Wittgenstein: Science and Religion

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Introduction

We are coming more and more to see Wittgenstein as a thinker whose most characteristic theses came out of the intellectual climate of Central Europe. His interest in the writings of Schopenhauer, Spengler, Weininger and many other German and Austrian authors has long been acknowledged and the traces of this influence brought to light by many commentators. The fact that he was equally or perhaps even better acquainted with the work of the physicists of the German tradition, especially Helmholtz, Hertz and Boltzmann has not yet received the attention that it deserves.

Though Wittgenstein was engaged very deeply with Russell's philosophical and logical enterprises I believe he was unsympathetic to much of the philosophical background that Russell took for granted, not least the empiricism of the 'British' tradition. We must not forget that Wittgenstein was by training, and to some extent also by temperament, a physicist and engineer. He was technically competent in applied physical science. He understood the power of diagrams and working drawings. This source of influence on his later thought, and especially on his way of thinking about logic, has scarcely been touched on.[1] Yet I believe its traces are to be found everywhere in the *Tractatus*.

In the first part of this paper I will be advancing some arguments to try to show that more of the *Tractatus* than has yet been realized can best be understood as a generalization of a number of important theses and doctrines developed in the writings of Helmholtz, Hertz and Boltzmann, apropos of the nature of physics as a way of creating a symbolic representation of the world. This interpretation stands over against the common view that the *Tractatus* is a highly refined version of logical atomism.

There are few explicit mentions of any scholarly sources in Wittgenstein's writings, so it must be a matter of significance when we find the name 'Hertz' at a crucial point in the discussion of the relation between logic as providing the form of the general theory

[1] There is only one notable exception to my knowledge, namely the excellent and deep study of the *Tractatus* by J. Griffin, *Wittgenstein's Logical Atomism* (Oxford: The Clarendon Press, 1964).

of the world and mechanics as providing the form of theories restricted to the motions of material things. The argument of this paper is simply that the former is worked out by Wittgenstein as a generalization of the latter, as it was seen in the German tradition that existed before the sensationalism and positivism of Ernst Mach.

The other main theme, the topic of the second part of this examination of the external influences on Wittgenstein's treatment of philosophical issues, is drawn from the role of a powerful religious sensibility in his extraordinary and tormented life. The problems that troubled Wittgenstein in the management of his own personal conduct were exacerbated by the passion with he took a religious attitude to the world while rejecting the idea of religious dogma as having any explanatory force. Two matters troubled him above all.

How could commitment be followed by sin? Somehow commitment to a set of rules for good living did not fix what will happen in someone's life. Backsliding is not only possible, but inevitable. The solution he eventually found was simple but powerful. Commitment fixes only how what one does will be assessed rather than what one will do. There must therefore be room for sin and the necessity of confession. We must be forever seeking absolution, but from whom?

How could a religion guide conduct when the discourses of religion are so unconvincing as accounts of the nature of the Cosmos and the place of human life in it? Wittgenstein's answer was to set about showing that religious discourses were misunderstood if they were taken as accounts of the same sort as history and natural science. There are discourses that look like explanations but which have a quite other role in human life.

While I do not believe that the *Philosophical Investigations* and the other later philosophical texts are philosophy of religion writ large, I want to advance some considerations that might lead us to see the pattern of the arguments of them as 'shaped' by it. A landscape of hills and dales can be 'shaped' by underlying geological strata, without reflecting its forms exactly.

Part One

Physics and Philosophy

The Tractatus Unmasked

My claim is that the logic of the *Tractatus* is nothing more nor less than the extension of the basic principles of the German interpre-

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tation of physics to a perfectly general account of what a formal description of the material world in all its aspects would be like.

I believe the positive influence of Russell's own philosophical standpoints on Wittgenstein's thought to be greatly exaggerated. His conception of logic as a panacea, a universal medicine for philosophical ills, pointed Wittgenstein in a certain direction, but the sources of the latter's logical ideas were different. I am fairly sure that the fundamental role Russell gave to knowledge by acquaintance at the time when he and Wittgenstein were struggling with logic as the way to tackle the deepest problems of philosophy, was not echoed by Wittgenstein. The influence of Russell's intimations of what later came to be his doctrine of logical atomism on the content of the *Tractatus* seems to have been mostly negative. However Russell's version of the role of logic in philosophy was seminal for Wittgenstein's thought in that it provided the occasions for Wittgenstein's reflections rather than the tools to accomplish the task of finding the form of the world and the means by which that form might be faithfully represented. So too I believe that the details of Wittgenstein's account of logic owe very little to the logical theories of Frege, except the general character of the problems which it purports to solve.

These considerations which I hope to establish in what follows lead me to disagree quite fundamentally with the opinion offered by the Hintikkas[2] that '... the two most prominent logical theories of Wittgenstein, the picture theory; and the theory of truth-functions, are part and parcel of the Fregean tradition.' On the contrary the picture theory is a generalization to all descriptive uses of language of Hertz's account of how the laws of physics are meaningful and how truth in physics is to be understood. I also believe that the technique of truth-functional analysis of descriptive language is a generalization of the familiar Helmholtz-Boltzmann idea of phase-space, the geometrical representation of all the states that a system could take up, all the configurations that are possible for it.

It is important to emphasize the deep differences that separated the interpretations of physics proposed by the German philosopher-scientists in the tradition of Helmholtz and the phenomenological turn taken by Mach[3]. Mach held that the laws of physics were simply mnemonics for the reproduction at will of items from a vast catalogue of sensory correlations. Objects were nothing more

[2] J. Hintikka and M. Hintikka, *Interpreting Wittgenstein* (Oxford: Blackwell, 1986) 67.

[3] E. Mach, *The Analysis of Sensations*. (New York: Dover, 1898 [1959]).

than persisting groupings of elements, qualities when considered with respect to each other, and sensations when considered with respect to the person who experiences them. The older generation of physicists held to a qualified realism, in that physics was importantly concerned with systems of masses which we know must exist from certain conditions on the meaningfulness of formulae expressing physical laws. There was no requirement that they must be presented to human beings perceptually. For Helmholtz, Hertz and Boltzmann, the world represented in the laws of physics extended far beyond the bounds of human sensory capacities. These ideas are, I believe, the sources of what seems most original and arresting in the *Tractatus*, the picture theory of meaning, the doctrine of simple objects and the truth-tables as iconic displays of the domain of possibility.

