EXPERIENCE AND RELATIONS IN THE METAPHYSICS OF A. N. WHITEHEAD AND F. H. BRADLEY

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ABSTRACT

The central purpose of this thesis is to examine the affinities and contrasts in the metaphysical systems of A. N. Whitehead and F. H. Bradley. Not only does this thesis aim to explore thoroughly and show exactly where these two philosophers agree, it also attempts to provide an analysis and evaluation of the arguments where conflict does arise.

After a brief introduction which sets out Whitehead's and Bradley's respective positions on philosophic method and approach to metaphysics, Chapter II "Immediate Experience and Feeling", shows where Whitehead and Bradley unite in their reaction against the ontology of scientific materialism of the 17th century cosmology. At this point various affinities are shown concerning the central role of the doctrine of feeling. But in Chapter III "The Analysis of Experience", Whitehead's interpretation of feeling in terms of a distinctive pluralistic ontology is seen to conflict with Bradley's doctrine, and thus the stage is set for the central Chapter IV "Relations: Internal and External". In this chapter Whitehead is confronted with Bradley's very rigorous and exhaustive analysis of the relational form. Despite Bradley's arguments it is here concluded that Whitehead's scheme can be shown to be consistent, given various modifications of the pluralist ontology in terms of the temporal asymmetry of one-way dependence. In Chapter V "Extension and Whole-Part Relations", an attempt is made to defend the new doctrine of event-pluralism against a recent version of the ontology of material substance; and it is shown how such an ontology of events can account for the physical bodies which make up the system of nature. In the remainder of this chapter and the following Chapter VI "Time", special problems of space and time are raised in connection with Whitehead's and Bradley's very different conceptions of the extended universe; and various attempts are made to defend Whitehead's view of process against an eternalistic view of the universe largely consistent with the Bradleian Absolute. However in the course of evaluating the arguments, it is discovered that Whitehead's ultimate metaphysical position must make certain concessions to the theory of eternalism; and this gives rise to the final Chapter VII "God and the Absolute", where it is concluded that Whitehead's God must be seen as an 'Absolute open at one end'. Here Whitehead and Bradley merge on the notion of universal absorption of all finite actualities into one eternal actual entity; though Whitehead's conception, in the end, differs in the sense that God is not the <u>only</u> real entity, but one divine actuality which is in unison of becoming with the whole of creation.

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PREFACE

Before my arrival in Britain some three years ago my original intention was to write a Whitehead thesis from a British point of view. Under the supervision of Professor Timothy Sprigge, I became aware of the importance of certain metaphysical issues which bind Whitehead and Bradley into a larger genre of philosophical Idealism, and found that the Bradleian influence on Whitehead's thought is much greater than most of his followers are willing to acknowledge. This thesis therefore attempts to show exactly where Whitehead is in accordance with Bradley's doctrines and where he has developed a theory which either far exceeds or conflicts with the general principles of Bradley's metaphysics.

Wherever possible equal consideration has been given to both thinkers. However, the reader may encounter several sections of this thesis where detailed attention has been given to some aspect of Whitehead's philosophy which finds no parallel in Bradley. In most cases this is a result of Whitehead's attempts to construct a cosmology consistent with the findings of 20th century physics and biology, and my policy here has been to deal with these ideas briefly in order to illuminate their major differences.

My single most important obligation is to Professor Sprigge for his invaluable criticism and friendship during the course in which this work was written. His suggested improvements to earlier drafts of these chapters have given this thesis a good deal more strength and interest. Also it must be mentioned that his own metaphysical system has been a continual source of inspiration in a time in which current orthodoxy has been preoccupied with issues quite far afield from the mainstream of speculative philosophy. To others who have contributed to this work in one way or another, I am greatly indebited to Professor Dorothy Emmet and Professor Charles Hartshorne for discussions on Whitehead and for faithful correspondence thereafter. Here in Edinburgh I owe thanks to Mr. Errol Bedford and Mr. Stanley Eveling for three years of postgraduate seminars in which various sorts of philosophical sparring have kept me reasonably abreast with contemporary philosophy. And to Timothy Engström and John Slepokura, I am most grateful for various suggestions

regarding style.

Parts of chapters III, IV and VI have been published in a paper entitled "Time, Relations and Dependence" in The Southern Journal of Philosophy, Volume XXI, Number 3, 1983. Section 1 of chapter VI carries the bulk of this paper with only slight modifications demanded by the context of the chapter. Also throughout this thesis, I have adopted my native American spelling with the exception of certain technical terms, (e.g., finite centre of experience).

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Abbreviations of Whitehead's

Major Works

AE	The Aims of Education. 1929.
AI	Adventures of Ideas. 1933.
CN	Concept of Nature. 1920.
ESP	Essays in Science and Philosophy. 1947.
FR	The Function of Reason. 1929.
IM	An Introduction to Mathematics. 1911.
IS	Interpretation of Science, ed. A.H. Johnson. 1961.
MT	Modes of Thought. 1938.
OT	The Organisation of Thought. 1917.
PM	Principia Mathematica, (with Bertrand Russell). Vols. I- 1910, II- 1912, III- 1913.
PNK	An Enquiry Concerning the Principles of Natural Knowledge. 1919.
PR	Process and Reality. 1929.
PRel	The Principle of Relativity. 1922.
RM	Religion in the Making. 1926.
SYM	Symbolism, Its Meaning and Effect. 1927.
SMW	Science and the Modern World. 1925.
UA	A Treatise on Universal Algebra. 1898.

* In most cases references in the text are to later editions as indicated by the first entry in notes.

Abbreviations of Bradley's

Major Works

AR	Appearance and Reality. 1893.
CE	Collected Essays, Vols I and II. 1935.
ES	Ethical Studies. 1876.
ETR	Essays on Truth and Reality. 1914.
PL	Principles of Logic, Vols I and II. 1883.

CHAPTER I

INTRODUCTION

1. Whitehead's Philosophical Influences

Of the many influences and motivations which coalesce in Alfred North Whitehead's philosophy, it would be simply arbitrary to choose one as primary. Whitehead's extraordinary breadth expressed in his metaphysics provides a rich and fertile ground for many interpretations and comparisons. His serene dealings with aesthetics, religion and education have captured the attention of philosophers inclined to a more romantic mode of expression; yet at the same time his emphasis on precision and clarity through mathematics, logic and physics has given him a prominent place in the classic understanding of the 20th century. But it would be misleading to suggest that Whitehead's achievements are appreciated by the majority of philosophers committed to an age of analysis and overall distrust of speculative philosophy. The very fact that his metaphysics attempts to cover many facets of existence by generalizing from our experience will be disturbing to many philosophers. Indeed as Victor Lowe rightly remarks: "Whitehead's philosophy has never enjoyed the popularity which rewards narrowness".1

Whitehead draws upon and synthesizes the most heterogenous thinkers and contrasting sources for his final product; yet this procedure must not be taken merely as eclecticism. What Whitehead does in his constructive synthesis is highly original and innovative to such an extent that most positions of earlier philosophers are transformed beyond recognition as they are adapted to inclusion in his philosophy. In the preface to his magnum opus, Process and Reality, he states that his work is "...based upon a recurrence to that phase of philosophic thought which began with Descartes and ended with Hume".2 Locke, he says, most fully anticipated the main positions of his 'philosophy of organism' and the metaphysical problems raised by Plato and Aristotle receive constant attention as Whitehead expressed his hope that his work would fall within this European philosophical tradition. Of other thinkers who provide a rich source for Whitehead's metaphysics, he mentions his debt to Henri Bergson and the American Pragmatists- William James and John

Dewey. As for his connections with the realists- T. P. Nunn, Lloyd Morgan and Samuel Alexander have several points of contact. George Santayana may also be mentioned among the realists with regard to his Scepticism and Animal Faith. However, Whitehead's proximity to a seemingly opposite school of thought in the distinctively British tradition of Absolute Idealism is the focal point of this thesis. In particular the metaphysics of Francis Herbert Bradley, recognized as the central exponent of British Absolute Idealism, will be considered in detail.

Although Whitehead is generally regarded as a realist in American philosophy, having accepted the Chair of Philosophy at Harvard after his long career in mathematics at Cambridge University and philosophy of science at the University of London, his relation to Bradley provides an insight into what Whitehead himself thought of his final results. This element has certainly not been emphasized as an important influence on Whitehead's thought despite his explicit obligations to Bradley's work. In one of his very late essays he writes: "I admit a very close affiliation with Bradley...."[3] as he explains his relations to the Idealist tradition. And in the preface to Process and Reality, Whitehead, in a tightly packed statement comparing his own view with that of Bradley, gives us a crucial passage from which the present study proceeds:

> ...though throughout the main body of the work I am in sharp disagreement with Bradley, the final outcome is after all not so greatly different. I am particularly indebted to his chapter on the nature of experience, which appears in his Essays on Truth and Reality. His insistence on 'feeling' is very consonant with my own conclusions. This whole metaphysical position is an implicit repudiation of the doctrine of 'vacuous actuality'.
>
> The fifth part is concerned with the final interpretation of the ultimate way in which the cosmological problem is to be conceived. It answers the question, What does it all come to? In this part, the approximation to Bradley is evident. Indeed, if this cosmology be deemed successful, it becomes natural at this point to ask whether the type of thought involved be not a transformation of some main doctrines of Absolute Idealism onto a realistic basis.[4]

In this regard the justification for describing Whitehead's metaphysics as a 'realistic Idealism' gains its validity when considered in light of the affinities and contrasts with the position of F. H. Bradley.

2. The Problem of Experience and Relations

A central problem arises from this synthesis in that Bradley offers the most rigorous and exhaustive criticism of metaphysical pluralism of any Western philosopher. The theme which Bradley continuously pursues is that relations are self-contradictory and therefore cannot belong to the nature of ultimate reality. The strength of this argument leads him to the view that a plurality of individuals is not possible and that reality must be a non-relational one. Whitehead, on the other hand, takes relatedness to be an essential character of his 'philosophy of organism' whereby it is within the essence of the individual occasion of experience that it enters into relationship as an ingredient of process. This problem I take to be the fundamental issue of disagreement between Whitehead and Bradley from which the title of this thesis, "Experience and Relations" arises. The definitive problem, then, is how is it possible for a pluralistic ontology to produce a consistent, integrated metaphysical system given the very rigorous treatment of relations in Bradley's arguments? This is the task confronting Whitehead in his synthesis of Idealism and realism. The fact that Whitehead was a successor to Bradley and in large measure accepts his theory of feeling provides a certain strategy for the present work. What I offer is an analysis and evaluation of the different consequences drawn from the interpretation of feeling, and in so doing attempt to answer how, in the end, "the final outcome is after all not so greatly different".

3. Idealism and Realism

'Idealism' as used throughout our philosophical heritage has been attached to numerous and conflicting sources. Though all varieties acknowledge that mind is the only thing that is ultimately real, the issues which divide one type of Idealism from another could occupy the better part of this introduction: Absolute Idealism, personal Idealism, panpsychistic Idealism, subjective Idealism and transcendental Idealism are the major classifications, though we should note that such divisions are not exclusive of one another and overlapping is common. What is certain is that Idealism, taken in its most general sense, opposes any form of materialism which

asserts the insentient, thoughtless reality of matter. In this regard Whitehead and Bradley unite in attacking the materialist-mechanistic world-view of a universe composed of what Whitehead calls 'vacuous actualities'. The notion that sentient experience supplies the necessary condition for any form of existence is fundamental to both Whitehead and Bradley; though for various reasons, Bradley was never quite committed to the panpsychist view. Nonetheless, experience, or the more specific term 'feeling', as the basis of reality, provides the point of contact whereby both philosophers align themselves with the Idealist tradition.

One difficulty arises which may blur the distinction between Absolute Idealism and the older Platonic view. That is, a doctrine of appearance and reality in Platonic Idealism which asserts the illusiveness and relative unreality of the temporal process may often be confused with Bradley's notion that finite experience transcends its immediacy as it becomes transmuted within the larger whole of Absolute experience. The crucial difference is that Bradley does not imply a complete disjunction between appearance and reality as Plato is usually interpreted as doing in his middle dialogues, e.g., the Republic. Whitehead, at times, seems to mistake Bradley's view when he interprets appearance as meaning illusory rather than finite.5 Appearance, though incomplete in itself, is "the stuff of which the Universe is made".6 Thinking of appearance as relative unreality, however, does correctly characterize Bradley's view in that the finite appearances are intellectually unintelligible without consideration of the infinite totality which they occupy. The appearances then, are to be taken as having a relative degree of truth and reality as they approach the Absolute perfection.

Whitehead's insistence on the reality of temporal process was a long standing preoccupation throughout his philosophical career. He very often repudiated the notion prevailing in the history of European thought that the supreme reality is a perfection of changeless order. Such dominant tendencies in the Platonic and Christian traditions interpret life and motion as being subordinate to the essentially static conception of eternity. It is here that we find the notion of 'mere appearance'; and unfortunately Bradley is often taken as following this tradition. It is true that Bradley's Absolute is a timeless perfection unifying the diversity of experience. However the

diverse elements essentially qualify the Absolute in some degree and cannot be taken as illusory. They must find their place transcended within the harmony of the Absolute.

What is not possible in Bradley's view is the independence of various appearances which would allow for a plurality of reals. It is on this score that Whitehead parts company with Bradley and emphasizes his connections with 'common sense' philosophy. The setting of the metaphysical problem, for Whitehead, is realistic. That is, we find ourselves among the many, each individual existing in its own right. The notion of a 'common world' including ourselves and other actualities is then transformed from a realistic basis to an Idealism by the manner in which each individual is temporally connected to form a coherent universe of experience.

The compatability of Idealism and realism in this century has also been advocated by Norman Kemp Smith, a friend of Whitehead who argued that the central issue is not that reality is mind-dependent but that it incorporates 'spiritual values', and these operate on a cosmic scale.7 Whitehead, in a letter to Kemp Smith dated April 6th, 1927 (the same letter in which he accepted the invitation to deliver Process and Reality as the Gifford Lectures) comments on Kemp Smith's Prolegomena to an Idealist Theory of Knowledge and writes: "I am inclined to suspect that what you call 'Idealism', I call 'Realism' and that is our main difference".8 Indeed Kemp Smith's definition, which ascribes spiritual values to the whole of reality, accords quite well with Whitehead's description of the occasion of experience which necessarily involves value and aim. Though Whitehead calls his position 'Realism', emphasizing the reality of process, Kemp Smith opts for 'Idealism' so as not to allow the slightest association with the materialistic tendencies of realism.

4. Whitehead's Process Realism and Philosophical Method

Whitehead's realism, it must be noted, was tied to his approach to philosophy: by this I mean his concerns in constructing a cosmology which would accommodate the advances in 20th century physics. The beginning of the present century was clearly a time of reorganization; and Whitehead recognized

that the fall of the 17th century cosmology would require a new comprehensive system which would bring together the fundamental advances under a single unifying concept. It is in his essay Process and Reality that Whitehead achieves the most detailed exposition of his cosmology which embodies his earlier interests in the philosophical foundations of natural science. Though the metaphysics contained therein should not be considered a mere continuation of the problems he faced in the philosophy of natural science, the earlier investigations certainly set the background for the metaphysics.

The emphasis on a neorealism which dominated philosophical thought at the onset of the 20th century was a result of the discrepancy between the larger conceptions of Idealist systems and the important results which the special sciences accumulated. Russell, Moore, Alexander and Nunn were the dominant figures in Britain who reacted against Idealism as an inadequate foundation for the sciences. Whitehead, too, is mentioned as belonging to this wave of thought, and is often compared with Russell.9 However, from a careful reading of Whitehead's works, there is very little to link him with the Moore-Russell line of thought. At no point throughout his philosophy of science or metaphysics did he hold a doctrine of external relations. In fact, Whitehead finds this to be a most disturbing feature of the extreme realist who argues that entities exist in complete independence of one another, each capable of isolation.

What does justify Whitehead's association with the realists is an epistemological issue concerning the relation between mind and nature, i.e., what is perceived is not just one's own mental states but a direct apprehension of nature, and this is quite real. The most important consequence of this epistemological realism is that the datum for natural science is not mental at all. That is, scientific investigation requires that its objects be separate and prior to perception and thought. As against the contention of the subjective Idealist, that the existence of objects of perception consists in the fact that they are perceived, Whitehead argues that no assertions concerning nature can be verified if what is perceived is only a fact of individual psychology.10 But this doctrine must be seen as playing a limited role within Whitehead's thought, for the sake of scientific objectivity. Whitehead did not intend a metaphysical disjunction of nature

and mind by saying "nature is closed to mind"; for here a metaphysical doctrine as to how mind functions in nature is left to his later work.11

Indeed once process is accepted as the fundamental notion in Whitehead's metaphysics, the extensive properties of nature become dependent upon one ontological type, which, in its essence, is understood as a psychical unity of becoming. What distinguishes the transition between Whitehead's work in the philosophy of science and his metaphysics is the radiating character of his thought. That is, the central concepts become so general as to extend their application to the diverse aspects of human experience. Where in his earlier thought his aim is to provide a unifying concept for the reorganization of theoretical physics, the ideal of the later work is an all-inclusive theory "...which will set in assigned relationships within itself all that there is for knowledge, for feeling, and for emotion".12 Such a notion, then, becomes a comprehensive criterion by which he provides a general hypothesis concerning the nature of ultimate reality. Lowe remarks that Whitehead's problem in the philosophy of natural science "...is to offer the scientist, in place of the ancient trinity of time, space and matter, a coherent set of meanings based on relations exhibited in all sensory observation".13 On the one hand we are thinking 'homogeneously' about nature when we are limiting our concerns by confining attention to the natural sciences.14 This is an enquiry touched by only one side of the philosophical debate. Whitehead says that we are here "...concerned only with Nature, that is, with the object of perceptual knowledge, and not with the synthesis of the knower and known."15 However, once we are thinking 'heterogeneously' about nature so as to include mind, the spectrum widens as does the range of application. On this latter view, Whitehead holds that:

> ...it must be one of the motives of a complete cosmology to construct a system of ideas which brings the aesthetic, moral and religious interests into relation with those concepts of the world which have their origin in natural science.16

The emphasis is here placed in systematic construction whereby metaphysical enquiry is pursued with an eye for interconnections. Having its origin in natural science, Whitehead's philosophy of organism begins with the perceiver and his immediate environment. Once generalized this notion becomes the

basis for understanding the relations, not only within the sciences- biological, physical, psychological, and sociological- but inclusive of the axiological studies, i.e., life understood in terms of values and feelings.

Whitehead saw that whereas many thinkers in the abovementioned disciplines had accepted the advances of the 20th century revolution in physics, they still held an implicit conception of matter from the 17th century cosmology. In this sense the move was not complete from the concept of inert matter to the late 19th century concept of energetic vibrations. Whereas his colleagues were content to think of energy in more conventional materialistic or positivistic terms, this proved most unsatisfying for Whitehead. Progress in knowledge, he held, demands that science will not "...combine various propositions which tacitly presuppose inconsistent backgrounds".17 Whitehead hoped that the total picture which emerged from his synthesis would guide thought for the 20th century. His theory is a fusion of the two previous cosmologies which dominated Western thought- the philosophical depth of Plato's Timaeus and the accuracy of detail in Newton's Principia- "...with modifications demanded by self-consistency and the advance of knowledge".18 This forms the historical framework and setting for his event-ontology; a fluid and dynamic interpretation of energy vectors understood in terms of atomic quantums of experience.

Our exposition has thusfar centered on Whitehead's approach to metaphysics via cosmology. We might do well at this point, however, to distinguish the two before introducing Bradley's conception of metaphysics.

As Whitehead conceives it, metaphysics is "...the general ideas which are indispensably relevant to the analysis of everything that happens".19 Cosmology, on the other hand, is "...the effort to frame a scheme of the general character of the present stage of the universe".20 The immediate difference which emerges from these definitions is the fact that cosmology seeks the general character of a given epoch. Its scope is limited to the type of order which dominates within that epoch- our own being the electromagnetic features of energy. It is thus clear that a cosmology will fall with the decline of the epoch in question. Leclerc remarks on this point that: "This is a necessity of the metaphysical character of the universe. But

the particular type of order at any time actually reigning is not a metaphysical necessity."21 The laws of nature, for example, are not considered part of the ultimate metaphysics of the universe; they have their application only within a particular cosmic epoch dominated by particular facts.

Metaphysics is more fundamental than cosmology in the sense that the metaphysician seeks the general characteristics which pervade the entire universe. In such an enterprise we attempt to construct a systematic investigation into the nature of being. This is the sense of metaphysics which Aristotle called 'first philosophy' or 'first principles', which is concerned with the basic and primary problems of philosophical enquiry. The sense in which it has such a priority in any philosophic or scientific thought is that it is inescapable. Whether we recognize this or not "... all difficulties as to first principles are only camouflaged metaphysical difficulties".22 The real question, then, is whether we pursue it in some systematic fashion or presuppose it in the background of our thought.

In Whitehead's view, to conceive of a 'complete fact' is to discern that which <u>is</u> in the most general sense of being. But we should not be misled here to think that by 'complete fact' Whitehead means our ability to discern the whole, or the absolute oneness of being. The 'fact' is an instance of experience which exhibits features which are general in the sense of being common to all facts which compose the universe. In short, to conceive of a 'complete fact' is to understand one instance capable of exemplification in all others. Whitehead calls these atomic facts- 'actual occasions' which are described as the concrete units in the temporal process. The point here is that metaphysics is concerned with the generic features of actual occasions. The 'first principles', or scheme, devised in a metaphysical system must be completely universal and necessary so as to apply to all instances. And this, by the way, constitutes rationalism in Whitehead's thought, i.e., an entity is rationally understood when the principles or reasons it embodies are discerned or discriminated. He writes: "The doctrine of necessity in universality means that there is an essence to the universe which forbids relationships beyond itself, as a violation of its rationality".23 This essence is the actual occasion- the final concrete reality from which all other forms of existence are derived.

At times, Whitehead's use of 'metaphysics', of 'speculative philosophy' and of 'cosmology' seems interchangable. Though for our present purposes it will not be necessary to distinguish between speculative philosophy and metaphysics, his cosmology is certainly distinguished by the interpretation of actual occasions in terms of the electro-magnetic characteristics of energy and the type of order which follows- electrons, protons, molecules, cells, etc. When we apply the generality of metaphysical notions to the present cosmic epoch in the universe we are concerned with a cosmological interpretation. What is, however, a common denominator in all of Whitehead's later thought is the primacy of actual occasions in process. With the ultimate generality of process, Whitehead's metaphysics provides an explanation of the rise and fall of cosmic epochs, and of various historical epochs which follow, one after another, analogous with the becoming and perishing of actual occasions. The metaphysical necessity involved is of a cumulative nature whereby the present is understood as a synthesis of the past.

As regards philosophic method and the evaluation of the metaphysical system, Whitehead sees the ideal of speculative philosophy as a combination of both rational and empirical elements. The rational side demands that the philosophical scheme be logical and coherent with respect to the consistency and unity of ideas, while the empirical side involves the application of the scheme and its overall adequacy with respect to the interpretation of experience.

A metaphysics, Whitehead wrote in Religion in the Making, is a description: the metaphysician discerns in some special field of interest what he suspects to be the general character of reality; he then sets up categories from this investigation and seeks to discover whether they are in fact exemplified in other areas of human interest.24 We arrive at the system through the primary stage of 'assemblage' which attempts to cover the infinitude of the universe by the metaphysical notions of the widest extension. This provides the matrix, as a body of first principles, which is to be judged as coherent and logical, depending on the manner in which each proposition requires the others in systematic interconnection. However,

as a whole, the system must be confronted with the facts of experience. The final evaluation is a rational interpretation of the metaphysics as applicable and adequate depending on its comprehensive capacity to elucidate immediate experience. This approximates, no doubt, the hypothetico-deductive method of scientific enquiry; (a method, Whitehead thinks, owned by science and metaphysics alike). The hope of rationalism is that things lie together in a certain coherence in which no element of experience proves incapable of exhibition as an example of general theory.25 But what is quite clear to Whitehead is that: "Philosophers can never hope finally to formulate the metaphysical first principles" as infinitude forever eludes the grasp of finite judgment.26 Nonetheless, the scheme, as a definite statement of the primary notions, must be sought regardless of the emphasis placed on its hypothetical character. The metaphysician must progressively modify the working hypothesis in his approximation to the ideal scheme.

Whitehead says of his "categoreal scheme" that its purpose is to state the ultimate generalizations with the utmost precision and definiteness, and to argue from them boldly with rigid logic. Argument, however, in Whitehead's philosophy takes the character of an axiomatic approach in mathematics. That is to say, he construes argument to be a method of deriving consequences from accepted first principles or premises. This is indeed implied in his notion of metaphysics as a descriptive generalization. Whereas many philosophers have been critical of Whitehead's lack of philosophical argument in supporting his principles, as opposed to those of rival schemes,27 he stands by this method as the proper objective of philosophy; that is, the search for the premises which extend the boundaries of previous philosophical systems, and thus become more comprehensive with respect to the ability to describe the facts. The emphasis is placed here on positive construction.

