that "the appearance of the human mind has been so far the ultimate stage in the awakening of the world," and his belief that "men are valued as men according to their moral force," then he must overcome the rejection of intentionality by philosophical behaviorism.50

Smart explicitly acknowledges that he assumes the truth of materialism, the belief that "there is nothing in the world over and above those entities which are postulated by physics ... ."

Further, he denies that there can be any emergent laws or properties in biology or psychology, and insists that all laws and properties are reducible to physical laws. "Our talk," therefore, "of immediate experience is derivative from our talk about the external world ... and especially from our language of physical objects."51 Having made physics the final arbiter of reality, Smart then gives his "confession" as to the nature of science:
It seems to me that science is increasingly giving us a viewpoint whereby organisms are able to be seen as physicochemical mechanisms: it seems that even the behavior of man himself will one day be explicable in mechanistic terms. There does seem to be, so far as science is concerned, nothing in the world but increasingly complex arrangements of physical constituents . . . .

Smart admits that his view of a materialistic science is fiduciary (a "confession of faith"), that suggestions about alternative possibilities in science simply "have a queer 'smell' to them," and that "I am just unable to believe in" views of scientific law that might allow non-physical existents. He even admits that "if any philosophical arguments seemed to compel us to believe in such things, I would suspect a catch in the argument." It is in this metaphysical ground that Smart's empiricism has its roots.

Standing on these beliefs, Smart argues that mental experiences (or "sensations") must be understood to be brain processes and nothing more, and are describable "in terms appropriate to physical processes." This assertion is clarified through the following additions: "When I say that a sensation is a brain process . . . I am using 'is' in the sense of strict identity;" he is not saying that thoughts, feelings, or after-images are brain processes but that the experience of having them is a brain process; he does not deny that statements of mental experiences have distinctive meanings, but insists that the facts to which they refer are brain processes; the precise relation between sensations (mental experiences) and brain processes will be established in the future by science. Smart's only real argument proceeds
as follows: our ordinary language about mental experiences is "quasilogical" or "topic-neutral," that is, it does not logically entail a dualistic or materialist metaphysics; therefore, we are free to follow the principle of parsimony, and should select the simpler hypothesis that sensations are brain processes.\footnote{55}

There are several distinctive features in Smart's analysis. First, it is clear that his insistent materialism is part of the modern rejection of Cartesian dualism.\footnote{56} Second, he apparently assumes that the only choice in the philosophy of mind is materialism or epiphenomenalism, though he does acknowledge that deciding between these positions is not a matter of proof or experiment.\footnote{57} Third, he distinguishes "thoughts" from "having or experiencing thoughts;" "having or experiencing thoughts" from statements of or about those thoughts; and the meaning of statements from the facts to which those statements refer. Fourth, his analysis proceeds from certain philosophical assumptions about the world and about the nature of science. And fifth, the linch-pin of his argument — that a mental experience like "feeling sad" is strictly identical to certain chemicals in the brain — will be fully explained "in the future" by science.\footnote{58} In summary, Smart wants to grant the validity of traditional ways of talking, while accepting what he believes to be the conclusion of science that matter alone exists. Therefore he argues that the "mind" is a linguistic convention, and that the only reality the word refers to is the human brain.

Keeping these points in mind, we will now briefly note some philosophical objections which have been brought against Smart's
thesis. In the concluding section of this chapter we will offer further criticism and commentary from Polanyi's point of view.

(1) Smart does not argue inductively from all of the available facts concerning "the mind" and "the brain," but asserts a claim about the mental based on a metaphysics of materialism, and then defends the assertion against objections. This procedure itself is legitimate, but because it is dependent upon the future state of scientific knowledge (its discoveries about the structure of the brain), its claims are empirical and contingent. Smart's argument is thus severely weakened by his frequent reliance on what science might "one day" discover. 59

(2) Smart makes an empirical statement (sensations are brain processes, as science will disclose), and insists on "strict identity" in this relation. But strict identity in an empirical context refers to spatio-temporal identity, that whenever there is a thought A, there will be a brain process B at the same place and at the same time. It is impossible, however, to talk meaningfully of a thought in space and time (what is the duration of a memory?) --- sensations are simply not the sorts of things that can be quantified, and Smart has made a 'category mistake.' 60

(3) The identity theory sees only two alternatives in the mind/body debate: classical dualism or materialism. But as we have already noted, rejecting Descartes is not the same thing as embracing materialism --- the significance of recent philosophy of language is that it tries to overcome this kind of metaphysical dilemma.
(4) Smart identifies sensations and brain processes only by ignoring the particular logic of mental language (specifically by falling into the "intentional fallacy"). In striving for "a homogeneous system of explanation," he assumes that "everything in the world . . . should be capable of the same kind of explanation, namely, one in terms of the entities and laws of physics." He establishes the "fact," "reality," or "truth" of thoughts by reference to physical criteria, and then allows that thoughts may mean something other than a physical process. Meaning is clearly adventitious and trivial in Smart's placement of mental language. But what could be intelligible about determining the truth or reality of thoughts, without reference to their meaning? Another way of expressing this point is that a brain cannot have thoughts, illusions, or pains, because "a brain does not sufficiently resemble a human being." It is nonsensical to say "the orange cowered on the table," and it is nonsensical to say that it is the brain which feels.

These last two objections to the identity theory of mind and body represent a particularly Wittgensteinian way of approaching philosophical problems. The approach insists that meaning arises within the context of our normal use of language, and that different contexts have different "logics" or "grammars" which must be respected if language is to be correctly understood. More important, this approach insists that the integrity of language be respected, for what can be apprehended as real or true is given in language, not in sense experience and cognition alone. Behind this view, and the comments of Norman Malcolm quoted above, is a refusal to limit what is
significant to a material dimension; in this respect, Polanyi shares the perspective of ordinary language analysts.

A Polanyian Perspective on Action

We have now examined two issues in contemporary debates about human action — the effort to understand all human action as behavior, and the attempt to translate "mind" into brain processes. In this section we will consider these views from the perspective opened up by Polanyi, and examine those concepts within his philosophy which may help us develop an alternative view of action. Again, this area is not one in which Polanyi wrote, so that my interpretation rests upon his work as a whole.

A number of criticisms of psychological behaviorism have already been implicitly raised, so that our review of 'Polanyian' objections can be brief. Skinner, who is a representative figure for us, misunderstands the nature of science — its purposes, methodology, and values. He sees its purpose as prediction and control, rather than understanding, because "understanding" implies a search for what is real and true about the world, and these are non-scientific values for a behaviorist. He believes that the method of science is publicly verifiable experimentation, and that this provides a final test of the correctness or incorrectness of an hypothesis. Polanyi has provided examples from the history of science which indicate that the whole process of verification depends upon acts of personal judgement by the scientist (whether or not an experiment is necessary; what kind
of experiment would be most helpful; whether or not the experimental results confirm or disfirm the hypothesis; whether or not to accept disconfirming experiments as valid). Skinner accepts the popular belief that the natural sciences have nothing to do with values, that they are "value-free." But his own discipline of behaviorism, which is just as scientific as the others, provides the best possible way of deciding what values are, for values are "how people feel about things." He claims:

Things are good (positively reinforcing) or bad (negatively reinforcing) presumably because of the contingencies of survival under which the species evolved . . . . To make a value judgement by calling something good or bad is to classify it in terms of its reinforcing effects . . . . Things themselves are studied by physics and biology, usually without reference to their value, but the reinforcing effects of things are the province of behavioral science, which, to the extent that it is concerned with operant reinforcement, is a science of values.

Here Polanyi would claim that an essentially utilitarian move is occurring -- seemingly evanescent entities are redefined in such a way that science can treat them, for this has become the only legitimate way in which man can intellectually treat anything. In the section above on "conviviality" (p. 115) we considered Polanyi's understanding of science as an institution organized to maintain certain values (truth, freedom from oppression, the worth of man, etc.) which occasionally may interfere with particular scientific experiments. Science does not simply accept "survival" as an ultimate value, as Skinner suggests, but upholds values without which science would make no sense. The experiments of Hitler's doctors might theoretically be justifiable on the grounds of their scientific precision and
utility, but no reputable scientist would ever sanction such experiment because it violates higher values than those of science. Polanyi is not ashamed to make such a claim.66

Another common procedure of Skinner can be seen here, in his insistence that all of reality be understood according to one "scientific" explanatory system. He firmly believes that science can be successfully applied to everything (at least, to everything that counts), which implies that he views reality as more or less uniform. There are no "gradients of being" which prevent us from using the research techniques of geology on human beings. Polanyi's discussion of logical levels argues against such a reduction. We could also argue that Skinner himself covertly recognizes such levels. For example, he tries to avoid the "molecular" physicalism of Watson, in which thoughts are nothing but brain processes. He recognizes the untenability of such a view, for when we cut into a person's brain (who may remain conscious during the operation), we do not "see" thoughts flying around; we see the brain. So he is aware that some kind of difference exists. But rather than accepting such facts as evidence of a pluralism of meaning, Skinner tries to explain them away by substituting for ideas such entities as "the conditioned reflex," "stimulus/response mechanisms," and "reinforcing behavior." Thought is thus reduced to "covert" behavior — it's exactly like regular behavior, but we just can't see it.67

For Polanyi, this is another example of behaviorism's "pseudo-substitution" (see above, pp. 55-56). To recognize a particular
"piece" of mental behavior as "mental" (say, composing a letter in my head), the behaviorist must employ tacit powers of integration which his view of science will not admit. Simply to record my physical movements, without adding any interpretation or integration, would give us nothing intelligible at all, just a series of "hand to forehead," "eyes up," "hand moving with pencil," and so forth. This is obviously not what any scientist does in observation. Using our own vantage-point as a human being embedded in a world of language, meaning, and purposive activity, we understand the observed situation on the basis of that prior understanding. The fact that we cannot specify all of the ways in which we lend our understanding to the situation while attending to it is no sign that we have not done so, for we do it tacitly. We integrate subsidiary clues, within the situation and within ourselves, to arrive at a meaning which "fits." We always "know more than we can tell," and to claim to know only by relying on specifiable clues is to substitute illegitimate reasons (the specifiable features of a situation) for legitimate ones (the tacit clues on which we actually rely).

Skinner also reveals the characteristic commitment of our time to "objective" knowledge, that is, to information arrived at by observation, that coheres with the "facts" of that observed situation, that is "clear" and unambiguous. His veneration for behaviorism is based precisely on its ability to render the most equivocal and recalcitrant material — human interaction — logical, lawful, specifiable, and predictable. That is knowledge, so that the behavioral scientist who
can provide a complete account of the physical behavior of a pianist
knows more than the pianist about "playing a piano," even if the
scientist cannot play the piano at all. "Knowing how" and "knowing
that" are unimportant distinctions, for both can be understood as
"behavior," and explained in a similarly rigorous way. 68

This strong empiricism in Skinner is undoubtedly behind his ten-
dency to portray the human mind as essentially passive. He gives the
following behavioral analysis of "creativity:"

As accidental traits, arising from mutations, are selected
by their contribution to survival, so accidental variations
in behavior are selected by their reinforcing consequences
... That chance can play a part in the production of
anything as important as mathematics, science, or art has
often been questioned ... Yet the biographies of writ-
ers, composers, artists, scientists, mathematicians, and
inventors all reveal the importance of happy accidents in
the production of original behavior. 69

The history of science, therefore, from Copernicus to Einstein, is
the history of "happy accidents." Such a view of man is essential
if Skinner is to keep all phenomena on the same level (that of
behavior). "Creativity" is the term we use when speaking of making
something new, different, or unprecedented, and Skinner's epistemolog-
ical conservatism reacts strongly against such a possibility. 70

This brings us to the question of the bearing of these character-
istics on the concept of "action." At one level the answer is clear,
for Skinner asserts plainly that people do not act -- environments do:

Man's struggle for freedom is not due to a will to be free,
but to certain behavioral processes characteristic of the
human organism, the chief effect of which is the avoidance
of or escape from so-called "aversive" features of the
environment. 71

and:
As a science of behavior adopts the strategy of physics and biology, the autonomous agent to which behavior has traditionally been attributed is replaced by the environment — the environment in which the species evolved and in which the behavior of the individual is shaped and maintained.  

At another level, Skinner obviously believes the environment can be controlled, and seems to be saying nothing more significant than 'everything has causes, and since man is an animal living in a natural world, everything he does is indirectly caused by his environment or his biological nature.' But regardless how we settle the question of Skinner's determinism, at a third level his environmental approach to understanding man disposes of the very qualities which define man. The most profitable way to argue this kind of thesis is the method which Polanyi adopts, of showing how Skinner and his theories necessarily presuppose the very concepts which they declare to be "fictions." This we did in respect to his notion of "self," and in respect to his assumptions concerning scientific observation. To be able to recognize "human behavior," "mental acts," "intelligent behavior," or "irrational behavior" presupposes the operation of tacit powers of appraisal that are unique to man. Skinner defines behavior (covertly, to be sure) in physiological terms, and then claims that because 'all action is behavior,' we can understand human behavior without reference to anything non-material like "consciousness" or "mind." For Polanyi, this is to engage in a verbal and conceptual slight-of-hand, for the very perception of behavior (a word which means 'the conduct of a conscious, intentional being') depends upon
our acceptance of intentional activity as something real in the world. This reliance is the ground upon which our scientific analyses ultimately rest; to deny it is to commit a kind of intellectual "suicide," and Skinner's argument survives this suicide only because no one takes it literally, or accepts its logic with full seriousness.

