WITTGENSTEIN, KANT AND TRANSCENDENTAL

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ABSTRACT

This paper will present two main theses. It will argue that the _Tractatus_ is a work in the tradition of transcendental philosophy. To the extent that the _Tractatus_ attempts to determine the necessary invariants of expression it can be viewed as a critique of pure language. It will argue further that Wittgenstein's failure to provide schemata as Kant has done leaves his explanation of the nature of symbolic representation (the picture theory) radically incomplete, and ultimately imperils the realist position he is attempting to maintain.

This paper will argue that if the _Tractatus_ is resituated in a broad Kantian tradition certain advantages of interpretation are gained:

    1) the problem of simple objects is better elucidated;

    2) ethics is seen in context;

    3) the picture theory is seen as a coherent and plausible, though incomplete, explanation of the nature of symbolic representation.

This resituation of the _Tractatus_ within its spiritual and intellectual home will be attempted from several points of view. First, reference will be made to the largely circumstantial evidence (much of which is collated by Janik and

Toulmin in their recent work <u>Wittgenstein's Vienna</u>,[1] which tends to clarify the notion of a critique of language within the pre-war Viennese context. Secondly, to the heritage of Frege and Russell, important as it is, the acknowledgement and addition of the supremely important role played by Heinrich Hertz will be proposed and evaluated. It will be argued that Hertz, rather than Mach (a true predecessor of logical positivism) is a primary influence on the <u>Tractatus</u>. Thirdly, a discussion of the transcendental deductions found in both the <u>Critique of Pure Reason</u> and the <u>Tractatus</u> will show to what extent the aims and methods of Kant and Wittgenstein differ and yet overlap.

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[1] A. Janik and S. Toulin, <u>Wittgenstein's Vienna</u>. New York: Simon and Schuster, 1973.

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CHAPTER I

THE KANTIAN HERITAGE AND INFLUENCE

If the _Tractatus_ is read, not as a work in a neo-Humean and British empiricist tradition, but rather as a work in the transcendental tradition of Kant, many of the standard difficulties of interpretation disappear. This paper will attempt to establish the Kantian influences upon the _Tractatus_. The following overview, while sketchy and suffering from the weakness of mere assertion and not proof, will be offered for one purpose: to give some idea of the complex and intimate relationship holding between the _Tractatus_ and the _Critique_. Certain of these shared and differing views will be discussed in detail in the following sections.

Current and fashionable exegesis places the _Tractatus_ squarely within the British analytic tradition and considers its natural progeny to be logical positivism. This interpretation declares the chief concern of the _Tractatus_ to be the logical analysis of language in the tradition of Russell and Whitehead's _Principia Mathematica_.

This reading of the _Tractatus_ requires (or is felt to require) in addition to the logical atomism espoused by both Russell and Wittgenstein (though differing, of course,

in several key areas: the underpining of British empiricism.
Thus, on this interpretation, the Tractarian demand for
simple objects is satisfied by Russell's sense-data and the
position of ethics in the Tractatus is explained in terms of
a cognitive-emotive split. In short, to the logical machinery
(for logic, read "relations of ideas") is added those "matters
of fact" (elementary or molecular) so familiar in Hume.

This conventional interpretation of the Tractatus
leads to such infamous problems as the nature of simple
objects and the lack of an example of one in the Tractatus.
Certain of Wittgenstein's statements regarding colour, space,
and time have proved difficult to reconcile with traditional
empiricist views.

Given this common reading of the Tractatus,
Wittgenstein's discussion of ethics, value and the meaning of
life can only be viewed as a series of less than sober,
regrettably muddle-headed aphorisms, merely tacked on as an
afterthought to an otherwise rigorous and restrained discus-
sion of logic, mathematics and philosophy of science. The
1's and the .'s are, on this reading, somewhat philosophic-
ally suspect, for they too seem to smack of ontology and
metaphysics. As well, the key concept of 'bilder' in its
standard translation of picture is less than clear, for this
translation results (all too predictably) in the assimilation
of the term 'picture' to the Humean vocabulary of images and
impressions. Attempts to explain and evaluate the picture

theory against this backdrop have led to somewhat ludicrous and painful efforts, more out of desperate faith than conviction, one suspects, to see exactly how a sentence is a picture, literally, of reality.

Hacker, in Insight and Illusion, Wittgenstein on Philosophy and the Metaphysics of Experience, cites five philosophical influences on Wittgenstein: Hertz, Frege, Russell, Schopenhauer and, perhaps, Brouwer, three of whom he considers deeply indebted to Kant, and declares: "it is therefore not surprising that Wittgenstein's philosophy bears deepest affinities to Kant's, despite the fact that he never studied Kant ..."[2] Recently, other critics have professed to see a relationship to Kant in Wittgenstein. Amongst them one can cite Eric Stenius, W. Stegmuller, M. Engel, Max Black, David Pears, A. Maslow, A. Janik and S. Toulmin.[3]

The Janik-Toulmin thesis is particularly helpful in understanding the Tractatus. Briefly, they argue that

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[2] P. M. S. Hacker, Insight and Illusion. Oxford: Clarendon, 1970, p. 139.

[3] Eric Stenius, Wittgenstein's "Tractatus." Oxford: Blackwell, 1960; W. Stegmuller, Main Currents in Contemporary German, British and American Philosophy. Bloomington: Indiana University Press, 1970; M. Engel, "Wittgenstein and Kant," in Philosophical and Phenomenological Research, 30. 1970; Max Black, A Companion to Wittgenstein's 'Tractatus'. Ithica: Cornell University Press, 1964; David Pears, Wittgenstein. Fontana Press, 1971; A. Maslow, A Study in Wittgenstein's 'Tractatus'. Berkeley: University of California Press, 1961; A. Janik and S. Toulmin.

Wittgenstein was primarily concerned with the philosophical
and literary problems prevalent in pre-war Vienna and that
his interest in Frege and Russell sprang from a search for a
means to solve philosophical problems previously troubling
him. They claim that in Frege and Russell's mathematical and
logical work, Wittgenstein found a tool to help solve the
problem fundamental to "... the neo-Kantian environment of
pre-1914, in which logic and ethics were essentially bound up
with each other and with the critique of language
(Sprachkritik) ..."[4] Janik and Toulmin remind us that
Wittgenstein is first and foremost a Viennese, hence not
raised in the British tradition of empiricism and post-Humean
epistemology; secondly, he is an engineer with a sound know-
ledge of physics; and thirdly, he is an individual whose
primary personal interest was ethical. The common view in
the English-speaking world regarding the _Tractatus_ is that it
is essentially a logical and mathematical work. It is argued
that the _Tractatus_, in Viennese circles, is taken to be
primarily an ethical treatise, and one standing squarely in
the tradition of Viennese intellectual achievements of that
era.

It is of some interest that the Tractarian view of
ethics is in certain ways a development of the Kantian posi-
tion. Ethics and values do not lie in the world of facts

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[4] Janik and Toulmin, p. 22.

(realm of possible experience) and cannot be proven or expressed in the language we use to describe such a world of facts. Rather Wittgenstein, like Kant, insists upon the differences between the worlds of theoretical and practical reason. Wittgenstein, like Kant, wishes to protect religion, ethics, art, i.e. values, from pseudo-scientific or pseudo-rationalistic approaches and, in order to prevent this, he insists upon a sharp demarcation between the realm of facts and the realm of value. Wittgenstein's ethical philosophy differs from the Kantian in that the ethical is relegated, for safe keeping as it were, to the realm of what cannot be expressed in language (for it lies outside the bounds of sense) but only shown. And it is interesting to note that the Viennese tradition of viewing the _Tractatus_ as an ethical treatise is fully supported by Wittgenstein himself in a letter to the publisher L. van Ficker.[5] It is also important in assessing Tractarian ethics to remember that it was conceived during a revival of interest in Vienna in Schopenhauer and Kierkegaard, both of whom draw heavily on Kant in their ethical writings.

Although _this_ similarity between Wittgenstein and Kant is, unfortunately, too often missed or neglected in most critical work, the most obvious similarity is usually clearly brought out: namely that,

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[5] P. Engelmann, _Letters From Wittgenstein With a Memoir_. Oxford: Blackwell, 1967, p. 143.

the logical analysis of language as he
[Wittgenstein] conceives of it is a kind
of transcendental deduction in Kant's sense,
the aim of which is to indicate the a priori
form of experience which is "shown" by all
meaningful language .... From this point of
view the Tractatus could be called a "Critique
of Pure Language."[6]

For Wittgenstein, who rejects the very notion of the synthe-
tic a priori, it is logic alone which supplies the a priori
form of experience, and examination of the role of logic will
require the isolation of the logical core at the heart of
every possible significant symbolism which purports to repre-
sent or express, and thus, apply to a possible world. In
Kant, as well, we see an emphasis on logic in the metaphysical
deduction of the categories where Kant isolates and identifies
the fundamental logical forms of our judgements and from them
derives the categories (as will be discussed later in this
paper). At this point, it is sufficient to note the similar-
ity of interest and goal in Kantian and Wittgensteinian phi-
losophy.

We see, as well, similarities in the Kantian view of
reason, which, in its dialectical use, overreaches its
natural boundaries and in Wittgenstein's criticism of man's
natural urge to thrust against and transcend the necessary
limits of significant speech. Both stress the critical role
of philosophy and minimize any philosophical pretensions to

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[6] Stenius, p. 229.

extend or acquire new knowledge (A 795, TLP 6.53, 4.0003, 4.115). They share a common view as to the role of empirical psychology within philosophy which emerges in their respective discussions of the metaphysical subject (TLP 5.641) and the rational doctrine of the soul.

Such fundamental similarities are undercut by equally fundamental differences. Briefly, Wittgenstein follows Hume and considers causality a psychological, not logical, law (for the *Tractatus* only admits of logical necessity, hence the rejection of the synthetic a priori which has already been mentioned). Perhaps the most fundamental difference is that Wittgenstein holds a realist view. For him language depicts an independent reality, the order in language simply mirroring the pre-existing order in the world. Kant's position of transcendental or critical idealism does not maintain such a sharp distinction between our powers or faculty of thought and that which can be known.

This paper will argue that a fundamental question which troubled both Wittgenstein and Kant was the following: how can the a priori, whose characteristic mark is that of necessity, apply to the contingent world? In Kant this took the form: how are synthetic a priori judgements possible? In Wittgenstein the question was rather: how can a system of representation (whose essence is logical, hence a priori) describe the world of contingent reality? Both philosophers attempt to answer these questions by means of a transcendental

deduction. The exploration and examination of their respec-
tive answers to the question of the role of necessity, i.e.
the a priori, in knowledge and experience will involve a
discussion of the transcendental deductions of the _Critique
of Pure Reason_ and of the _Tractatus_. The next section will
present such a discussion of Kant's transcendental deduction.

CHAPTER II

KANT'S TRANSCENDENTAL DEDUCTION

The purpose of this section is to outline and sum-
marize Kant's answer to the question of the role of the a
priori in the acquisition of knowledge. In brief, he argues
that experience as such is possible only because the nature
of human sensibility and understanding permits a constitutive
role in knowledge. Of particular importance in Kantian epis-
temological theory is the concept of transcendental object-X.
A similarity in the role of this concept and that of
Wittgenstein's concept of object will be suggested. Such an
understanding of the aims and realized achievements of the
deduction is essential for later comparison with the trans-
cendental deduction found in the _Tractatus_. The following
discussion will not include the Analytic of Principles and
Schemata which will be discussed in a subsequent chapter.

Kant explains the need for a critique of pure reason
in the following manner. Our concern is to ascertain the
role (and validity) that a priori knowledge, i.e. knowledge
independent of all experience (B 3), plays in the acquisition
of knowledge. We know that such knowledge exists for mathe-
matics, natural sciences, and metaphysics offer us examples
of such knowledge applied to experience. But to demonstrate

the legitimacy of such employment we must undertake a critical examination of the sources of our knowledge. This will involve an examination of the two factors in human knowledge, sensibility and understanding.

Kant thus asserts a dualism in man's sources of knowledge. To the understanding is assigned the role of generating concepts, to the sensibility the capacity to be affected by objects.