5. Bradley's Absolute and the Skeptical Method

Bradley, unlike Whitehead, was a philosopher by training who was very argumentative and polemical in his approach to philosophical issues. Whereas with Whitehead, the explication of the process view itself constitutes

sufficient refutation of the traditional views differing from it, Bradley directly confronts alien views when investigating their claims to represent ultimate reality. Though explicit reference is often omitted in this process, it is clear that his target covers a wide range of philosophers, especially the British Empiricists, whom he refers to mockingly as "the school of experience". The dominant influence on Bradley's philosophy was the neo- Hegelianism which formed in Britain at the end of the 19th century as a reaction against the Empiricist orthodoxy. T.H. Green at Oxford and Edward Caird at Glasgow led the movement in British Absolute Idealism, though they were surely surpassed by Bradley's philosophical style and intellectual rigor. In spite of all Bradley's protests against the spirit of "discipleship" and his dissent from being included as a member of an Hegelian school, it is still quite clear that he owes a lot to Hegel.28 One of Bradley's dedicated followers (at least at the onset of his philosophical career), A.E. Taylor, remarks on this point that: "'Anglo- Hegelianism' has meant in English-speaking countries, especially since the publication of Appearance and Reality, to all intents and purposes chiefly the views of Bradley...".29 It does, however, become clear that Bradley's work since his Ethical Studies moved steadily away from Hegel's influence. He himself attacks the Hegelian dialectic which is obviously at odds with the absolute criterion of his own metaphysics.30

Bradley's approach to metaphysics differs most from Whitehead in two ways. Firstly, the metaphysical problem is conceived in such a way as to uncover the non-relational 'one' as opposed to the 'one' which exemplifies the 'many'. By 'non-relational one', Bradley, of course, means that there can be only one entity in existence- the Absolute, which is related to nothing. This is basically the monistic, as opposed to the pluralistic, approach. Secondly, he was not concerned with a cosmological construction consistent with the science of his time. Bradley, in fact, would reject the elaborate detail of Whitehead's metaphysics as secondary to the aim of discovering a general and theoretically tenable view of reality. Insofar as he abstains from such detailed explanation of the elements of experience, Bradley contends that his metaphysics cannot be called a system. But this is, of course, a very strict sense of the term. As we shall see below, the interrelation between Bradley's logic and metaphysics certainly provides us with a system or scheme of first principles. His dissatisfaction with the term

here refers to our inability to describe the Absolute in detail. This, however, does not mean that we cannot discover the main features or characteristics of its 'perfect' nature.

As to the definition of metaphysics and its general purpose, perhaps the most concise statement of Bradley's position occurs on the first page of his metaphysical essay, Appearance and Reality:

> We may agree, perhaps, to understand by metaphysics an attempt to know reality as against mere appearance, or the study of first principles or ultimate truths, or again the effort to comprehend the universe, not simply piecemeal or by fragments, but somehow as a whole.31

At first, there seems to be no disagreement between Bradley and Whitehead on these points. Both philosophers seek to know reality or ultimate truth as against mere appearance. But what exactly constitutes mere appearance will become an acute problem in the course of this thesis. What is particularly revealing about Bradley's definition is the emphasis placed on knowing reality as a whole. Our being, he thinks, is a wholeness which seeks complete satisfaction; and it is the metaphysician's task to consider this when constructing the main characteristics of reality. When we are mistaken is when: "...we attempt to set up any one aspect of our nature as supreme, and to regard the other aspects merely as conducive and as subject to its rule".32 The temptation to do so is just the problem of an uncritical metaphysician. To affix one aspect as primary is to distort the balance of a de facto whole; that is, the many aspects of being must, in the end, qualify the one harmonizing experience. This is the one theme which dominated Bradley's entire philosophical career; ethics, logic and metaphysics inclusive.

When involved in the theoretical enterprise of metaphysics our aim is to understand all that is, and in a completely self-consistent unity. This is the purely logical foundation of Bradley's metaphysics: "Ultimate reality is such that it does not contradict itself; here is an absolute criterion".33 Indeed with the criterion of consistency as the conceptual foundation of ultimate reality, the intellect attains satisfaction. Imperfection and contradiction fail to be true in that they do not satisfy the demands of our whole being. Truth, he thinks, must be unchangable and perfect. The source

of this principle we find in his Principles of Logic:

> ...if A both were and were not, that would be because the ultimate reality had contrary qualities. The character in which it accepted A, would be opposite to the quality which excluded A from existence. Under varieties of detail we find the same basis, repulsion of discrepants.34

Contradictory assertions, then, cannot be both true and representative of reality. "The Absolute holds all possible content in an individual experience where no contradiction can remain..."35 Diversity of content is most certainly reconciled, but not contradiction. On this point Bradley finds an irresistible link between logic and metaphysics to the extent that they imply one another.

Though Bradley attempts to steer the logical investigations of his Principles of Logic clear of first principles, there is the necessity of defending the axiom of contradiction as implying "...a certain theory of the nature of things".36 Logic, he thinks, investigates the nature of inference. It is an appraisal and interpretation of what is essentially an ideal experiment on the real itself.37 Likewise, metaphysics requires logical consistency. The assumption throughout is that absolute reality is without defect; this gives the metaphysician the ability to distinguish between appearance and reality by employing logic as an instrument of evaluation. With this in mind, Bradley's strategy in Appearance and Reality is to expose the contradictions involved in various doctrines of previous philosophical thought, and to show how such inconsistencies fall into varying degrees of unreality. The final result, he thinks, forces us to affirm the existence of the Absolute as a perfect and individual unity.

It is often suggested that Bradley's thought is primarily negative or based on a series of rejections and denials.38 This is certainly one's first impression of Bradley's tone when approaching his philosophy. It must not, however, be underestimated for its positive value, in that his skepticism is constructive in ultimate intent. With his 'active questioning' and systematic doubt one finds easy comparisons with the skepticism of David Hume. Whereas with Hume the skepticism serves as a tool for his naturalism, Bradley's

negative elimination by logical consistency leads to his vision of reality as absolute. The austerity in doubting all preconceptions has the view of something higher and more theoretically satisfying. Indeed it is clear that there is a knowledge of what is sought with every denial. "Every negation must have a ground, and this ground is positive."39 Philosophical skepticism as opposed to psychological doubting, Bradley thinks, has the advantage in that it transcends itself and arrives at a more general resting place. It is distinguished by the adoption of a notion of truth and reality as the criterion of doubting.40

> The doubt here is not smothered or expelled but itself is assimilated and used up. It becomes an element in the living process of that which is above doubt, and hence its own development is the end of itself in its original character.41

The "remedy against doubt" is just this positive vision of reality. It widens its area to an ultimate generality where it cannot, in theory, be transcended or refuted. Where Bradley pushes this too far, however, his arguments tend to become sophistical. His most insightful critic, William James, was indeed quick to point these out, and to show how Bradley had overintellectualized the universe for the sake of the Absolute.42 Bradley's dialectic, on these points, has a definite affinity to that of Parmenides and Zeno. The common end sought is that of permanance.

There is one theme, Bradley thinks, which infects thought with so much contradiction, that it affirms the positive character of the Absolute more than anything else. This central criticism of relations, around which the whole of Appearance and Reality revolves, provides a sustained attack on the basic unit of pluralism- the 'fact', which was seen to be the ultimate aim of Whitehead's metaphysics. Any relation between subjects and objects, or between objects generally, involves isolation and separation of finite facts or units of existence. But, for Bradley, this turns out to be an impossibility. For not only is it impossible to discover an individual as one of the many, but even if we could, its relations would prove it ultimately contradictory. These arguments are so fundamental to his conclusions that he suggests to the convinced reader at the end of his chapter "Relation and Quality" that he need not read the remaining chapters of Book I of

Appearance and Reality.43 Indeed if one accepts the general arguments on the contradictoriness of relations, the more specific topics evaluated, i.e., the self, time, space, motion and causation easily fall into unreality, as they are dependent upon some type of units and relations. The point is, of course, that relations can be resolved only in a larger whole which contains the units: and ultimately it is the Absolute which is the final container and solitary Individual. The Absolute is related to nothing. It is here, Bradley thinks, that the universe as a whole may be called intelligible.

What is, I think, fairly clear in the above exposition is how Bradley's conception of the metaphysical problem entails a specific method, and how this method attempts to reach beyond the limits of our ordinary, hypothetical and incomplete reasoning to Absolute perfection. Nothing short of the Absolute gives us the whole truth. This is the key concept in Bradley's ingenious theory of judgment, where any judgment claiming to portray a genuine character of reality fails to take account of the universe in the totality of its self-expression. Every finite judgment will always have a hypothetical character and will fail to represent the reality from which the content has been abstracted. Richard Wollheim has made this point rather nicely in his book, F.H. Bradley:

> Reality flows uninterruptedly, without divisions, without fissures, from one point in space to another, from one moment in time to another, and it is we thinking beings who carve it up; indeed, even the distinctions of space and time themselves are, as we shall see, importations of Thought into the realm of Reality. And in making these divisions, these breaks, we harm what is really there: our thought, which is based upon them, is therefore always a distortion of the truth.44

This does explain why, in Bradley's view, we can never explain the infinite detail of the Absolute or understand just how all the appearances form a systematic harmony. Where thought formulates a judgment as to the content of a given experience, it necessarily neglects the continuous mass of the whole- a lesson Whitehead certainly understood as well, albeit applied in quite a different manner within his philosophy. Since for Whitehead the universe will always be too complex for any finite human system, a metaphysic will only be an approximation to the general truths sought.

For a rough-and-ready description of two conceptions of metaphysics, I propose to view the differences between Whitehead and Bradley through a hybrid and a pure distinction. The former, we may define as the generalizations arrived at through an assemblage of knowledge; aesthetic, religious and scientific. It is the traditional notion of metaphysics as the "queen of the sciences". The latter is a conception of a discipline, in and of itself, which as one discipline of many and one side of our nature, contributes to our whole being. Bradley's view, of course, is the pure metaphysics which does not attempt to integrate current scientific thought into its principles or anticipate the application of the principles beyond the discipline itself. This intentional neglect of a cosmology as linked to metaphysics can, I think, be traced to his monism, and to the central criticism of relations. For it is evident that scientific enquiry requires an isolation of its objects, thus requiring both relations and pluralism. Where Whitehead's pluralism and process realism provide a foundation for scientific enquiry, articulating the connections between the various disciplines and filling the gap between natural science and value experience, Bradley argues that the respective disciplines must pursue their own aims, each with their own valid methodology. In Bradley's view, any form of pluralism is an "ideal construction" for the purpose at hand and detached from the metaphysician's task of knowing ultimate truth and reality. Self-contradiction, at this level, where a discipline employs relations, is not of genuine interest to metaphysics. In fact, he thinks, to protest against a particular theory of science as self-contradictory is to bring in metaphysical criticisms at a point where they are inapplicable.45 This is not to say that the natural, physical, psychological and social sciences are not valid means of enquiry, but that we must not mistake their practical constructions for ultimate truth. Their restriction of attention, for a specific purpose, is necessarily limited. An evaluation of science, and for this matter, any hypothetico-deductive process is always in terms of usefulness and not ultimate truth. "The ideas with which it works are not intended to set out the true character of reality."46 Thus, in Bradley's view, a conflict between science and metaphysics is impossible provided that we realize that they each have their own proper sphere and function in the human intellect.

What Bradley saw was that science requires relations of the worst type, i.e., external relations, and the assumption that the inert particles of matter in time and space are real. It was indeed obvious that the Newtonian scheme of mechanics was useful for the practicalities of everyday life and in Bradley's time (Appearance and Reality was written between 1887 and 1891) there was certainly a conflict between science and the Idealist view of ultimate reality. However, by the time the 20th certury had arrived and the Newtonian physics had lost its reign, the problem confronting us was the construction of a new system of reality in which science could be understood as continuous with metaphysics.47 A parallel controversy of the late 19th century which reminds us of Bradley's conclusions was the conflict between Darwinian evolution and orthodox theology. But how far this view of metaphysics as separate from the scientific interests of a particular epoch is tenable seems rather doubtful. What metaphysician can seriously claim that he was not influenced by the science of his time as well as by the overall advance of knowledge and its effects on society? Surely both disciplines have their own particular emphasis. Though how far science can be said to be concerned with only practical constructions as opposed to ultimate reality is debatable. A specific scientific enquiry may be distinguished by its particular restriction of subject-matter, but this does not mean the investigation is not concerned with aspects of reality.

Science and philosophy are merely different aspects of one human enterprise; the understanding of ourselves and the world in which we live. Our life is one. The real task is to find a way to think them together such that each gains insight from the other in the endless task of criticism and revision. Both begin with the same groundwork of immediate experience, and both concern themselves with the embodiment of abstract principles in concrete particular facts.

Despite the way that the metaphysical problem is approached and the contrasts in methodology, we shall find that there are other points in common between Whitehead and Bradley which justify their comparison as metaphysicians. Both take metaphysics as the philosophical activity which attempts to formulate the most adequate way of understanding reality in all its experienced forms. In short, they both see the theory of being, i.e.,

Aristotle's being qua being, as the fundamental problem of philosophy. Both present a comprehensive and unified world-view, and both would surely agree that the voyage of philosophy is to the higher generalities.

As to the task of the metaphysician, an insight from each will perhaps best illustrate his predicament. For Bradley, "metaphysics is the finding of bad reasons for what we believe upon instinct"48, whereas for Whitehead, the metaphysician looks for that which ordinary speech sees no point in saying, because it so pervades our experience that it is taken for granted.

CHAPTER II

IMMEDIATE EXPERIENCE AND FEELING

1. Historical Perspective

In this chapter we focus upon the doctrine of experience which provides the starting point for our comparative study. It states that outside of the experience of actual occasions nothing exists or can possibly exist. This is the well known 'Ontological Principle' in Whitehead's system. For Bradley it is the doctrine that Reality finds temporal expression through finite centres of experience, that is, Reality is experience. Aside from the striking affinity between Whitehead and Bradley on this doctrine, we may also include, among other philosophers of this century, William James and Josiah Royce as following this ontological quest.

The primary importance of this doctrine is its repudiation of the foundations of the 17th century cosmology which, as I shall contend, has been the ruin of modern philosophy. Beginning with Descartes' acceptance of the scientific cosmology and with the subsequent developments which culminated in Newton's Principia, the path to a reasonable and coherent metaphysics has been clouded by a morass of epistemological problems. It will, therefore, be necessary to provide a brief historical digression, investigating the emergence of the opposing doctrine, before the central argument can be given.

With increasing urgency, it became clear to many thinkers in the present century that a world-view consistent with Einstein's relativity physics and with the quantum theory was needed greatly. After having dominated the last two hundred years with such great scientific success, classical physics had broken up from the inside. That is, the hypotheses put forth by scientists of the late 19th century led to inconsistencies within physics itself. Whitehead remarks that it begins with the wave theory of light and ends with the wave theory of matter. The effects of this breakup were indeed devastating, as it was assumed that, with the exception of a few 'dark spots', physics was a closed subject. However insofar as the move into a new epoch of scientific thought proved intellectually stimulating, the complete liberation

from the Newtonian and Cartesian world-view underlying our mental processes had not been achieved.

E. A. Burtt, in his celebrated Metaphysical Foundations of Modern Science describes this as just the problem of modern philosophy- the inability to reformulate our metaphysical world-view and replace the basic duality which separates man from the rest of nature. The real contrast to be dealt with is the view resulting from the mind-body problem, that the hard material facts are all external to the subjective value-experience of man. Rival metaphysical systems of the past had not dethroned the mechanistic materialism. Burtt writes: "The constant renewal of these attempts and their constant failure widely and thoroughly to convince men, reveals how powerful a grip the view they were attacking was winning over peoples minds...."1 Beginning with Berkeley we find a series of protests against this new view of the relation of man to nature, but the Idealist systems were too far removed from the grasp of the scientific outlook for their theories to have any effect on the speculative side of science. Instead of a replacement of the theoretical foundation, the result was that metaphysical enquiry was seen as a different point of view. However, as we have seen above with Bradley, this is no solution to a completely comprehensive metaphysics.

In the same year of Burtt's splendid work, Whitehead offered his first metaphysical work, Science and the Modern World, which provided a stunning criticism of the scientific materialism, as well as a glimpse of this novel scheme finally articulated in Process and Reality. Like Burtt, Whitehead showed why it was important that the criticism and replacement of the Newtonian concepts should be carried beyond the immediate concerns of physical science.

Whitehead traced the origins of modern science to the development of mathematics which provided a background to the observation of nature in the 17th century. In one of his most insightful passages he writes: "Nothing is more impressive than the fact that as mathematics withdrew increasingly into the upper regions of ever greater extremes of abstract thought, it returned back to earth with a corresponding growth of importance for the analysis of concrete fact".2 Thus the application of the abstract mathematical formulae

to the concrete order of nature produced the laws of nature which gave scientific enquiry an air of precision and certainty.

Mechanism was established with Galileo and Kepler as the view that all occurrences in the phenomenal world follow fixed natural laws reflecting absolute principles of cosmic order. This involved a banishment of animation (the view that things are guided by purposive minds or souls) from the whole realm of inorganic nature. However, interestingly enough, when Kepler originally proposed his modification of the Copernican theory, he began with a conception of nature in which all things, especially the planets, were moved by souls; but he replaced this notion with the conception of forces.3 Galileo added the necessary aspect of measurement to the emerging cosmology, and thus broke with the qualitative character of thought which, in the earlier periods, had sought classification under the dominant influence of Aristotle. After Galileo the emphasis clearly became a search for quantitative changes of things in motion. Bacon also set the tone for the scientific mentality of this epoch by emphasizing keen observation which reveals a regularity of sequence. Whitehead remarks that this became the most fundamental aspect of the mechanistic conception of nature in the 17th century; that is, the theory of periodicity, in which the general recurrences of things becomes obvious in our ordinary experiences.4 Patterns are observed, from the prediction of Haley's commet to the gestation period of a human being, from the seasons of the year to the circulation of the blood, and this provides the notion that all of reality must conform to an absolute order. The most striking application of this thought is the conception of time in equal lengths of days, hours, minutes and seconds based upon the measurement of the rotation of the earth relative to the stars. The model of the universe was thus easily conceived as a clock, wound by God, and set ticking in patterns easily discerned by the human intellect.

Mechanism gained ground quickly because it worked beautifully. Given the notion of a mathematically ordered cosmos, the test for scientific validity was the discovery of how the various aspects of the phenomenal world exemplified this order. Research centered upon how empirical data could be reconciled with this hypothesis; and the process proved most successful. Soon after Newton had given the cosmology such accurate expression, it was thought

certain that all the parts would find their place in the mathematical puzzle. The applications here were numerous as the observed facts were elucidated. But such scientific achievement required limitation of scope as well as neglect of some of the most obvious aspects of our experience.

Materialism now fits into the picture as a result of Galileo's adoption of the atomic theory of matter. Galileo found it convenient to assume the notion that matter is resoluble into "infinitely small indivisible atoms" which likewise follow the mathematical laws. This was convenient because it could explain the changes of solids into fluids and gases, and solve the problems relating to cohesion, expansion and contraction.5 But Galileo was not alone in the revival of materialism in the 17th century. Gassendi and Hobbes both attempted to account for all inanimate changes and for sensation on a materialist basis, thus extending the theory over physics and psychology. Bacon too had turned to Democritus as a possible substitute for the Aristotelianism which had dominated the mediaeval epoch. What was rejected with these thinkers was any indication of purpose operating in the individual bits of matter. That is, the essentially non-teleological character of scientific materialism refused to recognize the activity in the world as purposeful in any ultimate sense. The laws of nature, for example, do not show the universe as working toward any observable goal, for this is an extra-material factor which was thought unnecessary to explain the universe. Materialistic atomism was thus incorporated into the mechanistic paradigm as an obvious consequence of extending the principles of the motions of celestial bodies to apply as well to terrestrial motions. That is, it was thought atoms must possess the same mathematical qualities as the planets.

The problems which emerged from this conception, and which proved the most disturbing, concerned the place of man in the scheme of things. Man, being a particular conglomeration of matter, must also be mechanistically determined; yet he must surely be an exception, in that he has a 'soul' which wills and assumes responsibility for his actions. There is also the fact that man has the capacity to know the world about him, and to discover its general principles of order.

Galileo paved the way for Descartes in that he provided the first step

in separating man from the world of nature by an early formulation of the doctrine of primary and secondary qualities, which later became fundamental in the philosophy of Locke. Extended substance, matter in motion, was the only primary quality operating upon the senses and producing the disturbing secondary experiences.6 Hence, the real world was seen to be outside of man in its mathematical precision, while man suffered an inadequate representation of subjective appearances. Bradley sums up this position by saying that the doctrine "...holds that the extended can be actual, entirely apart from every other quality".7 Colors, sounds, pleasures and griefs are, for Galileo, all fictions of the mind.

Descartes sat in the middle of the scientific revolution and the Renaissance with a definite aim of breaking away from philosophical thought of of the middle ages; yet at the same time, he was in the precarious situation of attempting to harmonize his position with certain dogmas of the Catholic Church. This was the setting for his metaphysical dualism which postulated two types of substance- 'res extensa' and 'res cogitans', thereby accounting for a mathematical world of extended matter, and the thinking, perceiving immortal soul of man.

Descartes conceived the physical universe to be absolutely intelligible by a geometric-mathematical model. The whole of nature, he thought, may be reducible to geometrical qualities since its objects are extended and figured magnitudes in motion.8 His invention of analytic geometry, which combined geometry or space with numbers in an algebric method, much confirmed his vision that the whole of physics may be explained by mathematics.

As the father of modern Rationalism, Descartes sought certainty through pure reason. As sensation afforded no accurate picture of the material world, he thought clear and indubitable reasoning must provide the answers. In his Principles of Philosophy, he writes:

> Having now ascertained certain principles of material things which were derived, not from the prejudices of the senses, but from the light of reason, so that we cannot doubt of their truth, it is for us to examine whether from these alone we can explain all the phenomena of nature.9

Sensation he calls 'confused thoughts', which account for the illusive secondary qualities. But reason discerns the primary geometrical qualities which inhere in the objects themselves and remain constant. In his famous investigation of a piece of wax in the Meditations he concludes that the only permanent qualities in the world are extension, flexiblilty and mobility.10 These are the clear and distinct ideas perceived not by sensation but by 'intuition of the mind'. As with Galileo, Descartes held that the colors, sounds and scents which appear to be in objects are subject to change and therefore cannot be part of nature. In fact, they would not exist at all if not for our minds. Burtt, however, remarks on this point, that the real criterion in Descartes' procedure is not permanence as the main quality of 'res extensa' but instead the possibility of mathematical handling.11 It is only that the secondary qualities did not fit into his grandiose conception of nature as geometrically precise. To the mind of the mathematician, colors, sounds, and scents are bound to be obscure and confused given this working model of the universe.

Descartes placed the secondary qualities in an equally real, though less important, entity- the thinking substance or cogitating mind. Turning inward and reflecting on a completely different type of entity, existing beyond any doubt, Descartes discovered the other half of his dualism, which is neither part of the extended world nor subject to the principles of mechanical operation. The distinct essence of this unextended substance- the cogito- is to think, though it does possess subsidiary functions such as perception, will, feeling and imagination. The fact that we can apprehend the reality of such an entity clearly and distinctly provides the justification for its complete independence. Thus Descartes defined substance as that which "requires nothing but itself in order to exist". And this was applied equally to thinking substance and extended substance.12 As a result of this independence, Descartes is led to the notion that the cogito or spiritual substance is not liable to die with the decay of the body. Because no other causes are capable of destroying it, Descartes thinks, it must be immortal.

The impact of this dualism on subsequent philosophical and scientific thought in the western world has indeed been enormous. Since Descartes

conceived the mind and body as being completely independent of one another, the inevitable problem arises as to how there can be a genuine interaction. How can one influence the other, or, even more to the point, how can the unextended mind have accurate knowledge of extended matter in general? These are just two of a multitude of epistemological problems surrounding the absolute bifurication which has divided the substance of man from the rest of nature. Indeed, as the Cartesian dualism pervades modern thought, and with the attempts to absorb one side into the other, the main conflict can be put as such: philosophic Idealism now takes charge of cogitating mind in an effort to dethrone the primacy of matter, while scientific materialism, or more recently physicalism, has concerned itself with extended matter in an effort to reduce mind to the stimulus of nerves on the brain. Philosophy itself has become a battleground of the two Cartesian substances. But what is surely required is a critical examination of the foundations upon which the dualism was built.13

Although Issac Newton, in his tremendous contribution to the 17th century cosmology, provided the most detailed and consistent physical theory, he too, following Descartes, accepted a dualism by his notion that the mind occupies a small portion of the brain called the 'sensorium'. Newton represents the culmination of "the century of genius" by providing the most systematic account of the material universe in which mechanism is manifested in the laws of gravity. In his masterpiece, The Mathematical Principles of Natural Philosophy, Newton united terrestrial and celestial dynamics into one science by the law of universal gravitation. The one idea which explains both the departure of the celestial masses from their uniform motion in a straight line and the fall of terrestrial bodies on earth is explained by the following equation: any two bodies in the universe will attract one another with a force directly proportional to the product of their masses and inversely proportional to the square of the distance between them.14 Newton's position in his Principia allowed him to solve the dynamical problem of the solar system- the problem of discerning the forces at work in maintaining its motion by the law of gravitation and three laws of motion. Unlike Galileo and Descartes, however, Newton did not think that the world is absolutely mathematical by a priori reasoning. Hence, there is the strong empirical aspect of Newton's thought which placed great emphasis on experimental method.

In fact, in Newton's method, mathematics must be continually modelled on experience, whereby deductions from principles remain purely abstract until physically verified.15

Although it will be unnecessary to attempt an exact or full account of Newton's physics here, we shall require a brief exposition of the metaphysical view implied by the physics. In what follows I shall therefore concentrate on the classical atomism and the doctrine of external relations which found such a wide acceptance in subsequent philosophical thought.

We should first note the acceptance of Galileo's and Descartes' metaphysics which are presupposed in Newton's work. Though, in his positivism, he was vehemently opposed to hypothesis, i.e., empirically unverified propositions, he did not manage to escape the body of metaphysical beliefs carried by the prevailing orthodoxy of his time. He had accepted without question the main structure of the universe as mathematical (even though mathematics ultimately served as a tool for Newton), as well as the general view of the physical world and man's relation to it. The doctrine of primary-secondary qualities, the mind-body distinction, and the theory concerning the nature and process of sensation too were accepted without critical examination. Also within his system, there are numerous metaphysical views such as the nature of absolute space as an infinitely extended, uniform Euclidian entity, absolute time as flowing mathematically in equal measures, and the notion that Deity imposes the laws of nature. But much of Newton's triumph is a result of his stunning explanation of the working of matter throughout the universe. His physics dealt with the way material bodies acted upon one another, and offered a new approach to the problem of matter's inner constitution.