Criticisms of Smart from a Polanyian perspective involve conceptual differences of such magnitude that a point-for-point refutation will probably not be convincing. I would hope that a careful consideration of the comments made against the identity theory would lead the reader to look at the mind/brain question from a new vantage-point, and that the intellectual satisfaction gained from this new vantage-point might lead to a conversion to a new perspective. Our specific criticisms may include the following:

(1) Smart's distinction between factual or empirical truth and the meaning of mental statements reveals a separation between empirical knowledge and mathematical knowledge, or between reason and experience. For Polanyi this is a consequence of accepting the Objectivist paradigm of knowledge, particularly as it was formulated by positivism in the late nineteenth century. This view inevitably degrades reason by sacrificing rational power to the certainty of empirical verification. A specific example from Smart is found in his assertion that colors are "powers . . . to evoke certain sorts of discriminatory responses in human beings," that they are also "powers to cause sensations in human beings," and that these sensations are brain processes. This strongly implies (though Smart is not
completely clear at this point) that a discrimination is a certain brain process, and nothing more. For Polanyi, a creative act of human reason (discriminating colors) has simply been dissolved into an arrangement of molecules. But this formulation is a pseudo-substitution: it can only appear successful because it trades on the personal co-efficient of "discriminate" while implicitly denying that such co-efficients exist. "Discriminate" stems from the Latin *crimen*, meaning a verdict, judgement, or accusation, or the result of such a judgement (thus "crime"). The word reflects, therefore, an inescapably personal setting, where persons perform rational acts. To cloud this meaning by linking the word with "response" (which, we will remember, is also part of the behaviorist's language of stimulus-response), and then to attribute this kind of personal act to chemical compounds, is to do violence to language and to thought. We may suspect that just as misunderstood theological assumptions gave rise to confusions about the natural world in the medieval period, mistaken scientific assumptions have now given rise to confusions about human persons.

(2) As with behaviorism, we find in Smart an anachronistic view of science. He first assumes that reductionism is the valid viewpoint of science, rather than a philosophical interpretation grafted on to certain scientific observations. Secondly, he asserts that "it is incompatible with materialism that there should be any irreducibly 'emergent' laws or properties, say in biology or psychology." Smart offers no evidence or argument for this conclusion, while Polanyi
presents a detailed case supporting the concept of "emergence," and insists (with a number of biologists) that evolution is unintel-
gible without such a concept. Finally, Smart assumes that "descrip-
tions" belong to the same logical level, or level of explanation, as the things they describe: "That everything should be explicable in
terms of physics (together of course with descriptions of the ways in
which the parts are put together . . . ) except the occurrence of sen-
sations seems to me to be frankly unbelievable." He makes no dis-
tinction here between the terms of physics (the "parts") and the laws
describing those parts. But Polanyi points out that rules, principles,
laws, or descriptions cannot be logically deduced (or induced) from
the phenomena which they govern; they are rather maxims which guide
the interpretation of data, and they must be applied to a given case
by the scientist's act of judgement. Smart lumps the "parts" (the
physico-chemical level) and "descriptions of the ways in which the
parts are put together" (the explanatory level) into one homogenous
level ("physical entities").

(3) For Smart there can be no essential difference between
passive mental experiences (reporting after-images or thoughts) and
active ones (making judgements). If, as he claims, all mental ex-
periences are merely chemical processes in the brain, there can be no
actual difference between being sure of something, and being hesitant,
confused, ambivalent, or fearful. With brain processes, we cannot
distinguish between stating something, and stating it hastily, conspir-
atorially, absent-mindedly, guardedly, lazily, or carefully.
Decision-making provides a particularly difficult case for Smart's theory. It presents difficulties because: (a) Smart's monism aims for a uniform system of explanation based on the descriptive example of scientific language, in which the notion of a "decision" does not exist; and (b) his entire construal of mental experiences (sensations) employs a passive model of thought, specifically, "reports of sensations." Deciding, however, is an active experience which by that very fact is quite different from chemical processes.

Consider Polanyi's chief example of solving a problem. We go over the same list of clues again and again, until we see a pattern formed by some of those clues. At that point, though confronted with the same perceptual field (the particular facts which are our clues), we "see" (or know, or understand) something new, something which we did not experience a moment before. This moment of insight makes no sense within the identity theory. Suppose we identify the brain processes to which our mental experiences of clues refer as processes A, B, C, D, and E. Let us now suppose that an investigator sees a pattern which he judges to be both meaningful and correct in clues A, C, and D. He then judges clues B and E to be either irrelevant or trivial to this pattern, and regards clues A, C, and D no longer as "clues" on the same explanatory level as B and E, but as parts of a new whole. They are elements in a solution to a puzzle which he has discovered. Now Smart's only recourse here is to identify each of these mental operations with a discrete brain process. Thus each time
we go over the clues A, B, C, D, and E, the same five brain processes occur. After the perception of a pattern, however, we are confronted by the same sensation reports/brain processes (clues A, B, C, D, and E), but they no longer suffice to explain the additional insight or perception of the pattern. 83

Consider a simpler example. We are presented with a drawing and are told that hidden in the drawing are six rabbits. We search each part of the sketch carefully, and one by one find the hidden rabbits. When we now look at the drawing with its discernible rabbits we see the same lines we saw when we first looked at the drawing, but something more also. This "something more" is unspecifiable in terms of the physical elements involved, and it is this quality which leads us to speak of a mental experience of insight or understanding.

The whole is different from its parts, so that the moment of insight could not be explained as simply a "bigger" or "stronger" version of the same brain process we had prior to the insight. Gestalt psychology, in showing that such integrations occur, demonstrated the active role of human reason in our perceptual experience; Smart's materialism rules out a priori the possibility of any such non-physical entity. He is therefore unable to account for characteristically mental operations like "deciding," "judging," or "choosing."

Polanyi would explain problem-solving in terms of tacit knowing. Our mental experience encompasses both focal and subsidiary modes, and the specifiability of our integration of clues stems from the logic of
tacit knowing. 84 This explanation, of course, presupposes the existence of minds with creative powers, and is to that degree within a different realm of discourse from Smart's materialism.

(4) To identify any particular experience as "mental" requires a prior commitment to mind as a meaningful entity. In the sentence "This thought is a brain process," the meaning of "this thought" resides not in the sentence but in the context of experience and language which we bring to the sentence. 85 Here Polanyi closely parallels a Wittgensteinian approach to language about minds.

(5) A final criticism of the Identity theory points to its implicit assumption that all aspects of a mental experience can be designated, and that they will be found by science to refer to specific brain processes. Such a claim ignores the fact, demonstrated in tacit knowing, that we cannot completely specify any mental experience because of the necessarily tacit status of the clues which make up that experience. My mental experience of seeing and identifying a shooting star must be completely locatable in a brain process for Smart's strict identity to hold. But we can never be aware, even in principle, of all of the elements involved in an act of knowing, and it would therefore be impossible to specify the exact brain process or processes to which that mental experience refers. 86

We have now indicated the ways in which behaviorist theories attempt to construct a purely functional language of human "action," and we have noted points at which they can be criticized. We will now turn to a consideration of mind and action viewed from the perspective of personal knowledge.
The Mind as the Meaning of the Body

The contribution Michael Polanyi makes to the solution of those problems of action defined by recent psychology and philosophy is distinctively new. His view is summarized in the claim that 'the mind is the meaning of the body,' when both have been understood through his analysis of tacit knowing, skills, and indwelling. The phenomena of bodily movements and mental operations can therefore be partly understood as personal performances, as the consciously embodied acts of an agent. The application of this model to the problem of action parallels our earlier treatments of knowing and speaking, and all can be understood as ways in which persons situate themselves (understand, express, exercise themselves) in the world.

Redefining "Mind" and "Body"

First, we should remember that both "mind" and "body" have received subtle reinterpretation by Polanyi. The "mental" is considered an activity rather than a substance or an entity which exists independently of the body. The mind is real, and is perhaps most appropriately described as the process of integration, which appears in various settings as discovery, understanding, or creativity. The emphasis here on the dynamic quality of mind automatically excludes traditional notions of mind (or "soul") as a substance occupying a peculiar 'mental space' of some kind. It also excludes idealistic descriptions of mind which hold it to be a collection of ideas or thoughts, linked by association or by logical rules. He is attempting
to move beyond a view of mind based on a prior separation of logic and psychology, not because such a distinction is invalid, but because it can only be made within a concept of mind that recognizes the relationship between these areas.  

In personal knowledge we also find the claim that the mind has a conative aspect — not in the sense that it contains a special "Faculty, immaterial Organ, or Ministry" called "the Will," but that intelligent acts involve beliefs and commitments, ranging from the "vegetative commitment" of a primitive organism to the "responsible commitment" of moral persons.  

And finally, Polanyi’s approach to the mind is based on the assumption that it is inextricably involved with the body, that "all thought is incarnate; it lives by the body." The development of thought originates with bodily skills, and later, constitutes an "extended body" through "indwelling."

Therefore mind and body are impossible to understand, or even comprehend, independently of one another. Polanyi understands "body" in common-sense fashion as a spatially extended, physical entity, but it is also much more than this for him because it is indivisible from the thinking person. Here the redefinition of the body in phenomenology is particularly helpful in clarifying what Polanyi is after. The human body must not be conceptualized as a mere object among other objects, but must be allowed to retain its role as our means of belonging to the world. We cannot talk of body in physical terms alone, as a geometrical spatiality, but must remember its intentionality, the fact that it orients us towards a world. In phenomenology the body as
physical object is incorporated and transcended in a larger understanding, that of **lived experience**:

Although I may regard my body as an object under certain circumstances (for the purposes of surgery, for example), this attitude presupposes a more fundamental relationship to the body as an opening to the world. It is my embodiment in the world through my mind-body which makes it possible for me to have a world in which there are objects . . . .

These formulations, of course, go beyond Polanyi, but they point in the same direction, to a consideration of the body as an essential part of a world of meaning in which we are already situated. When we begin to reflect on knowledge, speech, or action, we begin as embodied, incarnate beings whose most fundamental experiences are given to us through our bodies, and whose primordial modes of expression are bodily.

We can clarify this redefined body by recalling our earlier discussion of skills, of the focal/subsidiary nature of tacit knowledge, and of "indwelling." A skill was seen to be an art which, with knowing itself, is one aspect "of the act of extending our person into the subsidiary awareness of particulars which compose a whole." In learning to play a piano we learn, through painful practice, a complex array of finger movements, which must be co-ordinated with each other and with our pedal foot. At first these separate movements are awkward and incorrigible — they have no purpose of meaning in themselves. But these discrete physical skills are slowly mastered and subordinated to our focus — music itself. When we have learned to play a difficult piece well, we are no longer aware of individual
fingers (though we may sometimes retain a liminal awareness of different hands and our pedal foot). There is a real sense in which our body has become a part of the music, for in the integration of particular notes we find a new reality that was simply not present in the isolated finger movements with which we began.

The important point in the example of piano playing is that in the exercise of such a skill, our body is transformed from a mere physical object to a mode of our being. Polanyi's way of expressing this modality is to say that we live in a world of meaning (say, a musical work) through our bodies, analogously to the way in which we live in our bodies. To integrate the subsidiary particulars of a skillful act is to "indwell," to incorporate, to incarnate the meaning which that act conveys.

Our body is the only assembly of things known almost exclusively by relying on our awareness of them for attending to something else. Parts of our body serve as tools for observing objects outside and for manipulating them. Every time we make sense of the world, we rely on our tacit knowledge of impacts made by the world on our body and the complex responses of our body to these impacts. Such is the exceptional position of our body in the universe.97

Polanyi suggests, then, that we consider comprehension of a whole system of thought as a process of interiorizing its parts, of indwelling those parts, like the way we extend our bodies in skills. Certain metaphors in English capture this notion of 'embodied' thought: of a 'Barthian' theologian, we say "He lives and breathes Barth," or "He knows Barth like the back of his hand," or "He's made Barth a part of himself." Of a particularly close follower of Barth, we might even
say, "He's Barth reincarnated."

The framework established by the redefinition of mind and body has allowed us to make the criticisms of behaviorism mentioned earlier in this Chapter -- its misunderstanding of the nature of science, the degrading of reason before facts in the very act of exercising a powerful rationality, the use of a passive model of mind, the inability to specify that (mental experiences) which can be reduced to specifiability (brain processes). Considering questions of mind and body in a polemical setting has clarified many of the issues, so that we should now be in a position to consider Polanyi's constructive proposals.

It is the assumption of both psychological and logical behaviorism that the observation of a mental state is something more than, or in addition to, an observation of its manifestations in behavior.\footnote{This was Smart's complaint, that the 'mentalists' assert the existence of something over and beyond the brain and its workings. But tacit knowing shows that we observe the same event in different ways. We can observe particulars focally, as we do when we attempt to make all elements of behavior explicit, and we can observe them subsidiarily, within a focal observation of the mind. Observed focally, particular bits of molar or molecular behavior are just what the behaviorist claims -- movements of an organism. But observed subsidiarily, these same particulars acquire a different meaning, having been integrated through the power of human reason to the mind which they jointly constitute.} The mind is not identical with its workings (its public
manifestations in behavior), for such an identity would have to be
an identity of focally observed facts, the fact of "mind" and the
fact of that mind's "behavior." If we grant meaning to mental
phenomena, however, (as even Smart must do) then such an empirical
identity is impossible. But the mind is also not something over
and beyond observed behavior, for that behavior yields the particu-
lars which will be termed "the mind" when integrated by the observer.
An integration must be understood as something more than a mere
physical function, or a passive reflex of some sort. Perception is
to be understood as the foundation of knowledge, and the integrations
which make it up are the model for all acts of knowing. There is,
therefore, a semantic aspect to tacit knowing, in which isolated
particulars acquire meaning in their integration, from the unified
pattern, solution, or event that is brought into being in the act of
knowing. Pieces on a chessboard are literally meaningless until
integrated into the context of the game of chess, and then further
into the context of rules which reveals this particular pattern of
pieces as "Checkmate." In similar fashion we observe behavior which
is already within a context (namely, our knowledge of persons and of
purposive action), and integrate the particular bits and pieces of
this behavior further into the individual mind or person it reveals.