The work of the physicists

A more detailed exposition of the views of the physicists is needed to support the use I have made of their insights in my attempt at a wholly Hertzian interpretation of the *Tractatus*.[4]

The picture theory as offered by Hertz

Hertz's *Principles* begins with a statement of the picture theory:

> We form for ourselves images or symbols of external objects; and the form which we give them is such that the necessary consequences of the images in thought are always the images of the necessary consequents in nature of the things pictured. In order that this requirement may be satisfied, there must be a certain conformity between nature and our thought[5].

The standard translation renders the German word '*bild*' as 'image' or 'symbol'. However the formal isomorphism or conformity between *bild* and the 'the things pictured' suggests that 'picture' would be a translation more faithful to Hertz's intention.

[4] L. Wittgenstein, *Tractatus Logico-Philosophicus,* trans. C. K. Ogden (London: Routledge and Kegan Paul, 1922). The quotations in the text are taken from Gilbert Ryle's personal annotated copy, now kept in the Ryle Collection, Linacre College, Oxford.

[5] H. Hertz, *The Principles of Mechanics,* trans. D. E. Jones and J. T. Whalley (New York: Dover Books, 1894 [1956]), 1.

Hertz lays down criteria for the acceptability of physicists' pictures. They must be permissible, that is in conformity with the laws of thought (logic). But they must also be correct. Hertz defines this relation indirectly as follows:

> We shall denote as incorrect any permissible images, if their essential relations contradict the relations of external things[6]

Images can be ranked to the degree to which they represent the essential relations of the objects in question.

A young man who frequently quoted Hertz's well known claim that there are problems which cannot be solved, but will simply cease to trouble us when we have a clear grasp of the forms of the propositions with which we represent the world, and have devised an appropriate symbolism to picture the world, would surely have found the picture theory of meaning attractive. The same account of meaning can be found in Boltzmann's writings on the philosophy of physics.

The necessary enrichment of ontologies

The connection between the picture theory of meaning and truth and the principle that there must be simple objects is brought out not only by Hertz, but also by Boltzmann[7]. He points out that the development of theories considered as pictures requires 'hypothetical features added to experience, which are fashioned, as always, by transferring the laws we have observed in finite bodies to fictitious elements of our own making'. In short the catalogue of elementary objects of the world is necessitated not by experience but by the forms of the laws themselves. 'Differential equations' says Boltzmann 'require just as atomism does an initial idea of a large number of numerical values and points in the manifold of numbers'.[8] A mathematical function can be thought of extensionally as a pattern of correlations among sets of numbers. Some such set corresponds to the numerical results of systematic experimentation. This is how a law can be a picture. If laws are pictures, the world must have a similar degree of multiplicity as the elements of the picture. '... for a certain large number of points [in the picture] the picture will best represent phenomena and that for greater numbers

[6] Hertz, op. cit. p. 2.

[7] L. Boltzmann, *Theoretical Physics and Philosophical Problems,* B. McGuiness (ed.), (Dordrecht: Reidel, 1897 [1974]) 226.

[8] Boltzmann, op. cit., note 7, 227.

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still it becomes less accurate again, so that atoms [as referents of the picture points] do exist in large but finite numbers.' Imperceptible atoms are the elementary objects of the world, known through the isomorphism with the structure and elements of the picture.

That the basic elements are simple entails that their behaviour cannot be explained by citing their compositions, is emphasized by Boltzmann in the following remarks:

> When I say that mechanical pictures might be able to illuminate such obscurities, I do not mean by this that the position and motion of material points in space is something whose simplest elements are completely explicable. On the contrary, to explain the ultimate elements of our cognition is altogether impossible; for to explain is to reduce to something better known and simpler, and therefore that to which everything is reduced must forever remain inexplicable.[9]

Hertz's original formulation of the picture theory and its correlative requirement of a manifold of simple elements is similar.

Hertz believed that mechanics can account for all motions and hence for all material processes and phenomena using only three properties, mass, space and time, that is mass and motion. The troubling concepts of 'force' and 'energy', according to Hertz, are not required. For the laws of nature built out of mass and motion alone to have a definite meaning, another hypothesis is needed—in addition to the perceptible masses that can be studied by observation and experiment, the universe must contain hidden masses, related to one another by fixed (necessary) relations. The realization that such elementary objects must exist is not the result of *analysis* of the meanings of laws, nor is it established by any empirical research programme. It follows from the requirement that the laws of nature be capable of meaningfulness within the context of the world view of physics, that is that they should have a determinate interpretation. The isomorphism must be complete that the law should be a picture, in that the multiplicity of the world must exactly match the multiplicity of the picture, as Boltzmann has described it.

Hertz's way of introducing the ultimate simple objects runs as follows:

> If we try to understand the motions of bodies around us, and to refer them to simple and clear rules, paying attention only to what can be directly observed, our attempt will, in general, fail. We soon become aware that the totality of things visible and tangible

[9] Boltzmann, op cit., note 7, 259

> does not form [a] universe conformable to laws, in which the same result always follows from the same conditions. We become convinced that the manifold of the actual universe must be greater than the manifold of the universe which is directly revealed to us by our senses. If we wish to obtain an image of the universe which shall be well-rounded, complete, and conformable to law, we have to presuppose, behind the things which we see, other, invisible things—to imagine confederates concealed beyond the limits of our senses[10].

Interestingly, Helmholtz, while expressing a general approval of Hertz's project, criticized it for the absence of any examples of simple objects. Wittgenstein was criticized on the same score. Of course Hertz could no more give examples of his simple objects than could Wittgenstein. They are not known by means of empirical research. They are not arrived at by conceptual analysis. We know that they must exist by virtue of the requirements that must be met if the meaning of the laws of physics should be determinate.

Here is how this would work for a well known law in physics: the general gas law of Boyle and Gay-Lussac:

$$P\ V = R\ T$$

where 'P', 'V' and 'T' are properties of confined samples of gas.