The universe, for Newton, is ultimately composed of absolutely hard, indestructible particles which possess the primary qualities- size, shape, position and motion. These concrete particulars are the permanent and unchanging atoms at the base of things which behave in accordance with the laws, interacting by impact and gravitation. The bodies which we experience are a result of their corpuscular nature. That is, the manner in which the atoms form different configurations determines the various types of material

bodies. Thus all of our perceived changes in nature are to be regarded as separations, associations and motions of the permanent and indivisible units of matter. The rearrangements of these atoms constitute all being as well as the appearance of becoming and passing away. It is little wonder why this cosmology is sometimes called the "closed billard table"-model of the universe in which bodies, in their restless motions, are forever bouncing off one another within an absolute space and time.16 Whitehead's general remark on this conception of the universe was that Newton had produced a cosmology which was easy to understand but hard to believe.

In Newton's physics we may discern the ultimate statement of the doctrine of external relations which this materialistic atomism requires. If the universe is to be conceived as made up of impenetrable and indestructable material atoms, indifferent to the changes from one moment of time to the next, the relations between the atoms must be understood in terms of their position in space. That is, all relations must be external because of the independent existence of each atom. Each atom is self-contained, self-sufficient and understandable in complete disconnection from the rest. In the Cartesian language, each requires "nothing but itself in order to exist". These atomic bits simply follow fixed routines imposed by the impacts of other externally related atoms. But they would be just what they are without reference to such collisions.

Since there is no hint of teleology in such a system, i.e., that the motions of the atoms do not spring from their own nature, the doctrine requires that the laws of nature be imposed on the world. Newton himself stated that the correlated modes of behavior of the bodies forming the solar system required God for the imposition of the principles upon which all depended. There is the necessity that God imposes the laws of nature to set the world in motion. Such a metaphysical principle of transcendent Deity guarantees that the laws of nature will be obeyed throughout the solar system.17

During the 18th and 19th centuries Newton became the personification of the cool scientific reason esteemed by the Enlightenment and despised by the Romantics, especially Blake, Tennyson, and Wordsworth. As the dualism was

further established, it was thought that the world literally ticked away in its mechanical precision while human values were regarded as outside of the ultimate scheme of things. The sciences and arts were thus divided. Science discovered and described the world while art created and delighted in the fanciful fictions of the human mind. In retrospect, Ortega y Gasset described Newton's work as the greatest achievement and the gravest peril for subsequent mankind.18 And Whitehead, on this point, remarks that the following centuries "...had got hold of a general idea which it could neither live with nor live without".19 Either way, it was certain that Newton's clarity and consistency as a physicist put the final touch to the 17th century cosmology and was unavoidable to anyone who thereafter seriously contemplated the nature of the universe.

Perhaps the most forceful reaction to scientific materialism was dealt by the poets of the 19th century. The abstract and lifeless character of the Newtonian picture was appalling to thinkers who felt their communion with nature to be so intimate and alive with feeling. Man was not a mere observer to a barren external world, but rather, he shared a sympathetic participation with the whole process of creation. Their appeal was to our full concrete experience in order that man might enjoy his organic relation with nature once again. In repulsion to the dull and even chilling mechanism, they wrote their odes to a nature alive with colors, sounds and scents. But despite such attempts, mechanism continued to prosper with ruthless efficiency. The paradigm gained incredible strength as more research corroborated the scheme and as more practical applications were discovered.20 This mechanism even went so far as to claim that the problems posed by the apparently ultimate plurality of life forms were merely temporary difficulties for the reigning physical laws. Indeed, it was just such boldness with which physical science applied mechanism to the phenomena of life that prompted the strong reactions from poets and philosophers.

Within science itself biologists took interest in the doctrines of vitalism and animism in their revolt against physics. But for the most part mechanistic materialism went undisturbed. Following Aristotle, vitalists such as Hans Driesch held that life could not be explained solely by mechanical principles and must, therefore, involve teleological principles as

well. Though mechanism holds throughout the universe with regard to inanimate nature, a living organism must be seen as a conscious effort to overcome the general laws of inert matter. Life, with its increasing complexity of organization, appears to create energy above that of the purposelessness of mere matter. Later in the 20th century, Henri Bergson, in his comprehensive metaphysics, generalized the doctrines of vitalism and called the source of this vital activity in organisms the 'élan vital'. Having won acclaim as the philosopher of evolution, Bergson defines life as an evolutionary process of unceasing transformation. The 'élan', says Bergson, is transmitted by heredity in the same way as the other characteristics of the organism.21 It is a burst of pure energy and what we ordinarily think of as matter is the decay of this pure potential. This flow of life which we sense as a primary inner experience is not to be thought of as voluntary, but rather, as willed.

Animism was closely aligned with, and ran parallel to, vitalism. This line of thought was represented by such thinkers as William McDougall. He advanced a theory against materialism by describing the teleological determination of events as guidance by purposeful spirits. In this view inanimate nature too has an 'inner' or 'psychological' being. However, as a serious replacement to the theoretical structure of science reigning in the 19th century, it received little attention. Although we shall consider this idea in some detail (with regard to the panpsychism of Leibniz, Royce and Whitehead) later in this chapter, for now the matter at hand is the opposing doctrine.

McDougall, in his Body and Mind, cites three key factors which led to the wide acceptance of mechanism in the middle of the 19th century.22 With the 'soul' at the center of interest surrounding the philosophical controversies, physiological animism seemed to have been dealt a final blow by: (1) the mechanistic account of evolution suggested by Darwin's principle of adaptation through natural selection and by the rapid progress of mechanical explanations in physiology; (2) the discovery in physiology that the brain is a vast and complex system of reflex nerve paths; and (3) the establishment of the law of the conservation of energy which was seen to apply to both inorganic and organic nature.

The establishment of evolution as an incontestable fact and the identification of natural selection as a major element in adaption were the two greatest contributions of Darwin to the western world. What made the evolution of organisms mechanistic in Darwin's view was the process of the elimination of those characteristics which happened to be unnecessary for the survival of the species. Selection occurred by the elimination of any defective products of this hereditary process. This, however, does not, in itself, do away with every teleological implication which might be necessary in establishing the purely physical mechanism of evolution. It was, in fact, the neo-Darwinians, or, as Driesch has called them, the 'dogmatic Darwinians', who pushed Darwin's principles closer to mechanism by arguing that the fluctuating variations in organisms were to be explained as merely accidental differences of nutrition in the arrangement of the particles of matter in the body, and nothing more.23 Psycho-physical parallelism is the second major factor made by the emerging science of physiology. It argues that physiological brain states and psychical mental states are parallel, and resulted from empirical research centering around physiological explanations of the nervous system and its biochemical functioning. With these discoveries, the assumption was made that all mental processes could be explained by the purely mechanistic laws of brain chemistry. Finally, the third factor contributing to the popularity of the mechanistic theory as law for the whole of reality was the law of the conservation of energy- the first law of thermodynamics in modern physics. The first law states that energy can neither be created nor destroyed. With the mechanistic laws applying here without exception, no truly unique factor can be introduced in the universe. Following Newton, then, it seems that all changes are merely rearrangements of atoms. Again, what is denied is any notion of purpose guiding reality in favor of the mechanistic clock-like nature of physical matter. The total activity of the universe itself was thought to be subject to the physical laws of thermodynamics, thereby making all the occurrences therein both predictable and explainable. Everything is 'blind' adherence to the mechanistic laws.

One rather horrifying consequence of the materialist conception as it developed from the 17th century cosmology and on into the practices of the 19th and 20th centuries is the view that animals are mere automata. Since

everything in the universe is subject to the laws of mechanism, it was assumed that the animal body simply reacted to the stimuli of the external environment. "Each molecule blindly runs".24 The view begins with Descartes, since he expounded a view consistent with the Christian doctrine that the lower animals are mere extended matter and do not have immortal souls. It ends in the tragic practice of vivisection; as Descartes' theory allowed an experimenter to dismiss any qualms he may feel about an animal suffering extreme pain in the name of science.25 As the physiological science advanced under the mechanistic framework, such practices became widespread to such an extent that, until only recently, has there been any serious question of the moral implications. Animals were understood to be machines; and all apparently purposeful actions were interpreted as automatic or reflex reactions.

Though I have stated this view concisely, it will suffice as one example of the callousness of scientific materialism on questions of mind and subjective experience. Other equally unfortunate consequences concern the abuse of our environment, but this, in itself, would require a digression too far from our central theme. In general, the problem is summed up by Whitehead in his conclusion to Science and the Modern World. He remarks that our aesthetic needs have been depreciated by the reactions of civilized society to modern science. "Its materialistic basis has directed attention to things as opposed to values."26 And this, unfortunately, has resulted in a view that nature is there for our manipulation or exploitation. But what is wanted and needed to compensate for the imbalance is "...an appreciation of the infinite variety of vivid values achieved by an organism in its proper environment".27 That is, as the abstract formulations of the mechanistic science neglect the concrete apprehensions of diverse values, the importance of achievement and how it is manifest in each living organism becomes pushed aside.

The efficiency of the scientific movement has undoubtedly produced tremendous advances for modern man. On purely pragmatic grounds it is easy to understand how it has gained dominance in an age which places such great emphasis on the advancement of technological aims and values. But science does not require materialism as its metaphysical foundation, even though this satisfied the limited group of facts investigated by the 17th century

cosmology. The problem was the claims made regarding its comprehensive application. In this respect, its limitations and the recognition of numerous negative consequences prompted due reaction from thinkers of a more Idealistic sort. Berkeley argued that materialism led to skepticism and atheism, as he wished to establish the primacy of mind in the universe. Leibniz accepted the scientific account of the universe as perfectly mathematical; but he replaced matter and external relations with mental entities, the monads, and described them as internal to one another as they mirror the universe. Kant accepted the deterministic character of mechanism, but argued that the moral sphere of man constituted an exception by his ability to freely choose between right and wrong. And Schelling and Hegel established in philosophy the notion of an Absolute as the ultimate spiritual reality. This introduction of various forms of Idealism during the reign of scientific materialism can be seen as a sustained revolt against what we might call a spiritual insignificance of man and of the universe as a whole.

2. The Ontological Quest

At the onset of the present chapter I mentioned a group of 19th and 20th century philosophers, who, following an 'ontological quest' have endeavoured to reformulate the foundations of metaphysics by the central role the doctrine of 'experience' played in each. Their reaction, generally speaking, is against the incoherence of a two substance ontology, especially where the material side has gained control of our ideas regarding the character of the extended universe. Whitehead goes to the heart of the problem in the following passage of Process and Reality:

> All metaphysical theories which admit a disjunction between the component elements of individual experience on the one hand, and on the other hand the component elements of the external world, must inevitably run into difficulties over the truth and falsehood of propositions, and over the grounds for judgment. The former difficulty is metaphysical, the latter epistemological. But all difficulties as to first principles are only camouflaged metaphysical difficulties. Thus also the epistemological difficulty is only solvable by an appeal to ontology.28

Indeed where such a disjunction in metaphysical theory has been advocated between two distinct substances, the more interesting questions regarding mind

and nature have degenerated into the petty form of the mind-body problem and associated problems of perception. But if some new conception of the nature of things is accepted, where ontologically all actualities composing the universe have the same metaphysical character of experience, then the connectedness of one's own immediate experience can be validly used to suggest the connectedness of all other actualities.

Though I shall discuss the epistemological ramifications of this view later in this chapter, the question under consideration at present is: Does immediate experience reveal any definite ontological unit?

Following Descartes we shall find that internal reflection provides the key to the ontological problem, where, in our own experience we discern the existence of a unit entity. When Descartes began with himself as a mentality, he found that the consciousness of this fact guaranteed his existence. The problem, however, was that Descartes, having already formulated a conception of the physical world, believed that the 'cogito' need not constitute any physical existence. The assumption throughout his metaphysical dualism is that the mental cannot be extended. But why not? There is no sufficient reason why there should be two kinds of substance rather than one. The resulting gap between man and nature has proved too large for a bridge. We are left with materialism or Idealism. But materialism, where the actualities which make up the extended physical world are 'dead' and without any element of feeling, enjoyment or anything characteristic of experience, has proved equally disturbing. How do we arrive at sentience or consciousness by this theory? How can there be genuine interrelationships in nature where there is obvious harmony and interdependence, given this notion of inert, vacuous matter at the base of things? Such problems, we shall see, are solvable when we look into our own vivid experience of immediacy for a clue to the real nature of reality. The given is immediate experience and this, by the present Idealistic doctrine, is the only reality, though it will be understood to take on many different manifestations throughout the universe. In short, our dictum: 'to be is to experience' will serve as the guiding principle for anything and everything real. An obvious consequence here is that the objects of experience cannot be of a radically different metaphysical character from the subjects having the experience. Hence a non-experiencing reality, i.e.,

mere extended matter or a vacuous actuality, will be seen as a contradiction in terms.

So far our doctrine has two requirements: (1) that immediate experience supplies the key to understanding the basic composition of reality, that is, our own experience is extended to apply to actualities 'external' to our immediacy; and (2) that such experience reveals a definite ontology of one type. Taken together, this brings us dangerously close to panpsychism, as one Absolute Idealist, Benard Bosanquet, once described Bradley's leanings.29

With regard to the first of our criteria, James, Royce, Bradley and Whitehead have all provided, with remarkable clarity, the theoretical basis of our psychical inner life, which applies throughout reality. However, with regard to the second, the interpretation of immediate experience finds two alternatives: pluralism or monism.30 Although the conclusions drawn by these respective philosophers are indeed radically divergent, they all share this fundamental starting point in their metaphysics. The pluralistic alternative, following Leibniz, conceives the universe as a multitude of experiencing subjects, each in the fashion of the Cartesian 'res cogitans'. The monistic alternative, following Spinoza, views the individual cogitating mind as a mode of one eternal and unchanging Mind or spiritual Reality. James and Whitehead conform fairly well to the former, and Bradley and Royce to the latter, though Royce steers a mitigated course between the one and the many, emphasizing the individuality of the finite but as a necessary aspect of the eternal and unchanging Absolute.

The necessity of including James and Royce in our present study will, I hope, become apparent as our thesis unfolds. Some of the most interesting issues and detailed arguments between pluralism and monism emerged as a result of continued debate between Bradley, James and Royce, all of whom were contemporaries at the turn of this century. James was at the heart of the conflict. His radical empiricism was the stark enemy of anything labled 'Absolute Idealism'; and the outcome of his criticism was clearly absorbed into Whitehead's final synthesis. Also the central concept of the 'specious present', articulated in James's Principles of Psychology, was no less influential on Whitehead's theory of epochal becoming.31 This provides a

crucial basis for the notion that relations are directly experienced; and Bradley is thereby taken to task. Royce too may be mentioned in this connection, since his defense of individuality necessitated a repudiation of Bradley's celebrated arguments purporting to establish the unreality of finite individuals. Yet Royce is of curious importance for his affinities to Bradley as well. Having accepted both a doctrine of the Absolute and a through-going commitment to panpsychism, he, along with Whitehead, stresses the importance of the individual's becoming or striving for the ideal which perfects or completes its being; and, as with Bradley, he recognizes just how each individual finds its ultimate unity with the Absolute. It is little wonder why, on this score, Royce's work also attracted the attention of Gabriel Marcel.32 His account of the intimate and living relationship between the universe and the individual is fulfilled by the teleological determination of the will to realize its participation in the infinite; an account remarkably close to his European counterparts' advocating a theistic existentialism.

3. Panpsychism

What pushes the Idealist doctrine of experience toward panpsychism is the acceptance of the notion that all physical bodies, or their aggregates, have a creative 'inner' life or 'psychical' being, regardless of our inability to discover any hint of life in what is usually classified as inanimate. Also some hint of consciousness is wanting, as is the requirement that the basic constituents exist for themselves. Although panpsychism is not a very popular view, especially with our current philosophical climate, the history of philosophy is indeed rich in thinkers who have adopted this type of ontology. Some of the most prominant philosophers who have held this view, in addition to Leibniz, Royce and Whitehead, include: Lotze, McDougall, Fechner, Schelling, Schopenhauer, Peirce, Schiller, Alexander and Hartshorne. James and Bradley may also be included among this group for reasons to be explained later. Among the ancients the position was adopted by Thales, Anaximenes, Empedocles, Plotinus and Simplicius; and among modern biologists we should mention Teilhard de Chardin, Wright, Agar and Waddington, all of whom have found the panpsychist metaphysics to be the most cogent foundation for evolution and genetics.

The real beauty of the panpsychist theory is its ability to provide a smooth and continuous interpretation of the world in terms of the same substance. In this regard, Leibniz is something of a paradigm case of panpsychism in modern philosophy. He was one of the first philosophers to have seen the defects in the Cartesian system, and to have proposed a way to overcome the difficulties of both dualism and materialism in his Monadology. Having looked within his own mind to discover the monad, Leibniz found a continuous process of activity which he termed perception. "The passing condition, which involves and represents a multiplicity in the unit or in the simple substance, is nothing but what is called Perception...."33 Since the monads are the ultimate units in the universe, physical bodies must be understood as aggregates or compounds of these psychical unities. From this perspective, Leibniz obviously refused to admit any such distinctions as living versus nonliving or man versus animals as ultimate. The broad jumps between the various forms of existence disappear as the world of nature stretches along a continuum from the lowest to the highest forms of life, i.e., mineral, vegetable, and animal, with imperceptible shadings from one form to its neighboring forms. What appears to be inert and lifeless to us is simply the limiting case at the lower end of the continuum. These are the simple, unconscious monads. But as we move up the continuum to more complex forms of life, we find more sophisticated monads which involve various degrees of feeling and consciousness until we arrive at human consciousness and, ultimately, God.

Royce has continued this argument with a most challenging contribution to panpsychism which slightly modifies Leibniz's doctrine. For Royce it is not the case that the apparently inanimate or inorganic is unconscious. It is rather a consciousness utterly unintelligible to human perceivers. On this view, the whole of nature is the expression of meaning and conscious fulfillment of the significance in life. In his major work, The World and the Individual, he writes:

> Where we see inorganic Nature seemingly dead, there is, in fact, conscious life, just as surely as there is any Being present in Nature at all. And I insist, meanwhile, that no empirical warrent can be found for affirming the existence of dead material substance anywhere. What we find, in inorganic Nature, are processes whose time-rate is slower or faster than

> those which our consciousness is adapted to read or to appreciate.34

What is actually different among the different manifestations of finite individuality is the apperceptive time-spans experienced. Our anthropocentric tendencies force us to conclude that our apperceptive span is the only possible one. But Royce holds that it is rational to think that there exist an infinity of experiences other than ours, which are characterized by special apperceptive spans.35 It may be that, for a consciousness having the same content as ours, but which has a different apperceptive span, what seems to us to last a second, is stretched out into a series lasting an entire era.

Though the experience of different durations of time among the different manifestations of being remains fundamental in Royce's system, we should not conclude that communication is only possible among those which share the same apperceptive spans. This would indeed be contrary to the most positive principles of Royce's ontology, where intercommunication and cooperation among finite individuals form larger wholes. But communication here simply means the interdependence of life in the arteries of Being.

In the past, the most serious objection to panpsychism has been an alleged inability to do justice to the hard facts of physical science. The idea that an electron behaves as it does as a result of various psychical factors inherent in the sub-subatomic particles has, for obvious reasons, been unenlightening to the physicist whose task involves objective measurements and calculations. Few will doubt the validity of his objection in this context, provided that his limitations are defined in terms of describing and measuring physical phenomena. Should he, however, wish to widen his spectrum to a more comprehensive level of metaphysics, and wish to speculate as to the ultimate constituents of electrons and molecules, it is not at all unreasonable to accept the notion that centers of mental energy operate at the base of things. When Leibniz recognized the difficulty of making use of such metaphysical truths in science, i.e., that the real explanations are psychical or spiritual, he insisted on a thorough-going mechanism in physics and physiology, even though the only real forces are appetitions, desires, emotions or purposes. Science, he thought, must approach the world in terms of apparent rather than real forces, referring to phenomena rather than to the inner life

of monads.

The situation today, however, has changed somewhat since quantum mechanics and the theory of evolution are hardly mechanical in the sense understood by Newton and Leibniz. But this does not mean that science now studies the ultimate units of experience, whatever they may be; monads, finite centers of experience or actual occasions. Depending on the particular scientific specialization, what is studied is the behavior of the aggregates formed by such units. For example, physicists will be interested in the subatomic realm of electrons, positrons, and in the various effects of fission, fusion, etc. Chemists will see molecules as their basic units where chemical behavior depends essentially on the arrangements of the smaller units, namely electrons; and biologists will investigate the behavior of cells and genetic inheritance in living organisms. From here the continuum enlarges as the subject-matter of science expands- plants, animals, man, societies, planets and star-systems. But fundamentally the metaphysical or cosmological investigations will articulate the ultimate base of things, which enables a coherent and comprehensive view of the interconnections of all aspects of existence to be formed. From this point of view, all enquiry forms a whole, and depending on the currently accepted view of reality, progress in a particular epoch is understood by the success of the paradigm in its consistent interpretations of concrete experience. In our own epoch, the paradigm has been the electro-magnetic features of energy; and with this Whitehead clearly saw that the time was ripe for a reconcilation between science and a panpsychist metaphysics. In this respect, his cosmological construction, which derives extension and temporal succession from the momentary character of actual occasions, has gone unsurpassed. Psychical occurrences became easily reconciled with modern physics once mass as a quantity of matter was displaced by mass as a quantity of energy. Events and happenings thus became fundamental in this chain of thought; and simple location in time and space was replaced by vectors and electromagnetic fields.36

Aside from Whitehead and the attempts of various biologists, most thinkers who have proposed a panpsychist metaphysic have not been attracted

to the notion for its scientific merits.37 Also, from the point of view of common sense, it seems contrary to our basic beliefs. But what common sense assumes is that the failure of our perceptions to discover sentience, individuality or activity in the inanimate implies their absence from these parts of nature. Admittedly, panpsychism is a hypothesis that cannot be proved, yet we must equally emphasize that the common sense doctrine cannot disprove the theory by the simple failure of perception. Indeed, modern physics now tells us that the inanimate is full of energetic vibrations and complex individuation. But the actual discovery that the whole of nature is basically psychical will forever elude the grasp of scientific knowledge and common sense. In this regard, the problem is within the special province of metaphysical enquiry; and any conception as to the degree of feeling in the rest of nature must remain largely analogical. In fact, what is required in order to understand the kind of experience that other actualities have is empathy. Certainly we can imagine some sort of rudimentary experience which goes on in the most simple creatures. As Professor Timothy Sprigge has recently put this point (in a basically Kantian terminology), this is to understand 'things in themselves' or the 'noumenal' nature of physical reality as opposed to an abstract conception of the structure of physical things or a phenomenal description.38 But the lower we descend on the continuum, the less likely we are to imagine the kind of concreteness such organisms experience. Though it is rather arbitrary as to where we make the exact division, I should say that once we go below the animal kingdom, where organisms don't seem to have a dominant centre of experience resulting from the synthesis of psychical unities, our capacity for empathy fades. That is, having human experience as our standard, and as the only possible one, our capacities to understand in detail the type of experience that goes on in lower organisms fades from realization.

Let us now turn to the central doctrine of feeling which lies at the heart of Bradley and Whitehead's ontology. It is here that metaphysical generalization reveals the basic factor of concrete actuality.

4. Bradley's Finite Centres of Experience

Bradley surely produced a philosophy characteristic of Idealist

reactions to scientific materialism by the central role the concept of 'feeling' played in his metaphysics. What Bradley realized was that the abstract entities described by physical science could never be substituted for our full concrete experience of reality as one continuous whole. And it is only when we pass away from this primitive harmonious unity to a knowledge of related things, of thought, analysis and judgment that we pass from what might be called a state of precognitive innocence to the flawed world of contradiction. Such a departure from immediacy, from the infrarelational level of experience to the relational level of thought, is certainly a necessary aspect of human life. However, Bradley insists that we must realize how this process will always involve a distortion of the true and the real.

With this doctrine, one may find a certain affinity to the poetry of Wordsworth in which the return to concrete immediacy and the grasp of nature as a whole in any particular experience receives such vivid treatment. No doubt both Wordsworth and Bradley were reacting against the barren and abstract world of scientific materialism which so distorts the life of nature we directly experience. Wordsworth's dictum: "we murder to dissect" is reiterated by Bradley's "analysis is the death of feeling"; for analysis will always involve an abstraction from the continuous mass of felt experience. In an early formulation of this concept, Bradley writes:

> It is a very common and most ruinous superstition to suppose that analysis is no alteration, and that, whenever we distinguish, we have at once to do with divisible experience. It is an immense assumption to conclude, when a fact comes to us as a whole, that some parts of it may exist without any sort of regard for the rest.39

At the moment analysis takes place, we have taken one step back from what is actually present in immediate feeling as the intellect discerns objects and qualities. The whole background from which abstraction is accomplished is necessarily neglected as the precognitive union of feeling gives way to thought and an endless web of relations. Reality thus fractures into parts and pieces. The problem, however, is putting it back together in such a way so as to insure that nothing has been altered. But Bradley clearly recognizes the impossiblity of this task. We are no longer referring to concrete reality, but rather to isolated aspects cut from its harmonious texture. In

fact, Bradley thinks, at this point, that we are working within the realm of appearance, and the manipulations of abstracted content fall into degrees of truth and reality.

Even the most simple assertion, which proposes an independent fact in the content of experience, cannot be taken as real in any full sense. For instance: 'The cat is on the mat'. Don't we somehow sense, lurking in the background of this simple fact, the glow of a fireplace, the scent of tea brewing, a stormy night outside, and ultimately the whole of Reality presupposed in the content of this given experience? We can easily imagine, on this view, how much more abstraction is involved once we reach a level of discussion involving the cells and molecules in the cat's brain.