> Without sensibility no object would be given to us, without understanding no object would be thought. Thoughts without content are empty, intuitions without concepts are blind. It is, therefore, just as necessary to make our concepts sensible, that is, to add the object to them in intuition, as to make our intuitions intelligible, that is, to bring them under concepts. (B 75)

Neither faculty alone can give us knowledge.

Let us first examine the sensibility. Intuition involves _immediate_ awareness (B 34) of an object given us through sensibility. "Objects are given us by means of sensibility and it alone yields intuitions." I shall here follow Hintikka in interpreting intuition as awareness in experience of a _particular_ instance, i.e. of an individual. This stands in contradistinction to the notion of 'concept'. "The former [intuition] relates immediately to the object and is single, the latter [concept] refers to it mediately by a feature which several things may have in common."[7]

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[7] J. Hintikka, "On Kant's Notion of Intuition", in _The First Critique_, ed. Penelhum and MacIntosh. Belmont: Wadsworth, 1969, p. 42.

Hintikka bases this interpretation in part on the following
quote from Kant's _Logic_ which he cites: "an intuition is a
single representation (representatio singularis), a concept
is a general representation (representatio par notes com-
munes) ..."[8] Strawson seems to agree with Hintikka's inter-
pretation of intuition as standing for an individual:
Kant's "word for awareness in experience of particular
instances of general concepts is 'intuition'."[9]

Now intuition, as well as involving the notion of
individuality, is linked by Kant to the sensibility. Due to
the nature of the faculty of sensibility, objects can affect
us and such an effect is termed sensation. "That in the
appearance which corresponds to sensation I term its matter"
(B 34) and that which orders and relates the material given
by sense is entitled its _form_. An empirical intuition is,
obviously, by definition, connected with sensibility. How-
ever, Kant distinguishes, as well, _pure intuitions_, space and
time, and to show their relation to sensibility will involve
proving them to be the very forms of our sensibility. This is
a less evident, and, it would seem, a less necessary move.

Now, before going on to outline Kant's proof of this
thesis, it is important to indicate what fundamentally is
here at stake. As Kant himself puts it (B 125), in any

[8] Ibid., p. 42.

[9] P. Strawson, _The Bounds of Sense_, Methuen, 1966,
p. 20.

epistemological theory, we are faced with a choice. Either
our perceptions and knowledge of objects are as they are due
to the nature of the object or the nature of the object is
primarily a function of how we perceive and conceptualize.
Kant will opt for the latter and this is the essence of his
Copernican revolution. Thus the undetermined matter of sense
(objects affecting us) is determined by the form imposed upon
it by the structure of human sensibility (and conceptual
apparatus). His thesis of the input provided by sensibility
at the level of perception is that the formal or structural
characteristics of our sensibility are such as to impose one
unified spatio-temporal framework, embracing all individual
instances. Thus all appearances are mutually related in that
they appear or feature in one spatial system and in one time
ordering, and, he claims further, this is one of the necessary
conditions which must be satisfied in order that knowledge of
objects[10] be possible at all.

Kant presents the above thesis in the Transcendental
Aesthetic. The following should give a brief overview of his
attempted proof.

Kant has claimed that space and time are 1) not

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[10] Although I have employed the term 'object' in this
discussion, such a use is not legitimate in that Kant, at this
stage, has no right to call these effects of phenomena or
objects 'out there' anything but the most general and neutral
term 'appearances'. For it is essential to Kant's thesis that
only by rendering these appearances 'objects', can knowledge
and self-consciousness be at all possible.

concepts, but particulars or _intuitions_, and 2) they are not empirical intuitions but _a priori_. With respect to the apriority of space (the argument is essentially the same for time), he argues as follows: 1) in order to refer to something apart from me, space must be presupposed; 2) I can think of space as empty but not of objects without the backdrop of space. (Compare TLP 2.013) Therefore, space cannot be derived from experience and must, in fact, be presupposed prior to all experience. To prove that space is an intuition, he argues that space is not a general concept subsuming particular instances, and thus a property of, or relation between, objects but an individual representation. "Space is essentially one." "Diverse spaces are only parts of one and the same space." (A 25)

Now the idea of an a priori intuition, as mentioned previously, poses certain difficulties, and so the crucial question is: "How can there exist in the mind an outer intuition (or in the case of time, an inner) which precedes the objects themselves and in which the concept of these objects can be determined a priori?" (B 41) Hintikka views this problem as equivalent to the issue in quantificational logic regarding the rule of existential instantiation where:

> one introduces a representative of an individual (in Kant's terminology, an intuition, in our terminology, a free singular term) which does not refer to any known individual. As Kant puts it: the introduction of an individual takes place a priori.[11]

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[11] J. Hintikka, _Logic, Language-Games and Information_. Oxford: Clarendon, 1973, p. 115.

Now this clearly poses a problem, for according to our original definition of intuition, -- immediate awareness of the presence of an individual through sense -- this would not seem to be a case of intuition at all. We seem to know in advance certain properties which any object must have, that is, we know its structural or formal properties, i.e. it must have certain spatial (Euclidean?) properties and certain time properties. Insofar as these are formal properties common to all objects, we can know them in advance.

Kant's solution to this problem is that such an anticipation of experience is only possible insofar as we assume these _forms of anticipation_ (viz the forms of all appearances, space and time) to be the formal characteristics of human sensibility, that is, of _how_ we perceive and are affected by objects. (B 41) And so a priori, as well as empirical, intuitions are claimed to be linked to the structure of human sensibility.

Kant further asserts that the truth of this explanation becomes evident when we realize that only in this way can the apodictic nature of mathematical judgements be made comprehensible. As Hintikka puts it: "... Kant concludes that the knowledge we gain through mathematical reasoning applies to objects only insofar as they are possible objects of sensation."[12] This is the synthetic nature of mathematical

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[12] Ibid., p. 117.

judgements. But, as Kant points out, were such judgements based solely and entirely on an empirical intuition, they would be only contingent, lacking that necessity which is their characteristic. (B 40, A 48) They must therefore be based on an a priori intuition, and it must be an intuition, rather than a concept, for concepts alone yield no new knowledge but merely analytic truths. The only a priori intuitions are those of space and time and it is upon them, therefore, that are based geometry, arithmetic and the science of motion.

The proof of the a priori character of space and time and their applicability to the world of possible experience (via the argument from geometry) is extremely important within the Critique and will have ramifications throughout. For Kant claims to have succeeded in showing how at least two examples (space and time) of a priori intuitions can and must apply in order that experience as such be possible. In the Transcendental Deduction he will again be faced with a similar task: here to prove the necessary applicability of a prior concepts to the phenomena given by sensibility.

What then has been proven in the Transcendental Aesthetic? Let us view the temporal and spatial framework given us by the forms of our sensibility as a grid which we impose upon the fleeting parade of perceptions. On this analogy, we can view our sensibility as giving us the spatial and temporal coordinates necessary for us to point to a

somewhere, somewhen, something. But we, in no way, can
claim that such perception is equivalent to knowledge. A
mere record of subjective perceptions, as Korner points out,
cannot be asserted to be universal, negative, hypothetical,
or problematic.[13] For the latter are not subjective percep-
tions, but judgements.

For Kant, in the Transcendental Analytic, thinking is
viewed as equivalent to judging. A correct analysis is not 'I
see X', but rather, 'I see that X'. All judgements are com-
plex; they involve the conceptualization of objects perceived,
that is, the subsuming of a particular object under a corres-
ponding general concept. To think is to judge, to assert that
X. Otherwise we could not know; we would only perceive. We
need to think our perceptions. This is accomplished through
an act of connecting. It is clear, thus, for Kant, that know-
ledge is propositional, that is, complex (thinking as connect-
ing) and not atomistic and passive in the Humean sense. Con-
sequently, he will not, as we shall see, concentrate his
inquiry on the raw data of sense, but will examine language and
the judgements it expresses. He will explore our conceptual
apparatus, having satisfied himself as to what, in the making
of knowledge, can be yielded by our perceptual equipment.

The demands on our conceptual apparatus will be heavy,
for in truth, our perceptual framework seems able to supply

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[13] S. Korner, <u>Kant</u>. Penguin Books, 1970, p. 53.

only rudimentary and basic individuating factors. We still
need criteria of identifiability, reidentifiability, and all
relational operations between the individuals presented by
sense via our spatio-temporal sensibility.

Now, as previously mentioned, Kant's account of the
processes of knowledge is dualistic in the sense that indi-
vidual instances or particulars seem to be given us by one
faculty, the sensibility, and general concepts by another,
the understanding. To the understanding is assigned the role
of connecting and ordering the diverse representations given
by sense, and concepts, be they empirical or pure, are viewed
as rules (A 126) for bringing about such connections. How
does Kant come to view the understanding in this light?

His examination of the understanding has led him to
conclude that to think is to judge. And to judge is to unify
the representations given by sense by means of a unifying
function. (B 93) These functions are determined by an analy-
sis (Metaphysical Deduction) of the logical forms of our
judgements from which Kant claims to derive the corresponding
twelve pure concepts or categories.

It is entirely to Kant's credit that he sees here
something too often neglected in past epistemological the-
ories. In order that any act of judging can take place, one
fundamental requirement must be satisfied: namely, that such
judgement should be carried out within and by one unified
self-consciousness, i.e. that representations should be

perceived __and__ thought by the same subject.

> For the manifold representations, which are given
> in an intuition, would not be one and all __my__
> representations, if they did not all belong to
> one self-consciousness. As __my__ representations
> (even if I am not conscious of them as such) they
> must conform to the condition under which alone
> they can stand together in one universal self-
> consciousness, because otherwise they would not
> all without exception belong to me. (B 133)

This possibility of self-ascription of experience, Kant terms

the unity of pure apperception. As Körner says:

> ... a manifold of representations may or may not
> be an __it__ which can carry the burden of proper-
> ties and relations. (In the latter case there is
> synthetic unity in the manifold). There can be
> no __it__ unless there is an I which could be aware
> of __it__ and thereby of itself. (The possibility of
> this relation between I and __it__ is the pure or
> original apperception).[14]

The example of twelve men, each of whom has one item of a sen-

tence in his consciousness, and one man who has read the

entire twelve word sentence, illustrates the requirement Kant

is trying to establish. For, clearly understanding is pos-

sible only to the individual who is conscious of all twelve

words and has at hand a possible manifold upon which to apply

the process of understanding.

Now that which brings about synthetic unity of the

manifold __and__ the possibility of self-consciousness of the

manifold is precisely that which "objectifies" the manifold

and ultimately permits the application of concepts to it by

the understanding. Kant's view seems to be that the only way

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[14] Ibid., p. 62.

that the flow of disparate and disconnected representations
can be connected so as to view them as the representations of
a single unified consciousness is in terms of a unifying func-
tion (supplied necessarily by the understanding to which all
work of connecting is assigned). Such a unifying function
"which gives unity to the various representations in a judge-
ment and also gives unity to the mere synthesis of various
representations in an intuition, we entitle the pure concept
of the understanding." (B 105) "An object is that in the con-
cept of which the manifold of a given intuition is unified."
(B 137) For Kant, then, awareness of myself comes about only
through the act of distinguishing myself from appearances
termed as objects. Such an action creates me as an individual.
"All experience," he claims, "does, indeed, contain, in addi-
tion to the intuition of the senses through which something is
given, a concept of an object as being thereby given, that is
to say, as appearing. Concepts of objects in general thus
underlie all empirical knowledge as its a priori conditions."
(B 126) Such a unifying function is, thus, the pure, a priori
and general concept of an object. (A 105) Kant attempts to
clarify this notion. "What, then, is to be understood when we
speak of an object corresponding to, and consequently, also
distinct from, our knowledge?" (B 104) How, in other words,
has this move from apprehension of appearances to experience
of objects been made? The general concept of an object is
simply that: a general concept. And a concept, as Kant never

tires of pointing out, is a rule used in the ordering and connecting of a manifold given by sense. (A 106) The concept of an object serves as an epistemic form whose role is to provide and impose the form of an object upon appearances so as to render them intelligible. Nothing corresponds to it in reality and we can never know or intuit this transcendental object = X. Its constitutive role in knowledge is threefold: firstly, it is "that which prevents our modes of knowledge from being haphazard or arbitrary, and which determines them a priori in some definite fashion. For insofar as they are to relate to an object they (the categories) must necessarily agree with one another, that is, must possess that unity which constitutes the concept of an object." (A 105) Crudely put, if perception and understanding were at one moment united in construing appearances as objects, and at yet another moment, as say, events, all experience would be necessarily incoherent and chaotic. The fact that the same function, a concept of an object, unifies the representations in an intuition and in a judgement, guarantees this unity and coherence of experience. Secondly, Kant has defined categories as "concepts of an object in general" (B 128) and thus the role of the pure concept is to unify the manifold so that it admits of application by categories of objects. (B 134) Thirdly, it guarantees that our language of experience should be internally consistent, for the very compatibility of the categories rests upon their each being categories possible of

application to objects. This requirement is similar to Plato's highest Form which serves within Platonic theory as a coordinating and unifying ground for the other Forms.