We know that the law is true since it pictures the behaviour of real gases, via the correspondence between a set of numbers that represents (the above function R is a constant) and the set of numbers generated by experimenting. It is also obvious that neither 'P', nor 'V', nor 'T' are elementary names denoting simple objects. How then can the general gas law have a determinate meaning? According to Hertz we add sufficient elementary masses to our conception of the world until we have a complete match between the law and the world. So that the term 'P' must be a conjunction of terms 'p_1', 'p_2' ... 'p_n' which are elementary names, referring to simple objects, namely instances of momentum, 'mv'. And so for the other variables: the molecular equation is $pv = 1/3nmc^2$ which can easily be seen to be isomorphic with the general gas law.

Here we have a much more plausible source of Wittgenstein's picture theory and the doctrine of simples in a point of view with which he must have been very familiar than from anything Russell had to offer him at that time. It also seems a more likely source than any influence from the little he knew of Frege's logic and the Fregean account of language. Furthermore the picture theory of

[10] Hertz, op. cit., note 5, 25

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the meaning of propositions and the doctrine of elementary objects come 'as a package'. That pictures have a determinate sense is intimated to us by the fact that we can understand and use them in highly refined ways. That they do have such a sense requires that the projection relation, between the law as a structure and the world as a structure, is actually achieved, though not through acts of human perception. It is achieved overall in the way one part of the world, the sentences of some language, are isomorphic with the world in general.

Helmholtz, Boltzmann and phase space

Physics would collapse into Machian catalogues of facts if all reference to possibilities were excluded. As Boltzmann and Hertz emphasize the propositions of physics are differential equations, the domains of which are manifolds of numbers, representing possibilities which might or might not be realized by the development of real systems, represented by particular sets of values of the parameters that define their possible states. Physics, too, handles this routinely by the construction of phase-spaces, to represent all possible states of a system, as represented by a certain set of variables.

Following the Baconian prescription for empirical science, as the search for associations of observable properties, and impressed by Hume's emphasis on the contingency of such regularities among correlations between types of events, one might come to think of a law of nature as a summary of what has already occurred and of what will occur. The algebraic formulation of laws suggests a very different interpretation. It makes room for a systematic distinction between what might have happened in the past and what might happen in the future from what has and will happen. Laws of motion in mechanics, for example, represent the totality of possible motions. That they have solutions for particular conditions allows a physicist to make predictions of what will happen in specific circumstances and what has happened in specific circumstances in the past. There is a systematic and ontologically highly significant difference between the domain of laws as algebraic functions and the domain of their solutions for motions that have or will actually occur. The law of motion, '$s = {}^1/_2\, at^2$' represents all possible cases of free fall from rest in all possible uniform gravitational fields. Setting 'a' to 9·8 m/second^2 fixes a certain trajectory through space near the surface of the earth. Solving the equation for t = 2 seconds gives us a value of s = 19·6 metres, a point in that trajectory. We have arrived

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at a description of an actual motion, say of this particular canon ball dropped from the Tower of Pisa on this particular day in 1624. We can think in Cartesian terms of the variables 's' and 't' as represented by perpendicular axes to form a two dimensional space of all possible motions, that is changes of position with the elapse of time. Choosing different gravitational constants picks out specific trajectories of free fall on different planets.

The notion of a phase-space is simply a generalization of this basic idea. In classical physics there is a general geometrical representation in which the rectangular axes of a three dimensional 'space' represent the entropy, the energy and the volume of a material system. This can be generalized by setting up a coordinate system of rectangular axes as a hyperspace, that is, in general, a 'space' of more than 3 dimensions. Generalizing the coordinates that serve to locate a system in space-time to x_1, ... x_n, and the corresponding momenta to p_1 ... p_n, and providing an axis for each we get a hyperspace of 2n dimensions. The volume of this space represents all possible states of the material world in which systems of this sort are embedded. Each state of such a system is represented as a point, that is as a particular value of the x and p variables. The trajectory of these points represents the history of a particular system.

What else is a truth-table representation of a proposition but a phase space in ultimate logical terms? The table depicts all possible arrangements of atomic facts of a certain logical form. Each line is one such arrangement. The truth-tables for logical constants depict the fixed relations among atomic facts that arise from the necessary relations of simple objects to one another, the generalized form of the relations among Hertzian hidden masses.

Wittgenstein's explicit comparison between physics and logic

In the *Tractatus* Propositions 6.3 to 6.372 are concerned with the relation between physics and logic. In 6.3 Wittgenstein makes the very broad claim that logic is concerned with *all* regularity. It soon becomes clear that this is because regularity is a consequence of something *a priori*. In 6.33 Wittgenstein remarks that 'we do not *believe a priori* in a law of conservation, but we *know a priori* the possibility of a [certain] logical form [of a proposition of science]'. In short laws like the principle of least action as expressing the form of possible laws of actual systems, do not belong to the picture but to the frame, to adopt his later metaphor.

The latter part of 6.342 brings out the point in another way.

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There Wittgenstein says the following:

> ... the fact [that the world] can be described by Newtonian mechanics says nothing about the world; but *this* says something, namely that it can be described by that mechanics in which as a matter of fact it is described.[11]

There are various versions of Newtonian mechanics, differing in what we should now refer to as their ontological commitments. Whichever one we choose will say something determinate about the world, but only relative to the array of simple objects which its meaningfulness must presuppose. In another image Wittgenstein imagines laying down a network of a certain shape of mesh, over a black and white picture. Each square will be black or white. Laws like the Law of Sufficient Reason and those of that sort, characterize the net and not the picture it is laid over. So the Law of Least Action in mechanics characterizes the system of mechanics to be employed and not the world. This is simply because that law presents the form of all possible laws of mechanics that could describe the world. The Law of Least Action displays a form. As such it cannot say anything about any particular system, any more than a tautology can.

The reference to alternative systems of mechanics is natural enough for someone acquainted at first hand with the debates in the German tradition. Hertz was very prominent in discussions about the deep meaning of the demonstrated possibility of different *systems* of mechanics and whether and why one was to be preferred. Different systems shared some concepts such as mass, space and time [motion], but were completed Hertz-wise in different ways—energy flows or point atoms or whatever simple objects would provide the laws with meaningfulness as laws of physics. However, if 'mechanics is an attempt to construct according to a single plan all *true* propositions that we need for the description of the world' (6.343) then the question of whether the description in one mechanics or another, each of which is definitely characterized by a 'grammar', is a complete description is definitive of whether to choose *that* mechanics (see again Saunders,[12] for a discussion of the viability of Hertz's way of characterizing alternative systems of mechanics). It is not implausible to read 6.32 through 6.361 as a contribution to the debate about alternative mechanics, initiated, perhaps by

[11] Wittgenstein, op. cit., Note 3, 6.342

[12] S. Saunders, 'Hertz's Principles' In D. Baird *et al*. (Eds.) *Heinrich Hertz: Classical Physicist, Modern Philosopher* (London: Kluwer, 1998).