The immediate relevance of the doctrine of degrees of truth and reality here concerns the notion of a continuum stretching from the fully concrete Reality, the Absolute, whose contents are nothing but sentient experience, to abstract entities, such as those postulated by scientific materialism. At one end of the spectrum, we approach the Absolute through the unity of feeling where no contradiction can possibly remain. But the more we depart from feeling and affirm the absolute independence of objects, the more we approach the relative unreality of a lifeless and abstract matter. Though Bradley does not undertake an exact system, showing how the various aspects of appearance fall into their proper place on the continuum, he does provide the general formula that:

> You may measure the reality of anything by the relative amount of transformation, which would follow if its defects were made good. The more an appearance, in being corrected, is transmuted and destroyed, the less real can such an appearance contain; or, to put it otherwise, the less genuinely does it represent the Real.40

Hence, the more an appearance tends toward internal unification and feeling, and the less it is transformed when corrected, the more reality it contains. But let us now consider, in some detail, what feeling means in Bradley's metaphysics.

Thusfar we have considered feeling as a unifying principle where we

directly encounter Reality. We have seen that it must be precognitive (i.e., before immediate experience has been analysed into objects and qualities), that it must be non-relational and devoid of contradiction. But what exactly is this primitive activity at the base of all experience?

We should first discard any association with mere sensation, i.e., feeling of pain, pleasure, grief or affection. For Bradley clearly says that: "Feeling here naturally does not mean mere pleasure and pain; and indeed the idea that these aspects are our fundamental substance has never seemed, to me at least, worth discussing".41 Feeling must therefore be more fundamental and pure; yet it must not "...be taken as simply one with any 'subliminal' world or any universe of the Unconscious".42 Nor should we identify feeling with consciousness. Clearly feeling is wider in the sense that there are many influences, of which we are not conscious, which melt imperceptibly into our totality of experience. For the most part Bradley uses feeling and immediate experience interchangably as when he writes: "I use, in brief, immediate experience to stand for that which is comprised wholly within a single state of undivided awareness of feeling".43 Or again: "Feeling is immediate experience without distinction or relation in itself".44 Yet it is not synonymous with experience in the general sense, for, firstly, relational experience comprises a great many degrees of appearance resulting from the very departure from immediacy; and, secondly, there is the Absolute experience which is not to be equated with feeling. Feeling opens the road to Reality, but Reality itself is not feeling. What Bradley does mean by feeling is most clearly disclosed in his essay "On Our Knowledge of Immediate Experience". It is in this essay that the notion of a diversity of content felt as a unity, the many-into-one, makes its impact as fundamental to Bradley's metaphysics.

Interestingly enough, Bradley, in one of his few acknowledgements, takes the opportunity to state his indebtedness to Hegel's psychology for the concept of feeling, as a union of the many and the one.45 This is a most curious note when we consider its transition into Whitehead's thought. But this we shall see in due course.

According to Bradley's account, feeling is a unity, but complex in its internal diversity of content. It is "...an awareness which, though

non-relational, may comprise simply in itself an indefinite amount of difference".46 In feeling there are no relations or terms present as the whole of experience comes as the immediate unity of the psychical centre. Knowing and being become one in feeling. That is, there is no distinction between the subject of experience (that which feels) and the objects of experience (that which is felt), as such divisions clearly involve a relation of knower to known. As we have seen above, such distinctions are abstractions or ideal constructions cut out of immediate feeling. "Experience in its early form, as a centre of immediate feeling, is not yet either self or not-self. It qualifies the Reality, which of course is present within it, and its own finite content indissolubly connects it with the total universe."47 From this perspective, the self, subject or the 'I' of the experiencing relation has not yet emerged as a distinctive character. It is simply fused with the diversity of content in one mass of felt continuity. Equally, on the other side of the relation, the not-self or objects of experience are in a nebulous and undistinguished state as not yet consciously focused to attention. The many are felt as one; there is only pure being in an undisturbed and undivided unity.

Though it is somewhat difficult to disabuse ourselves of the prejudice that feeling is something subjective and private, and thus only affects the subject, and not what is properly felt, we find that this dualism dissolves when, following Bradley, we understand feeling as the very basis of experience which sustains the subject-object, self- not-self relation. In effect, what Bradley is saying is that Descartes' procedure, say, the examination of the piece of wax in the Meditations, is a later stage of experience where consciousness intervenes. Not only the properties attributed to the wax itself but the 'I', the indubitable cogito, is also a construction out of the fused mass of sentience. As Bradley writes: "Feeling is the beginning, and it is the source of all material, and it forms the enfolding element and abiding ground of our world".48 It fills the divided chasm left blank by Descartes.

Though the self, for Bradley, is not the basic experiencing unit, it should be obvious at this point that the many-into-one occurs within some type of psychical centre which unifies the diversity of content. Bradley calls the basic units of feeling, 'finite centres of experience'; and conceives them as

the constituents of the Absolute. But here an immediate objection should arise; for is it not the case that Bradley's monism forbids any sort of plurality? Strictly speaking the answer is an affirmative one. But this applies to the notion of a plurality of independent reals. What we must keep in mind here is the idea that the Absolute does have focal points through which Reality shines in all its rich and varied manifestations. But clearly the finite centres are not completely independent entities, though in some sense they are separate from one another. Nor are they considered truly real, for ultimately they are internally related in such a way as to form one final Individual. How, exactly, this is accomplished is beyond finite capabilities. Nonetheless we must conclude (as Bradley argues) that all comes together in absolute perfection.

A clear grasp of Bradley's use of the concept of 'finite centres' is crucial in order to understand how the central theme of the many-into-one functions at several levels in his philosophy. But, unfortunately, Bradley himself is rather unclear about his specific use of the concept. It may therefore help to distinguish between an 'enduring' and a 'momentary' sense of the finite centres of experience.49 Although Bradley does not actually use these terms, his discussion in various places does tend to bring out just how the momentary centre may be understood as an aspect of the enduring centre. In a reply to a criticism by James Ward, for example, he says that there is "...a serious difference between finite centres on the one hand and mere aspects of one centre on the other hand..."50 Also Bradley sometimes uses the combined term 'prolonged finite centre' in support of what we shall here call the enduring centre.51

Let us first take up the enduring centres of experience. As we have said above, these are the focal points of the Absolute. One particular centre may be said to be 'enduring' in the sense that it is the character which is always felt to be the same, as it becomes unified with some particular content.52 (e.g., the unchanging character of my centre throughout the various stages of my life.) The fact that it remains one and the same throughout makes it a timeless entity. On this point, T.S. Eliot, who wrote his doctorial dissertation on Bradley, describes this as having a definite affinity to the monads of Leibniz. He writes: "I suggest that from the 'pluralism' of

Leibniz there is only a step to the 'absolute zero' of Bradley and that Bradley's Absolute dissolves at a touch into its constituents".53 Indeed we need only refer back to Leibniz's view of monads as indestructible psychical unities and his theory of perception as 'multiplicity in the unit' to see just what Eliot here means. As with Bradley's finite centres and their momentary appearances, Leibniz held that the unchanging monads have modifications which appear in temporal succession. On this view, the finite centres are very close to souls. In fact, in Appearance and Reality the discussion makes little if no distinction at all between souls and finite centres.54 But in a later essay entitled "What is the Real Julius Caesar?", Bradley makes certain qualifications. His distinction runs as follows:

> A soul is a finite centre viewed as an object existing in time with a before and after of itself. And further the soul is a thing distinct from the experiences which it has, which experiences we take not as itself but as its states.55

Here we find much the same distinction as is made between the self and finite centres. The soul must be an entity distinct from the experiences which it has. On the other hand, the finite centre of experience cannot be distinguished from its experiences. It is its experiences and nothing else. And, as Bradley says, it cannot be understood as 'in time'. "It is temporal in the sense of being itself the positive and concrete negation of time".56 In the end, (as far as I can understand) Bradley thinks that the enduring centres fill that portion of the Universe in a timeless eternity. This gives him the notion that the finite centres of Caesar, you, and me, all contribute the richness of diversity to the one Absolute; though those portions which they fill may not overlap or coincide in a temporal sense.57

So we have the notion that experience takes place in these essentially timeless centres which occupy a certain sphere of the Absolute. But Bradley also thinks that their momentary aspects, i.e., their appearance in time, are how we come to know their enduring character. What we perceive as process in time is the perpetual shifting of content from existence, and, at any one moment, the finite content becomes an immediate unity with this existence. This is the clue to the second sense of the finite centres: the concentration on the immediate character of any one moment forming a psychical unity.

As we have seen above, the concept of feeling is most clearly exposed in Bradley's essay "On Our Knowledge of Immediate Experience", and it is here that we also find his vivid characterization of our psychical life as momentary pulses. For example, he writes:

> In any emotion one part of that emotion consists already of objects, of perceptions and ideas before my mind. And the whole emotion being one, the special group of feelings is united with those objects before my mind, united with them intergrally and directly though not objectively.58

The finite centre, in this sense, feels the diversity of content; of objects, perceptions and ideas, as one emotion in a certain temporal quantum. But this sense must be understood as an aspect of the enduring centre, as notes are to a melody. Bradley, on this point, says that the enduring centre "...can contain a lapse and a before and after, but these are subordinate".59 That is, it is only by a breach of the eternal presence of the enduring centre that we are able to understand how the emotion of any one moment contributes to the life of the centre. And the sense of time and continuance gained from meditating on this momentary character remains essentially ideal.

It may be curious to ask why Bradley chooses to call his basic units of experience 'finite', if, ultimately, he conceives of them as the eternal or timeless qualifications of the Absolute. We must, however, take the word 'finite' in this phrase as referring to the finite content taken into the wholeness of experience. In Appearance and Reality the discussion centers on a distinction between the 'this' and the 'what' of experience. "Reality is being in which there is no division of content from existence, no loosening of 'what' from 'that'."60 But such variety of content in the 'what' and the momentary character of the 'that' in experience are the finite aspects which qualify the whole.

Perhaps this discussion will help us to understand a further point of some difficulty. That is, though nothing, in the end, is real, but what is felt in the immediate unity of the finite centre, we must not therefore

understand any of this to be equated with Reality. This would be a fundamental error in interpreting Bradley. In fact, at several places, he stresses the self-transcendent character of feeling, which may be said to result from the internal collision of the 'what' with its 'that'. The finite form of 'thisness' and its specious unity is, Bradley insists, always short lived and must pass beyond itself into something higher and more comprehensive:

> For the finite content is necessarily determined from the outside; its external relations... penetrate its essence, and so carry that beyond its own being. And hence, since the 'what' of all feeling is discordant with its 'that', it is appearance, and, as such, it cannot be real. This fleeting and untrue character is perpetually forced on our notice by the hard fact of change. And, both from within and from without, feeling is compelled to pass off into the relational consciousness. It is the ground and foundation of further developments, but it is a foundation that bears them only by a ceaseless lapse from itself.61

It is this very fleeting and ceaseless lapse of momentary feeling which Bradley thinks cannot, in the end, be taken as truly real. In spite of the apparent self-completeness, the 'this', the very throb of existence, is always a member of a wider whole. The 'this-mine', he says, does not exclude inclusion in a fuller totality. The immediate feeling is always a more remote fringe of experience, which is at once "...the assertion and negation of my 'this'".62

This particular doctrine of Bradley's regarding the self-transcendence of feeling, has not only been the central focus of disagreement with James; it has also been, in large measure, an issue of much misunderstanding with critics of his philosophy.63 But the importance of feeling, for Bradley, is that it is the ground and starting point for metaphysical enquiry; though it is not to be taken as the end, or thought of as identical with Reality. This non-relational many-into-one of immediacy is our low and imperfect example of what must be the case at the level of the Absolute.64 In short, the immediate unity of the finite centre supplies us with the basic principle which, if developed to a final self-completion, will provide the general character of the supra-relational experience.65 At most, our own example must be taken as analogical with the activity of the Absolute, where all experience is

harmonized into one final moment of eternity.

Within this basic context of feeling and finite centres, the possibility of panpsychism seems to fall easily into place, and certainly Bradley's recognition of this causes him to entertain the idea from several perspectives. In the end, however, he stops short of any type of total commitment. It is a possible option for his metaphysics, though not necessary in order to complete his general conception of the Universe. Let us then consider the case for and against.

Firstly, given Bradley's very general statements concerning the whole of reality as nothing else but sentient experience, one could easily take him to be advocating a panpsychism similar to that of Leibniz or Royce. "There is, he declares, "...no being or fact outside of that which is commonly called psychical existence. Feeling, thought, and volition... are all the material of existence, and there is no other material, actual or even possible."66 But just exactly what this comes to requires closer examination.

In the chapter entitled "Nature" in Appearance and Reality, Bradley says: "Abstract from everything psychical, and then the remainder of existence will be Nature."67 It does, however, soon become clear that there is no such remainder. The possiblity of an inorganic Nature he quickly dismisses on the grounds that there could not exist an arrangement which somehow escapes or lies outside of the experience of the Absolute.68 But the crucial question is whether the things of nature are all psychical in character, that is, whether the whole of nature is arranged by the volition of finite centres of experience. Since this is a genuine possibility for Nature, Bradley remains open. He does think, however, that it is surely beyond our capabilities to discover its truth. He says that our failure "...to discover these symptoms is no sufficient warrant for positive denial", and he footnotes the panpsychist Fechner in this connection.69 Indeed Bradley here realizes just how such arrangements of 'personal unities' could very well be organized by the Absolute and "...directly connected with finite centres of feeling". And if this is so, what is perceived as the common world with a certain uniformity of nature is a result of the will of the Whole.70

Bradley's main argument against panpsychism comes at several points where he entertains the question: "Is there any Nature not experienced by a finite subject?"71 Or again: "Is there...in the universe any sort of matter not contained in finite centres of experience?"72 If it is possible that there are various aspects of the universe which are not reflected through finite centres, then panpsychism is not a necessary doctrine for Bradley. This would not make those aspects unattached, just unmediated or unfiltered. Such qualities, or aspects would still consist of experience, ultimately absorbed into the Absolute, but they would not be matter perceived by us as nature. The fact that they are not filtered through finite centres makes them possible only for the Absolute where they are experienced directly.

The main reason Bradley takes this question seriously involves his repeated claim that the details of Absolute life completely escape the capabilities of finite intelligence. As he says:

> We do not know why or how the Absolute divides itself into centres, or the way in which, so divided, it still remains one. The relation of the many experiences to the single experience, and so to one another, is, in the end, beyond us. And, if so, why should there not be elements experienced in the total, and yet not experienced within any subordinate focus?73

An affirmitive response to the question of panpsychism, then, would seem to involve an understanding of details in the Absolute which would exceed Bradley's central task of discovering the main features or general principles of the Universe. But as we have seen above, this does not involve a denial either.

Though Bradley avoids dogmatism by giving equal weight to both sides of the argument, I suspect that he recognized that a commitment to panpsychism would have pushed him far too close to a pluralistic metaphysics. What he is presumably rejecting is an interpretation of the world in terms of a very low level of sentience which would place too much emphasis on the momentary centres. But if we take him as denying the possibility of panpsychism, it is not at all clear just why finite centres should be confined to human beings and animals. Certainly the difficulty here is just where to make the exact

cut in nature, (i.e., as to what does or does not have a centre). But in the end, it seems that an affirmative response to panpsychism is wanting to push Bradley's metaphysics to a fully consistent scheme, despite his claim that such questions are unanswerable due to our 'miserably incomplete' knowledge of Absolute life.

5. Whitehead's Actual Occasions

Although Whitehead's doctrine of experience, which focuses primarily on feeling via the positive prehensions of actual occasions, has many different sources synthesized into his novel formulation, we shall be concerned primarily with its affinity to Bradley's doctrine.74 At later points, however, it will be necessary to consider other influences (e.g., James, modern physics and biology) in order to make the relevant points as to exactly where Whitehead's views diverge from Bradley's.

The explicit statement of his conformity to the doctrine of experience comes as a major principle in the Categoreal Scheme, Part I, Chapter II of Process and Reality, the 'Ontological Principle' which, states that outside of the experience of actual occasions, there is absolutely nothing. Whitehead summarizes by saying: "No actual entity, then no reason".75 That is, there is no reason for existence. Actual occasions are the final real things in the universe; there is no going behind them to discover anything more real. They are the most concrete elements in existence. All other types of entity are derived by abstraction from their concreteness. Whitehead, like Bradley, on this point, has insisted on a return to the concrete, and has attempted to build a philosophic system based on what is present in immediacy. His 'fallacy of misplaced concreteness', as it has made its way into the current philosophic literature, is a protest against philosophic or scientific schemes which attempt to build a system based on the more abstract things, and arrive at the more concrete things, (Newtonian mechanics being a prime example).

For Whitehead, the universe is alive with feeling. It is an 'ocean of feeling' in which each actuality contributes its drop and fades into the past. The metaphors here ring of both Bradley and James, for Whitehead's reconstruction of experience on a process model incorporated much of their

thought, at least at those places where they were inclined to agree.

As we have stated above in the general doctrine of the 'Ontological Quest', the best instance of an actual occasion is to be found in a moment of one's own consciousness. From the Cartesian perspective, Whitehead says that his actual occasions are all 'res cogitations', and each contributes a quantum of extensiveness to the world. In fact, the actual occasion is best conceived of as a metaphysical generalization of an initially psychological concept.76 The introspective discovery of the drop of experience is generalized to apply throughout the universe. By this doctrine, the puzzle as to the connectedness of nature is solved by appealing to the texture of life, which is always right under our own noses. The final actualities are all alike; they are all natural units of process, of becoming and perishing. But compared to the infinite multitude of actualities which constitute nature, the actual occasions which make up human consciousness are highly specialized instances. In fact, such occasions are the 'crown of experience' and are therefore derivative from a more rudimentary and fundamental level of process.77 This is where Whitehead and Bradley connect.

Before experience has been analyzed into actual occasions as distinct units of the temporal process, there is the base of this continuous flow, which is essentially primitive and unconscious. Experience, in this sense, is dumb. It is the momentary throb of feeling where objects and subjects, qualities and relations, remain undistinguished. With Bradley, we have understood this to be the precognitive unity of feeling, where experience is essentially undivided and non-relational. And with Whitehead, we have an analogous doctrine with his notion of 'perception' in the mode of 'causal efficacy'. On this level, the feelings are "vague but insistent". There is the compulsion of the immediate past forcing itself into the present, and continuing into that novel moment.

The continuity of experience is the key notion here. As opposed to the very clear and distinct perceptions of the world, which Whitehead calls 'perception' in the mode of 'presentational immediacy', causal efficacy provides the basic perception of passage. In fact, the former, which supplies the details of sensa, (our keen visual perceptions for example) is

dependent upon the latter. The very buzz of existence comes first. Causal efficacy is that mode of perception which so pervades our experience that it is taken for granted: and for Whitehead this means the persistent inheritance of brute givenness, of the massive presence of the past in the process of merging into the present. The feelings it transmits are vague, inarticulate, and simply felt as the efficaciousness of the past. Whitehead, on this point, writes:

> Such feelings, divorced from immediate sensa, are pleasant or unpleasant, according to mood; but they are always vague as to spatial and temporal definition, though their explicit dominance in experience may be heightened in the absence of sensa.78

Of course where evolution has given us such acute receptors, resulting from the highly developed sense organs, we naturally focus attention on the clear and distinct. But, as Whitehead suggests, in the absence of such sensa, we encounter reality at a level that remains at bottom and fundamental. Our dim consciousness of half-sleep, the thumping of our heart-beat, and the visceral feelings of well-being all suggest continuous becoming in the mode of causal efficacy. Such perceptions, as crude and inarticulate as they are, must be as close as we can come to understand what the rest of reality is like. That is, what we experience when we meditate on this process of becoming must be analogous to lower forms of life which do not possess such refined organs of sense. With an eye for the panpsychist doctrine here, Whitehead thinks that the variety of organisms which exhibit modes of behavior directed toward self-preservation suffice as evidence of feeling and causal awareness with the external world.

> A jellyfish advances and withdraws, and in so doing exhibits some perception of causal relationship with the world beyond itself; a plant grows downwards to the damp earth, and upward towards the light. There is thus some direct reason for attributing dim, slow feelings of causal nexus, although we have no reason for any ascription of the definite percepts in the mode of presentational immediacy.79

The point, of course, is that the whole of existence must have a very primitive awareness of causal efficacy which lies at the base of experience.

Whitehead effectively argues that philosophers, in their analysis of perception, have ignored perception in the mode of causal efficacy by concentrating on those distict impressions mainly revealed through visual perception. The obvious result is that philosophy has attempted to analyse perception solely in terms of presentational immediacy, and has had a continuous headache with regard to causal relations and the continuity of experience. Hume is a prime example of this type of empiricist thinking. As Whitehead says: "Hume's polemic respecting causation is, in fact, one prolonged, convincing argument that pure presentational immediacy does not disclose any causal influence..."80 Hume's doctrine inverts the relationship by making causal efficacy as an experience dependent upon presentational immediacy. But as long as presentational immediacy remains primary, causal relations will continue to be 'metaphysical nuisances'. It unveils the world at an instant, and, if taken in itself, will not reveal any intrinsic connection with the past or future. The conclusion is that events in the contemporary world are causally independent of one another.

Curiously, the fundamental contrast between causal efficacy and presentational immediacy was captured succinctly in Russell's recollection of an argument with Whitehead. Speaking of his own philosophy, he writes:

> It was Whitehead who was the serpent in this paradise of Mediterranean clarity. He said to me once: "You think the world is what it looks like in fine weather at noon day; I think it is what it looks like in the early morning when one first wakes from a deep sleep." I thought this remark horrid, but could not see how to prove that my basis was any better than his.81

Russell, like Hume, held a doctrine of external relations where independent objects and isolated qualities were fundamental to his logical atomism. But what he perceived in Whitehead's view of the world, which caused some difficulty for his own, was the essentially dumb force of causal efficacy, undeniable, yet so vague and inarticulate as to be almost anti-intellectual.

But the real deception of the atomism which defends completely independent and isolated objects (Russell's view of the universe as a 'heap of shot') is that our language, with its distinct words for separate objects and

qualities, provides an adequate grasp of the basis of reality.82 Language, of course, naturally attunes itself to presentational immediacy. But the subject-predicate structure of language and thought has a peculiar difficulty when it comes to causal efficacy. It can only grasp onto a particular distinctness which lingers after the fact. That is, language is a later stage of experience where thought attempts to isolate facts from the welter of data present to consciousness. But it is surely a delayed reaction following closely behind the leading edge of actual occasions.

Whitehead was quite insistent on the inadequacy of the subject-predicate structure of language throughout his philosophical career. In fact, his main criticism of modern philosophy is this recurring problem of taking the subject-predicate form of statement as conveying a truth which is metaphysically ultimate.83 It has a sound pragmatic defense, but in metaphysics the concept is sheer error. Somewhere Whitehead says that language was designed for the market place; it is pragmatic in that it serves our purposes well in handling the static, but it does not capture the dynamic reality of immediacy. This was the very reason why Whitehead found it necessary to invent terms such as 'concrescence', 'prehension' and 'ingression' to express the fluid-like character of process. But the result of these innovations is that his thought has tended to be regarded as highly obscure by the more 'orthodox' schools of philosophy. Much of his having been neglected as an important thinker in our century, especially in Britain, can be attributed to this fact.

Now it should be noted that the basis of reality defended by Whitehead puts him at one with Bradley in two important senses; (i) the correspondence between his concept of causal efficacy and presentational immediacy with Bradley's concept of existence and content, and (ii) the attack on abstraction as supplying the total truth about things.

Firstly, throughout the above exposition, the basic parallel with Bradley's 'that' and 'what' of experience should be obvious. On the one hand we have a precognitive unity of feeling, which lies at the bottom of existence. It is simply our intuitive grasp of continuity as one momentary throb of feeling continues into another. And on the other hand we have the

specific content, the universals, which are already contained in the facts of passage. Neither can be truly separated from the other, even though it is possible to distinguish these two aspects which contribute to the totality of experience. One way of putting the common doctrine would be to say that as long as we dwell in the realm of clear and distinct qualities and spatial relations, i.e., within presentational immediacy alone, we will remain on a fairly abstract level of thought which entertains isolated objects in purely external relations. It is this, Bradley says, that loosens the 'what' from the 'that' and removes us from the immediacy of feeling. Similarly, for Whitehead, this one-sided analysis of experience will never supply any information as to our primary perception of the connectedness of experience. Either way, what we find is an attempt in both thinkers to restore the balance to our distorted world-view by establishing the primacy of feeling which sustains any derivative form of existence.

This brings us directly into our second point of contact between Whitehead and Bradley. The result of having the primacy of feeling as the basis of reality is that we must not be deceived by the apparent completeness of any statement which abstracts from the totality given in any one experience. Though Whitehead does not have an explicit doctrine of 'degrees' of truth and reality, he does hint at something very close to this when he discusses 'half-truths', and the fact that our finite capabilities make the total truth quite inaccessible.84 Conscious discrimination and analysis zeros-in on those clear and distinct details given in any one totality. But such a process and the resulting judgment about those facts must be regarded as highly abstract. That is, it can never do justice to the harmonious unity which is there in feeling. As Whitehead says in his very late work, Modes of Thought: "These relations, thus abstracted require for their full understanding the infinitude from which we abstract. We experience more than we can analyse. For we experience the universe, and we analyse in our consciousness a minute selection of its details".85

Though it would be misleading to suggest that, at this level, the parallels between Whitehead and Bradley are complete, we do have a point of contact for the interpretation of feeling in their respective philosophies. Whereas the discrepancies will be dealt with in the following chapters, at

present, we are looking for the broad metaphysical picture. There is, however, one crucial difference we must point out now before moving on to consider the essential characteristics of the actual occasions, and how they compare with Bradley's finite centres of experience.