Thus unification of the sensible manifold is accomplished through the general concept of an object. But concepts, as we have seen, are, according to Kant, generated by the understanding. How then can a pure, a priori, concept of an object influence our sense impressions? Are not, according to this dualistic interpretation, sensibility (the faculty which produces particulars or individuals) and understanding (the faculty which generates concepts) irreducibly separate? Kant hastens to correct this reading of the Aesthetic and the Analytic. "In the Aesthetic, I have treated this unity of representation as belonging merely to sensibility, although as a matter of fact, it presupposes a synthesis which does not belong to the senses ..." (B 160 Footnote). Only the understanding which is active and spontaneous can determine, and thus, only the understanding (under the title of imagination) can determine or influence the manifold of intuition given by sense. And so, the sharp distinction we thought to see between sensibility and understanding is not as absolute as at first sight. The link is provided by the faculty of imagination which supplies the rules of connection (in the synthesis of apprehension) of the sensible manifold, in terms of a concept, that of a concept of an object.

Thus Kant's purpose in separating sensibility and

understanding was to show the respective contributions of both. He insists, however, upon the unity and interrelationship of these two factors in knowledge, to the extent that, at a certain point, it becomes difficult to isolate the one from the other.

The role of the "concept of an object," that is, the idea of transcendental object = $\wedge$, is similar to the gestalt model of perception, in that we do not perceive atomistic or individual chunks of appearances which are subsequently ordered and related, but the very process of perception for Kant involves the imposition of a relational framework, that of an object, plus, of course, the necessary unifying factor of a single time-space system.

Thus the Transcendental Deduction asserts that at least one pure concept of the understanding, that of an object, is necessarily linked to intuition, and insofar as the categories are concepts of an object in general, they, too, it is claimed, have been shown to be linked, in principle, to intuition. For:

> All possible perception is thus dependent upon synthesis of apprehension, and this empirical synthesis in turn upon transcendental synthesis, and therefore upon the categories. Consequently, all possible perceptions, and therefore everything that can come to empirical consciousness, that is, all appearances of nature, must, so far as their connection is concerned, be subject to the categories. (B 165)

Through an analysis of the concept of experience, Kant's transcendental deduction has attempted to show what are

its necessary presuppositions. He claims to have established
the necessary framework (epistemic or logical) for thought
(or judgements) about a possible world of experience. This
involves the requirement of a self-conscious subject capable
of self-ascription of its experiences and capable of distin-
guishing between itself and its representations (of ...), and
the possession by this subject of a consistent and coherent
logical grammar for thought about this world. This involves
that concepts should not be empty. They must be capable of
relation to the sensible world via the whole process of com-
ing to know anything. It involves that intuitions should not
be unintelligible. They must be capable of identification
and reidentification, i.e. of classification under general
concepts. "No object of experience is possible if it be
either unperceivable or unthinkable."[15] In short, both sense
and reference (sinn and bedeutung) have been provided because
our perceptual and conceptual processes have been shown to be
linked.

     Now this is still the bare, minimum outline of the
structure of thought about a possible world of experience.
Application of such a logical or epistemic grammar to an
actual world will be provided for by the schemata and prin-
ciples of experience. They are rules to transform the pure
categories to categories-in-use. The schemata supply

[15] Ibid., pp. 58-59.

semantical or referential rules to permit the subsumption of particular experienced instances under general concepts. And this will be dealt with in the last chapter of this paper.

This chapter has described Kant's answer to the question of the nature, role and scope of a priori elements in experience. Of particular importance is the a priori concept of an object which permits the use of categories as predicates of possible elements of experience. Kant's claim is that experience is possible only insofar as it is an experience of objects. Our language which is descriptive of and constitutive of experience is, for him, necessarily an object-language. This will be compared with Wittgenstein's analysis of the necessary constituents of experience in a later chapter. For the moment, we shall turn to a discussion of Henrich Hertz whose work, it will be claimed, lies in the Kantian tradition and served to greatly influence the _Tractatus_.

CHAPTER III

HERTZ: A KANTIAN SCIENTIST

It will be argued in this section that Heinrich Hertz is a scientist in the Kantian tradition and, to the extent that it can be shown that his influence on the _Tractatus_ was significant, we have further evidence that the _Tractatus_ is, in fact, a work of transcendental philosophy. The thesis that the _Tractatus_ is a statement of positivist doctrine is greatly undermined if it is accepted that Wittgenstein was influenced by Hertz rather than by Mach.

In the first section of this paper, certain Kantian influences on Wittgenstein were cited: namely, Hertz, Brouwer, and Schopenhauer. Brouwer's constructivist and intuitionist interpretation of mathematics influenced post-Tractarian writings rather than what we are here considering. The influence of Schopenhauer is seen primarily, and almost exclusively, in the ethical doctrines of the _Tractatus_. But the role of Hertz pertains to the theory of picturing which is essential to the _Tractatus_ and so merits our consideration here.[16]

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[16] For acknowledgement of Wittgenstein's debt to Hertz, see in particular J. Griffin, _Wittgenstein's Logical Atomism_. Oxford: Clarendon, 1964, and B. F. McGuinness, "Philosophy of Science in the Tractatus," _Revue Internationale de Philosophie_, 23, 1969, pp. 155-166.

Toulmin and Janik agree that "... in its basic concep-
tions, the Hertzian system was completely Kantian."[17] Hertz
himself (in _The Principles of Mechanics_) defines the most
important scientific problem as the anticipation of nature.
The data of science are past events, its method is theory
construction, and its mode of reasoning is deductive. Hertz's
account of theory construction and the place of deductive
reasoning in scientific theory are particularly relevant to
this paper and will now be discussed.

The _Principles of Mechanics_ is both a text on mechan-
ics and a theoretical discussion and exploration of the logic
of scientific concepts. To this extent it is both a prac-
tical and philosophical work. Its chief philosophical interest
lies in Hertz's explanation of what it is to construct symbolic
systems (bilder or darstellungen) which represent possible
objects of experience in advance of actual, or particular
experiences.

Hertz begins by dividing mechanics into two parts, one
of which corresponds to the logical necessities of our thought,
and one which responds to the requirements of experience. He
insists upon the need

> ... to distinguish thoroughly and sharply between
> the elements in the image which arise from the
> necessities of thought, from experience, and from
> arbitrary choice.[18]

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[17] Janik and Toulmin, p. 139.

[18] H. Hertz, _The Principles of Mechanics_. New York:
Dover, 1956, p. 8.

A scientific theory, he claims, ought to be examined in this light.

In any scientific system of representation, he asserts, our method of theory construction is to:

> ... form for ourselves images or symbols (bilder) of external objects; and the form which we give them is such that the necessary consequents of the images in thought are always the images of the necessary consequents in nature of the things pictured. [19]

The images are our conceptions of things. Our fundamental restriction on the construction of such symbols or images is one of <u>structural similarity</u>, i.e. that the symbols chosen should behave within the symbolism as do the objects represented. Three further requirements that such models of experience should meet are offered:

1) that models should not contradict the laws of our thought, i.e. that they be logically permissible;

2) that models must conform or correspond (correctly to empirical data, i.e. truly depict the relations holding between the objects they purport to represent;

3) that such representation should meet the requirements of simplicity and appropriateness.

With respect to the first requirement of logical permissibility, Hertz claims that this is determined by the very nature of the human mind. Hence, this requirement involves an a priori element in the construction of any scientific theory. "To the

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[19] Ibid., p. 1.

question whether an image is permissible or not, we can without ambiguity answer yes or no; and our decision will hold good for all time."[20] The second requirement involves the material offered by experience and it is open to revision and change. "... that which is derived from experience can again be annulled by experience."[21] The third requirement, Hertz claims, involves what is arbitrary in our notation, and hence it too is open to dispute. While we cannot demand, a priori, simplicity of nature, we can demand it of our symbols. We must strive for the greatest simplicity and appropriateness within our notation or representational system.

Hertz then accepts both a priori and empirical (a posteriori) characteristics as necessary and meaningful for science. Cohen, in the introductory essay to the Principles of Mechanics, assesses Hertz's theory:

> while he was Kantian with regard to formal necessities of thought, he was also, with Kant, ruthlessly empirical with regard to the coordinating relations of thoughts to facts; ... for Hertz the test of truth is ultimately an experimental matter.[22]

Hertz's own theory of mechanics endeavours to satisfy the requirements he himself has established. The subject matter of Book I, he declares, is independent of experience and is based on the laws of internal intuition and the logical

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20 Ibid., p. 3.

21 Ibid., p. 9.

22 Ibid., Introductory Essay, Section 2.

forms of thought. It involves a priori judgements in Kant's sense.[23] Book I contains the purely theoretical speculations which function as axioms and are subject only to the first requirement of logical permissibility. His three primitive terms are 'time', (defined as the time of our inner intuition), 'space', (the space of Euclidean geometry) and 'mass', which he introduces by a definition.

> A material particle is a characteristic by which we associate without ambiguity a given point in space at a given time with a given point in space at any other time. Every material particle is invariable and indestructible.[24]

The number of material particles in any space is called the mass...The configuration of material particles results in material points. From this Hertz goes on to describe the analytic representation of a material point and a system of such.

Book I, in effect, offers what Kant has established in his transcendental deduction (as discussed in Chapter II). It clearly stipulates the a priori structure involved in scientific theory construction. Book I claims to describe the contribution made by the nature of human thought in understanding, describing and predicting the phenomena of nature. Hertz's concepts of 'time' and 'space' correspond to Kantian pure forms of intuition and his concept of 'mass' plays a

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[23] Ibid., p. 45.

[24] Ibid., pp. 45-46.

role similar to that of the Kantian pure concept of an object.

Book II deals with time, space and mass as symbols for objects of external experience. The linking or correlating of the a priori structure set out by Hertz in Book I to the data supplied by experience is provided by the "laws of transformation." Such rules, it must be noted, are not new definitions.[25] They permit the translation of "... external experience, i.e. concrete sensations and perceptions, into the symbolic language of the images of them which we form."[26] Now how, in fact, is this accomplished? Hertz explains:

> we make, that is to say, these conceptions symbols for objects of external experience in that we settle by what sensible perceptions we intend to determine definite times, space-quantities, or masses.[27]

Time, for example, is measured by a chronometer; its unit of duration is settled by arbitrary convention. Space is determined by the methods of practical geometry, its unit of length by means of a scale, again a question of arbitrary convention. Only through such rules (similar in purpose to Kant's schemata) can the original, solely logical, categories or concepts of 'space', 'time', and 'mass' be correlated to actual experiences and so be transformed from purely logical symbols to interpreted symbols. Only thus, says

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25 Ibid., p. 141.

26 Ibid.

27 Ibid., pp. 139-140.

Hertz, do such symbols become subject to demands other than those of logical necessity, i.e. of our thought.

Hertz's theory of physics is radically different from previous theories such as those of Mach. For Mach, the concepts of physics are derived from experience, the result of the impressions of objects on our senses. They are, thus, in a sense, inductive constructs out of experience, and are best seen as attempts to copy, to make replicas or facsimiles of what we have experienced. Cassirer describes Machean physics as a "physics of literal pictures."[28] This notion of facsimile or similarity is replaced, in Hertz, by the requirement of logical similarity which is found in the formal or structural resemblance of the behaviour of symbols to the behaviour of objects represented. Cassirer explains:

> For symbols in the sense employed by Hertz ...
> no connection with reality such as was demanded
> by earlier theories is either necessary or pos-
> sible. Here a particular symbol can never be
> set over against a particular object and com-
> pared in respect to its similarity. All that
> is required is that the order of the symbols
> be arranged so as to express the order of the
> phenomena.[29]

The foundation of such symbols or models is not psychological or descriptive, and hence inductive, (bilder are not copies or "ideas" of actual sense experiences) but logico-mathematical. As Cohen puts it: Hertz's "... laws of nature

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[28] E. Cassirer, The Problem of Knowledge. New Haven: Yale University Press, 1950, p. 110.