Helmholtz's well known comments on Hertz's 'new system', with its hidden masses—why should we accept a picture of that which we cannot observe?

If the *Tractatus* is, as I believe, thoroughly Hertzian, then in discussing mechanics Wittgenstein must surely be defending the Hertzian scheme. The defence is not to be found in discussions of the principles of mechanics but only in whether the description it permits is complete.

Two Opposed Commentaries

Black's 'classical' interpretation

The clearest and most succinct account of Wittgenstein's *Tractarian* ontology is Black's remark 'The timeless objects in their internal relations constitute the system of "logical space". But the actual world is contingent: logical space might have been "empty", there might have been not a single atomic fact'[13] In commenting on what Wittgenstein meant by objects, Black remarks, correctly, that it is because propositions have a definite sense that we know that there must be objects. They are timeless, but cannot be assimilated either to universals or particulars. They are not uniform and qualitatively identical like electrons. Simple objects differ in form. But these differences are not further accountable. It is not as if there are a few classes of simple objects, like 'protons', 'neutrons' and 'electrons'. The nearest historical precedent seems to me to be Leibnizian monads, a comparison Black himself makes.

Black seems to me catch the nuances of Wittgenstein's thought remarkably well. He shows how it differs from Russell's logical atomism and Frege's notion of meaning when he says 'the sense we find attached to the propositions we encounter in everyday life forces us to believe in elementary propositions and so to believe in objects'.[14]

So far so good. My only reservation with respect to Black's account is his failure to link this up with Hertz's physics. It is surely right to resist any temptation to link it up with the atomic physics that was burgeoning in Cambridge at the time Wittgenstein first encountered Russell. The ancestor of the doctrine of elementary objects is not English empirical science, say the beginnings of subatomic physics in Rutherford's laboratory, but German theoretical physics, as conceived by Hertz and Boltzmann.

[13] M. Black, *A Companion to Wittgenstein's Tractatus* (Cambridge University Press, 1965), 65.

[14] Black, op. cit., note 13, 60.

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Hintikkas' neo-Russellian interpretation.

After pointing out rightly that the relation of naming cannot be put into words, since the object 'end' of the relation could not appear as itself, but only as represented by another name, the Hintikkas rather quickly and with a notable lack of argument proceed to interpret the *Tractarian* simples as more or less the same as Russel's objects of acquaintance.

Their reason for this identification concerns Wittgenstein's rejection of the Russellian principle that logical forms are objects of acquaintance. They presume that because he rejected one aspect of the Russellian account of the foundations of logic, he must have drawn his own account from the remainder, namely 'concrete objects of acquaintance'. How does this follow? Because Wittgenstein thought that complex logical forms, particularly those of atomic facts arose out of the forms of the simple objects that made them up.

However, knowing Wittgenstein as we do we can be fairly sure that if he disapproved of one aspect of a general account of something he surely disapproved of the rest. They say:

> it makes little sense to describe Wittgenstein as getting rid of the necessity of having acquaintance with complex logical forms unless we assume that he retained the idea that simple—the building blocks of forms—are still objects of acquaintance.[15]

On the contrary it makes perfect sense! Wittgenstein insists that we know there must be simples because propositions have a determinate sense, not because we are acquainted with the simple objects the names of which constitute the elements out of which atomic propositions are constructed. The atmosphere of the *Tractatus* indeed suggests that we are not acquainted with simples. But does it follow that they must be found by analysis? Not if their progenitors are the Hertzian simple masses.

The Hintikkas' mistake follows directly from their answering the question:

> 'Where in Wittgenstein's background can one find a similar fusion or duality of the phenomenal and the objective?' The most obvious answer lies in Bertrand's Russell's work around 1913–14. ... The sense-data out of which Russell constructs the exter-

[15] Hintikka and Hintikka, op. cit., note 2, 55.

> nal world exhibit a similar perplexing ambivalence between the phenomenal and the objective ... they are the perceptual contents, not an aspect of the act of perceiving'[16]

This answer ceases to seem the least bit obvious once one recalls the strenuous education that Wittgenstein received in the physical sciences. A sample of gas is not perceived by synthesizing perceptions of its elementary constituents. The *Tractatus* is not a generalization of Russellian logic, nor does it hint at the thesis that material things are logical constructions, that is classes of sense data. It is based on something entirely different. Logic gets a new starting point in physics.

The two citations that the Hintikkas use to back up their implausible assimilation of Wittgenstein's foundations of logic to at least part of Russell's, seem to me to point in just the opposite direction. In the *Investigations*[17] Wittgenstein approves of Socrates' remark that there can be no definitions of the primary elements. All that defines a primary being is its name. It has no other properties by which it might be picked out. This cannot possibly be true of objects of acquaintance, for example sense-data. The Hintikkas quote Proposition 5.552 but they ignore Wittgenstein's use of quotes and italics to refine the meaning of the remark.

> 5.552: The 'experience' we need in order to understand logic is not that something or other is the state of things, but that something is; but that just is not an experience.
> Logic is prior to any experience.

In short logical forms, which we already know, are built up out of the forms of simple objects. We can grasp logical forms and so we know there must be simples.

We grasp the meaning of a proposition as a whole as we use it in some practice, whether or not we are able to recover the meaning of the elements of the whole meaningful sign. Already in the *Tractatus* Wittgenstein's account of meaning is holistic but not synthetic. It is exactly in opposition to that of Russell. We do not have to hold the molecular hypothesis in physics to know that PV = RT, the general gas law is true. This shows unmistakably that the *Tractarian* objects are not phenomena. Wittgenstein's brush with phenomenalism came after he lost faith in the logic of the *Tractatus* as the universal grammar of all possible descriptions of material reality.

[16] Hintikka and Hintikka, op. cit., note 2, 51–52.

[17] L. Wittgenstein, *Philosophical Investigations* (Oxford: Blackwell, 1953: I, 42).