Whitehead says that his philosophy of organism is an inversion of Bradley's doctrine of actuality. Instead of regarding the actual occasion as a mode of a more genuine Individual, the Absolute, the occasion is the final reality. That is to say, Whitehead's finite units of fact are the genuine individuals of the creative process. For Bradley, on the other hand, the finite facts are indeed present in process, but taken as imperfect 'modes' of one perfect and all-embracing Absolute. Whitehead writes: "The final actuality is the particular process with its particular attainment of satisfaction. The actuality of the universe is merely derivative from its solidarity in each actual occasion."86 This is the essential pluralist thesis by which Whitehead has rejected Bradley's notion that the individual moment of experience is inconsistent if taken as fully real. It also explains why Whitehead considers feeling to have a particular emotional tone (e.g., pleasant or unpleasant), depending on the character of each actual occasion.

As a consequence of this fundamental contrast, Whitehead's interpretation of Bradley's concept of feeling has focused solely on the momentary finite centre of experience. Much of this comes clearly to surface when he directly quotes from Bradley's essay on "Immediate Experience".87 This means that Whitehead has purposely neglected some of Bradley's most important points regarding the self-transcendence of feeling and the relative unreality of the fleeting moment. Furthermore, there is nothing in Whitehead's metaphysics which corresponds to the enduring centre of experience. In other words, there is no eternal and timeless centre in the sense of the Leibnizian monad. The actual occasion exists only in the sense of the moment which becomes and perishes.

Within this context, what Whitehead does find in Bradley's theory, which accords so well with his own reflections, is that, at the base of experience, this continuous process of the many becoming one is achieved by feeling. If we keep in mind Bradley's essential point regarding the

diversity of content felt as a unity, at the level of the momentary finite centre, we shall find much agreement in both thinkers. Compare, for example, the following passage of Whitehead which takes on a distinctive Bradleian tone:

> Each monadic creature is a mode of the process of "feeling" the world, of housing the world in one unit of complex feeling in every way determinate. Such a unit is an "actual occasion"; it is the ultimate creative derivative from the creative process.88

Although Bradley does not describe his finite centres as creative in quite this sense, the basic point is clear. Each actual occasion becomes a complex unity by feeling the world, and by including the diversity of content within itself. Whitehead calls this function of the universe 'creative' because it involves an activity of synthesis. In fact, this function of the universe forms the most general and comprehensive principle of Whitehead's metaphysics: the 'Category of the Ultimate' which states that, at each successive moment, "...the many, which is the universe disjunctively, become the one actual occasion, which is the universe conjunctively".89 That is, each actual occasion becomes a novel synthesis by 'feeling' the disjunctive diversity of its immediate past. Life is thus born anew with each conjunctive unity. The present occasion transforms what is settled in the antecedent universe as it actively selects or chooses from the multitude of data.90 It creates with what is given, the objects of the immediate past, to produce in its subjective immediacy a new entity which will become an object for the future.

Now sometimes Whitehead uses 'feeling' in a very general sense, giving the suggestion of life operating in every single actuality throughout the universe. It is here that Whitehead adopts Bradley's term with approval, and says that "...this whole metaphysical position is an implicit repudiation of the doctrine of 'vacuous actuality'".91 Without a doubt Whitehead accepts Bradley's claim that feeling is the beginning and the source of all material forming the enfolding element and abiding ground of our world. It is the essential defining characteristic of each and every actuality whereby the many become one. But at other times, Whitehead's use of 'feeling' takes on a much more specific and technical meaning than we find in Bradley's metaphysics.

This is not to say that it is inconsistent with Bradley's meaning, but that it is much too detailed for the general scheme put forth by Bradley. In this sense of the word, Whitehead defines a feeling as a 'positive prehension', which means an uncognitive apprehension of the data of the past. It is consistent with Bradley in the sense that it literally means to grasp onto the data of the world, and to include those characteristics within its present constitution. That is, such data become internally related in the present occasion by what was positively taken from it and re-enacted in the life of that moment. But it is certainly a modification of Bradley's doctrine, in that Whitehead has described 'prehension' as the most concrete mode of 'relatedness' forming the component elements of actual occasions. He therefore insists, contrary to Bradley, that relations are present below the level of consciousness. (This is a purely logical matter to be taken up in chapter IV.) Also there is the fact that Whitehead has distinguished a 'negative prehension' which finds no parallel in Bradley. This is the activity of eliminating characteristics or data which are incompatable with the aim of the present subject. The data is considered, but not included in that particular determination. The concept here is somewhat akin to 'elimination' in the genetic sense.

Throughout this chapter we have seen how Bradley and Whitehead reject the materialist-dualist approach to metaphysics in favor of a comprehensive psychical ontology. It is, therefore, obvious that the traditional notion of 'substance' is replaced by the primacy of events, and what lies at the very heart of this ontology is the concept of feeling, which is the common denominator between Whitehead and Bradley. But also we have discovered certain qualifications of Bradley's doctrine in that Whitehead has placed great emphasis on the novelty of creative choice and the reality of the temporal process. Such considerations mark a fundamental contrast which will occupy much of our discussions in the following chapters.

CHAPTER III

THE ANALYSIS OF EXPERIENCE

1. Introduction

Having now brought to surface the basic context of metaphysical principles common to Whitehead and Bradley, we shall, in this chapter, consider some of the details of immediate experience in a more or less psychological framework. The very fact that we attempt such an analysis of experience does become rather problematic for our comparative study, for clearly there is nothing in Bradley's philosophy which corresponds to the exhaustive analysis of feeling central to Part III of Whitehead's Process and Reality. As we have hinted above, the intricate detail of Whitehead's system here far exceeds any discussion in Bradley's metaphysics, and this is so for two reasons. Firstly, we must repeat Bradley's plea that our aim in metaphysics is a general and theoretically tenable view of reality, which does not require the filling in of all the details of the Universe. Such a scheme, he thinks, would be quite impossible for finite beings. And secondly, we must keep in mind that, for Bradley, any analysis of feeling will result in its destruction. He explicitly says that feeling "...does not offer itself as intelligible".1 What is left, once analysis has cut into its harmonious unity is not Reality, but abstractions and contradiction.

In the first case Bradley is surely right about the inability of finite intelligence to comprehend the Universe in total. In his view, philosophy itself is a finite and imperfect attempt to describe the infinite perfection of the Absolute. But if we simply substitute 'universe' for 'Absolute' to denote the whole of existence, we may find that Whitehead was no less humble on this matter either. In fact, Whitehead repeatedly criticized the attempt to encapsulate the universe in any one system. "Philosophy", he says, "is the attempt to express the infinity of the universe in terms of the limitations of language".2 This was the very reason why he conceived the proper method in metaphysics to be hypothetico-deductive. Still Whitehead's recognition of such limitations of finite systems did not constrain his own attempt to provide a detailed cosmology which would serve the purpose of guiding the special

sciences. Even though Whitehead and Bradley seem to be saying the same thing on a meta-metaphysical level, their differences concern mainly the question of cosmological construction. This was our problem in chapter I regarding the pure and hybrid approach to metaphysics.3 The hybrid approach is, of course, more concerned with pragmatic consequences.

As to the second problem, regarding the possibility of analysis, we seem to have a more serious objection. If causal efficacy, or feeling in the more general sense, refuses to satisfy the demands of intelligence, it does seem that Whitehead's program may be dubious. But here we shall find that he has broken away from Bradley, and that he has moved a bit closer to the type of empiricism expounded by James. What is quite clear is that Whitehead does agree that the lower level of experience, the rudimentary and vague sense of becoming, is not open to the type of clear and precise analysis in the mode of presentational immediacy. Causal efficacy, in this sense, does remain unanalysable. But at the higher level of experience, i.e., human consciousness, the units of becoming are discerned and such occasions of experience are open to analysis, even though some damage must be admitted. At least at this level, Whitehead holds that more specific metaphysical principles can be formulated, and that these must apply to the lower levels as well. That is, since our experience derives from a natural world of throbbing actualities, what is discerned at the level of consciousness must be seen as a highly illuminated version of the basic stuff of becoming.

But the real problem confronting us now is just how our flow of experience, which Bradley describes as a continuous undivided harmony, may be made up of a sequence of discrete moments or acts of experience. We have seen that for Bradley this is not Reality, but an ideal construction. To discover a process of individuals is to depart from the general sense of feeling. This problem brings us right to the concept of the 'specious present'; an old controversy between Bradley and James.

2. The Specious Present

In the Principles of Psychology, James had focused his discussion on our perception of time; and he attempted to answer the question: "What is the

original of our experience of pastness, from whence we get the meaning of the term?"4 We commonly divide the course of time into past, present and future, but the "...prototype of all conceived times is the specious present, the short duration of which we are immediately and incessantly sensible".5 James attacked the idea that the present can be an instantaneous flash between the immediate past and future. "Let any one try, I will not say to arrest but to notice or attend to, the present moment of time."6 Indeed it is only as an 'ideal abstraction' that such a notion is possible. What is experienced, however, is a short duration in which some elements are experienced as past, some as present and some as about to occur in an ongoing flow of experience.7 With characteristic clarity he writes:

> ... the practically cognized present is no knife-edge, but a saddle-back, with a certain breadth of its own on which we sit perched, and from which we look in two directions into time. The unit of composition of our perception of time is a duration, with a bow and a stern, as it were- a rearward- and a forward-looking end. It is only as part of this duration-block that the relation of succession of one end to the other is perceived. We do not first feel one end and then feel the other after it, and from the perception of the succession infer an interval of time between, but we seem to feel the interval of time as a whole, with its two ends embedded in it.8

According to James, then, the specious present is a duration-block or an observed unity which realizes itself as the totality of its temporal parts. The present is 'specious' in the sense that it is never just here-now. It is, rather, a temporal stretch which overlaps and includes bits of the past as well as anticipations of the future. But the important point to keep in mind is that there are definite atomic quantums discerned by consciousness and felt as whole moments. This is the essential psychological basis for James's later metaphysical theory, his radical empiricism, in which the 'drops of experience' become the ultimate units in a pluralistic universe. All forms of existence must be understood as either extracts cut out from these pulses or wholes composed of a number of them woven together by their felt transmissions.

Though James recognized such definite units of experience as ultimate, he placed equal emphasis on the continuity between them. Each pulse is an experience for itself; but also feels its continuity in a 'stream

of experience'. The divisions between the moments of consciousness are not sharply separated from one another but, rather, they flow together with such ease that we hardly notice a difference.9 But surely, when we reflect on the specious present 'now', it is not the same one of the moment past. Each drop has its own character and duration. Each drop 'enjoys' a momentary presence, and fades as a novel drop continues where it left off.

Bergson too must be mentioned in this connection since he held a view remarkably close to James when he advocated the use of intuition, as opposed to intellectual analysis, as the only means of unveiling the flowing stream of reality. Intellectual analysis, he thought, would give, at best, a science which portrayed reality as instantaneous deterministic cross-sections. But this concept of a homogeneous time series is a pure abstraction, only useful for scientific investigations where it becomes an independent variable. Bergson, like James, held that reality has no such measurably neat divisions. The heterogenous moments which we experience as having varying durations, some longer, some shorter, are the concrete building blocks for our theories.

The metaphors of 'running water', 'drops' and 'streams' to depict reality were natural associations for these philosophies of process. I have myself found these notions to be the most convincing and accurate images of the event-character of experience. Just as the multitude of drops melt together to form a flowing stream, innumerable throbs of emotion melt together to form the natural rhythms of our experience. The feeling is not one of a solid substance, but a very fluid and rushing stream.

Now Bradley had advanced a criticism of the instantaneous and homogeneous concept of 'time', well before both James and Bergson, in his Principles of Logic. He is, however, quite opposed to any attempt to break up our psychical life into a succession of individuals; and he is therefore unwilling to settle for durations as the ultimate units as well. Bradley insists that there is only the unity of feeling, not feelings.10 And here we must keep in mind that his own finite centres, so far as they exist as objects, and endure in time, are made and subsist by ideal construction.11

For Bradley, our tendency to set up the momentary appearance (however

long or short) as atomic and individual is surely mistaken. Any attempt along this line will lead us right into the endless web of terms and relations. Though we must refrain from plunging straight into these arguments here, there is one conceptual problem upon which Bradley centers his attention: the concept of the 'specious present'. In the Principles of Logic he takes up the problem of discerning the individual moment of time in order to locate the subject of an analytic judgment, (i.e., a judgment in which the idea refers to what is given in perception). But when we attempt to isolate the present we are unable to discern the subject due to our inability to grasp adequately the individual unit of that experience. As a temporal phenomenon, the present either has no duration and time at all, or we discover that the duration itself has a temporal diversity which would result in an infinite regress of nows. He writes:

> For no part of space or time is a final element. We find that every here is made us of heres, and every now is resolvable into nows. And thus the appearance of an atomic now could not show itself as any one part of time. But, if so, it could never show itself at all. Or, on the other hand, if we say the appearance has duration, then, like all real time, it has succession in itself, and it would not be the appearance of our single now.12

Like James, Bradley agrees that the concept of an 'instantaneous present' is a pure abstraction. Atomic instants do not occur in immediate experience. But as we can clearly see from this passage, Bradley rejects the duration as an atomic individual as well. Any attempt to locate an individual (other than the one universal Individual) is an abstraction from that continuous whole present in feeling. To make this point Bradley entertains the stream-metaphor in an attempt to show the inadequacy of the concept of the 'specious present'. Even though this was quite some time before the publication of James's Principles of Psychology and the phrase 'specious present' is not explicitly mentioned, it does become quite clear that Bradley is rejecting any picture of the given as an event with fixed boundaries marked by similar events on either side.13

> Let us fancy ourselves in total darkness hung over a stream and looking down on it. The stream has no banks, and its current is covered and filled continuously with floating things. Right under our faces is a bright illuminated spot on the water, which cease-

> lessly widens and narrows its area, and shows us what passes away on the current. And this spot that is light is our now, our present.
>
> We may go still further and anticipate a little. We have not only an illuminated place, and the rest of the stream in total darkness. There is a paler light which, both up and down stream, is shed on what comes before and after our now. And this paler light is the offspring of the present.
>
> ...The result, which at present we have wished to make clear, is that the now and here, in which the real appears, are not confined within simply discrete and resting moments. They are any portion of that continuous content with which we come into direct relation. Examination shows that not only at their edges they dissolve themselves over into there and then, but that, even within their limits as first given, they know no repose.14

So for Bradley, the illuminated spot on the stream is simply an image meant to show our inability to extend the reality which lies on either side of it. It is our limited scope through which we view the Real.

What is rather odd about Bradley's interpretation of this metaphor is the fact that he does not see the subject in question as immersed in the rushing flow of the stream, but merely observing what is passing on it. We should here note the difference from the Jamesian 'stream of experience' in the sense that the observer and the stream are not identical. But still this would not affect Bradley's main point that we must not take what is present in the momentary appearance as the sole reality. Reality continues far beyond what we experience in any one moment.

Curiously enough, at times, Bradley does seem to argue in accordance with the concept of the 'specious present'. For example, in the same passage just quoted, he says: "The appearance is always a process of disappearing, and the duration of the process which we call our present has no fixed length".15 This would seem to suggest agreement with both James and Bergson on the point regarding the heterogeneous character of the drops of experience. But here we must not confuse his psychological reflections on the finitude of the human condition with his ultimate metaphysical views. Where James sees the duration as an experienced unity of temporal parts, Bradley sees an infinite regress of nows. The present, for him is the filling of that duration in which Reality appears and can therefore be seen as the negation of time. That is to

say, Reality does not exist in time; it only appears there and creates the fiction of an atomic now.16

Having now seen how James and Bradley deal with the problem as to how our continuous experience can (or can not) be made up of a succession of discrete individual pulses, we now turn to Whitehead, who, in my opinion, provided the most convincing solution in his theory of 'epochal becoming'. But before we see just how Whitehead solves this problem in his metaphysics, we require some preliminary background from his earlier investigations in the philosophy of science.

In his Enquiry Concerning the Principles of Natural Knowledge, and in the less technical exposition of these views presented in the Concept of Nature, Whitehead devoted much of his attention to the problems of our perception of temporal passage and spatial relatedness, in order to discern the ultimate data for natural science. Much of his critical analysis focused on the concept of an instantaneous and homogeneous time, i.e., the traditional Newtonian view of time as flowing equally in measurable lapses.17 This is, he thinks, the source of all our difficulties of physical explanation, for if such a concept of instantaneous nature is accepted, our science must abandon all claim to be founded upon observation.18

In his philosophy of nature, Whitehead proposed that the ultimate units which characterize the creative advance of nature should be 'events'. This, he held, was the only way out of the confusion; for our perception of time is as a duration, and within this duration we can always discriminate constituent events. That is, our recognition of events, and the objects situated in these events (e.g., a red patch of color which recurs in the temporal passage), occur within the ultimate datum for sense-perception, the specious present.19 Here Whitehead, like James and Bergson, appeals to what he calls 'instinctive' or 'naive' experience, as opposed to the intellectual theory of time as a moving knife-edge. The apprehended event must be the content of a specious present of some observer. This is obviously the only way in which events and their objects could be known.

By choosing events as the ultimate constituents, Whitehead wished to

demonstrate the very rich and diverse aspects of nature. He loathed the idea that nature is homogeneously divided into portions of time, space and matter.20 Nature is not clock-time but experienced time, and this comes in duration- blocks or stretches of varying lengths. The event, he says, is "...the most concrete fact capable of separate discrimination".21 It is never merely in time, but always constitutes a four-dimensional continuum of space-time, and is therefore never limited to the instantaneous present. Point-instants are understood only as ideal, and are arrived at by a 'method of extensive abstraction'- a progressive narrowing of perceptible durations whereby the logical limit is derived.22

At various points in the Concept of Nature, Whitehead's discussions on our perception of time cannot fail to remind us of James.23 Also he says, "We may speculate... that this alliance of the passage of mind with the passage of nature arises from their both sharing in some ultimate character of passage which dominates all being".24 This is, however, a speculation Whitehead had not worked out in his philosophy of nature. In fact, he explicitly says that this is the very distinction which separates natural philosophy from metaphysics.25 What we must keep in mind is that his earlier investigations are concerned only with the object side of the knowing relation, even though some psychological speculation was necessary in order to explain his theory of events. But at the onset of the Concept of Nature, Whitehead had anticipated much of his later thought when he said that "...the values of nature are perhaps the key to the metaphysical synthesis of existence".26 And indeed the concept of the 'actual occasion' was exactly what was required in order that the events of nature, i.e., the physical world, take on the same character as the specious present of the observer apprehending those events.

In Note II (written in 1924) to the second edition of the Principles of Natural Knowledge, Whitehead said of the first edition (1919) that "... the true doctrine that 'process' is the fundamental idea, was not in my mind with sufficient emphasis".27 In this book, there is little indication as to how events become, or how they are related to one another. We know that they overlap by whole-part relations and connect together by temporal ordering (as with Minkowski); but the manner in which they penetrate and carry their

objects is not fully developed. Surely these are considerations which are beyond the scope of the early works; but much of the detail does become clear by the time Whitehead had developed the idea of the 'actual occasion'.

In Process and Reality, the 'actual occasions' are closely related to the earlier 'events', and 'eternal objects' to the earlier 'objects'. The determination of the exact relationship between these two pairs of categories is a difficult problem. But aside from the addition of the subjective basis of actual occasions, the important point to bear in mind is that an event becomes a 'nexus' of actual occasions in the metaphysics. That is, the nexus is a succession of actual occasions forming our experience of continuity. What we perceive as change is the differences between the individual characters of the occasions forming such an event.

Now Whitehead begins with James in his analysis of continuity by adopting the idea that the individual units of experience must come in 'whole moments' or 'epochs'.28 Interestingly enough, this notion, consistent with energy in modern physics, describes becoming as an extensive quantum leap which is not a continuously predictable moment in a sequence. Each occasion of experience becomes a whole, not in pieces which complete a whole. On this level, Whitehead takes Bradley's infinite regress argument as a serious threat to becoming. Though he explicitly refers to Zeno's 'Arrow' paradox on this matter, it is quite clear that the problem is much the same. Whitehead explains:

> Consider, for example, an act of becoming during one second. The act is divisible into two acts, one during the earlier half of the second, the other during the latter half of the second. Thus that which becomes during the whole second presupposes that which becomes during the first half-second. Analogously, that which becomes during the first half-second presupposes that which becomes during the first quarter-second, and so on indefinitely.29

So, if the present moment which we call "now" is divisible into an indefinite number of "nows", then the paradox of becoming is a valid objection and nothing can become. However, if the occasion of experience as a perceptible amount of change, comes all at once, then there is no longer any mystery about becoming. This Whitehead takes to be a fundamental solution to the problem.

What has been established by Zeno's and Bradley's argument is that there cannot be a continuity of becoming.30 That is, time cannot be a continuous unfolding of portions or acts of becoming, due to the fact that any particular portion or act can be divided further. The problem here is the combination of two incompatible notions- 'supersession' and 'continuity'.31 Continuity is therefore rejected as a metaphysical feature of the occasions of experience. They come all at once or not at all. This is the basis for atomism in Whitehead's theory. In the succession of the unit becomings or epochal wholes what becomes is continuity. Thus Whitehead writes:

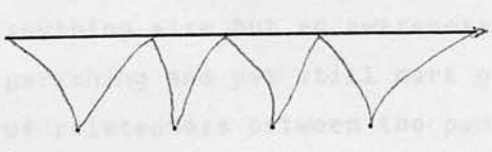
> The conclusion is that in every act of becoming there is the becoming of something with temporal extension; but that the act itself is not extensive, in the sense that it is divisible into earlier and later acts of becoming which correspond to the extensive divisibility of what has become.32

Though the act of becoming is not continuous, extensive or in physical time, it delivers a definite temporal quantum to the world. The act must therefore happen in a quasi-temporal realm Whitehead calls the 'genetic process'. He emphasizes:"...the genetic process is not the temporal succession: such a view is exactly what is denied by the epochal theory of time".33

To illustrate Whitehead's point here let us consider a diagram of moments composing an event.34 In the succession of occasions of experience A,B,C,D, each occasion becomes an epochal whole which constitutes the continuity of time.

DIAGRAM A

event as a nexus of occasions



genetic process of unit becomings

In this diagram, A,B,C,D, taken together, form an event of perceptible change in the world where the uneven lengths in the continuity represent the unpredictable character of the moment as enjoyed by the subjective immediacy of that particular occasion. This continuity of time presupposes the genetic process which underlies our perceptual experience of events. Our experience of time as a continuous whole must therefore be constituted by the discontinuous succession of atomic, epochal becomings.

Bradley, as we have said before, certainly comes close to such notions regarding the unity of feeling as whole epochs of becoming. In his Essays on Truth and Reality, we have seen that he defines immediate experience as "...that which is comprised wholly within a single state of undivided awareness or feeling".35 This harmonious unity of immediacy is an undivided awareness of the living emotion. Again in the Principles of Logic, he writes: "If we are content to take the facts as they come to us, if we will only leave them just as we feel them, they never disappoint us".36 Indeed "just as we feel them", they are undivided unities becoming now and passing away from the present into the past. But what Bradley means, in the end, is that the universe happens as one epochal Whole. With his monistic interpretation he therefore denies that feeling can be a plurality. This is where the real divergence in reasoning occurs between Whitehead and Bradley. The crucial point concerns just how the whole units of feeling are linked together to form our continuous experience. Bradley continues:

> They neither hang by these airy threads from the past, nor perish internally in a vanishing network of never-ending relations between illusory units. The real, as it comes to us in sense, has nothing of all this.37

But this is exactly Whitehead's position. How can we deny that this intuitive feeling of transition is anything else but an awareness of our experience of the immediate present as perishing and yet still part of our continuous living emotion? Here some type of relatedness between the penetrating moments must be admitted if we assert that the facts which compose our experience are whole units which become and pass away. But even though I shall touch on this

below, such considerations must be reserved for the following chapter which is devoted solely to the problems raised by Bradley. For the present let us return to the analysis within any one moment of experience.

3. Genetic Analysis and the Component Elements

Now that we have seen how genuine individuals are possible for Whitehead, we shall see what he considers to be the essential component elements of actual occasions. As I mentioned at the onset of this chapter, the analysis of the activity within one occasion of experience is a highly abstract procedure in Whitehead's metaphysics. Given the notion that the occasion becomes as an epochal unity of feeling, the attempt to dissect it into component elements does have a certain air of artificiality about it. At this point, however, Whitehead does realize that we cannot do anything with it unless we provide some type of analysis. But it must also be emphasized that, in analysis, the occasion can only be understood as a process itself; that is, a process of growth in which it acquires its data.

Once again we are concerned with the activity whereby the many become one. This is the problem, Whitehead says, which consciousness solves.[38] "The analysis discloses operations transforming entities which are individually alien into components of a complex which is concretely one."[39] Analysis discovers that the occasion is <u>many</u> things by virtue of the complexity of feelings or prehensions constituting its existence. In this respect, the occasion is divisible into component parts. But if something is divisible, it does not necessarily follow that it is therefore divided. As an epochal whole, the occasion is <u>one</u> thing, synthesizing the many elements into an undivided unity by its subjective aim- the final cause of the process of growth. Indeed it is in virtue of this subjective aim that the occasion produces one thing. It provides the ideal which the occasion attains or approximates.

So we have the notion that the actual occasion is a 'cell' by virtue of the vast complexity of prehensions, but also, an undivided atomic unity by virtue of its subjective aim. Though the feelings may be many, there is only one subject.