When I identify an experience by saying, "There's John over by
the water fountain," I am not identifying two different things,
perceptual sensations (brown hair, big nose, a peculiar way of stand-
ing) and "John." I am rather identifying one thing, my friend John,
by tacitly integrating a myriad of subsidiary clues into their joint meaning: "There's John!" Therefore, "the relation between body and mind has the same logical structure as the relation between clues and the image to which the clues are pointing." And we can summarize this view by claiming that "the mind is the coherence perceived when we focus attention on the person." 101

In denying that mind and body constitute two "things" that are essentially distinct from one another, and in insisting that they are not identical with one another, Polanyi reveals his belief that reality must not be defined in terms of physical observability or material substance (as in Smart's materialism), and that there are different levels of reality. 102 The mind and the body are real, but the mind is more real than the body. As William Scott has expressed it: "Minds, or more precisely persons, do not constitute counterpart existences to bodies but more comprehensive levels of reality than bodies." 103 We noted earlier that the real for Polanyi is "this capacity of a thing to reveal itself in unexpected ways in the future." Therefore,

Persons and problems are felt to be more profound, because we expect them yet to reveal themselves in unexpected ways in the future, while cobblestones evoke no such expectation . . . . 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. 105

We should remember that Smart acknowledged (as do most behaviorists) that mental experiences have meaning, but he could not then go on to
consider them as real experiences, because he defined reality solely in terms of tangibility, while ignoring significance. At this point we have returned to the general commitments (the "metaphysics") which separate Polanyi and most behaviorists.

Having referred above to Polanyi's criticism of Ryle, we can appropriately pause to note an important difference in their approaches to the philosophical enterprise. Despite many points of agreement in Polanyi and the Wittgensteinian or ordinary language tradition, they disagree in their estimates as to how meaning relates to language. At times the ordinary language philosopher seems to believe that the meaning of a particular word, sentence, or extended expression is strictly identifiable with the number of uses of that word, sentence or expression in everyday discourse. There are, therefore, as many meanings as there are uses, and in its behaviorist phases this assertion seems to claim that meaning is to be identified with verbal behavior. In contrast, I think that what has been said of P.F. Strawson in this regard could also be said of Polanyi:

Strawson . . . shares with Austin the belief, contrary at least to the professions of Wittgenstein, that our language is not just unlimitedly various and diversified, completely Protean, entirely recalcitrant to general distinction and systematization; and that it is not, in certain fundamental respects at least, at all unstable.

For Polanyi meaning is not identifiable with use, but is the new level which arises from the unification of uses, subsidiarily considered. I experience a multitude of uses of a given word or phrase, and in each new situation, I bring this body of tacitly held particulars to bear on the situation. Straining to understand a novel use of the word
or phrase, I integrate the subsidiary clues which I possess to a new whole, a new meaning. Because meaning is not on the same level with the words which express it, language is creative, dynamic, and open-ended. The mark of the great literary artist is his ability to arrive at new meanings, new integrations of particular meanings which are familiar to everyone. Polanyi believes, then, that we are not simply surrounded by innumerable meanings, but that the human mind can, almost infinitely, comprehend higher and higher levels of significance by integrating wider and wider circles of meaning. The only obstacle is the "range," "scope," "depth," or "power" of the person's mind. Let us take as an example the problem of universals: how is it that we can identify objects that are different from one another in every particular as members of a common class of objects? The traditional answers to this puzzling fact encountered difficulties because they sought to locate an explicit procedure or logical system to explain our designation of universal classes. What we are doing in such a case, however, is a tacit operation of integrating the clues provided by our experiences of a given entity to the joint meaning which they constitute. Our tacit awareness of different men is focally comprehended as "Man." If we accredit our tacit powers of reasoning, we will be able to accept such universal concepts as meaningful and real, despite our inability "to formulate strict rules for deriving general laws from individual experiences."

Our long discussion of behaviorism revealed two ways in which the concept of action is undermined: (1) actions are translated into either molecular or molar behavior, which destroys their intentional
character; (2) minds are reduced to brain processes, which removes the notion of an agent from discussions of mental activity. The concept of personal knowledge attempts to surmount the view of man and knowledge suggested by behaviorism, and in so doing recovers a notion of action as "what people do."

Such a conclusion — that 'action' is simply 'what people do' — may seem somewhat "cheap" after our earlier look at the many philosophical problems to be found in the concept of action. After all, it simply returns us to the everyday or common-sense view with which this Chapter began. Polanyi's achievement, however, is precisely this return to ordinary beliefs about things, though it is a return which can only be made after we have struggled to recast many of our customary ways of thinking into new patterns.

Once men have been made to realize the crippling mutilations imposed by an objectivist framework — once the veil of ambiguities covering up these mutilations has been definitively dissolved — many fresh minds will turn to the task of reinterpretting the world as it is, and as it then once more will be seen to be.109

In the case of action, persons must be considered as unities of mind and body, as "embodied minds" and "minded bodies." When we consider specific acts in isolation we may justifiably talk of mental or physical acts, but such a reflective distinction should not obscure the pre-reflective unity of the incarnate mind. If Polanyi has succeeded in saving the mind, through a radical reconstrual of its central features in terms of the logic of tacit knowing, then intentionality has been saved, which makes possible the responsible life of a moral
agent. And just as "action" drew together the several elements of "doing," "thinking," "intentionality," and "responsibility," our focus on "person" in the last chapter will bring together the various parts of the thesis more coherently. The person, like knowing, speaking, and acting, is no one thing; indeed, the person is no thing at all, but a life, in the process of being lived.
NOTES - CHAPTER IV


4. See above, pp. 18, 86, 135, n.4.


Ibid., pp. 45-58; Britannica, s.v. "Behaviorism," by Koch.


See Sigmund Koch, "Emerging Conceptions of Knowledge as Unitary," in Behaviorism and Phenomenology, ed. Wann, and in Britannica, s.v. "Behaviorism."

Skinner, Science and Human Behavior, p. 12

See above, p. 127. See also Polanyi, Science, Faith and Society; Personal, pp. 163-164, 351-352; and "The Republic of Science," in Knowing and Being, pp. 49-72.


See above, p. 60.


See Polanyi, Personal, Chapter 1, pp. 3-17.


B.F. Skinner, About Behaviorism, pp. 8, 20-21. What is interesting about Skinner's work is its complete confidence that it has the answer. Cf. "The methods of science have been enormously successful wherever they have been tried. Let us apply them to human affairs . . . It is possible that science has come to the rescue and that order will eventually be achieved in the field of human affairs." Science and Human Behavior, p. 5. Contrast this with Polanyi, Personal, p. xiv: "Personal knowledge is an intellectual commitment, and as such
inherently hazardous. . . . All affirmations published in this book are my own personal commitments; they claim this, and no more than this, for themselves."

31 See the articles with their bibliographies in The Encyclopedia of Philosophy, 1967, s.v. "Behaviorism" by Arnold S. Kaufman, and "Psychological Behaviorism" by Charles Taylor.

32 In an amazing passage, Skinner says: "For purposes of casual discourse I see no reason to avoid such an expression as "I have chosen to discuss . . ." (though I question the possibility of free choice), or "I have in mind . . ." (though I question the existence of a mind), or "I am aware of the fact . . ." (though I put a very special interpretation on awareness)," About Behaviorism, p. 22.


34 Technically, Skinner defines behavior as "the action of the organism upon the outside world," adding, "it is often desirable to deal with an effect rather than with the movement itself, as in the production of sound." Encyclopedia of Philosophy, s.v. "Behaviorism," p. 269.

35 Encyclopedia of Philosophy, s.v. "Psychological Behaviorism."

36 Skinner, About Behaviorism, pp. 18-19.

37 Ibid., pp. 19, 273.


40 Skinner, About Behaviorism, pp. 18-19.


43 Skinner, About Behaviorism, pp. 276-277. See also Science and Human Behavior, pp. 428-430.


47. Chappell, ed. *Philosophy of Mind*, p. 10; There are many alternatives to dualism, behaviorism being only one. I would also suggest that Polanyi offers another.


53. Ibid., p. 162.

54. Ibid., pp. 163–164, 168.

55. Ibid., pp. 171–172.

56. Ibid., p. 170.

57. Ibid., pp. 171–172.


60. Ibid., pp. 116–117.
61 Ibid., p. 123.


65 *Beyond Freedom*, p. 99.


68 Ibid., pp. 151-162.

69 Ibid., pp. 126-127.

70 Ibid., pp. 89-90, 126-128.

71 Ibid., p. 39.

72 *Beyond Freedom*, p. 175. See also *Science and Human Behavior*, p. 447.


75 *Oxford English Dictionary*.


77 Smart, "Materialism" p. 652.


81 Smart, "Sensations," pp. 161, 163.

82 For the purposes of the example, we will assume an artificial problem in which all clues are specifiable.

84. Polanyi, "The Logic of Tacit Inference," *Knowing and Being*, pp. 138-158.


86. Ibid., pp. 156, 169.

87. Ibid., p. 132.


93. Thomas, "The Problem of Religious Discourse," p. 63. We may note that just as Merleau-Ponty departs from the critical tradition in rediscovering the meaning of the body, and Wittgenstein departs from that tradition in rediscovering ordinary language, Polanyi is doing a similar thing with regard to personal knowing through commitment.

94. Polanyi, *Knowing and Being*, p. 147-48:

"The way the body participates in the act of perception can be generalized further to include the bodily roots of all knowledge and thought . . . . We may say then . . . that wherever some process in our body gives rise to consciousness in us, tacit knowing will make sense of the event in terms of an experience to which we are attending."


99. Ibid.
100 Polanyi, Tacit, p. 13.


102 See above, Chapter II, pp. 120-214.

103 Ibid., p. 127.

104Polanyi, Tacit, p. 32.

105 Ibid., pp. 32-33.


107 Polanyi, Knowing and Being, pp. 165-166.

108 Ibid., p. 166.

109 Polanyi, Personal, p. 381.
CHAPTER V

"PERSON" AS METAPHOR

This attempt to grasp the contours of Polanyi's understanding of "person" has ranged over numerous subjects, some of which may have seemed of questionable relevance. This strategy has been deliberate, in keeping with Polanyi's distinctive way of philosophizing. What may have appeared to have been aimless wanderings into epistemology, the philosophy of language, and theories of action actually constitute a demonstration of his singular procedure. At this point, however, we must focus more specifically on the notion of "person" that emerges from our composite account, and on the implications of the "personal" for other issues.

This chapter will begin with an examination of some of the specific passages in which Polanyi discusses "the person" (there are few), and will then draw together his thoughts on knowing, speaking, and acting as personal enterprises under the rubric "commitment," particularly its more active phase of "appropriation." The second section will note some of the central characteristics of the personal dimension, arguing that for Polanyi "person" is no one, explicitly definable thing. It functions rather as a metaphor to refer to a whole class of paradigmatically human activities, the defining elements of which are understood tacitly. To be a person or to understand "personhood" is itself a personal act of the sort which we are
trying to appreciate. The final ground of our knowledge of persons is our commitment to rely on our own knowing, speaking and acting as the subsidiary particulars out of which a coherent, but not explicit, grasp of "person" may arise. The implications of this discussion for problems in theology will be presented briefly in the thesis' final section.

Appropriation and the Person

We have been struggling throughout the thesis with a problem which is inherent in Polanyi's thought, that is, the difficulty of examining the personal dimension from an objective (impersonal), neutral, or scholarly point of view.\(^1\) My solution to this dilemma has been to exhibit examples of "the personal" as it exists in the human feats of knowing, speaking, and acting, rather than simply talking about the concept "person" itself. The focal attention which we will now give this concept would have been impossible, or at least misleading, if it had not been preceded by these examples. To hear Polanyi describing how we know, and B. F. Skinner describing how people behave, is essential to seeing what, in Polanyi's view, persons are and are not. It is hopefully clear at this point that the thesis has not intended to lead the reader 'inductively' to a firmly established 'theory' of the person, the theoretical grounds of which are fully displayed. It serves rather as an informed guide to the reader's integration of the subsidiary clues to "the person" which are revealed in Polanyi's work. His presentation of these clues has been a by-product, not always conscious, of his having already integrated particulars in his own vision.
In effect, the thesis has furnished these particulars, the integration of which should present us with an understanding of the whole 'event' that is a person. This section will begin the process by integrating Polanyi's concepts to their bearing on this particular issue.