Conclusion to Part One

The *Tractatus* is very much a presentation of the world as the physicist comprehends it. For example if the Hintikkas had paused to reflect on 2.0232 : 'Roughly speaking: Objects are colourless' they would surely have seen that this is appropriate not to entities that are or could be perceptibles, but to the objects of physics. Such objects have only primary qualities, according to the empiricism on which physics was once based. Following the Hertz/Wittgenstein line we would be obliged to drop even that connection to what is perceptible. 2.0232 alone should suffice to show that the *Tractatus* is not in any way phenomenological nor are its simple objects among those known by acquaintance. It is in the spirit of the physics of Hertz's *Principles of Mechanics* and not of Mach's *Analysis of Sensations*.

The three main characteristics of the logical doctrines of the *Tractatus* can now, I hope, easily be seen as generalizations of pre-Machian German philosophy of physics. They owe only their provenance not their content to the doctrines and innovations of Frege and Russell. The account of the meaning of propositions fits Frege's thesis that the meaning of a complex sign is a function of the meanings of its components only in way that I doubt that Frege intended. In Wittgenstein's logic we do not need to be acquainted with the components, either the elementary names or the simple objects that are their meanings in order to understand a proposition. This suggests a somewhat different reading of 3.318 than is customary. We grasp the meaning of propositions as wholes. Since meaning is determinate we know there must be a Hertzian multiplicity in the world. In this light it is clear that there is not the slightest trace of phenomenology in the *Tractatus*. Nor should it be surprising that when Wittgenstein came later to criticize the *Tractarian* way, he should have turned to phenomenology as a remedy for the abstract, *a priori* ontologizing of the *Tractatus*.

Finally a last remark on the German tradition is in order. There is a useful and sharp contrast to be drawn between Goethe's theory of colours and the Newtonian account he was concerned to supplant. Goethe's 'physics' was phenomenological. It was an enquiry into the natural laws that are exemplified in how perceived colours behave. Helmholtz, Hertz and Boltzmann were united in their determination to construct a mechanical picture of the natural world in all its details by a very different route. It was not that they abandoned the distinction between primary and secondary qualities. They stripped down the primary qualities to two, mass and

motion. Like their predecessors in England, during the seventeenth and eighteenth centuries, they took the really real world to be a domain of masses in motion. That was all there was to the world. The German tradition, in which the *Tractatus* figures as the last great work, arose by the supplementation of the mechanical philosophy with the picture theory, an account of how human beings could capture the main features of a world that was strictly imperceptible, and yet which must have a certain character if any of what we say is to be meaningful. No wonder Wittgenstein despaired of Russell, the last in the long line of British empiricists, ever coming to understand what it was all about.

Part Two

Religion and Philosophy

Introduction

In setting up Wittgenstein's struggle with religion as a subterranean shaping influence in the later philosophy, let us start with a reminder of Wittgenstein's remark to his friend Drury. 'I am not a religious man [that is a member of a church or a religious community], but I cannot help seeing every problem from a religious point of view.'[18] Commenting on this passage Malcolm (1994: 1) confesses that he found this remark puzzling. 'The problems [Wittgenstein meant] are *philosophical*: those very perplexities and confusions with which he grapples in the *Investigations*.' That indeed is true, but what is the significance of it for identifying whatever might underlie the style of philosophy that animates the *Philosophical Investigations*?

Religion and Philosophy: Parallel Problems?

Drury thought that perhaps Wittgenstein's remark opened up aspects of his later philosophy which had been overlooked. I think that is right. I disagree with one of the opinions Malcolm expresses in his posthumously published writings on the subject. In one 'mood' he declares that the remark quoted above does no more than suggest an analogy between the problems posed by religion and those we call 'philosophical'. I believe a case can be made out for the idea that the impulse towards the dissolution of philosophical prob-

[18] R. Rhees, *Discussions of Wittgenstein* (London: Routledge and Kegan Paul, 1970), 94.

lems is a generalization of and not merely an analogy to the problems that the existence and the nature of the religious life and its discourses pose. In his posthumous writings on the topic Malcolm[19] explores the parallels between the struggle against the tendency to look for explanations in philosophy and the struggle against the temptation to take religious discourses as if they were a species of scientific explanation. There is more than just a parallel: to all intents and purposes it is the same struggle.

The thesis to be argued in this section reflects the spirit of Drury's observation. I believe that the problem of coming to terms with religion is a perennial though mostly covert force in Wittgenstein's thought. It would be too much to say that it is the driving force that keeps him persisting in his philosophical investigations proper. However, his solutions to the problems that religion and his own conduct presented, as we see them presented in *Culture and Value*, for example, are very much in the style and spirit of the philosophical studies proper[20].

What is it to be religious? Is it to hold a certain kind of factual belief? Or is to engage in certain language games, certain practices? How is the religious life accomplished? How would one recognize the religious devotion of someone else? What is Christianity? All these issues are raised again and again in Wittgenstein's writings, specially in those collected as *Culture and Value,* particularly from 1937 onwards. However there is something deeply similar in what one must say about religious thinking and Wittgenstein's conception of what it is to tackle a philosophical problem.

Malcolm's main thesis is that both in reflection on religious discourses and in reflection on philosophical problems in general, the attitude that one takes to the possibility of explanation is the key. Looking for explanations, or thinking that one has them where none are in point, is the royal road to ruin in both.

The Attraction of Christianity

Why did Christianity have such an appeal for Wittgenstein? I think we can get some inkling of this attraction if we compare the central themes of Christianity with those of Islam and Judaism. Islam and Judaism are both based on obedience to law as the root moral idea.

[19] N. Malcom, *Wittgenstein: A Religious Point of View?* (Ithaca: Cornell University Press, 1994).

[20] L. Wittgenstein, *Culture and Value*, trans. P. Winch (Oxford: Blackwell, 1977).

By obeying the law in all its minute details one achieves salvation. (This was never unchallenged in Islamic philosophy, but it was never displaced from its leading position there either.) In Christianity, by contrast, the law is reduced to the generalities of the Sermon on the Mount. Personal salvation depends on the rituals of confession and absolution. Christianity has a massive act of sacrifice as its founding episode, whereas for Judaism the founding moment is the inspiration that came to Moses on the mountain and for Islam the conquest of Mecca.