Before I begin to explain the process of 'concrescence' and the manner in which an occasion acquires its data, we should keep in mind Whitehead's fundamental distinction between two ways of considering the actual occasion; the 'genetic' and 'morphological' analysis. Above we have seen a trace of this distinction when we touched on the genetic process of actual occasions which underlies our perceptual experience of continuity. Genetically, we are concerned with the various elements of the universe out of which the occasion arises. These encompass: (i) the actual occasions felt, (ii) the eternal objects felt, (iii) the feelings felt, and (iv) the subjective forms of intensity; and they involve the various phases of selection and elimination of such data. Morphologically, we are concerned with the completed actual occasion, spatialized and functioning as an object for subsequent prehensions. In this respect it is said to be the terminal unity of the concrescent process because it has perished. This is also known as a 'satisfaction' in Whitehead's terminology.

Perhaps another way of explaining the difference between the genetic and morphological analysis is to say that the former is microscopic while the latter is macroscopic. One is concerned with the formal constitution of the actual occasion while the other is concerned with the givenness of the actual world considered as 'stubborn fact'. In this section of the present chapter, I will be attempting to elucidate Whitehead's analysis of the genetic process; that is, the process of achieving the satisfaction. And though largely expository, this section will be an important point of reference for subsequent chapters of this thesis.

The concrescence of an actual occasion is the process of growing together with the other occasions which have already achieved satisfaction in the temporal process. A completed concrescence is an occasion that has become concrete in physical time. Within this concrescence, there is a process of moving from the spark of subjective immediacy, whereby the antecedent universe is synthesized into a novel arrangement, to the completed object. But Whitehead's use of 'object' here must not be taken as an enduring substance. When an occasion functions as an object in the process, it is a possible choice for the subjective immediacy of all subsequent occasions. Accordingly,

Whitehead uses the combined term 'subject-superject' in an attempt to avoid confusing his doctrine with the traditional conception of 'subject' and 'object'. He says:

> An actual entity is at once the subject experiencing and the superject of its experiences. It is a subject-superject, and neither half of this description can for a moment be lost sight of. The term 'subject' will be mostly employed when the actual entity is considered in respect to its own real internal constitution. But 'subject' is always to be construed as an abbreviation of 'subject-superject'.40

So we see that the 'subject' has been retained but the 'object' or 'superject' is to be understood as the outcome or completion of the concrescence. The emphasis is, of course, focused on the activity of becoming and perishing.

For the sake of lucid exposition, I shall first discuss the concrescence as two phases; the initial phase and the supplemental phase. Then I shall continue to break down the latter into three stages of activity; namely, conceptual feelings, simple comparative feelings and complex comparative feelings.41

Generally, as the concrescence moves to its satisfaction, there is a passage, characterized by a passive reception of the antecedent universe to an active selection from this data whereby the novel individual is formed. By this we understand that the ground or origin of the concrescent process is the multiplicity of data in the universe which enter into the present actuality and become elements of its own internal constitution. The initial phase is said to be 'passive' or 'conformal' in order to express the way in which the multitude of data enter into the subjective immediacy of the occasion without any decision affecting the final outcome. It is merely receptive and indeterminate as the past merges into the present. At this point, the initial prehensions are purely physical prehensions; they are simple physical or causal feelings which merely conform to what is settled in the past. The following supplemental phase, on the other hand, is determinate and active as the process of self-creation begins to take place. From the welter of data felt in the conformal phase, the occasion now molds itself by selection and elimination. The data which are positively prehended are taken into the

constitution of the present actuality as compatible with its subjective aim. Such elements have value for the occasion and become its essential ingredients. Those elements which are not part of this selection are called negative prehensions. They are eliminated from this particular determination even though they may be positively prehended by other contemporaries. The main point for any one occasion, however, is that the achievement of its aim will always involve elimination. This gives the occasion its particular character and thereby constitutes a novel individual in the universe.

In Whitehead's view, the data which are positively prehended by an actual occasion obtain 'objectification' in that occasion. That is to say, the individual facts absorbed into the internal constitution of the subject achieve an 'objective immortality' beyond their perishing in the immediate past. They are, so to speak, reinacted in the life of the present moment. This is essentially what Whitehead means when he says that "...the philosophy of organism is mainly devoted to the task of making clear the notion of 'being present in another entity'"; for the present must include the past with some degree of definiteness.42 This distinguishes his view from a mere representative theory of perception, i.e., the fact of inclusion. But it should be clear that no actual occasion survives as a whole beyond its present immediacy; only its individual prehensions become objectified as each successive moment of the universe moves from disjunction to conjunction.

In certain respects, this principle of 'selection and elimination' is very close to Leibniz's notion that each monad mirrors the entire universe by the combination of its clear and confused perceptions of all the other monads. Leibniz here is also concerned with a principle whereby certain properties or qualities define an individual. But unlike Leibniz's monads, Whitehead's actual occasions have a momentary existence, and the defining characteristics are those elements prehended into its subjective immediacy. Wolfe Mays, in his Philosophy of Whitehead, remarks on this point:

> The logical argument that the predicate is contained in the subject led Leibniz to the denial of interaction between substances, and to his theory of monads, the monads being modelled on the subject-predicate form of proposition- as independent substances with inhering qualities.43

But as we saw in chapter II, the subject-predicate form of proposition was explicitly rejected by Whitehead. His metaphysic is modelled more on the polyadic relations of modern logic, whereby the relations imply the immanence of the past in the present. With this in mind we might also add that Whitehead was very much thinking of process in terms of the theory of evolution. In fact, his concept of 'prehension and objectification' can be regarded as a generalization of genetic inheritance in biology. Where, in the metaphysical doctrine the emphasis is placed on the elements compatible with the subjective aim of the occasion, the upshot in biology is the adaption of an organism by natural selection.

Finally, to complete our discussion on these general factors of the concrescence, we must consider the 'subjective form', which is how the occasion feels its data. This involves the inheritance of a certain emotional tone from the immediate past. It is how the 'character' of the prehending subject conforms to the 'character' of the feeling of the datum. To 'feel' a datum as an object is to have a feeling conforming to the feeling of the datum. A general example which Whitehead gives of this aspect of the concrescence is the inheritance of anger in a man from one moment to the next.44 The subjective form, in this respect, supplies an essential aspect of continuity to experience.

We should now discriminate between the different types of entity which constitute the data of the antecedent universe. Thusfar the term 'data' has been employed in a loose and somewhat vague sense of everything that is there and available for prehension. But Whitehead is quite clear about the various types of entity and how they are prehended. We are now returning to break down the supplemental phase of the concrescence.

In the supplemental phase, Whitehead distinguishes two stages, one of 'conceptual feelings' and another of 'comparative feelings'. But the latter of these two may, for the sake of exposition, be divided further into 'simple' and 'complex' comparative feelings thereby giving us three stages to work with. Also Whitehead says that there is a twofold aspect of the creative urge operating within the phases of the concrescence. By this he means that the

actual occasion has two poles, the mental and the physical. But despite this unfortunate choice of terms by Whitehead, we must not take this dipolarity to mean anything like a mind-body division within each occasion. (Whitehead himself later regretted that he had chosen these terms.45) Also we must be quite clear not to confuse the mental pole with consciousness. It involves valuation but not consciousness.

Now where in the phases of the concrescence, Whitehead is thinking of a linear or horizontal succession, he now adds this vertical dimension of poles which prehend the data. (This image is, of course, entirely for illustration.) In our discussion thusfar we have considered the physical pole of the occasion whereby throbs of emotional energy are transferred from one moment to the next. We found that, in the conformal phase, what is purely physical inheritance of this emotional energy is, in the supplemental phase, essentially accompanied by creative or aesthetic synthesis. This is, in fact, the activity of the conceptual feelings via the mental pole of the actual occasion. These feelings have eternal objects as their data and, unlike the physical feelings which must prehend all actual occasions, they can simply dismiss the eternal objects as irrelevant or unwanted for the final satisfaction.46 Again, in the conformal phase, the physical pole has absorbed the nexus of actual occasions 'clothed' in the specific forms of definiteness, the eternal objects. Whitehead says that the mental pole starts with the conceptual registration of the physical pole and reacts to what has entered into its subjective immediacy. This is where conceptual choice takes place, and the colors, sounds and shapes of the past are now molded to fit the ideal form of its subjective aim. But what is particularly unique about the mental pole here is its ability to entertain alternative possibilities in abstraction from their particular mode of realization. It has the ability to introduce something new from the welter of atemporal potentials, i.e., some form of definiteness not yet realized in the temporal process. Accordingly, Whitehead says:

> Every actual entity is 'in time' so far as its physical pole is concerned, and is 'out of time' so far as its mental pole is concerned. It is the union of two worlds, namely, the temporal world, and the world of autonomous valuation.47

So not only does it reproduce the ingredient eternal objects in the physical prehensions, it also introduces novelty for future prehensions. Hence we find that this stage of the concrescence is indispensable to the activity of self-creation of an actual occasion. Otherwise, Whitehead thinks, there would be nothing new.

Another qualification must be added. Whitehead has also found it necessary to introduce a principle of dominance to the poles where the relative importance of the mental pole differs in different actual occasions. This means that there is an intensity of creative choice and valuation where there is a dominance in the mental pole, and a lack of such activity in occasions which have a dominance in the physical pole. The multitude of actual occasions in a stone, for example, have a relative lack of conceptual activity and therefore have a dominance in the physical pole. With little change from day to day, year to year, there is simply an inheritance of the eternal objects present in the physical prehensions, and little expectation of a novel addition to this inheritance.

Although we have omitted from our discussion some of the essential theological considerations involved in the conceptual feelings (these will certainly occupy much of our attention in chapter VII), we should here mention that Whitehead thinks that the subjective aim is supplied by God's 'ideal' of what is possible in its immediate situation. He provides the lure for the best outcome, though, in the end, there is an autonomous decision by the mental pole as to how far it will be realized.

We now move on to the next two stages of the concrescence, which apply mostly to actual occasions with a dominance of the mental pole. In Process and Reality, these stages come under the chapters entitled "Propositions and Feelings" and "The Higher Phases of Experience", and in certain instances they involve the more special occasions of human consciousness, specifically in the last stage of 'intellectual feelings'. Although it is beyond the scope of this thesis to consider and evaluate every detail of the full complexity of Whitehead's theory here, I shall attempt to bring to surface the more general aspects of these last stages.

At the end of the stage involving conceptual feelings, if a new eternal object has been introduced in the concrescence, it must, in some way, be integrated with the inherited physical feelings. This is accomplished by what Whitehead calls 'comparative feelings', of which there are two general types. These are distinguished as stages of 'simple' and 'complex' comparisons, or comparisons, and comparisons of comparisons. Here the prehensions are said to be 'impure' or 'hybrid' because they are prehensions of pure prehensions- conceptual and physical. These last two stages move the concrescence toward further unification. That is, there is a comparison of the mental and physical poles which produces an integration of their data into the novel one.

A simple comparative feeling is a feeling that compares, or holds in the unity of a contrast, a simple physical feeling from the conformal phase, and a conceptual feeling from the supplemental phase, which is normally the conceptual counterpart of the physical feeling derived from it by conceptual valuation.48 This means that there is a comparison of what was physically felt, with what was conceptually felt, in terms of an 'integrated datum' or 'generic contrast' in the concrescing subject of this stage. There are two types of simple comparative feelings, namely, 'physical purposes' and 'propositional feelings'. The physical purposes terminate at this stage since they occur in the more primitive actual occasions which inhibit further integrations. The propositional feelings provide a lure for further integration, i.e., the next stage of complex comparative feelings.

With physical purposes what is felt is a contrast between the fact of the physical feeling, and the valuation of an abstract possibility embodied in the conceptual feeling. The contrast here is felt as being either compatible or incompatible with the subjective form. But whatever the choice, the result is that the datum ceases to be a lure for feeling, and the concrescence of the subject terminates. Generally, this stage of physical purposes is the stage by which the transmission of feeling from one occasion to the next gains a stability that makes 'enduring objects' possible; it is the stage in which there is an "...association of endurance with rhythm and physical vibration..."49 The propositions, on the other hand, are the "...lures for feeling, and give to feelings a definiteness of enjoyment and purpose which is absent in the blank evaluation of physical feeling into physical purpose".50

They mark a stage of existence between the physical purposes and the conscious purposes of intellectual feelings. The contrast here involved is between the nexus of actual occasions, termed the 'logical subject', and the complex eternal object forming a 'predicate'. But the eternal object is a pure abstract possibility, and thus remains transcendent and indeterminate even though it has its character enhanced. In the proposition, it is always a "sheer fact for possibility".51 The very fact of its transcendence from the concrescence is what provides the lure for realization beyond itself.

If a proposition has been felt in the stage of simple comparative feeling, an 'intellectual feeling' may arise in the final stage of the concrescence. As Whitehead says: "In an intellectual feeling the datum is the generic contrast between a nexus of actual entities and a proposition with its logical subjects members of the nexus".52 This he calls the 'affirmation-negation contrast'- a contrast between what is in the actual world and what is sheer possibility, transcendent and indeterminate. On the one hand, there is the 'in fact', the nexus of actual occasions as objectified in the physical feeling, and on the other, the 'might be', which is the lure of the proposition. As we have seen, the proposition itself is already a comparative feeling. So now we have a comparison of that comparison, and this is the 'intellectual feeling'.

Though we shall not require a detailed examination of Whitehead's theory of judgment connected with the intellectual feelings, we should take notice of the importance of the subjective form which operates as a result of this contrast. This is, in fact, the stage in which consciousness arises. Whitehead says:

> The subjective form of the feeling of this contrast is consciousness. Thus in experience, consciousness arises by reason of intellectual feelings, and in proportion to the variety and intensity of such feelings.53

But it should be obvious that the conscious feeling appended to the last stage of the concrescence includes all the feelings from the preceding stages. Here there is agreement with Bradley; for consciousness presupposes experience, and not experience consciousness. It illuminates experience,

yet it contains those more rudimentary phases and sub-phases (stages) of the concrescence. It is the triumph of experience, the 'crown' as a finishing touch. But such occasions which do function with this intensity of feeling are highly specialized instances, and are few by comparison with those which form moments in the life-histories of enduring objects- (e.g., planets, stones, plants, and most animals).

At last, we have come to the completed concrescence whereby the occasion perishes with respect to its subjective immediacy, and then contributes its novel synthesis to the world. Whether the occasion has terminated with the physical purposes, a propositional feeling, or in the special instance of an intellectual feeling, the result is a satisfaction. The concrescence has built up to a fully determinate entity, and there is a tinge of anticipation that the novel object will have some value beyond the passing moment. As Whitehead puts it, the occasion "... really experiences a future which must be actual, although the completed actualities of that future are undetermined. In this sense, each actual occasion experiences its own objective immortality."54

By comparison with James or Bradley, Whitehead's theory, at this point, seems excessively complex with regard to all the intricate details within the concrescence. It is certainly not the 'down to earth' type of empiricism that James expounded. However we must keep in mind that, for Whitehead, these stages of growth are not in time, and that their analysis is "purely intellectual". In any case, it is just these aspects of Whitehead's thought which have attracted so much attention in recent years. What is at the heart of his appeal is a type of synthesis which has for so long been needed- a bridging of the gap between the natural sciences and aesthetics. As Victor Lowe sees it, what is truly remarkable is the manner in which efficient causation and teleology are linked in this cosmology: the former expresses the transition from the completed past to the nascent becoming, while the latter expresses the urge toward completion.55 The most important point, however, is that the teleology of aim and satisfaction are placed back into nature with Creativity as the master principle governing the becoming of experience. C.H. Waddington and David Bohm have argued in accordance with these principles when they claim that "nature is more like an artist than an engineer", for

beauty is the unconscious aim of each moment.56 Experience cannot be devoid of value; the two are necessarily connected in the scheme of things.

4. Whitehead's Interpretation of Bradley

Having now become somewhat familiar with the more special terms of Whitehead's metaphysics, we are able to consider a few passages of his Adventures of Ideas where he has shown, in a most curious way, an indebtedness to Bradley's doctine of feeling. He says, of course, that there are "grave differences" between his own doctine and that of Bradley, but he is here illustrating his general adherence to the doctrine, and not attempting a detailed exposition of his differences. In this part of our study, however, our purpose will be to understand exactly how Whitehead has treated Bradley's doctrine, and to see exactly what these grave differences might come to. It should also be noted that this chapter entitled "Philosophic Method" is the only place in Whitehead's writings where he has given any considerable attention to Bradley.

From Bradley's essay on "Immediate Experience" Whitehead quotes: "In my general feeling at any moment there is more than the objects before me, and no perception of objects will exhaust the sense of a living emotion"57; and says:

> In accordance with this doctrine of Bradley's I analyse a feeling [or prehension] into the 'datum', which is Bradley's 'object before me', into the 'subjective form' which is Bradley's 'living emotion', and into the 'subject' which is Bradley's 'me'.

Furthermore, he goes on in some detail to explain just how he agrees with what he considers to be Bradley's conception of the function of 'subjective form' on two interpretations:

> My reason for using the term 'subjective form' is that I stretch its meaning beyond 'emotion'. For example consciousness, if it be present, is an element in the subjective form. This is, of course, a grave divergence from Bradley. Subjective form is the character assumed by the subject by reason of some prehended datum.

> But on the whole I conform to Bradley's conception of the function of subjective form. For example, "These puzzles are insoluble unless that which I feel, and which is not an object before me, is present and active. This felt element is used and it must be used in the constitution of that object which satisfies me".58
>
> From my point of view there is an ambiguity in this statement, but I adhere to either alternative meaning.
>
> The component of feeling 'which is not an object before me' is the subjective form. If Bradley is stating that the subjective forms of feelings determine the process of integration, I entirely agree. The result, as Bradley states, is the 'satisfaction' which is the final feeling terminating the onset of the creative process.
>
> Bradley, however, may mean by this phrase "that which I feel, and which is not an object before me" what I term a "negative prehension". Such a prehension is active via its contribution of its subjective form to the creative process, but it dismisses its 'object' from the possibility of entering into the datum of the final satisfaction. This final complex datum will be what Bradley calls "that object that satisfies me". Again I agree.59

From this analysis Whitehead has made it quite clear how his 'actual occasion' and what we have called Bradley's 'momentary finite centre' link up in terms of their common use of feeling. Surely both agree that feeling sustains any derivative form of existence. And indeed so long as we are confined to the analysis of any one moment of experience, there is much agreement. This is also suggested by Whitehead's concluding remarks on Bradley's essay, when he discusses the unity within an occasion of human experience.60 But there are several aspects of this analysis which strike us at once as either discordant with Bradley's doctrine of feeling (as explained in this study at least) or unrecognizable.

Firstly, and most importantly, is the fact that, for Bradley, feeling is the intuition of Reality beyond the momentary process. It is only when we depart from the general sense of feeling that we are aware of the perpetual shifting of process. On the other hand, for Whitehead, there is a closer alliance between feeling and process. In fact, feeling captures the essence of process and thus functions as the connecting principle whereby the immediate past becomes reinacted in the present occasion. Secondly, Bradley would have never thought of these statements (as quoted by Whitehead) as containing such analytic detail, even though Whitehead does admit that he is

'stretching' the meaning of the terms beyond what Bradley intended. And thirdly, there is some reason to believe that while Whitehead has captured the gist of Bradley's philosophy, he has pushed Bradley's doctrines much too close to his own metaphysics; especially when he says that he adheres to either alternative meaning of Bradley's conception of subjective form. In order to understand how this has occurred let us turn to Bradley's essay on "Immediate Experience" for a brief explanation.

What we have in this essay are several thought experiments of a psychological sort, some of which are very obscure, though enlightening in terms of isolated remarks regarding his definition of 'feeling'. In the main these thought experiments (e.g., attention and introspection), are directed towards a solution to his main problem: How can immediate experience know itself and become for us an object?61 Now in the passages Whitehead has quoted, particularly those in which he finds agreement with his doctrine of subjective form, we find Bradley entangled with the problem as to how one can observe what one feels without destroying its felt character. In describing an actual emotion, we objectify it at once, such as when we move from despondency to despondency observed. But with this objectified feeling the whole background of the self from which it was taken does not cease to continue. The self-conscious feeling or objectified emotion attended to does not cancel the felt background from which it was abstracted. As Bradley says: "In order to have an object at all, you must have a felt self before which the object comes."62 And this whole of the felt self can never be turned into an object. This is what I take Bradley to mean when he says: "These puzzles are insoluble unless that which I feel, and which is not an object before me, is present and active."63 Immediate experience acts as the whole background of the felt self; it remains at bottom and fundamental, and this is what is "not the object before me". This whole background is much larger than a mere element contained in feeling.

It is indeed a curious feature of Bradley's essay that there is an ongoing discussion which does seem fairly close to what Whitehead calls 'subjective form'. For example, when discussing introspection of the present moment, Bradley says: "...the persisting feelings can be felt to jar or to accord with the result of observation".64 And further:

> ...when I pass psychically from despondency to despondency observed, I have not only a general sense of change to something new, but I feel more specifically the presence or absence of novelty and an agreement or a jar with the object before me.65

With this in mind it is easy to understand how Whitehead finds a correspondence with what he calls the 'aversion' or 'adversion' of the subjective form. In the former there is some degree of attenuation of the importance of the data, whereas, in the latter, the valuation insures the continued importance of the data. In this regard, it is more likely that Whitehead's first interpretation of Bradley is closer to his meaning since the second is ruled out by the fact that, for Bradley, there cannot be anything which is excluded from feeling, i.e., what Whitehead calls a 'negative prehension'. But even on the first interpretation there is nothing, as far as I can tell, that gives us any indication of a 'satisfaction' in Whitehead's sense of the term, especially when understood as "...the final feeling terminating the unrest of the creative process".

When Bradley speaks of "that object which satisfies me", I think he is referring to a type of correspondence between the mood and its description. And this is not the 'satisfaction' in Whitehead's sense of the word- that is, the completion of any particular occasion of experience in its concrescence.

Later in his essay, Bradley finally arrives at the conclusion that immediate experience must seek a higher Reality in which to complete itself. The very fact that it cannot become an object for itself points to something higher. He is thus led to the idea of an object which utterly satisfies, the idea of a complete reality which does not have anything "...outside it in the form of an 'elsewhere' or a 'not-yet'".66 And this is the all-inclusive Reality- the Absolute, which can be the only 'satisfaction' in Bradley's sense of the term. As he says, this idea seems to "meet our demand" and "appears to be the ground on which satisfaction is possible".67

Although there is some agreement on this final conclusion (cf. chapter VII below), it seems fairly obvious that Whitehead has read far too much into

Bradley's doctrine. I have often thought much the same when he expresses his indebtedness to Locke as having most fully anticipated the main positions of the philosophy of organism. But others have come to this conclusion as well. Professor Dorothy Emmet, a student of Whitehead, has said:

> I doubt if Whitehead has really absorbed Bradley's Appearance and Reality, or the Logic. The Essay on "Immediate Experience" gave him a line to develop, but he does it in his own way. I doubt if he is ever as indebted to anyone as he says he is.68

Lowe also shares this opinion when he says that Whitehead has 'overestimated' his indebitedness to Bradley.69 The main point we should recognize, however, is that when Whitehead seems to disclose an influence on his doctrines, it is much more the case that he wished to draw an analogy in order to clarify his position.70 But, as we have seen above, these analogues are not always very accurate. This being so, it seems that Whitehead is far more original in his metaphysical scheme than he himself was willing to recognize. He was, however, not one for scholarly detail.

CHAPTER IV

RELATIONS: INTERNAL AND EXTERNAL

1. Bradley on Relation and Contradiction

In the above chapters we have dealt with various aspects of Bradley's 'infra-relational experience' (feeling) and, to some extent, the 'supra-relational experience' (the Absolute), in addition to the various points of contact with Whitehead. We now turn our attention to the relational level of experience which forms a crucial focal point for the present thesis.

Bradley, in fact, has made a name for himself in Western philosophic thought, especially as a Monist, for his very rigorous criticism of relations, and for his insistence that the self-contradictory character of this reasoning must, in the end, lead us to the acceptance of a non-relational Absolute which contains all finitude in one all-absorbing Whole. Whitehead, on the other hand, has insisted that the prehension of the past, the most concrete form of relatedness, is the essential defining characteristic of each actuality in the creative universe. We are thus led to a head-on collision between the two thinkers, and a detailed analysis and evaluation of the arguments is now a necessity before we proceed any further.

We shall first expose the thrust of Bradley's arguments as a whole and then consider various objections or modifications in light of the Whiteheadian scheme. Also, in the course of this chapter, we shall have recourse to some of the debates at the early part of this century Bradley provoked with James and Russell. In some way or another the results of these arguments have become central to the formulation of process thought, implicitly recognized by Whitehead and defended most vigorously in the work of Charles Hartshorne. I shall only occasionally dip into the enormous amount of secondary literature that has been generated by Bradley's arguments in this century. As relevant as much of it may be, it is indeed impossible to deal with it at all adequately in one chapter. This, in itself, should indicate the central nerve Bradley has hit in philosophic thought; for no metaphysics or ontology with any pretensions to adequacy can ignore Bradley's analysis of the

relational.

As we have said before, the problem of relations forms a type of axis in Bradley's philosophy.1 It is, in fact, the focus of Appearance and Reality, whereby his analysis of philosophic topics thereafter becomes easy game; that is, once the central thesis of the self-contradictoriness of relations has been established, such themes as time, space, motion and activity easily fall to Bradley's dialectic. Once we have entered the relational level, he insists, we have departed from the relative safety of feeling into a realm of thought and an endless web of terms and relations. The more we affirm the complete independence of objects, the more we fall hopelessly into contradiction and unreality.

Bradley arrives at the theory of relations expounded in chapter III of Appearance and Reality, "Relation and Quality" by way of an examination of the distinction between primary and secondary qualities, and the distinction between substantive and adjective; the two ways in which "...we try to understand the universe". But these two turn out to be unsatisfactory ways of approaching reality, for no real unity can be found existing outside of these qualities or within them, and thus the classification of things into properties turns out to be theoretically unintelligible. It is in this connection that Bradley embarks on his discussion of relations and qualities.