[29] Ibid., p. 114.

are less _descriptive_ shorthand for experientially correlated
perceptions than _prescriptive_ interpretive symbolic systems in
the Kantian sense."[30] Hertzian concepts are patterns for pos-
sible experiences, not derived from but prior to, and defini-
tive of experience. The great advantage possessed by such a
system, unlike Machean reductionist explanations or analyses
of physical data, is that their range of applicability (or
significance) can be determined from within, without the aid
of external or metaphysical assumptions. "... the model
itself _shows us_ the limits of all possible experience which
can be called 'mechanical'"[31] by means of its logico-
mathematical structure. In short, the axiomatization of
mechanics that Hertz has performed permits the deduction of
all and only the propositions which lie within the domain of
mechanics. Janik and Toulmin conclude that Hertz's task and
great achievement was

> ... to explain how, at one and the same time, the
> classical theory of Newtonian dynamics can both
> form a mathematical system of axioms and deduc-
> tions and describe the _actual_ world of nature, as
> contrasted with all _logically conceivable_
> worlds ..."[32]

He has accomplished this task by specifying clearly
which components of his theory of mechanics are a priori
(conceptual) and which a posteriori (factual). He has linked

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[30] H. Hertz, Introductory Essay, Section 3.

[31] Janik and Toulmin, pp. 141-142.

[32] Ibid., p. 180.

the two components by a third factor, the transformational
rules. Thus the axioms of mechanics, which form a complete
theoretical system in themselves, are given application to a
real or actual world by rules of designation, i.e. seman-
tical rules. Hertz has created a language of mechanics which
will generate all and only the propositions of mechanics.
The truth functionality of such a language is accounted for
by its postulated and admittedly arbitrary links to the world.
As Wittgenstein himself notes: "Mechanics is an attempt to
construct according to a single plan all the _true_ proposi-
tions that we need for a description of the world." (TLP 6.343)
It

> determines one form of description of the world by
> saying that all propositions used in the descrip-
> tion of the world must be obtained in a given way
> from a given set of propositions -- the axioms of
> mechanics. It thus supplies the bricks for build-
> ing the edifice of science, and it says, 'Any
> building that you want to erect, whatever it may
> be, must somehow be constructed with these bricks,
> and with these alone. (TLP 6.341)

The discussion thus far has served to establish the
Kantian elements in Hertz's work. The Hertzian influence on
Wittgenstein will, as well, be making itself evident. Indeed,
one commentator has gone so far as to declare that:
"Wittgenstein models so much of the _Tractatus_ on this work
that there is point to thinking of the _Tractatus_ as the
Principles of All Natural Sciences."[33]

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[33] J. Griffin, _Wittgenstein's Logical Atomism_. Oxford:
Clarendon, 1964, p. 5.

There seems to be more than a passing similarity
between Wittgenstein's idea of simple objects which are
unalterable and subsistent, but whose configuration differs
(TLP 2.027) and Hertz's material particles. Simple objects
in configuration produce states of affairs (TLP 2.0272).
Material particles in combination form material points.
Since the possibility of objects combining with others is
fixed in advance by the nature of the objects themselves,
simple objects are the substance, formal, not material, of
the world. Their configuration produces material proper-
ties. There exists for all possible worlds an underlying
permanent formal structure of simple objects whose range of
occurrence is fixed in advance. In an actual world we have
the fact that these objects are configured in one of their
possible combinations.

Such a discussion of objects is, however, premature
at this point and is best dealt with within an account of
the transcendental deduction found in the Tractatus. The
examination of Hertz's role will thus be continued within
the context of such a discussion centered on Wittgenstein's
transcendental deduction and the theory of language which
he is there presenting.

CHAPTER IV

WITTGENSTEIN'S TRANSCENDENTAL DEDUCTION

Now "the task which Kant set himself was the demarcation of the limits of thought, and the parallel task which Wittgenstein set himself, was the demarcation of the limits of language."[34] And so the aim of Wittgenstein's transcendental deduction is to answer the question: what are the necessary conditions for language to be used in order to assert true or false statements about the world? Wittgenstein in a sense replaces Kant's transcendental apparatus with a logical analysis of language, which is conceived of as coextensive with thought. He wishes to determine the necessary invariants of expression for any possible experience.

In Wittgenstein's view, to determine the <u>necessary</u> limits or preconditions is to determine the <u>logical</u> limits (for the <u>Tractatus</u> accepts only logical, not factual or psychological necessity). And thus his investigation will centre itself on the role and nature of logic. Logic covers everything that is necessarily true and can be said in advance of experience. Logic is essential to <u>any</u> network or

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[34] D. Pears, <u>Wittgenstein</u>. Fontana, 1971, p. 46.

grid which permits description of the world. All networks,
all descriptive systems, contain logical axioms, (the axioms
of mechanics form one possible descriptive net). These
axioms are logical in the sense that they are without speci-
fic content. As patterns for possible experiences they are
what Cassirer calls "logical blank forms of the possible
sciences."[35] And so only logic is a priori. "Logic is prior
to the question 'how?' not prior to the question 'what?'"
(TLP 5.552) "The exploration of logic means the exploration
of everything that is subject to law. And outside logic,
everything is accidental." (TLP 6.3) "Here, as always, what
is certain a priori proves to be something purely logical."
(TLP 6.3211) The a priori element in a language, or symbolic
system of representation, is provided by logic and, insofar
as logic is viewed as a necessary presupposition of depiction
of a possible world, logic is deemed transcendental. (TLP 6.13)
Logic "presupposes that names have meaning and elementary pro-
positions sense" (TLP 6.124) and that is its connection with
the world.

　　　　Wittgenstein, in effect, ignores Kant's distinction
between general logic and transcendental logic. So that for
Wittgenstein general logic, as the necessary requirement of
thought and expression, becomes transcendental. Kant dis-
tinguishes general logic, which he defines as the form of

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[35] Cassirer, p. 46.

thought in general, from transcendental-logic which deals
with the laws of the understanding as they relate a priori
to objects. This lack of distinction by Wittgenstein has
important ramifications. He thus equates logically possible
with theoretically possible. "Everything that is possible at
all is also legitimate." (NB 22.8.14, cf. TLP 5.473) For
Kant, what is strictly logically possible is not necessarily
possible of realization nor is it legitimate. Hertz, with
Kant, recognizes the difference, for he too attempts to add
to his system constraints other than solely those of the
logical necessities of our thought. For Wittgenstein, what
can be thought and said is definitive of experience. For
Kant, we are, of course, free to think what we wish, but we
risk employing concepts which are devoid of experiential
meaning. This lack of distinction will lead to further dif-
ficulties which will be discussed in Chapter VI.

The exploration of logic will involve the study of
language and, more precisely, the nature of the proposition.
In the Notebooks he puts it: "in order for a proposition to
be true it must first and foremost be capable of truth, and
that is all that concerns logic." (29.10.14) Logic allows a
proposition to be true (or false) because it alone permits
the very description of facts by propositions.

> Logic makes the very existence of a describable
> world possible, simply by making description
> itself possible. Just as, in Kant, the under-
> standing creates the order in nature, logic

makes Wittgenstein's "world" possible, by pro-
viding it with a form.[36]

Logic provides the bare bones of reality, its logical skele-
ton, which experience fleshes out. 'Study of the general form
of propositions will enable us to give an explanation of how
we can put together symbols of things and relations so that
they correspond to things having those relations in reality.
(Notes on Logic, Appendix, p. 113). It should be noted that
Wittgenstein's position here assumes a realist view and a
correspondence theory of truth.

Wittgenstein concludes that in order that language
(or, more precisely, the logical core at the heart of every
significant symbolism) accomplish its transcendental task,
i.e. truly represent the world, there must exist a certain
relationship between language and reality. This relation-
ship forms, in effect, the main subject of the Tractatus.
From the formal properties of language we can deduce the
formal properties of the world. Exploration of this relation-
ship will involve what it is to construct propositions having
a sense, in short, what it is to answer the question of how
we can speak significantly and truly or falsely about the
world.

Wittgenstein, it should be remembered, is looking for
necessary, i.e. logical, conditions. Therefore, the relation-
ship holding between language and what it describes cannot be

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[36] Janik and Toulmin, p. 188.

one established by a system of representation whose form is
empirically and inductively, hence contingently, derived (à
la Mach), nor one whose form is arbitrarily and convention-
ally established (à la Mauthner). It must be a logical,
necessary form of representation which permits the generation
of all and only the propositions descriptive of states of
affairs. Now Janik and Toulmin claim that Hertz provided
Wittgenstein with the example of

> ... one area of language, at least -- namely,
> the language of mechanics -- which was suf-
> ficiently univocal and well-structured to con-
> vey "facts" about the work, that is, to pro-
> vide a "representation" of the world in the
> form of a mathematical Bild,[37]

Wittgenstein, on this reading, attempted to extend Hertz's
theory of representation to language as a whole. By apply-
ing the notion of a propositional calculus (and using the
logical tools supplied by Frege and Russell) he hoped to show
the essence, and necessary limits, of language from within,
i.e. by means of its logical structure.

Wittgenstein's analysis of language leads him to cer-
tain conclusions regarding both the nature of language and
reality and the nature of the language-reality relationship.
A brief account of his analysis of language is thus in order
here. First, contra Russell (Introduction to the Tractatus)
it seems clear, given the discussion to this point and

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[37] Ibid., p. 180.

various passages in the Tractatus and Notebooks (TLP 4.002,
4.011, 4.0112, 4.013, 5.556, N.B. 29.9.14), that Wittgenstein
is concerned with ordinary, not ideal language. He is speci-
fying the conditions that must be fulfilled by any language,
for it is his contention that any language is such by virtue
of its logical powers of depiction. This logical core is not
immediately apparent to us (TLP 4.002) and can only be
revealed through analysis which lays bare the real underlying
logical form of ordinary language, as opposed ..... apparent
surface form. (Russell's theory of definite d....tions is
a paradigmatic case of the kind of analysis endorsed by
Wittgenstein).

He attempts the axiomatic reconstruction, not of one
area of language, like Hertz (i.e. mechanics) but of all
language. To perform this task he attempts by analysis
(whose precise nature is never made entirely clear in the
Tractatus since Wittgenstein deals with it only theoretic-
ally, never per rming a complete and successful analysis of
ordinary language therein) to establish the primitive forms
and terms of language. By working his way inward and estab-
lishing the logical foundation of all language, Wittgenstein
hopes to be able to specify the terms, forms, and operations
out of which all and only the propositions of language can
be constructed. Thus the boundaries of language can be
established from within by analysis of the logical nature of
language. It should be noted that while Hertz allows for

different forms of symbols or images in constructing a sym-
bolic system, it seems that Wittgenstein would not allow
different 'logics' and thus different logical languages, all
of which are capable of representing reality. His claim
seems to be more absolute: general logic is general to all
depicting languages. There is but one logic of depiction.

Such a "philosophical" analysis of language will
result in the setting of limits to what can be thought. "It
must set limits to what cannot be thought by working out-
wards through what can be thought." (TLP 4.114) "It will
signify what cannot be said by presenting clearly what can be
said." (TLP 4.112) Ultimately, such analysis will reveal the
true structural or formal properties of language which will
in turn reveal the true formal properties of the world and
their mutual relationship. "To give the essence of a propo-
sition means to give the essence of all description, and thus
the essence of the world." (TLP 5.4711).

Now Wittgenstein demands, a priori, that such analy-
sis be absolutely complete, without remainder. There is but
one, and only one complete analysis of a given proposition.
And here he runs into difficulties similar to those encoun-
tered by Noam Chomsky who has performed a similar analysis of
language.[38] The criticisms levelled against Chomsky are of

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[38] Noam Chomsky, _Language and Mind_. New York:
Harcourt, Brace and World, 1968; _Syntactic Structures_. The
Hague: Mouton, 1957.

two general sorts: first, that his deep structures are purely
imaginary constructs, answering only to the demands of his own
theory, and secondly, that it is impossible to offer criteria
to decide when deep is deep enough. Wittgenstein, too, agon-
izes over the nature of analysis. Can it ever be complete?
Must it come to an end sometime? And, if so, how could one
recognize this fact?