The two themes, sacrifice and confession, seem to have been echoed in the tortured self-examination to which Wittgenstein subjected himself. He too, Christlike, sacrificed the goods of this world when he gave away his inheritance. His confessional urges were ever present, peaking perhaps in the curious episode in which he invited his friends to a café and read them an embarrassing account of his sins.

Wittgenstein seems to have found that religion cannot be dismissed to the realm of silence that falls after we have digested the import of *Tractatus*: Proposition 7, of that of which we cannot speak we must remain silent. Religious discourses abound and people do live by them. Yet religious thought is corrupted throughout with philosophical problems, particularly those that emerge from the urge to explain. Religious language is a prime target for the cleansing acts of philosophical therapy, not only for its own sake, but because religion in the form of sacrifice and confession as the purging of sins, is the central theme of Wittgenstein's own moral life.

What is a Philosophical Problem in the Later Philosophy?

A philosophical problem is marked by the fact that it is both perennial and intractable. Wittgenstein and others in the analytical tradition have argued that this is not because the problem is hard to solve but because it comes from a confusion, muddle or misinterpretation of the discourse forms and conventions current in some part of our lives. Bring out the confusions and the problem simply disappears. This is the therapeutic step. It is also why language is important to Wittgenstein—in contrast to the importance it might have for a discursive psychologist who sees it as a major medium for public and private thought. It is because of the central role of language in human life that deep linguistic confusions are likely to lead to philosophical problems that look important.

A 'problem' in religion is similar. Think of the struggles to make sense of the Trinity, trans-substantiation, immortality of the soul, the bodily assumption of the B.V.M. This style of problem is not confined to Christianity—the history of religious debate in Islam is full of them: there is the 'problem of emanation'. How could a perfect, unchanging and unitary God produce an imperfect, changing and multiple world? For nearly three millennia, Hindu philosophers have turned over the problem of how *Atman*, the universal 'spark' in each person, could become one with *Brahman*, the undifferentiated One which is the true being of the Cosmos.

What were the problems that the religious life seemed to throw up for Wittgenstein?

That Wittgenstein took religion seriously is evident in one of his clashes with Russell. Monk reports on the conversation between the two during a brief meeting at Innsbruck in 1921. The tenor of the meeting can be judged from Russell's comments:

> Wittgenstein was [Russell] ... said, 'much pained by the fact of my not being a Christian', and was at the same time: 'at the height of his mystical ardor'. He 'assured me with great earnestness that it is better to be good than clever' ...[21].

In the struggle to live a life of integrity in the frame of Christianity Wittgenstein seems to have been aware of two clusters of troubles. The first was something like this: How can one be religious and commit oneself to the Christian way of life in the face of the implausibility of what religions seem to say about the universe? The second concerns the gap between commitment to the rules of the virtuous life, the sincere determination to live better, and one's persistent failure to live up to them. How is sin possible for the sincerely committed?

The resolution of the first problem:`What could religious discourses be about?' is based on the insight that they are not *about* anything. The illusion that they are arises from muddles that can be dispelled by attending to the role of religious discourse in the practices of religion.

The resolution of the second problem: 'How is backsliding possible?'goes very deep, into the nature of rules and intentions and what it is to follow a rule and to fulfil or fail to fulfil an intention.

[21] R. Monk, *Ludwig Wittgenstein: The Duty of Genius* (Harmondsworth: Penguin Books, 1990), 210.

The Illusion of the Seeming-Explanation

One way into the first problem is suggested by this remark on the Catholic Church, an institution lurking never far behind Wittgenstein's consciousness.

> The effect of making men think in accordance with dogmas ... I am not thinking of these dogmas as determining men's opinions but rather as completely controlling the *expression* of all opinions. ... I think the Catholic Church does something like this. For dogma is expressed in the form of an assertion, and is unshakable, but at the same time any practical opinion *can* be made harmonious with it; admittedly more easily in some cases than in others. It is not a *wall* setting limits to what can be believed, but more like a brake, which, however, practically serves the same purpose. ... This is how dogma becomes irrefutable and beyond the reach of attack[22].

What might be the view that this comment challenges? Surely that we are tempted to think of dogmas as superfactual accounts of the Cosmos and human fate providing the material to be used for justifying religious opinions or religiously driven moral judgments. Apologetics would be a kind of justifying explanation, and religion a superscience. But dogma is not fact-like. It creates a frame, a grammar.

In common with many of his analyses of philosophical problems as such, in discussing religion Wittgenstein pays a good deal of attention to what one might call 'illusions of explanation'. Religious discourse looks as if it is explanatory, in the sense that physics and chemistry are explanatory. The explanatory practice in these sciences is carried on by invoking unobservable causal mechanisms, or accounts of material essences such as the kinetic theory of gases which depends on our willingness to accept that a seemingly continuous sample of gas is really a swarm of minute material particles. However, closer attention to the role of evocations of transcendent realms and invisible beings in the practices of a religious community, as references to these beings occur in the language games of the religious life, reveals that they play a different role. The 'scientific' explanatory role was illusory. These language games looked like those by which scientific explanations are set up, but that is an illusion engendered by misunderstandings of the grammar of the explanation-like character of these discourses. Wittgenstein picks

[22] Wittgenstein, op. cit., note 20, 28.

out two such language games for special attention; justifying a religious practice (say the Reservation of the Host by reference to the transubstantiation of bread into the body of Christ) and explaining a practice (say Confession by invoking God's willingness to accept acts of contrition as a remedy for sin).

Describing and Justifying

It can easily look as if, in religious discourse, we are being offered justifications for this or that aspect of the religious form of life.

> [In religious discourse] rules of life are dressed up in pictures. And these pictures can only serve to *describe* what we are to do, not *justify* it. Because they could provide a justification only if they held good in other respects as well. I can say: 'Thank these bees for their honey as though they were kind people who have prepared it for you'; that is *intelligible* and describes how I should like you to conduct yourself. But I cannot say: 'Thank them because, look, how kind they are!'—since the next moment they may sting you.
>
> Religion says: Do this!—Think like that!—but it cannot justify this and once it even tries to, it becomes repellent; because for every reason it offers there is a valid counter-reason. It is more convincing to say: 'Think like this! however strangely it may strike you.' Or: 'Won't you do this?—however repugnant you find it.'[23]

Justifying would require the similes that make religious observances intelligible to be fleshed out more or less literally. In that case they would cease to be similes. But then they would have to be considered in relation to another related question: are they explanations?