In *Personal Knowledge* there are two brief passages explicitly devoted to "the personal," and a few other sections in which Polanyi discusses matters closely related to this subject.\(^2\) What we find when we examine these passages is how the person operates or what the person does, but we are never given a definition of exactly what the person is. Polanyi declines to isolate or abstract the concept "person" from the various contexts in which it naturally appears. At times, "person" seems to be a synonym for "man," "human being" or "individual," and its distinctiveness only appears when it is contrasted with phenomena or events which Polanyi feels are clearly not personal (machines, animals). His most direct descriptions refer to the person as "a centre of action," as "a responsible centre of . . . unspecifical operations," and as a "centre of decision."\(^3\) Such terms are often used interchangeably and without any apparent precision (i.e. without consistency and determinate bearing). What we can discern at this stage, however, is (1) his emphasis on a *centering of activity* as the essential part of what we mean by "person," and (2) the *multiplicity of ways* in which the person can be recognized as such. "Person" has content and a concrete range of meaning; this has been indicated by viewing Polanyi's thought in terms of knowing, speaking, and acting, and by the emphasis just noted on 'centered activity.' Yet this is not to say that "person" is one thing, that the protean, polysemic character
of persons can be reduced to one simple idea or "essence."\(^4\)

The dimensions of Polanyi's understanding of persons become clearer when we turn to his notion of "commitment." Indeed, this notion seems to me to bring us as close to the core of his view of persons as we can get. Polanyi himself notes, without specifically developing the idea, that "the structure of commitment... serves as a logical matrix to the personal."\(^5\) Problems remain, however, for he includes all kinds of activities under "commitment," and the notion never quite acquires the stability or specificity we need to be sure of correctly understanding it. In order to clarify what seems to be the underlying structure of this concept, I will consider commitment as a polar movement constituted by *reliance*, in which we accept a certain place as defining our calling, and, at the other pole, by what I will term *appropriation*, the act in which we responsibly claim something as our own, as uniquely ours. Understanding this two-fold structure of commitment will allow us to see how the person comprises situatedness — a set of given biological, environmental and cultural conditions — and transcendence — the power to create, change, and know beyond the limits of the immediate situation. The particular way in which Polanyi works out the structure of commitment avoids both the mechanistic tendencies of the behavioral view of man, and the existentialist reduction of human identity to pure act, while it retains their insights.\(^6\) I consider commitment to be more important to Polanyi's enterprise than many accounts would allow, in that it is the crucial element in tacit knowing.\(^7\) Tacit knowing, in turn, is the central theme in personal knowledge. These concepts are
not isolable in experience, however, and we will need to refer to each
of them in order to explicate them satisfactorily.

Reliance

"Reliance" represents Polanyi's linkage of the fiduciary coefficient of knowledge with man's biological heritage and environmental context. It marks, therefore, a radical departure from the popular view that man's beliefs are problematical precisely because of his "animal nature" and his manipulation by environmental influences. 8 He writes:

... we shall see that biology is an expansion of the theory of knowledge into a theory of all kinds of biotic achievements, among which the acquisition of knowledge is one. These will all be comprised by a generalized conception of commitment. 9 Elsewhere he adds that "biology can be extended by continuous stages into epistemology, and more generally, into the justification of my own fundamental commitments." 10 In looking at the knowing process without preconceptions, as it naturally occurs, we find several ways in which the activity of the knower relies on conditions that are anterior to the act of knowing.

First, we must acknowledge the similarity between our intention-
al, conscious activity and the "self-centered primitive urges" which characterize the lowest forms of life. Precisely because man is animal, we should recognize the affinities of human endeavors to the "achievements," "strivings," "self-control," "explorations," and "de-
liberate purposive activities" that can be read throughout natural history, from protozoans to earthworms to mammals.
The origin of this intellectual striving . . . must lie in an active principle. It stems in fact from our innate sentence and alertness, as manifested already in the lowest animals in exploratory movements and appetive drives, and at somewhat higher levels in the powers of perception.11

These qualities are frequently dismissed under the fear that a naive anthropomorphism may simply be reading these man-like forms of behavior into that of animals. But if we accept man as an animal, then we cannot avoid anthropomorphism. To see 'animals in human form' is simply the other side of the coin, that is, 'seeing man in animal form.' It does not imply an identity between men and animals, but that there are essential affinities. Polanyi's understanding of logical levels within natural systems allows such an identification/distinction, without logical confusion (see above, pp. 120-24). A more important point here is that the broad identification of animal sentence with human perception, and of animal strivings with human intentionality, accredits our powers of seeing meaning in nature. The facts of nature do not come to us labelled "organic," "inorganic," or "sentient." These are patterns of relative significance which we read in nature on the basis of our intellectual powers. Thus "every act of factual knowing has the structure of a commitment" insofar as we rely on these cognitive powers, trusting our ability to make these kinds of distinctions.12

The second form of reliance is the unreflective trust in our bodies that we discussed in Chapter IV (pp. 237-41). There we noted that for each of us, our body is logically unique, for it is completely unlike all other bodies in one respect: that it is always attended from,
and that it is only by relying on our body that we can make sense of the external world, of other bodies. Polanyi writes that "physiologists long ago established that the way we see an object is determined by our awareness of certain efforts inside our body, efforts which we cannot feel in themselves." Thus my very ability to talk of an external world of a certain sort is dependent upon bodily processes of which only I am aware, and which are tacit, or subliminal: "Our appreciation of the externality of objects lying outside our body, in contrast to parts of our own body, relies on our subsidiary awareness of processes within our body." The body, understood in this tacit fashion, thus establishes a "whence," an ultimate point of perspectival reference, without which no external world could exist. Our unreflective reliance on our body is a primordial form of commitment.

One further point needs to be made. The body has also been re-defined by Polanyi in terms of its role as a set of subsidiary particulars which, when integrated in perception, constitute the external object or event to which we focally attend. In keeping with his belief that in tacit knowing "all meaning tends to be displaced away from ourselves" (we attend "from the first term to the second term of the tacit relation"), Polanyi claims that the meaning of a set of subsidiary clues is found in the whole which they constitute. Thus the meaning of my body (tacitly experienced) is merged into the significance of the whole to which we are attending. The body becomes part of our intentionality, our 'orientation' towards the world. It is
defined, therefore, not in terms of geometrical space (the Cartesian res extensa), but in terms of existential meaning. The body is not inhabited by a person, but is part of that "central activity" which defines "person."

A third expression of our commitments is in our reliance on language as a tacit condition of all of our intelligent conjectures. We trust its inherent meaningfulness and in our ability to apply it to novel situations. In Chapter III we emphasized certain central features of language, as it is apprehended within a post-critical sensibility: it is a part of an inherent meaning-bearing capacity in man, and therefore has epistemological import; it displays the same employment of tacit powers which characterize knowing; it exhibits an indeterminacy that is essential to its meaningfulness; its efficacy rests on the willingness of a speaker to assert its significance by confidently using it; it is instrumental in constituting dimensions of temporality, privacy, and alterity in human life; and it is logically dependent upon the dynamics of speech. This last claim brings us to our present concern. Language only serves its function of communication when it is used confidently by speakers who accept its meaningfulness before they speak. By relying on the constancies of the linguistic patterns and intimations which we learn tacitly while growing up, we are able to forge new integrations of experience which extend the range and depth of our minds. These commitments are usually held implicitly, and only become apparent when language is under extreme pressure (as at moments of crisis, or in poetry or religious
texts) or when it is evaluated reflectively. The particular words and grammatical forms we use become revelatory at such times, in a way that ordinary discourse does not, of our conceptual presuppositions and ultimate allegiances. Just as our body (understood as the way we dispose or position ourselves in the world) provides an ultimate point of reference for placing things in the world, in terms of both spatiality and significance, so language provides an ultimate "whence" for our conceptions of experience. As Polanyi expresses it, "we are called into being by accepting an idiom of thought."\(^{16}\)

Earlier we discussed assimilating tools to our bodies, the process called indwelling. While indwelling can be most easily grasped when it involves physical objects (the doctor's use of a probe, the pianist at the piano), Polanyi also applies indwelling to our assimilation of conceptual tools (including language) on which we tacitly rely as we go about making sense of the world:

Like the tool, the sign or the symbol \(\sqrt{}\) as in language \(\sqrt{}\) can be conceived as such only in the eyes of a person who relies on them to achieve or to signify something. This reliance is a personal commitment which is involved in all acts of intelligence by which we integrate some things subsidiarily to the centre of our focal attention. Every act of personal assimilation by which we make a thing form an extension of ourselves through our subsidiary awareness of it, is a commitment of ourselves, a manner of disposing of ourselves."\(^{17}\)

A fourth and final element of our reliance is the environmental situations and influences which, with our biological heritage, defines the boundaries within which we live. The central features of this reliance were discussed in Chapter II as the various parts of "the convivial order" --- skills, affiliation, values and the learning of sys-
tematized knowledge (pp.108-120). Polanyi extends his analysis to include commitment:

The framework of commitment, by which I have stabilized my personal knowledge of facts, must be capable of justifying also — by a suitable generalization of its terms, my adherence to the beliefs and standards which underlie the culture of a free society . . . .

B. F. Skinner represents a consensus among scientists when he insists that genetic and environmental factors must be considered in accounts of human behavior. Polanyi acknowledges both of these factors. The difference lies in Skinner's claim that such influences constrain human behavior, while Polanyi believes that they simply provide the conditions under which we must act. The convivial order of my society establishes a setting within which commitment operates, to assimilate the various "givens" of social lore, mores, education, and circumstance to a personal (unique) style of living. Our believing is conditioned by our belonging (to a particular social context), but it is not determined by it, or invalidated (epistemologically) by it. Indeed, our more abstract intellectual allegiances can only arise from a ground of commitment:

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.

In place of a critical ideal of detached, presuppositionless knowing, which withholds assent from beliefs which cannot be established with specifiable conclusiveness, Polanyi urges an epistemo-
logy which rests on tacitly held commitments. We rely on our biological inheritance of sentience, our body, language, and culture in ways that are beyond our telling. This reliance is rarely the result of conscious deliberation, but is the framework within which deliberation takes place. Thus reliance is a somewhat 'passive' (though not 'inert') pole of commitment. We will now consider the more active pole of appropriation.

Appropriation

In delineating elements of the commitment situation on which we rely, we indicated no features which would not also be included in a behaviorist analysis of man. Skinner might disagree with Polanyi's interpretation of these factors, but he would agree that biology and environment provide the setting for human behavior. It is in comprehending the dynamic nature of commitment that we pass beyond behaviorism, and into a setting in which the individual becomes the originator of his own activity.

Human activity begins in the bodily sentience which it shares with all forms of life, but at the level of persons it assumes highly complex forms. Personal action is not limited to motility, perception, eating, and sleeping -- meeting the demands of physiology and environment. It also projects and meets its own demands in expressing meaning, or achieving some useful purpose. The types of commitment which we discussed under "reliance" can be construed as 'passive' experiences, in which a man operates under some kind of compulsion. Polanyi argues against such an interpretation, but it
is not difficult to move from "he relies on the convivial order" to "his behavior is contingent upon social pressures." At the level of the person however, we encounter activities which cannot be so construed, and their continuity with the forms of reliance places reliance in a different perspective.

In referring to these characteristically personal actions, Polanyi speaks of "seeking excitement," "appreciating feats of craftiness, or the solving of puzzles," "our craving for mental dissatisfaction," "playfulness," "spontaneous originality," and "ecstatic vision." Such desires must be accredited as essential to scientific knowledge as well as to other pursuits, for as intellectual passions they guide and charge our scientific affirmations. Polanyi asserts: "I want to show that scientific passions are no mere psychological by-product, but have a logical function which contributes an indispensible element to science." There is ample evidence for the passionate nature of science in the history of its great controversies, but even isolated discoverers abandon themselves to the strong emotions which fuel their search for truth. The role of the passions is to affirm that "something is precious." "The excitement of the scientist making a discovery is an intellectual passion, telling that something is intellectually precious and, more particularly, that it is precious to science. And this affirmation forms part of science." These rational passions search for what is significant to us, assessing facts on the basis of their significance:

The function which I attribute here to scientific passion is that of distinguishing between demonstrable facts
which are of scientific interest, and those which are not. . . . I want to show that this appreciation depends ultimately on a sense of intellectual beauty; that it is an emotional response which can never be dispassionately defined, any more than we can dispassionately define the beauty of a work of art or the excellence of a noble action. 24

Ordinarily we suppose that rational operations are quite devoid of passionate coefficients — "deliberation" and "rage" seem to be antithetical moods. But in both we are involved with something which we feel to be deeply significant for us, and they are therefore parts of an emotional continuum. 25 The degree to which our passions are involved in our enterprises varies considerably, for at an appetitive level (selecting food; perception) and at a highly abstract level (mathematics; physics) this personal participation may be greatly reduced. In the middle range of activities where we seek to achieve coherence in our experience, it may be quite high, particularly in the solving of articulate problems. 26 Our pursuit of the solution to a puzzling situation reveals our passionate commitment to, our emotional investment in, the existence of real answers and our ability to find them.

Before examining appropriation further, we need to clarify our use of "passions" in this section. Polanyi distinguishes between passionate acts which are commitments and those which are not. The latter include pervasive "subjective" states (pain, fatigue, feeling hot or bored) which we merely endure. In commitment, however, we actively carry and kindle our passions toward external standards which we want to meet. He writes:
I think we may distinguish between the personal in us, which actively enters into our commitments, and our subjective states, in which we merely endure our feelings. This distinction establishes the conception of the personal, which is neither subjective nor objective. In so far as the personal submits to requirements acknowledged by itself as independent of itself, it is not subjective; but in so far as it is an action guided by individual passions, it is not objective either. It transcends the disjunction between subjective and objective.  