Nevertheless, Wittgenstein is convinced that his anal-
ysis has revealed the general form of the proposition and the
true logical essence of notation. It is capable, in theory,
of arriving at elementary propositions no longer subject to
further analysis. Such unanalyzable propositions must lie at
the end of analysis for otherwise the sense of one proposi-
tion would depend on another one and that on yet another
(TLP 2.0211), and we could never show that language stood in
any immediate or necessary relation to what it represents.

In the Notebooks he poses the key question to the
construction of propositions: "what does the logical iden-
tity of sign and thing signified really consist in?" (N.B.
3.9.14) For "if sign and thing signified were not identical
in respect of their total logical content then there would
have to be something more fundamental than logic." (N.B.
3.9.14) He concludes that this logical identity of sign and
thing represented is found in an isomorphism of structure.
Sign and thing represented are identical, not in that all
their material properties are the same, but that they share

a common structure, namely, an isomorphism of structure. It
is a formal identity which is in question here.

At 2.1 we find: "wir machen uns Bilder der Tatsachen."
The standard translation is "we picture facts to ourselves."
I would maintain that this key phrase is better translated: we
make (or construct) a model (or symbol) of facts for ourselves.[39]
I believe that such an interpretation can be justified both by
specific references to the _Notebooks_ and the _Tractatus_ _and_ by
the greater fluency and coherency it offers in an overall
interpretation of Wittgenstein's position.

The advantage of such an interpretation seems clear.
Such a gloss emphasizes the constructive activity involved in
the establishing of a symbolic system of representation.

> In the proposition a world is, as it were, put
> together experimentally. (As when in the law-
> court in Paris a motor car accident is repre-
> sented by means of dolls, etc.) (N.B. 29.9.14,
> cf. 4.031)

"A proposition is a model of reality as we imagine it." (TLP
4.01) A symbol or model is man-made, it is created. It lies
in a different domain or logical order from that which it
models or symbolizes (this casts some light on the problem and
rejection of metalanguages, for the medium for the models is
here the same). We could use toothpicks instead of dolls to
portray our car accident as long as, and this is important,
we preserve structural similarity between model and modelled.

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[39] Janik and Toulmin, pp. 183-184.

On the reading, "we picture facts to ourselves," this key distinction tends to be lost. This gloss is too easily assimilated to the more passive metaphor of the eye at the camera lense, mechanically recording and storing copies of images seen. In short, this interpretation lies within the neo-Humean and Machean tradition rather than the Hertzian theory of model or symbolic construction. If 2.1 is given my suggested reading, the influence of Hertz can more correctly be assessed. Recall:

> we form for ourselves images or symbols (bilder) of external objects; and the form which we give them is such that the necessary consequents of the images in thought are always the images of the necessary consequents in nature of the thing pictured.[40]

In a structural identity of this sort, I would claim, is the key to Wittgenstein's isomorphism between proposition and state of affairs depicted. The theory of isomorphism is advanced, in part, to explain the fact that we understand propositions we have never seen before. (TLP 4.02) This is explicable only if we assume that there is a structure common to all propositions and that we are able to go from this structure to the content depicted. From a proposition constructed to model or symbolize a possible state of affairs, given this isomorphism of structure obtaining between these two facts, proposition and asserted possible fact, we can

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[40] Hertz, p. 1.

read off the state of affairs. A proposition must be essen-
tially connected with the situation that it depicts (TLP
4.03) and this connection lies in its logical form or struc-
ture. The isomorphism requirement is simply that there must
be something identical in a proposition and what it depicts
(TLP 2.161) and, of course, something that is not identical.

Such a guarantee of isomorphism between proposition
and fact is possible only if two basic conditions are satis-
fied:

1) that names, or simple signs, in propositions
go proxy for, or represent, the objects in
the to-be-depicted fact; (TLP 4.0312)

2) that the articulation or logical structure of
the proposition possess the same mathematical
or dynamical complexity and organization as
the fact it depicts. (TLP 4.032, 4.04)

In the Notebooks, Wittgenstein clarifies this demand:
"the signs must themselves possess all the logical properties
of what they represent." (11.10.14) Within the symbolism,
like Hertz's symbols, they must function as do the objects
within their domain of operation. "The configuration of
objects in a situation corresponds to the configuration of
simple signs in the propositional sign." (TLP 3.21)
Wittgenstein suggests that we try to understand this by imag-
ining the proposition on the model of an arrangement of furn-
iture. Each item (chair, table, etc.) in this analogy would
function as a name or simple sign, and the fact that they are
so arranged (chair stands to the left of the table) parallels
the functioning of the logical or structural articulation of

a proposition. It is required that there be as many names as objects-to-be-depicted, and that the structural similarity obtain. Situation and proposition "must possess the same logical (mathematical) multiplicity. (Compare Hertz's Mechanics of dynamical models)." (TLP 4.04) It is of fundamental importance to understand that this articulation or structure of facts cannot itself be named (just as we cannot point _at_ the relationship holding between the items of furniture). (Cf. TLP 4.0312) Now the fact that names or simple signs go proxy for objects is one of the cornerstones of the thesis. "Objects can only be named. Signs are their representatives." An object cannot be asserted or spoken of; it can only be named. Its meaning is its bearer. "A name means an object. The object is its meaning." (TLP 3.203) In addition to the meaning of name equals bearer, another requirement must be met. One must know the range of possible occurrences of a name within propositions. We do not, then, have a simplistic denotational theory of meaning because: 1) it is not claimed that every word stands for an object, for there is also the logic of facts which cannot be named but must be expressed through the articulation or structure of a proposition, and 2) the meaning of a word is not solely its bearer but is also its range of occurrence (its distributive pattern) within the language. We are required to specify clearly and in advance what a name represents and its range of possible occurrences within the symbolism.

This leads to the next presupposition. In order that language can successfully depict a possible world, there must be a precise and in advance stipulation of a one-to-one correspondence or mapping between name and denotatum. That is to say, a name or simple sign must 1) always and only represent one denotatum, and 2) its denotatum must be absolutely simple.

Why is the second requirement necessary? Wittgenstein is trying to avoid any ambiguities or lack of clarity. A necessary condition of language depicting the world is that, according to Wittgenstein, it does so with determinateness of sense. A proposition must clearly indicate what it is saying. In order to know if it is true or false we must compare it with reality and in order to do this we must be able to see exactly what it is saying.

> If a proposition tells us something, then it must
> be a picture of reality just as it is and a com-
> plete picture at that. There will of course also
> be something that it does not say -- but what it
> does say it says so completely and it must be
> susceptible of sharp definition. (N.B. 16.6.15)

In order, then, that we be certain a name refers to one and only one object, and that, further, there be no variation in the meaning of such a term (as could happen if the object were at one moment capable of construal as simple, and, at yet another, as complex) we must demand that the referent of names or simple signs be itself absolutely simple. Analysis of a proposition into signs and structure must be complete, without remainder.

Now this demand is similar to Kant's postulation of transcendental object = X. For we can never encounter or give an example of such absolutely simple objects. (Cf. N.B. 21.6. 15) And, further, the demand for definiteness of sense, supplied by absolutely simple objects serving as referents for names or simple signs, is an a priori demand. "What seems to be given us a priori is the concept: this - Identical with the concept of the object." (N.B. 16.6.15)

The transcendental deduction, then, requires the postulation of simple objects. A later comment made by Wittgenstein in the 1931 Notebooks may have some explanatory value in seeing the nature of this postulation.

> What I formerly called objects, simples, is just what I can refer to without fear that perhaps they don't exist. That is: that to which existence and non-existence do not apply and that means that which we can speak about no matter what is the case.[41]

Tractarian simple objects subsist; they are the substance of the world. They are both form and (potentially) content. They guarantee that, within any legitimately structured symbolism, a proposition will present a possible state of affairs, i.e. one that is capable of being true.

Wittgenstein asks: "Could one then manage without names? Surely not?" Names "link the propositional form with quite definite objects. And if the general description of the

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[41] J. Bogen, Wittgenstein's Philosophy of Language. New York: Humanities Press, 1972, p. 66.

world is like a stencil of the world, the names pin it to the
world so that the world is wholly covered with it." (N.B. 31.
5.15) Names, or simple signs, standing for simple objects,
are thus logically necessary in order that 1) the sense of a
proposition be definite, and 2. that the essential relation-
ship of language to the world be secured. It is, then, a
necessary presupposition of a depicting language that it
possess simple names whose referent is clearly and unequivo-
cably determinable once and for all.

> In the _Tractatus_, Wittgenstein [had] argued that
> unless there were simple objects, then whether
> one proposition had a sense would depend on
> whether another proposition was true. That is
> to say, if every proposition were about a com-
> plex, every proposition would depend for its
> sense on the truth of another proposition stat-
> ing the existence of that complex, and so on ad
> infinitum.[42]

Now while some interpreters may see, justifiably or
not, a relation between Kant's transcendental object = X and
noumena, Wittgenstein clearly does give his simple objects an
ontological grounding. Klemke describes Wittgenstein's meta-
physical world view as follows: "there are unalterable and
subsistent objects in a network of logical space, which are
capable of forming configurations with each other, and some
of which do."[43] Thus Wittgenstein's logic entails an

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[42] A. Kenny, _Wittgenstein_. Cambridge: Harvard, 1973,
p. 221.

[43] E. D. Klemke, "The ontology of Wittgenstein's
Tractatus", ed. E. D. Klemke, _Essays on Wittgenstein_. Univer-
sity of Illinois Press, 1971, p. 119.

ontological theory and the sections 1 to 2.063 of the
Tractatus provide just that foundation.

Although this ontological section precedes the discus-
sion of the theory of language, it is actually posterior to
it, in that it is from the necessary presuppositions of the
language-world relationship that Wittgenstein has deduced this
world view. And he does claim to have deduced it. For in the
logical structure of language we can see reflected the logical
structure of reality. The propositions of logic have no con-
tent. They supply the structural scaffolding or, if one pre-
fers, the form of the stencil. Logic is not substantial. "It
is not a body of doctrine but a mirror image of the world."
(TLP 6.13) Logic tells us nothing directly about the world
other than that it can so be described. "Logic pervades the
world: the limits of the world are also its limits." (TLP
5.61) Thus from the logico-linguistic structure we can see
the dualistic nature of reality, Wittgenstein's two primary
categories being object and fact. We know that there are
objects from the symbols for objects within the symbolism.
"... what you want to say by the apparent proposition 'There
are 2 things' is shown by there being two names which have
different meanings ..." (N.B. Appendix III, p. 130, cf. TLP
5.535) Hence, in a rejection of Russell's theory of types,
Wittgenstein concludes that we do not need to say 'there are
objects', for that is what our symbolism presupposes and
shows by the presence of variables, x, y, z, within the

symbolism. (Cf. TLP 4.1272)

Categorical differences are indicated by differences in the symbolism. Syntax mirrors ontology and reveals the ontological categories of the world. This is why Wittgenstein can and does claim that there must be objects. Simple objects are the sufficient and necessary conditions/for definiteness of sense, and hence, the possibility of depiction of all possible worlds by language. These objects are clearly not sense-data or phenomenal objects since they are unalterable, subsistent and possess only formal properties. They are the metaphysical objects common to all possible worlds. They are any thing whose existence is presupposed by a use of language.

This is what we, via our language, supply. The idea of objects, by means of variables in our language, we possess somehow a priori. And, in a Kantian mood, "we can only foresee what we ourselves construct." (TLP 5.556) In David Pears' words:

> Wittgenstein saw one very general unconditional necessity. According to him, the general framework of any factual language is fixed objectively in advance. This framework is a truth-functional structure based on elementary propositions.[44]

—which are simple signs or names in configuration.