The quotation above is preceded by the comment that Bunyan's simile of the road and the difficulties encountered by the pilgrim in reaching the City of God is surrounded by all sorts of possibilities which we do not take into account. For example God must have created all the 'monsters, thieves and robbers' as well as the road itself. But that was certainly not what Bunyan intended! Filling it out offers the possibility of an explanation. But what then? It will surely lose its overwhelming force as an exhortation to struggle with temptation. The picture has its *religious* role. Any features that do not subserve that role are empty. Invocation of the Holy Ghost has a religious role but its similarity to invoking a magnetic field draws

[23] Wittgenstein, op. cit., note 20, 29.

our attention to features of the picture of the 'dove descending' that play no part in its religious role, and so are empty.

Describing and Explaining

Explaining is something we do with theories. Theory steps beyond the limits of experience, either into realms we cannot observe or by way of making references to entities of which we have no direct experience. In science theory invokes new categories of entities or versions of already known categories of beings that happen to be unobservable. Theory explains by reason of the fact that the postulated entities account for what we do experience. But is religion like that? Is that what the use of words like 'soul', 'God' and so on does for us? Does the human talk of God amount to a postulation of the existence of an unobserved being, God, whose existence and nature serve to account for our religious experiences in particular?

> Christianity is not a doctrine, not, I mean a theory about what has happened and will happen to the human soul, but a description of something that actually takes place in human life. For 'consciousness of sin' is a real event and so are despair and salvation through faith. Those who speak of such things (Bunyan for instance) are simply describing what has happened to them, whatever gloss anyone wants to put on it[24].

Here we see the beginnings of the temptation to move into interpretations which go beyond the practices of the religious life. This is in contrast to the idea that to adopt a certain style of religious discourse is to commit oneself to live a certain kind of life, indeed actually to live it.

Troubled by the attraction religion had for him and yet quite unable to believe in the transcendent reality of beings that a literal reading of the discourse of religion would seem to refer to, Wittgenstein, as in many other contexts, asks himself: what is one doing with these words in some actual form of life? One must not contemplate them when the 'engine of language is idling'. Then such matters as the fact that 'soul' is a noun and 'God' is a proper name, at least in these grammatical clothes, would strike us, perhaps with overwhelming force. We would have no means of comparison with how they are actually used, since we are examining them out of the contexts in which they play a part in certain language games. This point is quite general, and is meant to cover all 'religious' words whatsoever.

[24] Wittgenstein, op. cit., note 20, 28.

Commenting of the concept of 'predestination' he writes

> Predestination: It is only permissible to write like this out of the most dreadful suffering—and then it means something quite different. But for the same reason it is not permissible for someone to assert it as a truth, unless he himself says it in torment—It simply isn't a theory.—Or, to put it another way: If this is truth, it is not the truth that it seems at first sight to be expressed by these words, It is less a theory than a sigh, or a cry[25].

Again if the doctrine of predestination were a theory, it would be telling us something beyond our practices, beyond the religious life as people actually live it, in its various forms and tempos. The proper question is to ask: How does the doctrine of predestination work in someone's life? Then we have the idea that it might express more or less the same attitude and state of mind as a sigh of despair say. If I am predestined to live my life in a certain way, there is nothing I can do to deflect the course of my life towards salvation. All I can do is to realize in terror that it is leading inexorably towards damnation whatever choices I make.

Religious discourse neither justifies nor explains religious practices. What then does it serve to do? It is just one part of those practices. To adopt religious talk expresses one's commitment to a certain way of life.

The language games of religion are autonomous and independent, constituting a certain form of life. But are they immune from criticism? This has to be put carefully. As constitutive of the religious life they are indeed immune. But when masquerading as explanations or justifications they are not. If understood aright, that is as acts of commitment to a certain way of life, they say nothing about the Cosmos. But if mistaken for theoretical propositions they do seem to say something about it and what they would say if that were indeed the language game they are constitutive of, would be false. But that is irrelevant to their role in the language games of religion. D. Z. Phillips[26] makes this point.

We now have to say what the language games of the religious life are and draw out comparisons with the language games of science and perhaps yet others, for example everyday askings, thankings and honourings.

[25] Wittgenstein, op. cit., note 20, 30.

[26] D. Z. Phillips, *Wittgenstein and Religion* (Basingstoke: The Macmillan Press, 1993).

The Gospels are not History

Christianity, in the form of the Gospels, seems as if it is a historical narrative It might seem as if any disparities between the four gospels could be resolved by such matter of fact procedures as finding archaeological evidence or by the consultation of a newly discovered Roman document. But the Gospels are treated wrongly if they are so interpreted. Comparison between their versions of the life of Christ is not a matter of historical truth. Rather, according to Wittgenstein, the historical seeming narrative provides one with an occasion for believing. In the notes he made in 1937 he remarks:

> 'But do not believe this narrative with the belief appropriate to a historical narrative, rather: believe, through thick and thin, which you can only do as result of a life.. ... make a *quite different* place in your life for it—There is nothing *paradoxical* about it
>
> Neither of the traditional grounds for belief, in the sense of holding something to be true, run here. These narratives are neither historical truths nor are they truths of reason. They 'are seized on by men believingly (i.e. lovingly).'[27]

Ten years or more later we find him reading Frazer's *Golden Bough* with Drury. In his discussions on these occasions and in the notes and comments he wrote concerning this text some of the leading issues of his struggles with religion are again very clearly visible. The very first set of remarks encapsulates much that was to come.

> Frazer's account of the magical and religious notions of men is unsatisfactory: it makes these notions appear as *mistakes*. ... But *none* of them was making a mistake except where he was putting forward a theory[28].

Further, in commenting on what one would have to say of the people he remarks: 'But it never does become plausible that people do all this out of sheer stupidity' (Wittgenstein, 1979: 1). And a little later: 'We can only describe and say, human life is like that' (Wittgenstein, 1979: 3). Religious ceremonies are expressions of deeply held feelings, insights and important attitudes to life. They are not to be discussed and evaluated as if they were something else. Ceremonies are not important because of their alleged material effects or social consequences but because of what they express. In

[27] Wittgenstein, op. cit., note 20, 32.