In the course of this chapter Bradley provides four very condensed arguments which he hopes will encapsulate the subject from all possible perspectives. Wollheim, on this point, has provided an illuminating insight into Bradley's thought when he describes the strategy of this chapter as an almost Kantian symmetry of exposition. He writes:

> For each of the two elements [qualities and relations] he seeks to prove, first, that it is impossible without the other, and, secondly, that it is impossible with the other: and he does this first from the side of the terms, then from the side of the relations.2

Bradley argues that: (1) Qualities are nothing without relations, for qualities are different from one another. "Their plurality depends on relation, and, without that relation, they are not distinct."3 We cannot

even think of a quality without conceiving it as possessing a distinct character as different from other qualities. This difference itself implies relation. (2) On the other hand, qualities taken with their relations are equally unintelligible. For clearly qualities cannot be reduced to their relations. The qualities must support their relation, and in this sense, they make the relation. But here we are led to a diversity within each quality. As Bradley says: "Each has a double character, as both supporting and as being made by the relation".4 A quality 'A' has a ground 'a' and a consequent 'a'' of the relation. One is the difference on which distinction is based while the other is the distinctness which results from their connection. These two aspects are not each the other; nor is any one of them taken by itself 'A'. Both are necessary to the constitution of 'A'. But the question arises as to how 'a' and 'a'' are related; and so we are led to postulate a further diversity of grounds and consequents within each, such that 'a' becomes 'aa' and 'a'' becomes 'a'a'', and so on ad infinitum. Their seeming solidity is dissipated by what Bradley calls a "...principle of fission which conducts us to no end". (3) From the side of relations it is obvious that relations without qualities are equally impossible. Something must be related to make the relation, and this something must be the qualities. And finally, (4) if we consider how the relation can stand to the qualities, that is, with the qualities, we clearly see that new connecting relations must be introduced to relate the qualities to the original relation. For example, if two qualities A and B are joined by a relation C, a fresh relation D is then required to relate A to C, and so on ad infinitum.

In many ways the rigid structure of Bradley's style here has sacrificed the type of lucid exposition that is needed to grasp the full force of his arguments. With the examples and further clarification provided in his other writings, however, one can see just how Bradley supports his claim that any form of relatedness must ultimately fail to represent the real.5

The main thrust of these four arguments can be clarified if we take (1) and (3) as directed towards proving that external relations are contradictory, and (2) and (4) as directed towards proving that internal relations are also contradictory.

An external relation generally means that the terms of the relation are independent of each other. Bradley, however, has construed the main issue of external relations in terms of the independence of the qualities from the relations, and vice versa. This consideration will engage our attention later in this chapter with regard to various objections. Our real concern now is to understand how Bradley derives a contradiction from consideration of the elements of a relational situation without each other, and how the other two arguments are logically dependent upon this conclusion.6

Taken from either side, qualities and relations are clearly impossible without one another. Obviously any attempt to arrive at a quality without a relation (1) or a relation without qualities (3) is doomed to failure. Even in complete abstraction this remains a conceptual impossibility. In argument (1), which amounts to the same thing as (3) from the other side, the contradiction arises as a result of the two clashing points; (i) if two qualities are different from one another, there must be something outside of them which accounts for their difference, yet (ii) if what accounts for this difference simply falls between the two qualities, then the qualities can be conceived without the relation. External relations, then, cannot be real because of the assumption that such relations fall between their terms and at the same time form part of their terms.

So now that the failure of the mutual independence between qualities and relations has been established, the next two arguments (2) and (4) are advanced on this conclusion. That is, since qualities and relations cannot be independent, they must be dependent and therefore internally related. But still they prove to be contradictory for Bradley. These two arguments are both characterized by an infinite regress; one within any one particular quality in the relation, and the other between any one quality and the original connecting relation.

Since a relation that is internal implies that the terms of the relation cannot be conceived apart from the relation, (2) the conception of a quality in such a relation implies the existence of something distinct from the relation while at the same time forming part of the relation. This creates an internal division within each quality; that is, each quality divides into

two elements which are conceivable apart from the relation in which they stand to each other. This new division means that the terms of internal relations consist of parts that are externally related to each other, and this process of division is infinite. So internal relations cannot be real because of the assumption that such relations both are, and are not distinct from their terms. From the other side, (4) the conception of a relation in this situation cannot be a mere adjective of the qualities, and being something substantial, it cannot accomplish the necessary linking. As Bradley emphasizes: "If you take the connection as a solid thing, you have got to show, and you cannot show, how the other solids are joined to it".7 Other links must therefore be introduced between the connection, and this ends up in a hopeless web of relations of relations, and so on. Here, internal relations cannot possibly be real because they simply do not relate. One solid thing, the relation, does not link another solid thing, the quality. The contradiction is that it cannot be nothing, yet it cannot be something.

Hence, we see that for Bradley both external and internal relations are contradictory and cannot possibly belong to ultimate reality. As he himself says in a later essay:

> To take reality as a relational scheme, no matter whether the relations are 'external' or 'internal, seems therefore impossible and perhaps even ridiculous. It would cease to be so only if the immediacy of feeling could be shown to be merely relational.8

There is, however, a certain qualification of Bradley's doctrine here regarding the status of internal relations. We may distinguish in his philosophy another level of experience between the relational level and the supra-relational level in which all relations are internal. That is, on the strata of his degrees of reality, the internal relations fall closer to representing reality as one, rather than many, and are therefore more real. At least we are here moving away from the extreme pluralist thesis of a universe of self-contained individuals to a view which emphasizes mutual dependence. And indeed we must realize that for Bradley, relations do exist and, in some sense, qualify the Absolute, but in a distorted way: internal ones distorting it less than external ones.9

Finally, to complete this section, one important point we should notice about the four arguments of Appearance and Reality is that they are mainly focused on a general Empiricist outlook. What Bradley calls the 'relational complex' (i.e., the arrangement of qualities and the connecting relation), is an abstraction from any one moment of experience which comes before the mind as a complex impression. For instance, when one considers, say, the relation between two shades of blue, one might be abstracting a relational complex from a variety of books on a shelf. But even though Bradley's arguments, with their emphasis on qualities and relations, are primarily concerned with a type of spatial relatedness, it is quite clear that he intends his arguments to apply to all forms of terms and their relations. He does, in fact, use some of the same general arguments in the Principles of Logic with regard to units of feeling and their temporal relations. This is indeed central to our present thesis, for we shall be concerned mostly with the movement between discrete moments of experience, the actual occasions and their temporal order. In any case, whichever way the arguments are applied, Bradley's contention is that any form of relatedness always presupposes, and is therefore dependent upon an underlying unity.10 They are at best an invention of thought, useful for our practical understanding, but never fully real.

2. Concrete Relatedness and Prehension

Throughout this thesis we have appealed to what I have called an 'Ontological Quest' with the introduction of the doctrine of feeling in 20th century metaphysics. In this respect we have examined Bradley's finite centres of experience, Whitehead's actual occasions, James's drops of experience, and to a lesser extent, Bergson's durations. All point to the same concrete facts of immediate feeling. But we have also seen that the rationality inherent in this flow of experience takes on radically different interpretations. In one sense all agree that the intellect does harm to the intuitive grasp we have of this reality. For Bergson the intellect "spatializes" because it cannot deal adequately with time; for James the intellect can only deal with a type of retrospective "patchwork" or "post-mortem dissection" since it cannot ride the crest of immediacy; for Whitehead the problem centers on language and the difficulties of expressing this

dynamic character of reality; and for Bradley the leap into the relational level always distorts that continuous whole present in feeling. The main point seen by each is a certain injustice done to concrete experience once analysis has cut into what is essentially alive and harmonious. But with the various attempts of these thinkers to construct a system from this basis, Bradley has denied that this flow of experience can be made up of genuine individuals and their relations. The main challenge from the side of pluralism, then, is to show that relations are contained in immediate feeling. Bradley, in fact, saw this himself when he said that the unreality of relations "...would cease to be so only if the immediacy of feeling could be shown to be merely relational". And this is exactly where James provided some of the most pointed objections against Bradley in his later works, The Essays in Radical Empiricism and A Pluralistic Universe.

With respect to Bradley's attack on the relational, two of the most curious aspects of these arguments to arise are their very abstract character and their appearance of completeness. But once one has penetrated the obscurities and come to grips with this abstract character, this completeness disappears and a certain sophistical air comes to surface. Indeed the Parmenidian workings of Bradley's thought are most clearly discerned in the methods he employs in deriving a contradiction from the elements of a relational situation. This was the general line James took when he argued against the intellectualist logic of Absolute Idealism.

But before we move on to the Jamesian objections, let us consider what has been established by Bradley's anti-relational arguments. Surely an extreme pluralism of self-contained, self-sufficient individuals and purely external relations would be contradictory. In this regard, Bradley's arguments (1) and (3) are effective in showing the absurdity of terms without relations, and relations without terms. The relations and the terms must be more intimate, and in some sense dependent upon one another. The terms must involve the relation, and the relation must involve the terms.

The very roots of this problem (as we have seen in chapter II) are to be found in Descartes' dictum- "that which requires nothing but itself in order to exist" rigorously applied to each of Hume's clear and distinct impressions

of sensation. Hume recognized the problem of relations when he asked; "What is the necessary connection between distinct impressions?"; but he came to the very opposite conclusion from Bradley when he defended their separate existence.11 But individual independence construed in this way does make the problem of relations a "metaphysical nuisance". Two terms and an abstract universal, the relation, simply do not accomplish the necessary linking. In effect, what is required for our continuous experience is some type of penetration and possession by the terms. And in this sense, pluralism, to be consistent, must make certain concessions to Bradley.

As early as the Concept of Nature, Whitehead had expressed his doubts about the doctrine of external relations and its ability to account for the system of nature. As he put it:

> The false idea we have to get rid of is that of nature as a mere aggregate of independent entities, each capable of isolation. According to this conception these entities, whose characteristics are capable of isolated definition, come together and by their accidental relations form the system of nature...
>
> The explanation of nature which I urge as an alternative ideal to this accidental view of nature, is that nothing in nature could be what it is except as an ingredient in nature as it is.12

This was, in fact, the crucial divergence from Russell just after the period of their collaboration on Principia Mathematica and it is here that Whitehead begins his appeal to a more Bradleian type of thought, but one which includes both internal and external relations.

Standing between the radical pluralism of Hume and Russell and the radical monism of Spinoza and Bradley, James and Whitehead have both defended what James has called "the legitimacy of the notion of some", for as James has argued: "...each part of the world is in some ways connected, in some other ways not connected with its other parts, and the ways can be discriminated..."13 James sought some mediated course between the two extremes; absolute independence and absolute mutual dependence. This mediated position he calls 'radical empiricism', a position where rationalism and empiricism can live together without tipping the balance over to one side or

the other. He asks:

> May not the flux of sensible experience itself contain a rationality that has been overlooked, so that the real remedy would consist in harking back to it more intelligently and not in advancing in the opposite direction away from it?14

The real question is, of course, how the things of this world can have any connection among one another without denying that they exist in some sense in their own right.

Unlike Bradley, James begins with the parts, the individual drops of experience, and arrives at conjunctive relations through the continuity between these penetrating moments. James therefore insists, contrary to Bradley, that these relations are experienced as continuity. For him, the Absolute is an unnecessary hypothesis to explain the connection of things. It is, in his view, a being of the second order resulting from the over-intellectualist tendencies of transcendentalism. For James the problem of internal and external relations is reformulated as 'conjunctive' and 'disjunctive' relations. Conjunctive relations are those which occur within my or your stream of experience; each drop interpenetrates among the other members of my or your consciousness; while disjunctive relations seem to be the difference between our two streams, and for that matter, everything else that we come in contact with. In this latter type of relation, a break is made from the thing lived (i.e., the continuity of my own experience) to another thing only conceived; but this break itself, says James, is positively experienced and noted.

According to this account both disjunctive and conjunctive relations are just as real as the terms which they relate.15 And in an appeal to the reality of relations of every type, James says:

> Every examiner of the sensible life <u>in concreto</u> must see that relations of every sort, of time, space, difference, likeness, change, rate, cause, or what not, are just as integral members of sensational flux as terms are, and that conjunctive are just as true members of the flux as disjunctive relations are.16

In the process of time, innumerable individual terms become and are super-

seded by others which follow upon them by transitions of both conjunctive and disjunctive content. And these relations themselves, being integral components of the process, must be accounted as at least as real as the terms.

But at this point, James seems to have a difficulty in accounting for the relations "between" the terms which he claims are themselves actually experienced. What is the relation and what is the matter related are indeed most difficult to differentiate in the vibrant flow of experience. It all seems to melt together. This problem can be resolved, however, by the sense in which we take the relation itself.

Bradley, of course, has rejected James's account of conjunctive and disjunctive relations on the grounds that such distinctions cannot possibly belong to immediate experience.17 Our first awareness of temporal and spatial diversity is, he argues, not experienced as having a relational form, but rather as a fluid whole. Relations are distinguished for him at another level of conceptual activity. But James in his analysis of the relational situation, has shown quite well how Bradley has muddled the relation between the conceptual form and the perceptual form, instead of showing how they supplement one another.18 The relational must be an integral part of immediate feeling. But the point is to show just how this is possible.

James insists that continuity itself is a definite sort of experience. We feel the difference between two distinct emotions and we feel the transition as one continues into the other. As he put the point in his Psychology: "...the feeling of the thunder is also a feeling of the silence as just gone..."19 Such transition and immanence of one moment in the next is continuity and relatedness. And this is the experience of the fluid whole of which Bradley speaks.

For James, the fault with the anti-relational arguments lies in Bradley's understanding of the relation as a purely "external go-between" which cannot logically connect. In several places he attacks Bradley's argument (4), which he thinks is the best example of a reductio ad absurdum.20 Instead of taking conjunctive relations at face value, Bradley asks for some ineffable union in the abstract: How does a relation relate?

But clearly this approach is bound to lead to contradictions. Instead of hooking A to B, and bridging the original chasm, the relation C itself requires another hook to bridge the second chasm created by this process, and so on ad infinitum. But a relation taken in this way is nothing more than an abstraction from the concrete relatedness of moments in time.

Many who have argued against Bradley have failed to refute his arguments mainly because they have gone about their refutations within the same context in which Bradley has set up the problems. Although I do not have the space here to show, how, in each case, the same abstract approach is adopted, it seems that many of McTaggart's and Russell's objections fall into this category.21 James and Whitehead, however, in their approach to the problem of relations via immediate feeling, hit the very heart of the matter.

Although there were many influences on Whitehead in his formulation of the doctrine of 'prehension' (such as the concept of the flux of energy in modern physics)22, James must certainly be mentioned for elucidating the basic psychological groundwork for the metaphysical principle. For Whitehead, as for James, Bradley's two levels of experience (the infra-relational and the relational) are telescoped into one level of process.23 Here the rationality discerned in immediate experience provides understanding instead of contradictions.

Both James and Whitehead appeal to the simplicity of the "plain conjunctive experience" in their attempt to understand the linkage of moments in the passage of time. It is here that a crucial distinction arises regarding two very different types of relations; one concrete sense in which they are parts of the terms, and another abstract sense in which they are seen as universals or logical connectives. With James we have seen that a relation C cannot be a purely "external go-between" in accomplishing the linkage of two moments A and B. That is, it cannot be seen as a distinct entity separate from the moments to be related. If this was so, the relation simply would not be experienced as part of the flow. Anything in between or outside of the primary experiential units must therefore be given up as an abstraction. On

this point, the objection to Bradley runs fairly close to one of the better points made by Russell when he said that, "Bradley conceives a relation as something just as substantial as its terms, and not radically different in kind".24 James, of course, never put the point in quite this way, but a certain reading of him tends in this direction. Lowe, for example, in a paper entitled "William James and Whitehead's Doctrine of Prehensions", has made a somewhat similar point when he reformulates James's conclusion, that "The parts of experience hold together from next to next by relations that are themselves parts of experience", to mean; "The drops of experience hold together from next to next by transitions that are felt as components contributing to the drops of experience".25 Here the relations are not themselves entities of some sort, but rather aspects of the drops which connect them together. They are parts of the internal mechanism of process. Whitehead saw this when he said something to the effect that: There is no objection to the purely logical use of the term 'relation'. Relations are universals such as 'between', 'believing' and 'greater than'. In this sense the connectedness of occasions may be said to exemplify an abstract universal, but such connection is not itself a universal; it is a "real particular fact" in the history of the world.26 Prehension and felt transmission are therefore better understood as the real connection of things, though the term 'relation' is often used in a generic sense to cover both the abstract and concrete.

This line of thought, emphasizing the reality of the individuals and their concrete relations, is characteristic of much of the 'New Realism' which reacted against Absolute Idealism.27 When Bradley says that a relation cannot account for the fact of relatedness, he is confusing the abstract universal with the concrete connection of things. That is, in conceiving terms and relations, he gives the relation the same ontological status as that which he gives the terms. Bradley emphasizes in several places that a relation exists only "between" terms.28 He asks: "If relations are facts that exist between facts, then what comes between the relations and the other facts?"29 And elsewhere he says: "Take a relational situation and examine it. You cannot say that the terms are the relation, or the relation is the terms."30 But why can't we have just the terms which themselves involve "relatedness" as an essential defining characteristic?

In Whitehead's ontology what is fundamental is the actual occasion as the concrete unit of experience. And, as we have seen, the essence of the occasion, as a natural unit of pulsation, is its prehension- the relatedness of past to present immediacy. Whitehead, in his metaphysical scheme, therefore avoids the notion of an ontological entity in the form of a relation that comes between actual occasions. There is nothing between actual occasions but other actual occasions. Relations "between" are nothing more than a derivative abstraction from the concrete process. Thus, logically speaking aRb is read "the relation of a to b" not "a in relation to R in relation to b".31

Given the above argument, it should be quite clear what the general problems are with Bradley's analysis of the relational complex, and how, specifically, his argument (4) is seen to be fallacious by both James and Whitehead. We have not, however, addressed the problems raised by his argument (2) in which an infinite regress occurs within each term. Having done away with the unnecessary entity, the relation, the argument could still hold when we consider the difference between two terms as related to one another. As we recall, Bradley's argument was that by being in relationship, A is not simply what it is, but what it is as related to B. A, then, is both the ground and the consequent of the relationship, which is to raise the problem of the relationship between A as ground (a) and A as consequent (a'), and so on.

Though Whitehead (and to my knowledge, James) has not explicitly referred to the problems raised by this argument, his solution, I think, can be found in the doctrine of becoming and perishing- the double character of the passage of time. In the case of two occasions A and B related by their temporal order, A must be understood as having perished with regard to its subjective immmediacy even though it does exist as an object to be prehended by the initial stage of B's becoming. But here we must be careful. That is, too much emphasis on the succession of discrete moments can create insurmountable problems for prehension of the past.32 In other words, how can a present occasion prehend what is no longer there? What occurs in this transition must therefore be much more fluid and moving. At the end-point of A's satisfaction, it merges into and passes opportunity off to a passive

(conformal) stage of B. That is, as A perishes, it hurls itself into a new transcendent fact. But 'perishing' here does not mean that it disappears. On the contrary, it is at this point that A appears as a determinate entity and becomes available to the initial prehensions of B. It should therefore be clear that in this temporal sequence, B is not determinate in the same sense as A. That is, A and B are not simultaneously existent but rather the former has perished as subject yet merged into the novel becoming of the latter.

With this in mind, Whitehead must agree with Bradley that each occasion is both ground and consequent, cause and effect of a relationship; but this does not necessarily involve a regress within each occasion. The fact that the occasions perish prevents their internal fission.

The doctrine of the 'subject-superject' means that each actual occasion is a conditioned subject becoming effect. It arises out of decisions already made in the antecedent world, and it determines the possibilities for its successors. As Whitehead says: "The cause is objectively in the constitution of the effect, in virtue of being the feeler of the feelings reproduced in the effect with partial equivalence of subjective form".33 But the passage of occasions in time differentiates their representation as a mere line of self-contained entities.

Bradley, of course, understands quite well that a world of finite entities would have to be one in which the entities either hang together by threads from the past or perish internally in a vanishing network of never ending relations.34 But what he failed to consider was how the moments of experience themselves could be contained in one another. In one place, for example, he says that as far as we know, finite centres of feeling, while they last, are not directly pervious to one another.35 But this consideration was not crucial for him since the Absolute provides the basis for their unity. Whitehead, on the other hand, has articulated the ground for unity in the universe by the prehensions in each occasion. One occasion of experience is not simply related to another by airy threads. It is, rather, immanent in that occasion, if it occurred in its past. This is Whitehead's central point about his 'actual occasion' being an inversion of Bradley's doctrine of

actuality. Each occasion contains elements of the whole of past history just as, for Bradley, the Absolute contains everything in one single Experience.

But in what has just been said, we must make certain qualifications regarding Whitehead's claim. The many occasions arise by the way in which they feel all the rest. Each occasion forms a new and unique synthesis of its relations to the rest of the world from its own perspective, and is partially determined by its own unique subjective aim. This, of course, involves selection and elimination in order that the exact degree in which the present moment contains the past can be determined. Each occasion is present in every other, but only in a transmuted and partial sense. Thus, as Whitehead says, "... if we allow for degrees of relevance, and for negligible relevance, we must say that every actual entity is present in every other actual entity".36 This, however, does not include contemporaries or successors which are not available to the occasion in question. At the moment in which the occasion becomes, its immediate predecessors are the only actualities which are there to be included in the initial stage of its concrescence; and these occasions include bits of the whole of cosmic history.

3. Symmetrical and Asymmetrical Relations

One of the most serious objections to Bradley's notion of an all-inclusive Absolute is the inability of the theory to deal adequately with the problems raised by the fact of asymmetrical relations. Russell and the proponents of the 'New Realism' were first to formulate the criticism against Bradley, and much of this strand of thought has continued into process philosophy, though with considerable modification.

Unlike Moore, who focused his attention on the refutation of Idealism, Russell was preoccupied with the refutation of monism. Such a theory, he thought, could not possibly accommodate itself to asymmetrical relations, which are fundamental to various aspects of experience and reality. At the heart of the matter, Russell attacked what he called the doctrine of internal relations- that each part of reality has a nature which exhibits its relations to every other part and to the whole.37 He linked this doctrine with both the

monadistic theory of Leibniz- that a relation between two terms is a property of them, and the monistic theory of Bradley- that every relation implies a property of an inclusive whole.38 But leaving Leibniz aside for the moment, let us concentrate our attention on his objections to Bradley.

One of the most important grounds which Russell advanced against the monistic theory of relations is the difference of order which occurs in asymmetrical relations, and this means that at least some relations must be external. An asymmetrical relation 'aRb', Russell says, implies a unique irreversible order. How can a whole which includes such a relation account for the uniqueness, say, in a's being larger than b? In such a situation there exists an irreversibility of order and a distinction of sense which raises a difficulty for a monistic theory of relations. Even if we say with Bradley that in the Absolute, the relation (ab)R contains diversity of magnitude, the question still remains as to whether 'a is larger than b' or 'b is larger than a'.

Russell also claims that the monistic theory fails to explain relations between whole and part which are necessarily asymmetrical in nature. If, for example, we take the proposition which states 'a is a part of b', the monistic theory cannot distinguish between the whole composed of (ab) and the whole 'b' which contains 'a' as one of its parts. As Russell says, the difficulty is that if we regard the proposition about the new whole to be one which does not concern whole and part, then "...there will be no true judgments of whole and part and it will be false to say that a relation between the parts is really an adjective of the whole".39 On the other hand, if the proposition does say something about whole-part relations, we find ourselves in an infinite regress in which the proposition always presupposes another whole.

Such criticisms were crucial to Russell's early work where he was concerned largely with a theory of mathematics. His contention was that, until his time inadequate or incorrect theories of relations hindered both the development of logic and philosophy in general, and that the ground cleared in his Principles of Mathematics would give new direction and impetus to these fields of study. The problem with the monistic and monadistic theories is that they made mathematics inexplicible. But external relations and

specifically those of an asymmetrical sort are essential to a theory of mathematics where we must be able to make distinctions of order and sense for quantative differences. Our real question for Russell, however, concerns the extent to which such relations serve as a basis for a theory of reality, and this we shall investigate in what follows.

Bradley's replies to these objections are contained in a few sketchy and incomplete notes appended to the posthumous essay on "Relations". But even though he did not specifically address the two problems raised by Russell, he did offer a general reply. As to whether asymmetrical relations disprove monism, Bradley's expected response is that no relations can possibly be ultimate, asymmetrical or otherwise. Firstly, as we have emphasized in our discussions above, Bradley never admitted any sort of genuine individuals and their relations into feeling. His continuous Absolute cannot therefore be understood as individuated into parts. No whole is really a simple whole. And this is why predication of qualities of the whole are untrue and, in the end, fall short of the real.40 Secondly, Bradley insists that there is a definite difference between the unity present in feeling and mere asymmetrical relations. "Feeling", he says, "contains everything, which clearly asymmetrical relations do not."41 And feeling, in this sense, is non-relational and directionless. Thirdly, whatever is distinguished at the relational level of experience cannot be understood as representative of the Absolute. Bradley admits that there are these two classes of relations: symmetrical and asymmetrical, and that order and direction are involved in the latter. But relations are, of course, always an abstraction from our actual experience, and cannot therefore be expected to exist as such in the Absolute.42 That is, if asymmetrical relations are discerned in the flux of experience, they must be grounded in a wider whole, for their diversity seen here clashes with the given unity of feeling. Once again, they may serve our practical understanding (e.g., larger-smaller, whole-part, before-after) but they distort our conception of reality if taken as ultimate.

So we see that Bradley can defend his monism against the charge of asymmetrical relations by invoking his notion of levels of experience in which distinctions are made at the relational level of perception and thought, but become transmuted and indistinguishable in both the infra-relational level of

feeling and the supra-relational level of the Absolute. But on the other hand, the real issue at stake is that, if one rejects Bradley's analysis of the relational level, and accepts the arguments for pluralism as put forth by James and Whitehead, then much of his argument falls apart. The concrete relations which we experience from one moment to the next are the same as feeling, and once this is realized the great mystery in Bradley's theory dissolves.