All our laws of nature are not, strictly speaking, laws of logic. For they are propositions with a sense; they

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[44] Pears, p. 35.

still refer to objects and hence are not tautologies. All
such laws of nature are "a priori insights about the forms
in which the propositions of science can be cast." (TLP 6.34)
They provide a logical framework whose principles permit
description of the world, and this tells us something
indirectly both about the world and ourselves. "Laws like the
principle of sufficient reason are about the net and not about
what the net describes." (TLP 6.35)

> If there were a law of causality, it might be
> put in the following way; there are laws of
> nature. But, of course, that cannot be said;
> it makes itself manifest. One might say,
> using Hertz's terminology, that only connec-
> tions that are subject to law are thinkable.
> (TLP 6.36)

And this, of course, means subject to logic, to what the lin-
guistic framework permits.

Logic supplies the connections, the laws, which render
experience intelligible. Man's possession of "logical"
language enables him to make sense out of experience, for, as
we have seen, logic alone makes description possible. It is,
of course, impossible by definition, to construct an
"illogical" language. "An illogical language would be one in
which, e.g. you could put an event into a hole." (Notes on
Logic, p. 107) The logical nature of language guarantees that
it will produce only the well-formed formulas of language,
i.e. propositions capable of having a sense, (cf. TLP 5.4733)
and, through the structural or logical identity shared by sign
and signified, it guarantees that only possible occurrences of

objects will be represented.

> It is, as impossible to represent in language any-
> thing that 'contradicts logic' as it is in geo-
> metry to represent by its coordinates a figure
> that contradicts the laws of space, or to give
> the coordinates of a point that does not exist.
> (TLP 3.032)

It follows, then, that there are no a priori truths (cf. TLP 2.225, 3.04, 3.05) for thoughts, and propositions expressing them are only <u>possibly</u> true. Truth or falsehood depends on the comparison of the proposition with reality.

Thus our language dictates what is logically possible, or in other words, logically thinkable. The exploration of language has revealed, from within, the limits of expressible thoughts. In Wittgenstein's view:

> there exists neither a pure form of intuition nor
> a pure form of concepts to which the logically
> thinkable must conform if it is to be an object
> of knowledge. The Kantian position that "anything
> can be the subject matter of theoretical discourse
> that is spatio-temporally imaginable and admits of
> being subsumed under categories" is replaced simply
> by "anything can be the subject-matter of theoret-
> ical discourse that is thinkable.[45]

For a "thought is a proposition with a sense" (TLP 4); hence what is thinkable is coextensive with the limits of expression and thus is capable of being experienced. "Kant's transcenden-tal investigations are thus replaced by a <u>logical analysis of language</u>."[46]

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[45] W. Stegmuller, <u>Main Currents in Contemporary German, British and American Philosophy</u>. Bloomington: Indiana University Press, 1970, p. 420.

[46] Ibid.

Stegmuller asserts that there is for Wittgenstein, as
for Kant, "a form of experience that must precede all contents
of experience and may therefore be termed a priori".[47] For
Wittgenstein, it is the internal structure of reality which is
mirrored or reflected by syntax, but which of course cannot
then be expressed by language. "What expresses _itself_ in
language _we_ cannot express by means of language. Propositions
show the logical form of reality. They display it." (TLP 4.121)

Kant's transcendental deduction has established as a
necessary condition of experience the transcendental subject
which

> intuits in the forms of space and time and thinks
> in the categories of the understanding. For
> Wittgenstein, it is the subject that understands
> [and uses] a logically exact language.[48]

"The limits of my language mean the limits of my
world." (TLP 5.4) Language permits a range of possible worlds;
experience offers one. Language, and its logical essence, is
prior to, and definitive of, experience, just as the intuition
and categories of the Kantian subject together are the necessary
conditions of any possible experience. In both cases, these
two philosophers have attempted to establish what is neces-
sarily prior to, and hence, definitive of, experience.

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[47] Ibid.

[48] Ibid.

CHAPTER V

SUMMARY

For Kant, then, necessity lies in what we are constrained to think (and connect) in order that experience, empirical knowledge, be possible. For Wittgenstein, it lies in what the logical nature of language permits us to express, and hence, think. For Kant, all knowledge is judgmental and hence complex, and here Wittgenstein would appear to agree. He too emphasizes that a proposition is itself a fact, not a thing or object; and since a proposition is also a thought, thoughts are considered to be complex. Both insist upon logic. Kant investigates the logical forms of our judgments while Wittgenstein examines Russellian and Fregean logic with its insistence upon propositional logic and truth functionality.

For Kant, individual instantiation is provided for by our sensibility; by its receptivity to objects and its pure forms of space and time which enable us to anticipate the formal properties of all objects. Wittgenstein, for his part, claims that we are able to imagine a kind of object without knowing if there are such objects only because we have constructed their 'proto-picture' for ourselves. (Cf. N.B. 7.7.16)

We provide for this by the variables in our language (which
mirror ontology) and by our, thus, a priori demand that there
be simple objects in reality. A similarity to the demand for
such absolutely simple objects and the Kantian concept of
transcendental object = X has been suggested in this paper.
Both serve to prevent our knowledge from being arbitrary and
to provide consistency and coherence. Neither "object" can
be produced or proven by experience for both are "prior" to,
and definitive of, experience and neither philosopher shows
much concern about this apparent failure. A final resemb-
lance which this paper can only mention concerns Wittgenstein's
argument for, and concept of, logical space which resembles,
and plays a role similar to, the Kantian concept of a single
unified backdrop of space-time coordinates.

I said at the beginning of this paper that both phi-
losophers were concerned with how the a priori can relate to
the contingent world. Kant's answer is that we, in effect,
largely create our world, with the caveat that it is only a
world of appearances. "We can know a priori of things only
what we ourselves put into them." (B XVIII) Wittgenstein's
answer is that it is logic which permits all description and
hence all experience of a world, and that it does so by
reflecting the internal structure of reality. I should like
to consider in the final chapter of this thesis whether
Wittgenstein truly answers this question as successfully as
Kant. Kant has done so by denying reality and restricting

his discussion to appearances. We shall see if Wittgenstein's attempt to preserve realism has been at too great a price and has, in effect, ultimately imperilled his realism.

CHAPTER VI

APPLICATION

Both philosophers have thus attempted to indicate the necessary presuppositions of thought and expression of any possible world. How then do they account for the application of their system to an actual world?

In Kant, it is the schemata and principles of experience which link the thought framework to experience. As Chipman puts it, the schemata and principles are necessary for the Transcendental Deduction "does not establish the number and character of such pure concepts or categories."[49] The Metaphysical Deduction enumerates these categories but does not prove each one's necessary application to experience.

> What do we need to add to the Metaphysical Deduction and the Transcendental Deduction, assuming their soundness, to reach Kant's thesis? The answer is a proof, for each category, of its necessary involvement in experience.[50]

Butts' article is particularly enlightening and I should like to deal with it at this point.

Butts' thesis is that the pure categories supply "both

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[49] L. Chipman, "Kant's Categories and their Schematism", Kant-Studien, Vol. 63, No. 1, p. 38.

[50] Ibid., pp. 38-39.

the narrowly syntactical features of the system ... and the broadly logical (epistemological) presuppositions of empirical knowledge."[51] He claims that the epistemological category-word 'cause' operates in judgements in the same way "the syntactical category-word 'noun' signifies grammatical components of some English sentences."[52] Now, knowing that a noun can be defined as the 'class of all x' does not in itself guarantee that we shall be able to recognize specific members of the 'class of x'. This is the old problem of subsuming particular instances under general concepts. And insofar as the categories supply an uninterpreted epistemic formalism

> ... the question of the _application_ of this formalism to empirical instances must arise. It arises, for Kant, at exactly that point where the notorious schemata are introduced.[53]

Butts claims the task of the schemata or principles is to specify "... the kinds of observables that are relevant to deciding the applicability of a category. They function, as it were, like semantical rules linking categories to observation predicates."[54] They "... specify in general terms what

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[51] R. E. Butts, "Kant's Schemata as Semantical Rules", in _Kant Studies Today_, ed. L. W. Beck. LaSalle, Ill.: Open Court Library of Philosophy, 1969, p. 291.

[52] Ibid.

[53] Ibid., p. 292.

[54] Ibid., p. 293.

kinds of observation predicates are permitted, given the
epistemic form of the system; they settle the matter of
applicability."[55]

They tell us what _kinds_ of details in appearances we
are to look for, not the details themselves, in the applica-
tion of a category. And what we are to look for, says Kant,
is a certain "homogeneity" between concept and particular
instance. "In other words, the concept must contain some-
thing which is represented in the object that is to be sub-
sumed under it." (A 137, B 176) Empirical concepts and their
instances are more obviously homogenous than pure concepts
and their instances. For while I could, it would seem,
intuit a dog or a round plate, to intuit a cause seems, some-
how, different. And Kant's explanation attempts to account
for this problem.

> It is not that one cannot intuit cause, sub-
> stances, pluralities, and actualities, for
> example. Rather, it is that although, like
> empirical concepts, some pure concepts can be
> applied directly to the representations of
> sense, pure concepts are never applied solely
> on the basis of the sensory given.[56]

To say that they do not contain sensory components appears
equivalent to denying homogeneity (as Chipman points out) but
Kant solves this by claiming that pure concepts and their
instances are individually homogeneous to a third mediating

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[55] Ibid., pp. 294-295.

[56] Chipman, p. 40.

factor, which is itself both sensible and intellectual, the transcendental schema. Such transcendental schema are transcendental determinations of time; they are chosen because ".they have something in common with the categories and with appearances without being identical with either."[57] Time is the form of inner sense and the a priori form of all appearances.

> Chipman asserts that:

> the transcendental schemata are rules to ensure that the general and invariable conditions of objectivity, all of which are explicable in ways which involve essential reference to time, are fulfilled in any particular synthesis.[58]

And thus, we are told by Kant that the application of the category of quantity, for instance, involves the associated principle, "all intuitions are extensive magnitudes." The schema of substance is permanence of the real in time. Cause is construed as the perception of appearances in time, "which, whenever posited, something else always follows." (A 144)

The schemata are thus rules, generated by the understanding, by means of which we construct order out of individual appearances and coherently and consistently place instances of a certain kind under the corresponding general concepts.

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57 Ibid., p. 48.

58 Ibid., p. 49.

> The schemata are thus nothing but a priori deter-
> minations of time in accordance with rules. The
> rules relate in the order of the categories to
> the time series, the time content, the time order,
> and lastly, to the scope of time in respect to all
> possible objects. (B 185)

The importance of the schemata is paramount. For, as
Kant explains, the logical notion of substance without "the
sensible determination of permanence" (B 187) would simply be
an empty subject, telling us

> nothing as to the nature of that which is thus to
> be viewed as a primary subject. The categories,
> therefore, without schemata, are merely functions
> of the understanding for concepts; and represent
> no object. (B 187)

Schemata are thus referential or semantical rules
which indicate the conditions under which a particular experi-
enced instance is to be subsumed under a general concept or
category. Whether or not Kant's rather ingenious solution
(the familiar intermediary, imagination, plus time) is
entirely satisfactory is, for the purposes of this discussion,
less important than the fact that Kant has recognized the need
for stipulating the conditions of applicability of the formal
epistemic system. With regard to the difficulty of such an
undertaking, it should be noted that it is precisely in the
area of the articulation, and stipulation of, semantical rules
that the transformational grammar of contemporary linguistics
meets its greatest, and, some would say, insurmountable diffi-
culties.

In summary then:

at best what has been shown is that by constru-
ing each category as having a temporal dimension,
and assuming the necessary temporality of outer
and inner sense has already been established, we
guarantee its applicability to sense.[59]

Why we possess such rules for constructing, out of sensory
input, appearances interpreted so as to admit the subsumption
under categories, and why this should be in terms of time, is,
for Kant, as unanswerable a question as to why man should
necessarily intuit in terms of space and time.

How does Wittgenstein account for application of lan-
guage to reality? He has stipulated, (as previously discussed
in this paper) the necessary conditions which must be satis-
fied in order that language depict reality: 1) the require-
ment of formal or structural similarity between proposition
and fact, and 2) the requirement of simple signs as proxies
or representatives of objects. A proposition's sense is known
independently of, and prior to, its truth-value, (we see what
it means and then compare it with reality). We understand a
proposition if we understand its form (e.g. xRy for all x's
and all y"s) and constituents (e.g. that I know I can substi-
tute a or b for x or y, and know their referents). The dif-
ficulty for Wittgenstein lies in precisely how these correla-
tions between proposition and depicted fact are established
and known or recognized.