This is a crucial point. Our passions are related to pervasive emotions to which we may sometimes be subject, such as grief or great happiness, and such states are rightfully termed "subjective." We are overwhelmed by these emotions, and our attention is completely captured by them. But there is another way of conceiving passions as legitimate elements in knowing, and that is to see them as commitments to external requirements whose jurisdiction we acknowledge. We believe these requirements to be independent of us, "out there" in reality, and in submitting to them we declare our willingness to be guided and criticized by such standards. This is the antithesis of subjectivism. The moral passion which led Marx to re-think the foundations of western society, and that passion which led Kierkegaard to attack the foundations of Danish Christendom, was not "just an emotion," a naive and sentimental longing for an end to their individual alienation. It was also a conviction that a deeper, more beautiful coherence lay beyond appearances, and that it was accessible to some limited degree.

It will help here to look for a moment at some of the meanings of "passion." While it basically connotes simply "suffering," there are important subsidiary elements in this meaning. Its Latin tem-
plate is *patior* (pati, passus), which means "suffer," but also "to undergo" something, "to experience" something. Its participle *patiens* extends this latter meaning into "enduring," "capable of enduring," and thus gives rise to "patience." When used by early Christian theologians as an equivalent for the Greek το θέος, "passion" preserved the meaning of "endurance," but was also used to express "the fact of being acted upon," and further, "the state or power of receiving or being affected by outside influences." 28 Thus "passion" displays its relationship to "passive" in indicating a "being acted upon," but can be distinguished from the connotation of 'inert suffering' that attaches to "passive." Another late employment which we must note indicates "an eager outstretching of the mind towards something, an overcoming zeal or enthusiasm for a special object," as in "he has a passion for Shakespeare." Combining these meanings yields a view of "passion" as both a stretching or extension of the mind toward something, and being acted upon from without.

This excursus should have deepened our appreciation of Polanyi's use of "passion" in speaking of the human intellect. Commitment is not constituted by reliance alone, but also by an active appropriation of experience. Appropriation can now be understood as (a) a purposive tending toward a goal which we believe to be highly meaningful for us, and (b) being affected and compelled by a reality external to ourselves, which we believe to be universally valid, that is, we believe that others will also find it accessible and compel-
ling. Our estimation of the significance of a particular goal is
guided by various standards or maxims, but it is performed by us
alone. It therefore amounts to a claim that our vision is true,
and is consequently an act of self-accreditation. This is the heart
of appropriation — the movement by which one claims a belief, an
idea, a word or an act as his own — and it is what constitutes the
personal dimension of knowledge. There is a danger of subjectivism
here, but it is avoided when we honestly assert that our claim meets
standards which we ourselves did not author, and when we accept its
future fruitfulness as the sign that it is real.

The implications of new knowledge can never be known at its
birth. For it speaks of something real, and to attribute
reality to something is to express the belief that its pre-

tence will yet show up in an indefinite number of unpredic-
table ways. . . . By trying to say something that is true
about a reality believed to be existing independently of
our knowing it, all assertions of fact necessarily carry
universal intent. Our claim to speak of reality serves
thus as the external anchoring of our commitment in mak-
ing a factual statement.

The internal stimulus for appropriation is the intentionality of in-
tellectual passion; its "external anchor" is the reality which "acts
upon" man in experience. Between these poles, uniting them, is the
person. Thus, "it is the act of commitment in its full structure that
saves personal knowledge from being merely subjective. Intellectual
commitment is a responsible decision, in submission to the compelling
claims of what in good conscience I conceive to be true."

Other aspects of this personal claiming will be examined in the
following section, where we take ideas about "person" beyond Polanyi's
discussion. We must point out here, however, that appropriation, as
we have defined it above, is an epistemological and a moral act. In standing by our judgements, we declare our willingness to assume responsibility for upholding those values which led us to those judgements:

The act of personal knowing can sustain these relations /between particulars and a coherent focal entity/ 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.32

In submitting responsibly to universal standards we acknowledge the jurisdiction of such standards, while sustaining them at the same time. Thus Polanyi connects knowledge and moral values in the structure of commitment, which was the original aim of his battle against a positivistic view of science.

We can now summarize commitment as both a reliance on our situation and a passion to make contact with what is real. Every purposive act involves both of these elements in varying degrees. Persons, as committed men and women, are continuous with their primordial biological roots; at the same time they attain a new, emergent level of being by virtue of the scope and power of their intellectual passions.

The Personal Metaphor

Up to this point in the thesis I have described Polanyi's understanding of the "person" — a notion central to understanding "personal knowledge." After looking at the general shape and context of his philosophy, I focused more narrowly on three types of activity which are paradigmatic of his notion of "persons." There I displayed how the Polanyian person knows, speaks, and acts, in contrast to critical
views of these same activities. In this fashion the general contours of the concept of the person were developed. I have now focused more narrowly still on commitment, which underlies all our knowing, speaking and purposive acting. When, within the Polanyian framework, we appropriate an enterprise as our own while also acknowledging its universal validity, we have reached the stage of fully personal existence.

This is as far as Polanyi takes us, though I believe the vision we have examined is sound and heuristically powerful. I will now suggest ways of extending our grasp of his concept of "person" so that its fruitfulness will be more apparent.

(1) We can begin by noting that Polanyi's discussion of commitment links up at a number of points with attempts to understand the odd way in which the first personal pronoun performs in our language. To the extent that personal knowledge, particularly the act of commitment, is a "self-accreditation," in which the power and meaning of a declaration rests upon our willingness to assert "I believe this," the linguistic debate is highly relevant. 33

There are a number of odd features of the first personal pronoun "I" that distinguish it grammatically. Its range of application is asymmetrical, in that we cannot use "I" of any person at all, as we can use "he" or "she"; we can only use it of ourselves. It is always reflexive. 34 "I" is also logically primitive, in that being able to use "I" is necessary for the proper use of other personal pronouns ("he," "she," "it"). "I" possesses priority because it is by means of
its use that we distinguish between ourselves and others, between public and private, between things and persons. 35 When we use "I" in speaking about experiences in and of the world, we also denote a special relationship to the world, or a special meaning of "world," namely, the world that is mine, that can only be seen and understood from my perspective. 36 Finally, the use of "I" is normally "self-involving" and "self-revealing," that is, it not only reports things about me but does things for me; and it does not merely describe behavior that others can corroborate, but reveals things about me of which only I am aware. 37 The self-involving character of "I" is essentially what John Austin designated as its distinctive "performative" function, in which "the issuing of the utterance is the performing of an action." 38

The point of reciting these eccentricities of the first person "I" is to note that within the logic of our language is a recognition that the center of intentionality for me — "I" when said by me — is asymmetrical with third-person reports about our behavior. Our natural use of language indicates that what "I" refers to is not homogenous with the referents of other personal pronouns. We should now recall that in discussing assertions Polanyi declared that language was meaningless unless it was asserted by someone, that is, unless someone was willing to say, "I believe this to be meaningful." This act of claiming our words as our own is a basic form of commitment which is invested with passion, and it is performed whenever we make any assertion of fact. "It is not words that have meaning, but the
speaker or listener who means something by them," and this simple claim rejects the possibility of statements asserting themselves. The personal backing of a statement ("I believe p") is not usually voiced, but its presence determines the meaning of the statement.

We can say, therefore, that Polanyi's analysis supports the linguistic effort to assert the semantic, epistemological bearing of "I." In the utterance of "I" phrases there is a level of meaning intractable to third-person expressions and this very intractability denotes the person. On this point Dallas High writes: "when I draw the concept of person into the picture, I am speaking of an intentional-acting being of egocentric particularity whose selfhood cannot be exhaustively described in terms of public behavior." This discussion (a) sharpens the significance of Polanyi's limited talk of "assertions;" (b) relates his stance on assertions to his position on action which we discussed earlier, namely, that the mind and body must be re-interpreted in such a way that persons can still be understood as agents whose actions are not reducible to publicly verifiable behavior; (c) provides considerable epistemological support for the study of performative speech; and (d) links up with suggestions that the logical grammar of "I" bears interesting parallels to the grammar of "God," indicating a possible avenue for extending Polanyi's understanding of personal agency in theological directions.

(2) In talking of "I", we mentioned its role in anchoring our distinctions of public and private, and this raises the issue of the privacy of persons which once vexed philosophy as the problem of solipsism, and more recently as the problem of private languages. Here
again is a way of fruitfully extending and applying Polanyi's insights. One aspect of recent philosophical criticism of Cartesian dualism has been its indictment of classical notions of the "soul" or the "will" which were believed to be the center of personal life. Part of the complaint is that these notions reflect a hidden, private entity within man which is ultimately responsible for all our actions. There is a "ghost in the machine" who is unobservable by anyone apart from the owner of the body in which he resides. We have already examined one result of this criticism, namely, the construal of persons solely in terms of publicly observable behavior. Polanyi's opposition to such a construal makes it imperative that he account for the "privacy" of persons without positing ghostly entities within man, or a kind of crypto-dualism.

Most of us feel intuitively that our perception of ourselves is privileged in some sense, that some part of us is essentially private. As we have noted, the element "I" in our language also serves the interests of a "private" person. If we apply Polanyi's notions of indwelling and tacit knowing to this issue, we will find even more satisfying ways of appreciating the "private" aspect of personhood. The paradigm for all forms of indwelling is the way in which I am in my body. I depend on it for everything that I do, but normally I am never aware of my body in itself. While I am concentrating on performing a task, my bodily apparatus is subsidiary to the task on which I focus my attention. The subliminal bodily processes and states which enable me to perceive and to sense are indwelled as logically unspecifiable particulars, from which I attend to a meaningful world
which they constitute. In intellectual integrations of experience we find similar processes occurring. At this level of complexity, however, the tacit structure of knowing is easier to recognize. We assimilate particulars from experience to a focally observed meaning, but can never specify, in principle or in fact, what all of the particulars were. Polanyi does not believe that man has within him some essentially private "sphere" or place to which no one has access of any sort. But he also rejects the idea that man is theoretically specifiable in his totality. We can say, I believe, that for Polanyi the self is not unobservable, but it is inaccessible. The particulars which go to make up my experience are inaccessible to me as explicit facts, though they are available in the meaning which they constitute. Tacit knowing avoids the strict dichotomies of public/private, while allowing meaningful talk of the privileged position of the subject. This way of understanding "privacy" is not esoteric — the back of my head and the operation of my heart are always inaccessible to me; but they exist, they are real, and they are publicly observable. They are not observed, however, as my head or my heart, but as his head and heart. 43 "Personal action" is asymmetrical with "behavior" in the same way that "I" is asymmetrical with "it". The inability of an observer to integrate the same set of particulars which constitute my experience of myself makes third person reports of that experience illicit.

(3) The discussion of the act of appropriation, of "I", and of privacy indicates that individuality is a characteristic of persons. A sense of identity that enables a person to use "I" allows
him to distinguish himself from the rest of the world. To achieve this sense of individual identity, certain conditions are necessary; Robert Scott has suggested that an essential requirement for the development of persons is a source of stability or constancy in human affairs.44 Of the various types of constancy which are available (organic processes, duty), he argues that "constancy in the giving and receiving of promises" is the model of stability in our tradition which preserves personal identity most faithfully:

When a person makes a promise he finds himself bound to whom he has made the promise. It is this bond, which is the meaning of a promise, which is on this account the source for the stability and constancy in the realm of human affairs.45

The fact that promises can only be made and received in the first person reveals that constancy is established in "the mutuality of shared first persons." This suggestion has much in common with Polanyi's belief that our ultimate commitments are apprehended within a convivial order, where mutuality of trust and respect ties together discrete individuals into individual persons. It is conviviality which helps define our own identity, by giving us a place in which we can leave our anonymity and appear before our fellows. The theological development of this idea in the concept of "covenant" offers further possibilities for extending Polanyi's thought.46

(4) A further modification of our usual notions of "person" has been suggested by Polanyi's thought. William Poteat has drawn upon Koyré and Polanyi to express the subtle sense in which a recovery of a truly personal perspective on the universe must result in a reconceptualization of "space."47 I will briefly set forth the main outlines
of this view, which was adumbrated in Chapter I.

Our common-sense view of space might define it as the medium within which objects are objects, or within which they are separable particulars. It is the arena within which I find orientation for my own body, that background against which all objects can be located. The deceptiveness of this common-sense view lies in its assimilation of the notion of space to a purely visual model, so that space seems inherently geometrical to us. If, however, we look at earlier periods of our culture, we find an understanding of the human situation, the human "place," which is understood in terms of the entire sensorium, and not just perception alone. The visual understanding of space which forms our geometric sense of how to situate persons is actually derivative upon more primary senses.

The history of this shift in perspective has two loci: (a) In the Renaissance, the mathematical interest which stemmed from Florentine Neo-Platonism found expression in perspectivism in the arts. The powerful realism which resulted from the application of geometry to painting and to architecture seemed especially apt for a cultural movement interested only in this very real world. The medieval painting which "told a story" of transcendent meanings was sacrificed for a mode of representation which established man's true "place" within the space of observed objects. (b) In the seventeenth century, as we saw earlier, the mathematicizing of science provided a tool within which everything (including man) could be measured. With this model before him, there is little wonder that Descartes found "extension" to be the most characteristic quality of human bodies. When coupled with his dualism, Descartes'
geometric materialism produced the notion of the knower as "a disembodied eye," which was precisely the view of Locke that we criticized in Chapter III (p. 134).