[28] L. Wittgenstein, *Remarks on Frazer's Golden Bough*, trans. A. C. Miles (Brynmill: Humanities Press, 1979), 1.

a later passage Wittgenstein introduces the idea of presenting such matters as Frazer lays out as a development, say from primitive to sophisticated, in a quite another way. We could use this technique to gain a perspicuous overview without invoking any explanation. We would not be tempted to say *this* version of a ceremony is based on a false belief of such and such a sort.

Phillips[29] points out that some practice may not be in the least confused, but we, as outsiders, give conceptually confused accounts of it. I suppose Frazer would be a perfect exemplar of the kind of confusion that the urge to explain leads to. Religious ritual, say rain-making prayers and magic performances are not primitive science or technology. Furthermore, it may be no good going to the practitioners themselves. Though not confused in their practice, they carry out the ritual of the Beltane cake and the selection of the 'victim' while giving quite confused accounts of what they are doing—perhaps they try to give an explanation.

Religion and social ceremonials in general provide just the right soil for Wittgenstein's general approach to the resolution of conceptual confusion to flourish. Just describe what people do and the role these play in their lives, and leave aside explanation. Religion and science are not related as a primitive and a sophisticated system of belief are related. Religious ritual is not a primitive form of anything. It is not a primitive form of science. Religious discourse does not explain religious practices.

It may look as if it explains and justifies. So 'Why do you cross yourself?' gets the answer 'Because I am a Christian'. As if it were like 'Why do you dose yourself with Tylenol? which gets the explanatory/justificatory answer 'Because I feel a cold coming on.' Crossing oneself is one of the ways of being a Catholic. Taking Tylenol is not one of the ways of being ill, though generally it is ill people who take Tylenol. They can be challenged as to the rationality of their practice and in response could offer an explanation in terms of the biochemistry of analgesics.

Commitment and the Possibility of Sin

How do rules and intentions constrain action? Why does commitment fail to ensure a conforming performance? Because there is a gap between intentions, rules and conventions and what one does. Here is the space for sin, guilt, confession and repentance.

The resolution in the *Investigations* is clear: rules are not laws for-

[29] Phillips, op. cit., note 26, 1.

mulated as the result of research in behavioural psychology. They do not describe the processes that cause conforming behaviour nor are they themselves such causes. They determine what is good or evil in the future—so however deeply one is committed to a certain 'rule of life' there is always space left for backsliding and the suffering of the tormented soul. How Kierkergaadian it all is!

There are some further hints in remarks that Wittgenstein jotted down in the year 1947.

> It strikes me that a religious belief could only be something like a passionate commitment to a system of reference. Hence, although it's *belief*, it's really a way of living or a way of assessing life. It is passionately seizing hold of this interpretation. Instruction in a religious faith, therefore, would have to take the form of a portrayal, a description, of that system of reference whole, at the same time being an appeal to conscience. ... It would be as though someone were first to let me see the hopelessness of my situation, and then show me the means of rescue until, of my own accord, or not at any rate led to it by my *instructor*, I ran to it and grasped it[30].

Here, in another context, is all that we have encountered in the need to show the fly the way out of the fly bottle. The fly is not pushed, pulled or ordered out. It must realize its predicament, and the route by which it got in.

Showing the way

Given that religious discourse is neither a justification for religious practices, nor an explanation of the forms of human life that demand such practices, what is it? It can only be a means by which someone is *shown* the right way. I may show someone the right way, but does this person take it? Failure to follow my display would not be because someone has failed to understand a justification or an explanation. It is rather that the will, as Wittgenstein says in a passage commenting on Tolstoy's religious sensibilities, is not behind my adopting a new way of life. But how can that change be accomplished? What would bring the will behind a way of life? Surely only conversion. That is not accomplished by learning a new theory. The change of life suggested here is a change of will, not a change of factual belief. Now I want to do these things, and not those. So it

[30] Wittgenstein, op. cit., note 20, 64.

cannot be brought about by telling me some new facts to change my beliefs, such as the existence of water on the moon, or that a certain Galilean preacher was crucified a couple of thousand years ago. It must be a change that is borne out in new ways of living. Since it cannot be told, it must be shown. We have heard this aphorism before.

Here we can return to the classroom at Trattenbach. Getting someone to 'see' a point in mathematics just is a domestic and small-scale version of the cosmically significant moment of a religious conversion. Perhaps it happened with Wittgenstein's favourite pupil, Karl Gruber in the intensive atmosphere of the private tutorials that were intended to prepare Karl for higher education in Vienna.

> I believe that one of the things Christianity says is that sound doctrines are all useless. That you have to change your *life*.
>
> The point is that a sound doctrine need not take hold of you; you can follow it as you would a doctor's prescription. But here you need something to move you and turn you in a new direction. (I.e. this is how I understand it.) Once you have been turned round, you must *stay* turned round.
>
> Wisdom is passionless. But faith by contrast is what Kierkegaard calls a passion[31].

What are the leit-motifs of the later philosophy, particularly as it is brought to a culmination in the *Philosophical Investigations*? What else but meanings and rules? I do not mean to say that the book is a certain approach to religion write large, as the *Tractatus* is a certain approach to science write large. That is why I have introduced the metaphor of 'shaped by'. Religion is not a kind of super-science, and religion discourse is not to be interpreted as if it were something like the discourse of physics. This still leaves all to play for. I believe that it is consistent with Wittgenstein's thought to call up another metaphor: religious discourse is one of the ways that we are *shown the way of virtue*.

Conclusion to Part Two

I believe that 'external' , that is extra-philosophical, influences were very important in shaping the course of Wittgenstein's philosophical ruminations. In the case of the *Tractatus* I am fairly sure that it is massively misunderstood unless it is seen as derived more or less

[31] Wittgenstein, op. cit., note 20, 53.

directly from the pre-Machian philosophy of physics of the German tradition adapted to the problems that Russell confronted him with. In the case of the later philosophy the two major themes are common to the insights that lead to dissolutions of the problems posed by the outward forms of religious discourses. There is the theme of meaning as something created in the course of a person acquiring the ability to successfully perform all sorts of tasks. There is the theme of rules as determining values but not the actions that might or might not conform to them. These themes shaped the way that the problems that occupy the surface of the *Investigations* were dealt with. The problems that shaped these treatments were deeper. They lay in Wittgenstein's very soul.

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