Wittgenstein's analysis of language has established

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[59] Ibid., p. 50.

as a logical requirement the existence of primitive or
unanalyzable terms, or signs, and basic forms or structures.
He has, as well, specified the operations or transformations
which permit the generation of all and only the propositions
which are well-formed formulas. However, such an analysis
is purely formal (like Hertz's analysis and establishment of
the primitive terms and Fundamental Law of mechanics in Book
I) and, in itself, carries no guarantee of its applicability
to the phenomena to be described. This gap is, supposedly,
bridged by the controlling metaphor (or paradigm) of the pro-
position as picture or model.

Now a picture is declared by Wittgenstein to be itself
a fact. It is a model or picture of reality because it
possesses pictorial form, "the possibility that things are
related to one another in the same way as the elements of the
picture." (TLP 2.151) To be a picture of x, the picture must
have something in common with x. This truism is qualified by
the further requirement of something identical, and this is
declared to be logico-pictorial form: the possibility of an
isomorphism of structure. "The possibility of all imagery,
of all our pictorial modes of expression, is contained in the
logic of depiction." (TLP 4.015) The picture and its subject
matter share a common logical pattern. This logical pattern
is obscured from us so that we are not generally aware of it.
For though "man possesses the ability to construct languages
capable of expressing every sense" (TLP 4.002) he is not able

to state explicitly how this process takes place. Only the
"uncaptive eye" can see the true logic of language and see
that our sign languages are pictures of what they represent.

Now what, in fact, makes x a picture of Y? We are
told: a shared logical pattern or form, an isomorphism of
structure. Is, though, this isomorphism of structure a suf-
ficient and necessary condition of representation? That is,
to say, if we set aside for the moment, the question of a
proposition qua picture, and take the simpler issue of a pic-
ture itself, can we claim that all the information necessary
to enable us to judge that x is, in fact, a painting of Y,
lies within the picture itself, within its structural patterns
and elements? For wittgenstein, our answer must be an unquali-
fied yes, for it is his contention that the relation between
picture and pictured is an internal (hence formal or struc-
tural one. Any information exterior to the painting itself
would be of a contingent sort, not lying in the logical (i.e.
formal) identity of sign and signified. And there would thus
be something more fundamental than (or at least as fundamental
as) the logic of depiction, a possibility which he rejects.

Now our first answer, when viewing, say, a realist or
representationalist painting (e.g. a Rembrandt) would be: of
course, we can 'see' immediately that x is a picture of Y, or,
to make the issue clearer, x is a picture of a man (and thus, ∃x
and not ∃a, restricting it to variables and not constants,
since it is recognition of a formal or structural nature that

is here in question). But is it evident or necessarily the
case that we can, straight off, judge x to be a picture of y,
(a man) on the basis of simply seeing x, and with no further
reference to anything external to x? The case of a surreal-
ist or cubist painting would certainly make one hesitate
before making such a claim.

Simply put: the claim that one can intuitively or
immediately see a relation of similarity is not on very firm
grounding.[60] It requires, further, that the relation be
itself invariant, i.e. that there only be one sort of simil-
arity to be perceived. Wittgenstein claims that: "in the
case of two lines we can compare them in respect of their
length without any convention: the comparison is automatic."
(J.B. p. 111) But is it? Surely the decision as to the
nature of the comparison is not automatic. And the claim that,
say, x can be compared to, say, y, without an intermediate of
any sort, will not hold, i.e. that an individual can be com-
pared with another, independent of general concepts of com-
parison (of length, width, colour, etc.). To the question:
but couldn't there be something, which simply had to be a model
or picture of something else?, the only possibility that one
could offer, in answer to this appeal, would be something bear-
ing an extremely strong resemblance to the former. But, since,

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60 Cf. the Philosophical Investigations, discussion on
seeing and seeing as, pp. 193-208, and the Blue and Brown
Books, in particular, pp. 32-39.

though highly similar, the two remain existentially distinct individuals, we still require grounds for deciding that the relation 'picture of' holds. Wittgenstein's very definition of the kind of similarity obtaining between picture and pictured is a highly abstract one, not of physical but rather of logical or structural similarity. His explanation, based on the concept of isomorphism of structure, is simply not complete enough to explain the complex relation holding between picture and pictured. Nor is the notion of isomorphism of structure sufficient to explain the asymetry of the relation 'picture of'.

Sense is prior to reference and truth-value. Comparison with reality follows understanding what a proposition is asserting as a putative fact. Clearly, "the method of comparison must be given me before I can make the comparison." (N.B. 1.11.14) The issue, then is: is the method of comparison part of the picture itself?

Let us extend this discussion on pictures to that of the proposition as picture and see what properties Wittgenstein ascribes to propositions in order that their relation to the situation described lie in a formal or structural similarity shared by both.

There are, throughout the _Tractatus_, scattered references to different modes of correlation of proposition and its constituents to putative facts. Amongst them are references to definitions, elucidations, Representational Form,

conventions and projection rules. Wittgenstein clarifies the scope and nature of his interest in this problem. "We are not concerned in logic with the relation of any specific name to its meaning and just as little with the relation of a given proposition to reality." (N.B. p. 98) It is the _general_ nature of representing which interests him. In order that we understand propositions we have never seen before (so that every proposition is, in a sense, a new symbol) we must have "general indefinable symbols: these are unavoidable if propositions are not all indefinable." (N.B. p. 98)

Once a name cannot be dissected any further by means of definitions, it is a primitive sign (cf. TLP 3.26). So, clearly, we do not establish the meanings of such primitive or unanalyzable signs through definitions of them.

At this point it is advisable to state clearly what Wittgenstein did _not_ attempt. The logical positivists who took over much of the _Tractatus_ attempted to anchor language to reality by adding to the Tractarian system the apparatus of empiricism. So that propositions were reduced to observation sentences and names were defined ostensively in terms of immediate experience.[61] In the _Tractatus_, however, Wittgenstein shows little interest in this aspect of (nor would he seem to favour this solution to) the problem. He does claim that the connection between a particular name or sign in the symbolism

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[61] Cf. _Logical Positivism_, ed. A. J. Ayer, Glencoe, Illinois: The Free Press, 1959.

and what it represents is a matter of arbitrary convention.
(TLP 3.315, N.B. 3.11.14 para. 11) Such a correlation is a
matter for psychology and neither interests nor concerns him.
Although the choice of sign itself is arbitrary, we must give
the sign a sense by making this correlation and establish the
connection between it and reality. How then do we understand
the meanings of such signs? Signs may be complex and dis-
sected via definitions. But for all primitive signs their
meanings "can be explained by means of elucidations. Elucid-
ations are propositions that contain the primitive signs. So
they can only be understood if the meanings of those signs
are already known." (TLP 3.263) This singularly unhelpful
remark needs its own elucidations. Recollection of two items
may assist us here. A name or a sign representing an object
possesses the logical properties of that object and where this
is not sufficient, the use or logico-syntactical employment of
the sign is revealing. (cf. 3.262) Still, it seems that we
are required to see and understand an immediate relation
between certain, i.e. primitive, signs and the objects they
represent.

Such a recognition stems from the symbol itself. In
simply knowing what is symbolized you know all that is to be
known. (N.B. p. 108-9) By simply seeing the form of the sym-
bol, e.g. 'm', we know by the sign that it is an object sym-
bolized. We have no need to say 'm' is an object, for that
is shown by the symbol itself.

> When something falls under a formal concept as
> one of its objects, this cannot be expressed
> by means of a proposition. Instead it is shown
> by the very sign for this object. (A name
> shows that it signifies an object, a sign for a
> number that it signifies a number, etc.).
> (TLP 4.126)

Since "a formal concept [e.g. object, number] is given imme-
diately any object falling under it is given" (TLP 4.126) it is

neither necessary nor possible to accept within an adequate

symbolism as both primitive ideas the objects, each of which

is an instance of the formal concept, and the formal concept

itself. That a particular individual falls under a general

concept is shown by our sign for the individual, and so it

must be possible to establish syntax, i.e. the relations hold-

-ing between signs, without mentioning the _meaning_ of any sign.

With regard to the structures or expressions of lan-

guage, the explanation and problem is somewhat similar.

Wittgenstein explains that the symbol $\sim$, for negation, does

not itself negate. In $\sim$ p it is not $\sim$ that negates, but

rather the factor common to all signs that negate p (e.g.

$\sim\sim\sim$p, $\sim$p$\vee\sim$p, etc.) which _mirrors_ negation. And again:

> Once a notation has been established there will
> be in it a rule governing the construction of
> all propositions that negate p, a rule governing
> the construction of all propositions that affirm
> p ... and so on. These rules are equivalent to
> the symbols and in them their sense is mirrored.
> (TLP 5.514)

It is very difficult, indeed, to see how a sign can mirror or

show its use, but this seems, in fact, to be what Wittgenstein

is stipulating. In a perspicuous language, the true logical

nature of signs and relations will be revealed. Still, we
seem no closer to solution of the problem of how individual
signs are to be viewed as members of a class falling under a
general concept, nor how we see that the structures of pro-
positions and facts are isomorphic. The notion of mirroring
is prevalent in the _Tractatus_ and it is less than clear.
Briefly, to mirror is to make manifest, to show, rather than
to express or say. Logic shows, or reveals, the logical or
structural properties of facts, and that it should prove able
to do so is beyond the limits of our understanding or explan-
atory powers. This is another chapter in the rationalist
mystery of the mind and world accord.

Now there is one other section in which Wittgenstein
discusses how the relation of a proposition to the world is
established. This is at 3.11.

> We use the perceptible sign of a proposition
> (spoken or written, etc., as a projection of
> a possible situation. The method of projec-
> tion is to think the sense of the proposition.

And again:

> A proposition includes all that the projection
> includes but not what is projected.
> Therefore though what is projected is not
> itself included, its possibility is. (TLP 3.13)

Now the first question which comes to mind is: is this pro-
jection method equivalent in purpose and role to Kant's
schemata or Hertz's laws of transformation? The most striking
difference, is that with both Hertz and Kant the schemata or
designation rules are independent of, though sufficiently

linked to, the a priori structure. Here, in Wittgenstein, they seem to lie within the a priori, hence, logical structure. Wittgenstein's logico-pictorial form is required, it would seem, not only to provide for a possible descriptive network, but also to account for its applicability to the data to be depicted. Only definitional and syntactical rules determine our use of signs. This would mean, apparently, that a proposition is asserted "... by employing a sentence according to the rules of a projection system."[62] We apply a calculus which contains and shows its correlations to the material described. This is what projecting seems to be. At 4.0141, Wittgenstein speaks of a general rule, the law of projection, which permits us to obtain the symphony from the score. "A gramophone record, the musical idea, the written note and the sound-waves all stand to one another in the same internal relation of depicting that holds between language and the world." (4.014) They are related and similar structurally because they share a common logical pattern. The law of projection permits us to go from one of them to any other. Yet again, we return to our original question: is this law of projection contained in each one of them? Once again it seems that the only conclusion possible for Wittgenstein is that this shared logical pattern between sign and signified, between picture and pictured, must be immediately apparent to

62 J. Bogen, p. 169.

us. There must be some unanalyzable terms and forms which
we understand without further explanation or otherwise we
could not understand new propositions. But, if, like Hertz
and Kant, we decide and determine what our first terms shall
stand for, the difficulty would seem to disappear. This,
however, places our interpretation scheme outside, in a sense,
the formal system, and, admittedly, introduces a contingent
element into our system of representation. For if there is a
method of interpretation which, in part, determines that x is
a picture of y -- if there is a method of comparison indepen-
dent of x -- we can also refrain from applying it. And it is
only then, contingently true that x pictures y.[63] The condi-
tion that x, a picture, be essentially (internally) connected
to y, what it pictures, is not satisfied. Language does not
stand in internal relations to the world. Syntax cannot bear
the heavy burden of applicability.