In becoming defined in terms of disincarnate mind and geometric space, western man lost his "place," his 'home' in the world of nature and culture. As Pascal saw, the new man conceived by science would be everywhere and nowhere at the same time. From such a displacement we can be rescued, Poteat would suggest, by understanding anew the ultimately personal character of lived space, or "place." In this perspective, "place" is defined in terms of its meaning to a concrete person. It is the ultimate "Whence" of my body, which enables me to judge all other bodies as having a "place," that is, a relation to me. This forms the new definition of "space." A man's "place" also gives him "a whereon to stand," a status in the world. "Place" can then be understood as "the medium through which intentional acts become progressively more determinate," the field of my endeavors. And finally, "place" is "room," or the ordering or structuring of experience itself. In all of these ways we begin to move toward a new understanding of the world, of our surroundings, based on our sense of being rooted in meaning. That personal meaning defines our place. The personal metaphor thus helps us to separate "place" and "space," and to regain a sense of where we belong in life.

(5) I have claimed that "person" is used to indicate a range of human activities, but that it cannot be reduced to any one of these. Though I suggested that commitment seems especially prominent for Polanyi among personal activities, it cannot be succintly defined
or identified. In Steiner we touched on the dimensions of temporality, privacy, alterity, and oral discourse, and to that we have added the notion of stability. Each of these dimensions registers part of the complexity that is a person, and at different times a specific dimension might predominate.

"Person" itself, however, applies to all of these 'forms of life.' It is what Strawson has called a 'logically primitive concept' assimilating within it all the traditional dualities, including that of minds and bodies: "The concept of a person is logically prior to that of an individual consciousness. The concept of a person is not to be analyzed as that of an animated body or of an embodied anima." To appreciate the significance of Strawson's point, we need to remember that reductionism attempted to establish matter as physically 'primitive,' while Strawson is asserting that persons are logically primitive within our language, and thus have the same ultimate ontological status that was once reserved for physical objects.

One way to express the multivalent character of "person" is to consider it a metaphor, in which are exhibited correspondences between quite different entities or events. The concept of "person" is a meeting point for the various human dimensions we have mentioned, and, serving as a kind of 'logical cement' for these disparate ideas, it holds them in a tensive juxtaposition. "Person" unifies these dimensions as modes of human existence; it allows their separate meanings to appear; and it transfers meaning among the disparate elements which make it up. "Person" therefore serves as an organizing image for
man's conception of himself. It is a kind of 'conceptual mirror,' in which the human figure is reflected. This metaphorical quality is clearly a somewhat abstract notion, which formalizes the multiplicity of meanings which are present in everyday discourse. It can, nevertheless, help us to understand how "person" functions in our mental life.

An example of a similarly metaphorical construction can be borrowed from meteorology. A cloud cannot be completely specified or adequately defined by physics, even though its dynamics are thoroughly understood. Its borders and make-up are constantly changing, as is its visual aspect when seen at close range. Depending on where we are, we might want to talk of "mist" or "fog" rather than "cloud." And yet the word functions quite well in ordinary and scientific discourse. This is the character of much of language, as well as of the term "person."

Another way of understanding "person" and how it operates is to place it within the framework of tacit knowing. Each of the discrete elements of "personhood" can then be understood as a subsidiary particular which is tacitly integrated into a focal whole called "the person." In attending to men and women we tacitly assimilate a multitude of clues which bear on their distinctive form of existence. Though the vision which emerges may be clear and detailed, it cannot be broken down into its constituent particulars. Once the integration is broken in retrospective analysis, we are no longer looking at aspects of a person, but only at "behavior."
We therefore return to the fundamental insight that the perception of what "person" means is an act that can only be performed by a person.

This then is our liberation from objectivism: to realize that we can voice our ultimate convictions only from within our convictions — from within the whole system of acceptances that are logically prior to any particular assertion of our own, prior to the holding of any particular piece of knowledge.52

This logical circle is unavoidable on the grounds of personal knowledge, but it is also the ground of our hope.

We can now briefly summarize the assumptions with which we began and the conclusions to which we have been drawn concerning the concept of the person. The notion of "person" in all of its forms is clearly important to Polanyi, and I have suggested that it must be seen to be central to his thought, in its bearing on some of the most problematic issues in our culture. This, then, is to shift the focus in Polanyian interpretation from the structure of tacit knowing to commitment. Both terms are essential parts of personal knowledge, and mutually interactive at every stage of Polanyi's thought. The move in this thesis is one of emphasis, occasioned by the polemical setting which a study of the person reveals, and by my ultimately theological concerns.

From this perspective, personal knowledge is less an epistemological theory or a philosophy of science than a vision of western man having recovered the full use of his human faculties. Polanyi, then, must be read as a thinker with a heuristic, ultimately open-ended message, and Personal Knowledge must serve as the final touchstone for interpreting that message.
The character of personal knowing is such that our intellectual activities have different assumptions and goals, and this has important methodological implications. We have observed that the strategies of Polanyi's argument reflect his conclusions concerning the nature of knowledge, that there is a fitting coherence between form and content. A study of "persons" demands a similar kind of consistency, as a precondition for an accurate grasp of the concept in its full meaning. The scholarly paradigms in our culture now direct the casting of arguments into essentially unasserted, "objective" form; the consequent gain in clarity is often at the expense of obscuring the role of pervasive commitments within the argumentation. Thus Polanyi's methodology offers the possibility of restoring a greater balance between the objective and the personal modes of discourse, or, at the least, it offers a stimulus for re-thinking the covert suppositions which lie behind the relation of form to content. The strategy of 'indirection' used here was adopted in order to remain consistent with the structure of Polanyi's thought, but it also relates to crucial theological assumptions.

Implications

The course of modern Christian theology has been shaped, both tacitly and manifestly, by profound changes in the fabric of western society. In this respect I believe that our age differs radically from earlier epochs -- for example, the patristic or conciliar period (c. 300-700 a.d.). In that setting the internal clarification of Christian concepts proceeded with attention to, but little guidance from, non-Christian elements of culture. Meditation upon the biblical word and the life of the Church community was the specific task of the theologian.
In the near-vacuum created by the dissolution of the Hellenistic-Roman world, this meditation occurred without distraction, with confidence in the value and rightness of the practice. Over the ensuing centuries, it created Christendom — a world thoroughly grasped in the concepts provided by the biblical meditations of the Fathers. Though not completely uniform or homogenous, western society accepted by and large the account of meaning developed and taught by the Church. Thus Christianity defined the sensibility of western society. This 'Christianization' of the west proceeded to such an extent that the last period of medieval Christendom, one historian writes,

...was intensely preoccupied with the world to come, viewed all life under the aspect of eternity, throbbed to the Christian drama of redemption, subordinated even political alliances to the truth of God, was intolerant of dissent, credulous of superstition, addicted to belief in demonology and witchcraft, often millenarian and sometimes Messianic.54

This description points to the pervasiveness of the age's dominant sensibility, to the way in which reality was ordered by that sensibility. That someone might depart from that view of things was incomprehensible, and was quite naturally considered a form of madness of diabolical intent ("heresy" and "irrationality" being equivalent).

The point in recounting this obvious fact about the medieval period is to suggest that we also dwell within (and are perhaps heretics of) a relatively fixed sensibility, though its content has changed. The thesis began with the attempt to understand certain aspects of this sensibility, but the theologically relevant point which I am now pressing is that traditional religious discourse (understood in its broadest sense) takes place today within a conceptual framework that tacitly withholds meaning and cognitive significance from that discourse. As partici-
pants in that sensibility, we are often led to follow its dictates, despite our professions to the contrary. Van Harvey has observed that "Western theology since the Enlightenment has been a series of attempts to come to terms with the sensibility created by modern technological and bureaucratic culture." It is this sensibility which we have termed "Objectivism." We who live in western society are just as subject to its way of shaping reality as the medieval man was subject to Christendom. Trapped in a "fly bottle" whose walls are invisible, theology is in some ways imprisoned within a narrow range of significance that is set by our culture. Beginning with Schleiermacher, theologians have attempted to deal with this problem by a variety of strategies (from capitulation to open defiance) and movements (from Religious Socialism to the Neo-Evangelicals).

The basic assumption underlying my efforts here is that the intellectual clarification of Christian belief must begin with an understanding of where our culture has brought us. The modern sensibility, of which Objectivism is a central aspect, influences our thinking in profound, not merely innocuous, ways. The great majority of theologians do not seem to be aware of this dilemma or of its depth. As we just suggested, capitulation and defiance are the polar extremes which religious thought has assumed in its 'exile,' for it can find no way into the mental paradigm which governs our age. Put as succinctly as possible, this occurs because religious life and man's understanding of himself as a person are co-extensive, and it is precisely this dimension of the personal that our age obscures. Polanyi's work deals with just this notion; in his writings we have a sustained effort to re-think our conceptual paradigm, and I have claimed that the stimulus for his re-thinking was
provided by a sense of what "persons" are, or should be. He was also aware that our current intellectual allegiances distort that reality: "...however desirable they may be, the meanings of religion will not be likely to be restored to man until his views of the universe are such that he can once more seriously entertain these meanings as representations of the way things could indeed be."56 An escape from this distortion -- a way out of the fly-bottle -- will not be immediate or easy to accomplish. But we can begin, perhaps, to discern the shape which a solution must take. Polanyi gives us hope because he provides a point of view from which our sensibility can be grasped in all of its complexity, and he gives us a foundation upon which an alternative account of things can be built.

This study has focused on one part of that account -- the nature of persons. While "persons" are involved in the entire range of culture, our interest lies in their theological relevance. At this point we will trace some of the more important implications of Polanyi's work for Christian thought, showing the connections which exist between the concerns of this thesis and more traditional theological endeavors.

Polanyi on Religion

We observed earlier that Michael Polanyi was not religious in the sense of actively or publicly holding the tenets of an organized religious group, Jewish or Christian. Though he mentions a number of times that his work has implications for an understanding of God, he does not pursue this issue, and it remains a minor feature in his writings, no more obtrusive than his references to art, psychology, or history. He specific references to religion are contained in four texts: (1) Brief
passages in *Personal Knowledge.* In a chapter on "Intellectual Passions," he discusses "indwelling" and "breaking out" as dialectical moments in the mind's journey toward truth. He sees the ecstasy of mystical communion with God exemplifying the urge to break out of limited conceptual frameworks. A second passage discusses the relationship of faith and doubt, as part of a general "critique of doubt." (2) A chapter in *Meaning on "Acceptance of Religion."* Here he briefly discusses a somewhat complicated theory of religious meaning which he terms "acceptance." In clarifying the distinctive kinds of meaning found in poetry and religion, Polanyi has combined an understanding of metaphor and myth in a claim that our knowledge of poetry and religion is based not on observation of facts, but on an acceptance of meaning or validity. The somewhat vague structure of "acceptance" ultimately amounts to a process of "fusing incompatibles" in experience into a new level of meaning. The apparently paradoxical and contradictory elements of religious rites and myths are fused by the imagination into a higher vision, which is God. These pages are Polanyi's last, and most complete, statement on the nature of religion; we will comment on them further in the next section. (3) An article, "Faith and Reason." (1960). In a tribute to Augustine, Polanyi shows that his understanding of the fiduciary ground of knowledge is a modern echo of the medieval belief that "the learner...must believe before he can know." (4) An article, "Science and Religion: Separate Dimensions or Common Ground?" (1963). In a manner similar to that in "Faith and Reason," Polanyi shows the underlying unity of scientific and religious knowing. He directs his remarks specifically against Tillich's separation of religious (or
"ecstatic") reason and scientific or theoretical reason.

Apart from other articles and passages which allude to religious themes or relate to such themes indirectly, the texts just cited contain Polanyi's reflections on religion — a total of perhaps forty manuscript pages. He refers in a limited way to a small number of thinkers — St. Paul, Augustine, Paul Tillich, Mircea Eliade, and Teilhard de Chardin. The thrust of his comments on religion is always synthetic, that is, showing how his analysis of scientific knowing leads to a unified vision of all forms of knowledge. While the implications of his work on religion are provocative, the evidence is far too slender to warrant confidence in estimating his understanding of religion, or to warrant treating Polanyi as even an amateur theologian. The assumption on which this thesis proceeded was that his work provides a necessary prolegomenon for contemporary theology, and that its religious implications must be cautiously drawn. With these caveats in mind, we will now suggest those limited ways in which his work as a whole, and the 'religious' writings cited above, may be understood in relation to traditional Christian themes.

Theological Connections

(1) As Thomas Langford has pointed out, it is apologetic theology (rather than dogmatics) which may benefit from Polanyi's work. Though he refers to the theological concepts of the Fall and Redemption, Polanyi is more concerned with "religion" than with "theology," and especially with the "symbiosis between thought and society." Unsurprisingly, then, his treatment of Christian themes is somewhat eclectic. For
example, the Christ plays virtually no role in his comments on Christi
canity; those comments are clearly theocentric and non-confessional.

(2) It is clear that Polanyi's thought is more relational than "propositional," and could not be domesticated by Orthodox Protestant
brands of propositional theology. He himself observes that

Religion, considered as an act of worship, is an indwelling rather than an affirmation. God cannot be observed, any more than truth or beauty can be observed. He exists in the sense that He is to be worshipped and obeyed, but not otherwise; not as a fact — any more than truth, beauty or justice exist as facts. All these, like God, are things which can be appre-
heended only in serving them. 65

Religion should not be conceived as an enterprise of collecting ob-
jective truths communicated from God, for that is a model of meaning
patterned after an Objectivist sensibility. If his analysis of knowing
is understood, then we see religious knowledge to be part of a structure
of commitment rather than of verification, with God as the ultimate
term in that structure.