A picture does not, then, tell us that it is to be
compared with y (nor that it is to be compared with a). By
definition, or if one prefers, by its very nature, a picture
contains the possibility of comparison with something else
(that of which it is capable of being a picture or model) but
that information is only in part within the picture itself.
As a simpler and possibly less controversial example, let us
take that of a map. To the unschooled eye, perhaps, a map

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[63] Ibid., p. 117.

will indicate that it is a diagrammatic representation of something. But a map must be supplemented by a legend. (The fact that most maps offer only a rudimentary legend [or often omit them entirely] is simply in recognition of the fact that most people have learned to read maps.. A picture is linked to the reality depicted by more than structural or formal identity shared by itself and subject matter. There is a third factor, that of translation or correlation rules, and they lie outside the picture.

Hintikka provides some strong criticism of this weakness of the picture or model theory of language:

> The basic idea of Wittgenstein's picture theory is the idea of an isomorphism obtaining between language and reality, an isomorphism which can be established by a correlation of mapping. Now the gradual development of this general idea of an arbitrary mapping which is essentially the idea of an arbitrary function, has become one of the most significant general features in the history of mathematics.[64]

But although the application of this notion to language is, according to Hintikka, a most fruitful one, it requires the further step of clearly stipulating the key to this isomorphism, so that the comparison between reality and language can take place.

Now Wittgenstein has held, it would seem, that the isomorphism requirement (plus the stipulation of names is sufficient for us to read off the sense of a proposition.

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[64] Hintikka, _Logic, Language-Games and Information_, p. 42.

Why has he refrained from establishing a key such as Hintikka requests and such as both Kant and Hertz provide?

There are, perhaps, two basic reasons: one involves his notion of necessity, and the second his view of the language-world relationship. Wittgenstein has claimed that the relation between language and the world is an internal one. Throughout the *Tractatus* there is the concept of various kinds of internal relations. One, as above, holds between proposition and the situation it represents; another is between the sign and structure (expression) of which it is a part; and a third holds between propositions themselves. (5.2) Wittgenstein contends that such internal relations cannot themselves be represented or said. To speak significantly of an internal relation we should somehow have to place ourselves outside that very relation. And in attempting to say how a proposition can depict that of which it is a picture, we should have to place ourselves outside language, and, more specifically, outside the logic of our language, the logic of depiction. The method of depiction or portrayal cannot itself be described. "How can I be told *How* the proposition represents -- or can this not be said to me at all?" (N.B. 3.11.14) But:

> ... is language the only language?
> Why should there not be a mode of expression
> through which I can talk about language in
> such a way that it can appear to me in coor-
> dination with something else? (N.B. 29.5.15)

The answer is, of course, that there is no other language, for

in order to do this, to talk about language,

> you would need a language which hadn't got the
> properties in question and it is impossible
> that it should be a proper language...
> In order that you should have a language which
> can express or say everything that can be said
> this language must have certain properties;
> and when this is the case, that it has them can
> no longer be said in that language or any lan-
> guage. (App. II, p. 167)

To explain how language stands in an internal relation to the
reality it represents would involve using language itself to
prove this assertion. We have no outside, objective point of
view (unlike Hertz who has worked with only one area of lan-
guage). Wittgenstein rejects a self referential use of lan-
guage as resulting in pseudo-propositions (viz the rejection
of the theory of types) and concludes that the relation of
language to reality can only be shown. This relation lies
outside the descriptive powers of the symbolism. Our only
possibility is explanation by means of another proposition
and this, he contends, could only show how the relation is
possible. In a letter to Russell, Wittgenstein stated:

> Now I'm afraid you haven't really got hold of my
> main contention, to which the whole business of
> logical propositions is only corollary. The main
> point is the theory of what can be expressed
> (gesagt) by propositions, i.e. by language (and
> what comes to the same, what can be thought; and
> what cannot be expressed by propositions but only
> shown (gezeight;) which, I believe, is the car-
> dinal problem of philosophy.[65]

There is, therefore, no way of proving that this formal system --

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[65] G. E. M. Anscombe, An Introduction to Wittgenstein's
Tractatus. London: Hutchison, 1959, p. 161.

his propositional calculus -- can perform a linguistic func-
tion. This would involve demonstrating that "the relations
actually holding between language and the world make such a
formalization possible."[66] In Hertz's system, such a rela-
tion is demonstrated by the experiential testing provided for
by his laws of transformation. (Although Hertz, too, must
make one fundamental assumption, that of a certain conformity
between nature and our thought, he claims that "experience
teaches us that the requirement can be satisfied, and hence
that such a conformity does in fact exist.")[67] Hertz's
axiomatic system is seen to apply because rules of procedure
have been established to correlate the a-priori structure to
empirical data.

Wittgenstein cannot supply such rules because he has
contended that the relation holding between language and
reality is a formal and necessary one. It is not, and cannot
be, conventionally or arbitrarily established. Logical rela-
tions, however, hold only within the symbolism, so language
cannot be anchored "logically," and thus necessarily, to the
world. We cannot use language to anchor language to the
world. Ultimately we have no guarantee that language does
picture reality and we cannot prove that it does. That the
logical structure of language should mirror the logical pro-
perties of the world becomes, for Wittgenstein, part of what

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[66] Janik and Toulmin, p. 189.

[67] Hertz, p. 1.

is mystical, lying outside the powers of explanation. It
becomes the substantial and unsubstantiated cornerstone of
the Tractatus.

In the Tractatus Wittgenstein thought that the rela-
tion between sign and object represented, between articula-
tion of a proposition and configuration of objects, was
immediately apparent. To F. Waismann, he later confessed:

> In the Tractatus I was unclear about "logical
> analysis" and ostensive demonstration.
> Erklärung ... I used to think that there was
> a direct link (Verbindung) between language
> and reality.[8]

And because he thought this relation to be one immediately
apparent, and—further, one not capable of expression, he paid
virtually no attention to language put to use or applied. He
failed to consider what might be done with (a projection
system) in real life.

The failure to supplement the notion of isomorphism
with that of a projection system or key has unfortunate con-
sequences. Without the provision of such an interpretation
key or, in Kantian terms, schemata, such an account of judge-
ment, i.e. that a proposition does in fact truly or falsely
model a certain fact, presupposes what it is meant to explain.[69]
Hacker claims:

> The idea that there are some propositions which
> stand in an immediate relation to reality and

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[68] Janik and Toulmin, p. 212.

[69] Hacker, p. 53.

> are verified by acts of comparing, requires
> that we be able to conceive of facts without
> bringing them under concepts, and that we be
> able to 'sense' the sense of a proposition.[70]

As well, the picture theory leaves us with no criterion to

differentiate between the picture or model itself and what

it is a picture of (i.e. the asymetry of the relation 'pic-

ture'of'). In fact, such an emphasis on the symbolism or

method of representatio , ultimately threatens to undermine

the realist theory of meaning that Wittgenstein is trying to

present. His explanation of the nature of the relation 'pic-

ture of' cannot account for its asymetrical character, and we

are thus left with no criteria to determine which member of

the relation is the picture and that which is pictured.

Wittgenstein's eventual acceptance of certain weak-

nesses inherent in the Tractarian system was primarily brought

about by the colour exclusion problem (the problem of degrees

of a quality), but this issue lies outside the scope of this

paper. The Philosophical Investigations presents a critique

of certain Tractarian notions, amongst them the thesis that

'the meaning of a name is its bearer' and offers, as well, a

sharp criticism of the idea of ostensive definition or elucid-

ations. In brief, Wittgenstein there argues that ostensive

definition does not provide a link between language and real-

ity but rather introduces a sample of reality into the

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[70] Hacker, p. 53.

linguistic system. In the _Dictatis_ he had argued that the
name itself indicates and determines how we use it. We learn
this, if at all, through elucidations. Wittgenstein rejected
this in the _Investigations_. Rhush Rhees explains the reason
for this original notion.

> The idea had been that the sample can serve as
> a 'primary sign' -- one which explains itself
> and cannot be misunderstood. Other signs may
> be explained by the primary signs, but without
> the primary signs we'd never know what we were
> saying.[1]

Wittgenstein rejected this for he saw later that:

> It confuses giving a sample and using a sample.
> I may give a sample -- a piece of coloured
> paper -- to explain what I meant by 'vermillion'
> ... But I cannot use the sample to explain what
> colour this _sample_ is.[2]

Furthermore, an ostensive definition is also notor-
iously open to misunderstanding. It is equivocal and vague.
If it were, strictly speaking, a definition, then it could
hold only within the symbolism and could not serve as a link
to reality. We recall Hertz's clear stipulation that his
laws of transformation were not new definitions. If it were,
on the other hand, a proposition, it too could not serve to
link the initial proposition to reality; for, as pointed out
above, this is to presuppose what it was meant to explain.
These are only _some_ of the criticisms brought against the

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71 R. Rhees, _Discussions of Wittgenstein_. London:
Routledge and Kegan Paul, 1970, p. 26.

72 Ibid.

ostensive definition in the _Investigations_. And so
Wittgenstein rejects the thesis that ostensive definition
could in any way serve to provide a link between language and
reality, via the correlation between names and objects. The
Investigations also considers and discusses the possibility
of differing schemata or projection schemes holding between
expression and that expressed.

The lack of a clearly stipulated key to supplement the
model theory of language thus forced a revision of the
Tractarian thesis. The third factor holding between the world
and language is one which must be provided by those who speak
the language. And so, Wittgenstein's later work, the
Investigations, will concentrate upon the processes by means
of which such a key comes to be established. The concern will
now be language as observed behaviour, as the expression of
rule-governed activity within different "language games"
reflecting different "forms of Life."

Now Wittgenstein's general theory of language in the
Tractatus was based entirely upon definition of the essence
of language. As David Pears puts it:

> Either language may be defined, or its nature may
> be investigated empirically, and ... the first of
> these two alternatives will yield an empty neces-
> sary truth, while the second will yield a sub-
> stantial contingent truth. The Kantian way
> between the horns of this dilemma was to argue
> that there are substantial necessary truths.[73]

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[73] Pears, p. 87.

Wittgenstein's way was the doctrine of showing, i.e. that
there are things which are manifest and not expressible. That
logic permits the depiction of the world, and the very sense
of the world and life itself, constitute the mystical. On
Wittgenstein's grounds, such matters, like the explanatory
propositions of the _Tractatus_ themselves, are not, strictly
speaking, expressible in meaningful language. Rather such
propositions point to something. (That language mirrors the
internal structure of reality cannot be expressed but makes
itself manifest). And thus the relationship between language
and reality was also something which could not be explained
or expressed. The relation between language and reality
becomes as ineffable and undescribable as all other non-
factual issues. In the _Tractatus_ such a fact was assigned to
the realm of the mystical, the realm of silence.

The _Investigations_ will present a re-examination of
the fundamental issues tackled in the _Tractatus_ and a task
similar to that attempted in this paper, namely the Kantian
influence in the _Philosophical Investigations_, would be equally
rewarding. The _Investigations_ differs fundamentally from the
Tractatus in that it rejects the doctrine of showing as pro-
viding an answer to the problem of applicability and rather
accents that "only in the stream of thought and life do words
have meaning." (Zettel 173). An adequate explanation of the
presuppositions of experience may now be seen to involve both
formal characteristics _and_ rules for their application.

Wittgenstein's fundamental difficulty in the _Tractatus_ stems, I think, from his starting point, that of two orders or levels, language and reality. His transcendental deduction attempts to establish what is required for the possibility that the first describe the second, but, unlike Kant, he offers no proof that it does in fact do so. Wittgenstein follows a certain rationalist tradition in attempting to deduce necessary truths about reality. In his case it is not from self-evident truths as premises, but from the nature of logic which he asserts to form the a priori core of every and any significant language. But in any such approach which views language as logical or axiomatic, the language-reality link cannot be established by definitions, for they hold only within the linguistic or symbolic system. Nor, as we have seen, can it be established by elucidations or ostensive definitions. A third factor is required to link the a priori system to its realm of applicability; we may call it rules of application, a key, schemata, laws of transformation or meaning postulates. The crucial fact is that the _Tractatus_, in its attempt to preserve the autonomy of both language and reality, has offered none.

Kant has supplied meaning postulates to link his conceptual framework to particular experience. And the price he has paid, some have claimed, is too high; namely that we cannot know reality but only appearances. Ultimately, it seems to me, Kant's position is simply: we can only know what we

can know. And what we can know is not reality in its cry-
stalline purity, but a reality that is, in part, man-made.
In the Tractatus, Wittgenstein has yet to accept Kant's
Copernican revolution.

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