(3) This in turn separates his stance from the more extreme forms
of revealed theology, and shows his affinities to natural theology.
Polanyi's early studies in biology, and his long career in chemistry,
gave him an appreciation for the biological setting of human life that
he never relinquished. Personal Knowledge concludes with a long essay
on evolution, and places man at the apex of evolutionary development.
The direction of evolution points beyond all horizons, to God, not as
a term within the evolutionary process, but as the highest level of
comprehension within which the hierarchical levels of nature are
understood. He suggests (though he does not present) a straightforward
if non-traditional cosmological argument for the presence of God. 66
In constructing his unified view of life, Polanyi acknowledges the existence of proper realms of religion and science, but explicitly rejects the effort common to many theologians to completely separate religion from science, theological reason from scientific reason. This sort of religious positivism seems to Polanyi to throw out the baby with the bath water by sacrificing the intelligibility of religion in an effort to preserve its meaningfulness. As religious beliefs cannot be scientifically verified, it is assumed that their truth can only be preserved by completing isolating them from prevailing canons of rationality. In personal knowing such a dichotomy can be avoided.

(4) The "personalism" of Polanyi's thought clearly has relevance to a religious tradition which is itself thoroughly personal. In distinguishing early biblical religion from Greek thought, Tillich has claimed that

The center of the antientological bias of biblical religion is its personalism. According to every word of the Bible, God reveals himself as personal. The encounter with him and the concepts describing this encounter are thoroughly personal.  

The accounts of the acts of God in the Hebrew Bible are in terms of personal agency, both on the part of God and of man. The centers of personal existence which we have discussed earlier are fully represented in the dynamics of the story of Israel: encounter between persons, the process of rational discovery, the power of speech, free action and responsibility, and community. "Wherever the holy is experienced, the person-to-person character of this experience is obvious."

Indeed it has been claimed that biblical religion, including the Incarnation, is the source of the meaning of persons, that the experience
it mediates "makes it possible and necessary to form the concept of
person as that of the spiritual being who freely disposes of himself
and who is of absolute significance." Christianity has understood
persons primarily in terms of historical encounters and partnerships
(the biblical covenant), while Polanyi approaches his understanding
through an analysis of reason. But both agree that the person must be
defined primarily in terms of activity, in terms of his 'existence'
rather than his 'essence.'

The embodiment of the Divine in personal form ("And the Word
became Flesh and dwelt among us"); codified at Chalcedon, has crystal-
lized the Christian claim that ultimate reality is a matter of living, of
a certain way of fulfilling human existence in the world. In the
present period of theological ferment, in which the Church attempts to
understand "man come of age" (Bonhoeffer), liberation theologies have
seized upon the image of the person Jesus to express their kerygma.
Here, as shall see in a moment, an element appears in the Christian
picture which is virtually absent in Polanyi: the understanding of
the person as one who suffers.

(5) We have seen that Polanyi seems to feel a certain affinity,
despite disagreements, with the thought of Paul Tillich. Richard
Gelwick has suggested that a "structural analogy" exists between
Polanyi and Luther, in their role as reformers, and Robert Osborn has
attempted to show some of the common ground beneath Polanyi and certain
liberation theologians. I would like to extend this process by
cautiously noting that Polanyi's mental outlook bears close resem-
blances to the outlook of H. Richard Niebuhr. He is the major
Christian thinker with whom I think Polanyi shares the greatest in-
intellectual conviviality.

We should remember, for example, that Niebuhr had a strong sociological and historical orientation, shown in his early works on American religion, in which he acknowledged the influence of social context and historical accident in the shaping of Christianity. He also insisted that Christianity be understood as a dynamic process, rather than through institutions or creeds: "The revelation of God is not a possession but an event..." The ethical writings of Niebuhr have been influential in establishing relation as an important way of understanding persons. We are defined not by some innate faculty or essence, but by our strivings and encounters in a world of other people. His thought was strongly theocentric, and he also was aware of the relativistic or limited character of all of our theological projections concerning God. His work on the social determinants of denominationalism made him aware of the subtle influences of environment on ideology.

Niebuhr was convinced that revelation in Christianity is necessarily historical, and that historical revelation is necessarily personal. The discernment of the Divine in history proceeds dialectically between faith and reason, and each pole must influence the other. The Christian theologian must operate within his own community of belief, but this does not limit his involvement in the wider society. There is a striking similarity in the way in which Niebuhr and Polanyi explain the accrediting or validating structure of revelatory authority (and scientific authority). Niebuhr observes that

In our reasoning about selves and their destiny we use some hypotheses which may be dropped or corrected if experience...
does not agree with them. Theological systems and theories of revelation are of this order. But back of all such hypotheses there are convictions which are not subject to criticism, since they are the bases of all possible criticism. ́

And in another passage which alludes to the fiduciary nature of our ultimate beliefs, he writes:

What ́revelation ́ means for us cannot be expressed in the impersonal ways of creeds or other propositions but only in responsive acts of a personal character. We acknowledge revelation by no third-person proposition, such as that there is a God, but only in the direct confession of the heart, "Thou art my God."... Revelation as the self-disclosure of the infinite person is realized in us only through the faith which is a personal act of commitment, of confidence and trust, not a belief about the nature of things.

This general notation of Niebuhr's views should be compared with the general philosophical stance of Michael Polanyi set out in Chapters I and II. Polanyi's historicism, contextualism, and personalism bear a close resemblance to these same qualities in Niebuhr. My brief mention of these two men is not intended to "explain" either one in terms of the other, or simply to see agreement for its own sake. It is rather to suggest that many of those elements which we find in Polanyi's writings have been successfully integrated into a coherent Christian vision, though that vision, like Polanyi's, may be far more radical than many people suspect.

The connections traced here between Polanyi's thought and certain central theological categories establish the appropriateness of his work for theological inquiry. To conclude these connections, I will now provide a brief analytical commentary on certain issues in the theological interpretation of Polanyi.
Issues in Interpretation

The first compelling observation to be made is that if Polanyi is to be adopted as a source of theological reflection, then it is more with questions of method than of content that the reflection must deal. A careful reading of Polanyi's primary works could well stimulate our thinking on the intellectual paradigms of our culture; the ways in which knowledge is acquired, organized, and propagated; the nature of institutions; the role of values in intellectual and social life; the place of man in the natural order; the importance of tradition, and a host of other topics, each of which could be crucially relevant in formulating a consistent theological programme, but none of which is within the "theological circle." Polanyi does not do theology, but he may well free us to reflect theologically.

This observation is itself in the way of a warning to theologians who may be eager to plunder Polanyi for some alleged arguments for the existence of God, or polemics against science on behalf of religion. His work is of a different order. But if these approaches demean Polanyi, there are serious questions which can be raised about the extent to which theology may find him a congenial partner. The first critical question concerns the extent to which Polanyi's personalism enters into his discussions of God. It is my feeling that these discussions are enervated by their relatively formal character, and by a curious missing element in Polanyi's account. The missing element is, quite simply, an awareness of God as personal. There is no sense in reading Polanyi that God is understood as the One whom man encounters, as the source of personhood. The acts of creation, the giving of
promises, the deliverance, the covenant, and the Incarnation do not seem to be grasped as evidences of personal involvement. There seems to be no "story" within Polanyi's mental world which could give lodging to these aspects of God, and through which they could speak to him. Tillich writes of biblical personalism in unequivocal fashion:

Although, in biblical religion, God is the one who gives and man the one who receives, reciprocity is always present in the divine-human relationship and expressed without any fear that it might limit the absolute divine supremacy... In a person-to-person relationship a personal action of the one side provokes a personal reaction on the other side. A reaction is personal if it originates in the free, responsible, and deciding center of the person.

A fundamental aspect of the Christian understanding of life is that it is a response to the initiative act of God; from that initiative man acquires a pattern for his own creative response: "God's freely uttered word, addressed to man as precept and promise at once, calls man and his responsive liberty to be partaker of his own living reality." These are notes which Polanyi's work does not sound or echo, and the limits of his conception from a Judeo-Christian point of view must be realized.

A second serious question which must be asked of theologians intent on using Polanyi concerns the partial synthesis which he defends between faith and reason. This query touches on a host of traditional problems in religion and philosophy, and we can do no more here than state the central issues involved. Polanyi clearly defends the indissoluble unity between faith and reason in the religious life, though he acknowledges that there are different forms of knowledge to which we give these distinct names. But his language is ambiguous
here. He claims that the difference between scientific and religious ways of knowing "appears only as one of degree." He says that "the structure of both these processes \( \text{\text{childhood and adult reason}} \) resembles . . . religious conversion." Personal knowledge, he says elsewhere, "is the true transition . . . from our knowing the laws of nature to our knowing the person of God." He suggests that his view of knowing "opens the way" to the knowledge of God. In all of these cases he avoids identifying reason and faith, but suggests their 'close similarity.'

Though he places science and religion on a continuum, Polanyi does recognize the appropriate role of each. He says, for example: "God is thus not a being whose existence can be established in some logical, scientific, or rational way before we engage in our worship of him. God is a commitment involved in our rites and myths." Our questions on this issue can be expressed as follows:

(a) Is there a category of reason apart from critical reason which encompasses the moral dimension? Did not Kant establish the proper place of morality in the mind by elucidating the practical reason? Could we not say that Polanyi's notion of commitment is simply another term for practical reason? If this be so, then there are philosophical concepts which can account for all of the facts for which personal knowledge accounts, but while keeping fact and value, reason and morality clearly distinguished. A possible Polanyian reply could insist that this challenge fails to see the radical character of Polanyi's re-conceptualization of knowledge; it views tacit knowing as perhaps true, but of trivial importance. Whether
we agree with this criticism or not, it indicates the philosophical perspective with which theologians must deal.

(b) If we allow for the presence of faith and reason on the same ontological, epistemological, and normative continuum, how do we deal with the claim of a theologian like Søren Kierkegaard, that reason is fundamentally opposed to the condition of faith? Insofar as abstract reason removes man from existence, from temporality, from actuality, it destroys the possibility of faith. Kierkegaard saw no possible union or compromise between 'reason' and 'faith,' and so separated them rather drastically, even when the polemical character of his debate with Hegelian philosophy is acknowledged. In so doing he was participating in a long theological tradition, extending from Paul, through Tertullian to Ockham and Luther. It is true, of course, that Kierkegaard's attack on Reason was tied specifically to his understanding of Hegelian thought, and that Polanyi has attempted to overcome that sensibility of which Hegel was so prominent a member. As he wrote post-critically, it might be replied that he avoids the infatuation with rationality that so horrified Kierkegaard. The religious side of Kierkegaard's complaint, however, which links knowledge with the symbol of sin, survives this explanation, as we shall now see.

(c) One last element should be mentioned, namely, the extent to which Polanyi's marvelously profound and ingenious work lacks a modality which has historically been considered essential to the Christian life: a sense of the tragic. He was, as we might expect from his biography, acquainted with a measure of personal tragedy and
was certainly sensitive to its operation among the lives of men. But his writings reflect little of the sense of evil which must have appeared to a man who fled the Holocaust, and then lost much of his family due to political conflicts. Instead they reflect the confidence of an Enlightenment man who has a basic trust in the powers of reason, co-operation and fair play. These were precisely the values which led the philosophes to predict that the application of the scientific method to human affairs would result in the alleviation of most of civilization's ills. But is there, not only in "human nature" generally, but in man's reason, a fundamental flaw which will inevitably distort any rational map for arriving at Utopia? Such musings sound morbid and misanthropic, until we remember our culture's myths of Oedipus, Sisyphus, Prometheus, and Faust, which echo a truth first sounded in the story of Adam's fall, that in gaining knowledge, man also falls. The 'tragic' character of man's knowledge leads, then, to the symbols of sin and the Fall within the Christian tradition, and it does not appear that Polanyi sees these symbols as threats to man the knower. He refers to "sin" and "the Fall" briefly as elements which constitute a tension in man's moral life. But the surmounting of these tensions is accomplished by an act of integration, by an imaginative leap, by means of which we see a large meaning beyond these tensions, namely, the vision of God. It is man, then, who overcomes the conditions of existence through arriving at the highest levels of tacit knowing. There is no awareness here of any fundamental inability to perform such healing integrations. Thus, while aware of the ambiguous nature of human freedom, linked as it is to
human finitude, Polanyi himself possesses no myth capable of overcoming the paradox of Fall and Redemption. The further adoption of his work in the service of Christian thought must face squarely this difficulty if it is to be true to the wisest voices of its own tradition.

The person as believer was not among the elements of personal existence singled out for attention in this thesis. That such a figure can arise from a consideration of Polanyi's work testifies to the depth and fertility of his conceptions. And it may be that in giving us back knowing, speaking, and acting as our own personal enterprises, he will have given us back belief as well.
NOTES - CHAPTER V

1 William T. Scott discusses this problem in "Commitment: A Polanyian View," Journal of the British Society for Phenomenology 8 (October 1977) 3:192. Another perspective on this problem is provided by Kierkegaard, whose 'indirect' approach was used in developing the style of this thesis. See Chapter I, pp. 3-5, and notes 5-7, p. 68.

2 The sections are "The Personal Mode of Meaning," pp. 252-253, and "The Subjective, the Personal and the Universal," pp. 300-303. Other passages which have a direct bearing on this subject are pp. 55-65 and 321-324. Generally relevant are Chapter 8, "The Logic of Affirmation," pp. 249-268, and Chapter 10, "Commitment," pp. 299-324. See also Tacit, pp. 30-32.

3 Personal, pp. 336, 403.

4 Here, as in my estimation of Polanyi's epistemology (see Chapter I, pp. 11-15), I interpret Polanyi more radically than many commentators would. Paul Holmer, for example, criticizes Polanyi's tendency to subsume everything under one model of knowing in "Polanyi and Being Reasonable," pp. 104-109, and Konstantin Kolenda has raised this same question in conversation. My reading depends upon accepting Personal Knowledge as the primary basis for interpreting Polanyi when there are discrepancies with his later, shorter works. In my opinion, that text amply bears out his radicalness.

It is also clear from the plurality of Polanyi's understanding of person that his view is not related to the idealistic "Personalism" of Brightman, Flewelling, Bertocci and others. See The Encyclopedia of Philosophy, s.v. "Personalism," by John H. Laveley.

5 Personal, p. 301.

6 Polanyi does not divide up "commitment" this way, though I believe I am accurately describing his implicit view. In two sections entitled "The Structure of Commitment" (I + II, pp. 308-316), he summarizes some aspects of the subject, but it is far from a complete account. He does not use "appropriation": I employ it to designate certain aspects of commitment.

7 W.T. Scott, "Commitment: A Polanyian View," agrees that commitment is a central feature of Polanyi's work, though his article describes it in somewhat different terms.
This would be the view of B.F. Skinner, Beyond Freedom and Dignity and About Behaviorism, and of Weston LaBarre, The Human Animal.

Polanyi, Personal, p. 347.

Ibid., p. 387. On the same page, Polanyi also says:
"... in ... anthropogenesis the descending lives of our ancestors have taken on by stages the full capacities of personhood ... ."
This is a questionable remark, for we noted earlier (after Wittgenstein and Kenny, Chapter I, p. 54) that we can predicate 'personhood' only of things that sufficiently resemble persons. At times Polanyi seems to talk of the personal aspects of lower animals, which, while it aids us in incorporating the biological dimension into our notion of persons, is linguistically confusing. I think his point can be saved by emphasizing the phrase "by stages"--the evolutionary process which has culminated in human persons shows definite stages, and elements or traces of our 'humaneness' can be seen at these various levels. But a "person" can only be fully constituted at the biological level of homo sapiens.
Thus, in referring anthropomorphically to animals (to household pets, for example) we are using "person" words in 'logically extended fashion,' but not incorrectly.

Polanyi, Personal, p. 96 (italics in original).

Ibid., p. 313. See also p. 364, and Knowing, pp. 215-216.

Tait, p. 13. See also p. 97, n. 3, which cites the experimental evidence of Hefferline, Keman, Harford and Perera.

Personal, p. 59. See also p. 61.

Cf. Poteat, "Persons and Places": "The price of defining mind in such a way as to deprive it of any incarnate existence is to deprive it of the very powers required for it to establish that extended things are substantial and that their spatiality is vectorized--having length and breadth and depth; it is, in short, to deprive the mind of orientation. In a Cartesian world of extended objects, strictly speaking, ... not only do 'length,' 'breadth,' and 'depth' have no meaning; neither, strictly speaking, have 'extended' and 'object,' " p. 183 (italics to "incarnate" added).

Personal, p. 376.

Ibid., p. 61 (italics in original).

Ibid., p. 377.

Ibid., p. 266.

Ibid., p. 196.

22. Ibid., pp. 6-7 on Johannes Kepler. See also Barbour, Issues, pp. 184-190, and T. Kuhn, The Structure of Scientific Revolutions.


24. Ibid., p. 135. He continues: "Only a tiny fraction of all knowable facts are of interest to scientists, and scientific passion serves also as a guide in the assessment of what is higher and what of lesser interest; what is great in science, and what relatively slight."

25. Even in cases where the emotions seem to have won complete control over the personality (say in hysteria), the psychiatrist operates on the assumption that the disturbance has a structure and order (even a rational order); even in the jubilation of discovery (Archimedes running naked into the streets of Syracuse yelling "Eureka!") the scientist is assumed to be rational.


27. Ibid., p. 300.


29. Polanyi, Personal, pp. 134-142. These standards include simplicity, accuracy, profundity, intrinsic interest, and fruitfulness. As maxims, there is no rule which determines their application; that is done through personal judgement.

30. Ibid., p. 311 (italics in original).

31. Ibid., p. 65.

32. Ibid., p. 63 (italics in original).

33. Ibid., pp. 27-30, 253-257, 380.

34. Discussions of the logical peculiarity of "I" have been carried on by Dallas Higgin, Language, Persons and Belief, pp. 114-160; Ian Ramsey, "The Systematic Elusiveness of 'I', " The Philosophical Quarterly 5
(1955) 20:193-204; F. Michael McLain, "From Odd-Talk to God-Talk?"
Journal of the American Academy of Religion, 38 (September 1970) 3:240-
254; William Poteat, "'I Will Die': An Analysis," The Philosophical
Quarterly 9 (January 1959) 34:46-58; "God and the 'Private-I','
Philosophy and Phenomenological Research 20 (1960), 409-416; and
"Birth, Suicide and the Doctrine of Creation: An Exploration of
 Analogies," Mind 68 (1959), 309-321; and John L. Austin, How To Do
Things With Words, 2nd ed. (Cambridge, Mass.: Harvard University Press,
1975).

36. McLain, 243-245; Poteat, "'I Will Die'," pp. 52-53.
39. Polanyi, Personal, p. 252. Polanyi's commitment to the use of
"I" is ubiquitously demonstrated in Personal. See pp. x, xiv, 214,
269, 299, 327, 381.
41. Ramsey, "Systematic Elusiveness"; McLain, "Odd-Talk," pp. 244-
42. The best representative of this critique is Ryle's The Concept
of Mind (London: Hutchinson, 1949). For a classical metaphysical
account of the person, see Sacramentum Mundi, 1969, s.v. "Person," by
Karl Rahner.

43. In Polanyi see Knowing, pp. 147-148. See also Norman Malcolm
Thought and Knowledge, pp. 104-132. Richard Taylor, in Metaphysics
describe a state, event, or experience as, in some sense, "private" is
not to posit a private thing. This applies to Polanyi. This discussion
of privacy also has close affinities to Steiner's treatment of the
private quality of language; see Chapter III, and After Babel, pp. 161-
205.
44. Robert T. Scott, "Abraham, Odysseus and Aeneas: Three Arche-
types of Personal Identity."
45. Ibid., pp. 21-22.
46. Using the work of Hannah Arendt, Scott discusses the notion of
"space of appearance." See pp. 38-39. He also discusses the
idea of covenant as the source of stability in persons; see pp. 19-22.
This entire section draws on the observations of Poteat in "Persons and Places," and Koyré in From the Closed World and Metaphysics and Measurement.


P. F. Strawson, "Persons," in V. C. Chappell, ed., Philosophy of Mind, pp. 136-137. This was also printed as Chapter 3 of Individuals.


Polanyi, Personal, p. 267.

It is Peter Brown's argument, for example, that Augustine's theology cannot be explained simply in terms of the controversies in which he was engaged, that is, that his theology developed simply as a response to external contingencies (Manichaeism, the Platonists, the Donatist controversy, Pelagius). See Augustine of Hippo (Berkeley, Ca: 1967).


Polanyi, Meaning, p. 160.

Pp. 196-199; 279-286; 405.

Pp. 149-160.


Personal, p. 208.

Philosophy Today, 7 (Spring, 1963): 4-14.


Personal, p. 279; see also *Meaning*, p. 156.

Polanyi, *Personal*, pp. 381-405. A similarity to Teilhard de Chardin can be seen in this 'spiritual evolutionism.'


Ibid., p. 25. For other discussions of "persons" and Christian thought, see Gordon D. Kaufman's discussion of the ways in which our concepts of transcendence are developed out of our understanding of persons: *God the Problem* (Cambridge, Ma.: Harvard University Press, 1972); Ronald W. Hepburn's discussion of the problems of revelation in 'Encounters,' Chapters 3 and 4, in *Christianity and Paradox: Critical Studies in Twentieth Century Theology* (New York: Western Publishing Co., Pegasus Books, 1958); Robert H. King's attempt to discuss "person" linguistically and theologically: "The Concept of the Person," *The Journal of Religion* 46 (January 1966): 37-44; as well as a number of attempts to relate Polanyi's work, which always bear reference to the person, directly to theological themes (see the works already cited by Gelwick, Langford, Osborn, and others). The difference between an approach based on the kind of awareness we have discussed here, and one still involved in traditional categories, can be seen in two recent, influential works: David Tracy, *Blessed Rage for Order: The New Pluralism in Theology* (New York: The Seabury Press, 1975), and Langdon Gilkey, * Naming the Whirlwind: The Renewal of God Language* (Indianapolis, Ind.: Bobbs-Merrill, 1969). While penetrating and suggestive in many respects, both books talk of the need to relate theology to "modern secularity," which is essentially accepted as the adequate ground for our current conceptualizations. Its problematic character — the import of its implicitly objectivistic ideals for the notion of human persons — is unrecognized, or at least insufficiently analyzed.


75 Niebuhr, Meaning in Revelation, pp. 106-107.

76 Ibid., p. 102. Niebuhr had read Polanyi: in Radical Monotheism and Western Culture, with Supplementary Essays (New York: Harper and Bros., 1960), he discusses Polanyi briefly, pp. 128-133.

77 Niebuhr, Meaning in Revelation, p. 112.


80 Polanyi, "Faith and Reason."

81 Ibid., passim (italics added).

82 Polanyi, Meaning, p. 156.

83 Professor Konstantin Kolenda first brought this question to my attention.

84 See Kierkegaard, Philosophical Fragments, and Concluding Unscientific Postscript.

85 This personal fact has been emphasized in conversation by Richard Gelwick and Elizabeth Sewell. This question concerning the lack of a tragic dimension in Polanyi was first brought to my attention by William Poteat.


APPENDIX

A Biographical Note on Michael Polanyi


Michael Polanyi was born in Budapest in 1891. His family had originally come from Poland, and was ethnically Jewish, though it does not seem to have felt its Jewish heritage strongly. Family members were highly intellectual and politically somewhat radical, Michael being unusual in his antipathy to Marxism.

Polanyi published his first scientific paper in 1910 at the age of nineteen, and received his M.D. from Budapest in 1913. From 1914 to 1918, while serving as a medical officer in the Austro-Hungarian army, he continued his theoretical research in chemistry, aided by a "voluminous correspondence" with Albert Einstein on the thermodynamics of adsorption. This work earned him the Ph.D. at Budapest in 1917.

In 1920 Polanyi was appointed to one of the research institutes of the Kaiser Wilhelm Gesellschaft in Berlin, and in 1929 was made a Life Member. This was a period of scientific ferment in Berlin, and Polanyi
had the opportunity to work with the most creative scientists in Europe. He contributed important work there, and later in England, in the areas of adsorption theory, X-ray analysis, reaction kinetics, crystal structure, bond energies and polymerisation, and plasticity and strength of materials. In most of this work Polanyi was assisted by research teams; two of his students were later Nobel laureates (Melvin Calvin, Chemistry, 1961; Eugene Wigner, Physics, 1963). Between 1910 and 1949, Polanyi published 218 scientific papers and the book *Atomic Reactions* (London, 1933), before moving into other areas.

In 1933 Polanyi left Germany when the National Socialists came to power, becoming Professor of Physical Chemistry at the University of Manchester. In 1948 he accepted a chair in social sciences at the same University, which officially acknowledged his extensive work in economics. After leaving Manchester in 1948, he was Senior Research Fellow at Oxford from 1958 to 1961, when he retired from active teaching. During this period Polanyi became interested in the challenge presented by Soviet Marxism to the western democracies, particularly its principle of state management of the economy. He was instrumental in founding the Society for Freedom in Science, and the Congress for Cultural Freedom, which worked to extend freedom of thought in western society. He also published *USSR Economics* in 1935, *The Contempt of Freedom* in 1940, and *Full Employment and Free Trade* in 1945. Ironically, Polanyi was denied a visa by the U. S. State Department in 1951 to accept an appointment at the University of Chicago in philosophy of science, "on suspicion of past involvement in a subversive group" (probably the radical Galileo Circle of his undergraduate years).
Beginning with the publication of *Science, Faith and Society* in 1946, Polanyi began to reflect more philosophically on the commitments underlying western society's view of science, knowledge, and belief. These interests culminated in his major work, *Personal Knowledge: Toward a Post-Critical Philosophy* (1958). Four more books and two volumes of collected essays pursue these themes into more specific areas (see the Bibliography). From 1961 until shortly before his death, Polanyi taught and lectured at universities in Britain and America, including Chicago, Virginia, Stanford, Duke, Wesleyan, and Texas. He died in London on February 22, 1976.

Among Michael Polanyi's many honors are the following: Fellow of the Royal Society (1944); Foreign Honorary Member, American Academy of Arts and Sciences (1962); Max Planck Society (1949); LeComte du Noüy Foundation Award (1959). Honorary Doctoral degrees from the universities of Princeton, Leeds, Manchester, Cambridge, Aberdeen, Notre Dame, Wesleyan, Toronto, Loyola. Honorary Lectureships included the Riddell Lectures (Durham), Lloyd Roberts Lectures (Manchester), Gifford Lectures (Aberdeen), Lindsay Lecture (Keele), Eddington Lecture (Cambridge), Gunning Lecture (Edinburgh), McEnnery Lectures (Berkeley), and the Terry Lectures (Yale).

Polanyi's collected papers are now at the Regenstein Library of the University of Chicago.
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