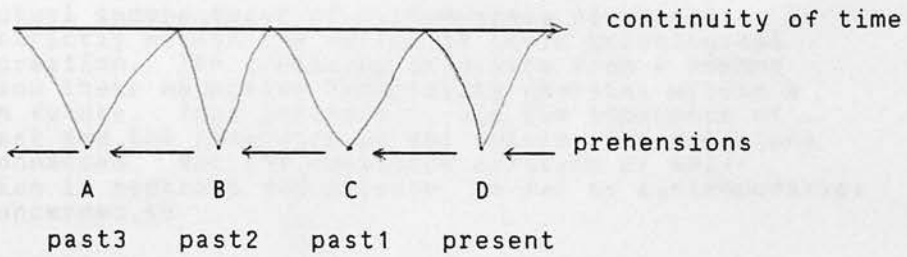
The Russell-Bradley problem put in a certain way asks: Are relations external or internal to their terms?43 If there are many 'reals' and they are purely internally related, there can be no real independence between them. On the other hand, if they are purely externally related, there can be no real togetherness and dependence of things. Either side taken to its extreme leads to incoherence. But what about both internal-external relations, dependence-independence taken together? Bradley says: "Pluralism, to be consistent, must, I presume, accept the reality of external relations".44 True. But does this exclude the possibility of internal relations? In fact, internal and external relations require each other if either is not to collapse into meaninglessness, or with Bradley, into unreality.45

Perhaps the best arguments for this combination are those of Whitehead and Hartshorne who have synthesized the seemingly opposed doctrines into a pursuasive and coherent scheme of process. The novel formulation of this view belongs, of course, to Whitehead, though it has been strengthened by the very clarity with which Hartshorne has stated and defended the position.46

The most fundamental thesis of this event-pluralism is that the universe evolves by an asymmetric process of causality in which former actualities are prehended by latter ones, but not <u>vice versa</u>. The temporal ordering of occasions by their causal prehensions provides a genuine directedness of experience where dependence is conceived as one-way; an actual occasion of the immediate present is dependent on those of the past, having prehended the objects for its novel synthesis, but a past occasion is not dependent upon those of the present. That is, a previous actual occasion, having perished, cannot prehend the present and is therefore not dependent upon what follows its completed synthesis. Consider our diagram again as a

simple nexus of causal prehensions:

DIAGRAM B



An immediate past occasion C is internally related to D, having contributed its datum to the creative choice in the future, but is externally related to A and B in its past. D is therefore dependent upon A, B and C in its past, but A, B and C are independent of D, which occurs in their future. C, for example, in this sequence, could not have prehended what, in its subjective immediacy, did not exist, namely, the occasion D. But D, arising into existence through causation is the accumulation of the process by its positive prehensions of C and all other occasions which were contemporaries of C. The elements which were negatively prehended by D were eliminated, yet they remain relevant by the fact that they were considered in the final determination. Also these negative prehensions would most probably have been prehended positively by the many contemporaries of D.

Contemporary occasions (i.e., occasions which do not occur in the past or future of the subject in question) happen in causal independence of one another. Since an immediately concrescing subject can only prehend what is in its immediate past, its contemporaries are too still immersed in the genetic process and are therefore unavailable. Also according to this principle, an actual occasion cannot prehend itself. An occasion becomes public only when its private self-creation is completed. This contemporaneity and causal independence of the present is the ground for pluralism and freedom in the world. That is, we find ourselves among the many; each individual existing in its own right. Contemporary occasions in the immediate present cannot prehend one another in a symmetrical relationship. Whitehead, for example, writes: "It is the definition of contemporary events that they happen in causal

independence of each other. Thus two contemporary occasions are such that neither belongs to the past of the other".47 There is, however, for Whitehead, an indirect sense in which contemporaries may be connected.48

> The mutual independence of contemporary occasions lies strictly within the sphere of their teleological self-creation. The occasions originate from a common past and their objective immortality operates within a common future. Thus indirectly, via the immanence of the past and the immanence of the future, the occasions are connected. But the immediate activity of self-creation is separate and private, so far as contemporaries are concerned.49

Contemporaries, then, are indirectly immanent with regard to their prehensions of a common past, i.e., a common overlapping of their causal antecedents and the extension beyond to the anticipation of their causal consequents. In the overlap of the actual world of two contemporaries A and B, both prehend a third occasion C (or nexus of occasions) in the antecedent environment. This makes C common to A and B, and provides a ground for an indirect immanence of A in B and B in A. That is, they share in a common immediacy by prehending the same datum, and are therefore in a unison of becoming. Also, a fourth occasion D in the immediate future will prehend the objects of A and B, and thereby provide a further ground for their immanence.

To sum up then, the result of the above analysis is that actual occasions are internally related at one end and externally related at the other. This is the modification of the Jamesian doctrine of conjunctive-disjunctive relations which we spoke of in the last section. Whitehead holds that the internal-external dichotomy is not simply one in which internal relations occur only within any one stream of experience while external ones occur outside of that stream. Rather, internal and external relations are grounded in the temporal asymmetry of process where, at each successive moment, the world moves from disjunctive diversity to conjunctive unity. And this is the basic many-into-one function of each actual occasion.

However in accordance with the Jamesian spirit of the world connected in some ways and not connected in others, we see how process philosophy steers a mediated course between two extremes: radical pluralism and radical monism, to formulate what Hartshorne has called, in opposition to New Realism, the

'New Idealism' or 'realistic Idealism'. Fundamentally, this is the result of a most persuasive combination of panpsychism and event-pluralism.

In Hartshorne's analysis of the principles of symmetry and asymmetry which have occured in the systems of our philosophical inheritance, he concludes that regardless of such issues which have divided one from another (Idealism, realism, monism, pluralism), the "fallacy of misplaced symmetry" has prejudiced our ability to see reality as directional and open at one end.50 To take one case of especial interest, Hartshorne, for example says:

> Bradley and Russell for process philosophy fall into the fallacy of taking as symmetrical what is essentially one way. Bradley's arguments against the reality of relations assume symmetry. (Either A and B mutually interdependent or mutually independent- a false axiom). Russell and Hume accept the dichotomy but prefer the second or radically pluralistic alternative. Nearly all parties overlook the asymmetrical one: A dependent on B, but not vice versa.51

On the one hand 'external', has always meant external to both terms, and complete independence; while 'internal' has meant holding at both ends, and complete mutual dependence. As we saw in section 1 of this chapter, this was exactly the context in which Bradley argued for the unreality of both external and internal relations. Arguments (1) and (3) assumed mutual independence, while arguments (2) and (4) assumed mutual dependence. The whole formulation of the problem assumes symmetry. Russell, on the other side, used the asymmetrical case against Bradley, but only from the point of view of external relations. He did not see the issue of relativity involved in the internal-external, dependence-independence dichotomy, and therefore failed to generalize his complaint that the asymmetrical case had been neglected.

According to Hartshorne, this prejudice is so deeply ingrained in our thought patterns that even those who accept the asymmetrical principle as fundamental, unconsciously fall into a language which assumes symmetry. James and Bergson speak of the flow of reality as 'interpenetrating' or 'melting together'. Whitehead too, often says that his actual occasions are 'interdependent'. But the prefix 'inter', which suggests both-way influence,

is inconsistent with the idea of occasions penetrating one-way. Nature is an ocean of feelings, as Whitehead puts it, but the crucial qualification on this idea is that the feelings in nature which are given to our experiences are independent of those experiences. Our feelings, therefore, are always feelings of feelings; the former refers to our experiencing as such, while the latter refers to what we experience, i.e., what is already there in nature.52

4. Extensive Relations and Abstraction

Our discussion of the Whiteheadian view of relations has been somewhat simplified in order to clarify the exact points of disagreement with Bradley. It should be emphasized, however, that the concrete relatedness of actual occasions, though an essential basis for process thought, is not the whole picture. We have concentrated our discussion primarily on the causal asymmetry of actual occasions which results from an analysis in the perceptive mode of causal efficacy. It is here that we found a defense of the "reality" of causal relations. But we now require some explanation of the full complexity of Whitehead's theory by an analysis of the extensive relations discerned in the perceptive mode of presentational immediacy. Taken together, these two modes provide a cosmological structure concerned with the systematic order of the entities of his "Categoreal Scheme". Once again it will be evident how this system far exceeds the ideal of the Bradleian metaphysics.

Some preliminary discussion of Whitehead's earlier preoccupation may, perhaps, prove illuminating as a background for his idea of an 'extensive continuum'. That is, in Principia Mathematica, Russell and Whitehead had revolutionized mathematics by showing how cardinal and ordinal numbers could be deduced from a general theory of classes and relations.53 With this shift of emphasis, mathematics was no longer regarded as the science concerned with number and quantity, but rather as a type of formal reasoning concerned with patterns or relations in general. This idea was to suit Whitehead's later speculations quite well, especially as a metaphysician desiring a very broad basis for understanding the universe.

Mathematics is essentially the study of pattern in the realm of possibility; it studies pattern abstracted from the particulars which are

patterned.54 But also in our analysis of the physical world, complex mathematical relations are discerned in the order of things. That is, all scientific analysis and measurment concerns the systematic real potentiality out of which actualities arise.55 And according to Whitehead, as the universe evolves and actuality continually weaves itself among the patterns of possibility, it is in virtue of one ultimate system that an intellectual comprehension of the physical universe is possible.56

Let us then proceed to see how Whitehead works out such a general system of order in the universe.

As we recall from an earlier chapter, Whitehead's notion of 'presentational immediacy' refers to the mode of perception in which the contemporary world presents itself as clear and distinct extensive relations of time, space and sensa. What is, however, presupposed by this perceptive mode is the notion of an 'extensive continuum', beyond the four-dimensional order of our particular cosmic epoch. As Whitehead defines the continuum in one particularly clear passage, he writes:

> This extensive continuum is one relational complex in which all potential objectifications find their niche. It underlies the whole world, past, present, and future. Considered in its full generality, apart from the additional conditions proper only to the cosmic epoch of electrons, protons, molecules, and star systems, the properties of this continuum are very few and do not include the relationships of metrical geometry. An extensive continuum is a complex of entities united by the various allied relationships of whole to part, and of overlapping so as to possess common parts, and of contact, and of other relationships derived from these primary relationships.... This extensive continuum expresses the solidarity of all possible standpoints throughout the whole process of the world.57

The extensive continuum can be conceived in two principle ways: (i) in terms of increasing social order, until finally we arrive at the notion of 'pure extensiveness', and (ii) in terms of 'general potentiality'. Here we shall be concerned primarily with the notion of 'general potentiality', though our discussion will presuppose the notion of a society constituted by the most general sort of order, namely 'pure extensiveness'. The extensive continuum, from the point of view of increasing social order, that is, whole-part relations or general-special characteristics, must be reserved for our

following chapter on the theory of society and cosmic epochs.

From the point of view of general potentiality, then, we have the notion of an 'abstract structure'- "one relational complex" which provides the general conditions for the becoming of experience. Whitehead says it is 'real' because "...it expresses a fact derived from the actual world and concerning the contemporary actual world".58 But the model here is certainly mathematics- i.e., a complete system of abstract relations. In another place Whitehead had expressed this idea in terms of a "harmony of logic" which "...lies upon the universe as an iron necessity".59 The continuum as mathematical involves the properties of indefinite divisibility and unbounded extension. "There are always entities beyond entities because non-entity is no boundary".60 Thus, the universe, according to Whitehead, is infinite from all standpoints. But it must be emphasized that the continuum itself is merely potential. That is, we do not directly experience the continuum as indefinitely divisible or unbounded. As Mays has put the point, we are not even aware that the passage of events "...weaves itself upon a background of logical relations".61 The extensive continuum is abstracted from our experience in order to provide a skeletal structure in which everything actual must conform. "It is not a fact prior to the world; it is the first determination of order- that of real potentiality- arising out of the general character of the world."62 As real potential, it tells us what the general conditions are for all becoming, and this includes actual occasions and cosmic epochs which may never become actualized.

Since actual occasions atomize the continuum, they make real what was antecedently merely potential. With the becoming of each occasion, there is the production of a certain quantum of extensiveness, of physical time and physical space. But the novel occasion must conform to the structure already implanted in the actual world from which it came. This is why Whitehead says that the extensive continuum underlies the whole world; past, present, and future. It doesn't tell us anything about those events as regards their content. But each occasion, regardless of its more special characteristics, must be systematically related according to the general properties of whole and part, and to various other types of geometrical order- the iron necessity.

The potential becomes actual as possible actual occasions in the future form a bond with the structure in the already settled past.

This purely extensive sort of order also limits the genuine possibilities of the realm of eternal objects. That is, the extensive continuum determines which of the eternal objects are real as opposed to pure possibilities. In the contemporary world we discern clear-cut definitions of sensa, located in definite spatial regions. These are the relational eternal objects which have been prehended by the mental poles of the multiplicity of occasions in the contemporary nexus. They have become real possibilities by the fact that they were compatible with the requirements of this special sort of order in the immediate past, i.e., requirements which were laid down by the past functioning as objectively immortal. On this point, Whitehead writes: "The actual occasion is the product of the interplay of physical pole and mental pole. In this way, potentiality passes into actuality and extensive relations mould qualitative content and objectifications of other particulars into a coherent finite experience".63

Eternal objects, as real possibilities, are prehended by the mental pole of an actual occasion, and not through the physical pole except, as mediated by the mental pole of another past occasion. But it is only such occasions with a dominance of the mental pole that have such conceptual feelings of novel eternal objects. Others simply inherit the same eternal objects from the past. In general, actual occasions prehend eternal objects, but conversely, eternal objects have 'ingression' into actual occasions. Once again this relationship repeats the principle of asymmetry. That is, the relation is external as regards the eternal object, and internal as regards the actual occasion.64 This obviously follows from the idea that the present occasion prehends the already determinate past which of course includes eternal objects as its essential content. And if the eternal object is a novel one, conceptually prehended from the realm of eternal objects, it is equally determinate, and this asymmetrical relationship holds as well.

Now, when Whitehead is preoccupied largely with the role of eternal objects in the concrescence of actual occasions, we have no indication as to how they relate to one another. How, for instance, does red relate to purple?

Or how does middle C relate to the chord CEG? In Science and the Modern World, Whitehead attempted just such an analysis of eternal objects, as purely abstract entities in various relational schemes. This analysis includes eternal objects as both pure and real possibilities which are arranged into patterns of relatedness depending on the various general types of eternal objects- colors, sounds, geometrical forms, emotions, tastes, smells, etc. Also, from these types, Whitehead distinguishes two species of eternal objects; those of the subjective species, and those of the objective species. The former are objects such as red, middle C and the emotion of anger, which ingress into the subjective form of a prehension; while the latter, primarily geometrical shapes, can only ingress into the objective datum.65

As opposed to the real potentiality of the extensive continuum, the realm of eternal objects is pure potentiality. Whitehead places this realm in the primordial nature of God- an eternal actual entity moving with the whole of creation. This is why he conceives of the objects as having an eternal (atemporal) character. That is, as eternal, the objects endure throughout all time because God is always conceptually prehending them. These relations among the eternal objects are those in God's conceptual realization.66

Considered as abstract entities, eternal objects are, he says, comprehensible without reference to actual occasions. But this transcendence from the concrete process does not entail disconnection from it. Here they have an individual essence and a relational essence. That is, as an individual, we discern what the eternal object is in itself, and as relational, we see how it involves a reference to other eternal objects. In their relational essence, they are purely internal relations. Whitehead makes the point thus: "Since the relationships of A to other eternal objects stand determinately in the essence of A, it follows that they are internal relations".67 This is what he sometimes calls "pattern" or "diversity".68 Since these relations do not involve the particular character of time, or the creative advance (i.e., the special internal-external asymmetry sketched above), they are in every way determinate and mutually dependent.

This analysis of eternal objects as purely internal relations should remind us of Bradley's argument (2); especially since the formulation is so close to Bradley's analysis of the relational complex composed of qualities and their internal relations. How then does Whitehead propose to solve the problem of an infinite regress within each eternal object? We cannot appeal to a doctrine of 'perishing' at this level as we did in the case of actual occasions.

It does seem that Whitehead has in mind the difficulties of monistic Idealism when he considers how it is possible to know anything about individuals internally related without knowing everything about all the others.69 His solution here involves the distinction between the individual essence and the relational essence. We can understand A as an individual essence in the general scheme of relationships, without having to understand the uniqueness of all the other relata; that is, without having to understand all the other individual essences. And surely some eternal objects are more "relevantly" related than others depending on their relative proximity. For instance, blue and green of the same intensity and value are surely closer than red and yellow of different intensity and value. So, as Whitehead puts it, the scheme itself is "...analysable into a multiplicity of limited relationships which have their own individuality and yet at the same time presuppose the total relationship within possibility".70 Such relationships are ordered into an 'abstractive hierarchy' in which eternal objects are arranged into grades or types. At the base, there are simple eternal objects (those which cannot be analysed into a relationship of components, and hence cannot be divided further- e.g., a primary color, red), and building upwards, there are grades of complex eternal objects which are arranged depending upon the level of complexity of their components. Here we should be reminded of a similar project in Principia Mathematica where functions are arranged into logical types, but this analogy should not be pushed too far. The theory of types was proposed in Principia in order to solve the formal contradiction concerning the class of all classes. Whitehead, in his abstractive hierarchy of eternal objects, is only thinking of grades of complexity. And there is no formal contradiction involved in the latter.

So it seems that Whitehead's answer to Bradley involves the idea

of a base of simple eternal objects which prevents an internal regress ad infinitum. A complex eternal object (some shade of turquoise, or the C major triad CEG) may involve a multiplicity of other simpler eternal objects, but these are finally resolved into a finite number of relationships once the level of simples is reached at the base of the hierarchy.

Admittedly, Bradley simply could dismiss this solution as ad hoc because there remains the question of how the simple eternal objects are related. And to call them 'simple' does not solve the problem of a regress within each. No matter how simple or primary the color red may be, its relation to any other simple still results in a regress of grounds and consequents.

It is not at all clear whether Whitehead recognized this problem; and, indeed, Bradley may have a point. But Whitehead's whole project here was to show that the simple eternal objects are abstractions which are not at all likely to have ingression into actual occasions. Because of their simplicity, they remain pure possibilities, while on the other hand, the complex eternal objects are more likely to find their way into the concrete process. Indeed, it is evident that the simple eternal objects are not the sensa of presentational immediacy. That is, they must remain pure possibilities in the primordial nature of God, and are only discerned by us as objects of conceptual analysis.

Many have seen enormous difficulties with Whitehead's realm of eternal objects, and have criticized the doctrine as a "needless complication of process thought" and as "unwanted metaphysical baggage".71 Why can't eternal objects be emergent simply in the same way as actual occasions? And if the pure possibilities are never to find their way into the concrete process, why are they needed at all? Much of this turns on various questions concerning the nature of God as keeper of the self-identical objects throughout all time. Though we shall touch on some of these questions in our final chapter, we must reserve judgment on the purely theological concerns for now. Obviously, Whitehead saw a complex interdependence of structure in the universe where actuality and change require reference to possibility and permanance. This very point is, in fact, emphasized in his essay "Mathematics and the Good"

when he says:

> The notion of the essential relatedness of all things is the primary step in understanding how finite entities require the unbounded universe, and how the universe acquires meaning and value by reason of its embodiment of the activity of finitude.72

But the crucial point regarding this interplay is that possibility (the unbounded universe) is mere vacancy apart from the intrinsic value added to the world by each actual occasion. Actuality and finitude add definiteness and value to what was merely unrealized potential.

Throughout this chapter we have seen how various forms of relatedness constitute the essential structure of Whitehead's metaphysics. Our central focus was Whitehead's notion of the concrete asymmetry of actual occasions, from which the more complex and increasingly abstract forms of relatedness were derived. But whether or not the more abstract analysis proved wholly satisfactory, it is still quite clear that Bradley's anti-relational arguments must be rejected. Analytic thought does tell us something important about reality and the structure of feeling; it gives order to the blooming, buzzing confusion. It enriches our interpretation once we descend back to immediacy again. As Professor Emmet has said: "Relational thought could tell us nothing, nor even be of practical value, unless its symbolism had some kind of relevant reference to distinctions in the real".73 Thought must be a symbolic representation of the forms and distinctions within reality itself; conceptual form and perceptual form must complement one another in the central task of understanding the universe. Of course, Whitehead was never dogmatic about perfecting such symbolic representations. "Seek simplicity and distrust it." Like Bradley, he is well aware of the limitations of finite knowledge and the distortion involved in the analytic slicing of experience. But, unlike Bradley, he held that the voyage of philosophy, and of thought, as it develops from epoch to epoch, not only involves the discovery of the higher generalities, but also the discovery of the finer, subtler distinctions.

CHAPTER V

EXTENSION AND WHOLE-PART RELATIONS

1. Events and Objects

In Process and Reality, Whitehead makes the claim that"... the emotional appetitive elements in our conscious experience are those which most closely resemble the basic elements of all physical experience".1 We shall assume that by 'resemble' Whitehead here means some degree of psychical experience or bare emotion which characterizes the most rudimentary facts of physical existence. But our main question is, can such an ontology of psychical 'events', of throbs of emotion, ranging from the most basic to a complexity of the sort which make up human consciousness, form the basis of the enduring objects of our common experience? Put another way, how can our basic ontology of actual occasions, the elusive moments of experience, make up the hard material bodies of our everyday world and account for the system of nature?

Insofar as Bradley remained neutral on the question of panpsychism, but most definitely held that the basis of all reality is psychical through and through, he can be said to be in agreement with us here. But the causal character of events we shall argue here obviously goes beyond Bradley's initial claim. Since, for Bradley, nature is but one part of the feeling whole which is the object side of the centre of experience, physical objects in extension are but convenient abstractions from this immediate whole.2

In large measure this chapter will be an expansion and defense of the introductory sections: 'The Ontological Quest' and 'Panpsychism' of chapter II. The central focus is the doctrine of 'event-pluralism' versus the 'materialist' or 'substance' ontology. Also now that we have cleared the ground in our last chapter on relations, we shall pursue a full-blown theory of extension and whole-part relations via Whitehead's theory of society and the more speculative side of this theory on the nature of cosmic epochs. In the end, this theory is important because it contrasts the way in which Whitehead conceives of the universe as an infinite plurality, as opposed to

Bradley's conception of the Absolute as the final container and end of relations. But before this receives too much of our attention, let us pursue the basic contrast between the theory of events and the theory of material substance.

Professor P. F. Strawson has argued at length for an ontology of material substance in his influential book, Individuals. In fact, Strawson defends the concept of material substance in explicit contrast to that of the event. Here he argues that objects or material bodies are primary, and that events which characterize these bodies in one way or another are adjectival. Following Aristotle, Strawson holds that the particulars which make up the framework of space-time are bodies such as men, trees, houses, animals, plants, etc. These are the basic particulars or individuals because they satisfy the essential conditions of reference, namely identification and reidentification.

One of Strawson's crucial points about basic particulars is that to talk sense we must talk about worldly things, both individually and specifically, and be able to identify what we are talking about. By the use of demonstrative terms, we identify this individual or that one as unique. And as he points out:

> We can make it clear to each other what or which particular things our discourse is about because we can fit together each others reports and stories into a single picture of the world; and the framework of that picture is a unitary spatio-temporal framework, of one temporal and three spatial dimensions. Hence, as things are, particular-identification in general rests ultimately on the possibility of locating the particular things we speak of in a single unified spatio-temporal system.3

In short, identification by demonstrative terms rests on a certain linguistic agreement among a community of language users which share this unified spatio-temporal system, and this constitutes a common conceptual framework of basic particulars. Furthermore, in order to secure the unitary scheme of this kind, the basic objects of reference must be capable of reidentification. That is, we must be able to make the same reference to such unique individuals, and identify them as the same as those encountered on a previous occasion.4

Now, in claiming that certain particulars are basic in any ontological scheme, we mean that all other particulars are ultimately reducible to them. Everything else which we describe as existing in some sense of the word is a construction out of them. Hence, from Strawson's point of view, the material bodies which are accessible to observation, occupy a public space-time framework and endure through time as the same individuals, are the basic particulars from which everything else is derived. They are identified independently of particulars of other categories; but the particulars of these other categories cannot be identified without a reference to them.5 Strawson argues, therefore, that such things as theoretical constructs, processes, events and subjective states of consciousness depend essentially on identifying references to the larger corporeal bodies of our perceptual experiences. For instance, talk about electrons and protons depends on identifying references to the electromagnetic effects of, say, magnets and chunks of uranium ore, while talk about private experiences and states of consciousness- pain, happiness, boredom, etc, depend on identifying references to the larger class of corporeal bodies, namely 'persons'.

At this point it should be obvious how Strawson's category preference and his criteria for locating basic particulars run in direct opposition to the ontology we have defended in this thesis. But Strawson's whole program strikes us at once as defending common sense and ordinary language to the point of total naivete about the nature of reality. Of course, Strawson claims to be doing 'descriptive metaphysics' which, by his own definition, rules out any detailed explanation or enquiry into the origin and nature of the universe. But in metaphysics we seek to understand the most general aspects of reality in some coherent and systematic fashion, and this is exactly what Strawson's system denies us. By contrast, his method allows us nothing more than the attempt to lay bare the most general features of our conceptual structure; yet it is just this structure of commonplace thinking which is challenged by a metaphysics which seeks comprehensive applications.

Let us then proceed to see whether Strawson's system holds up to the opposing doctrine.

Firstly, we should investigate the claim that material bodies are the basic particulars from the point of view of identification. It will be easier here to confine our responses to a basically Whiteheadian point of view, though on many points, as mentioned before, Bradley will be in close accord. Also we should note that the specific sense of the term 'event' used by Whitehead is a nexus of actual occasions forming the historic route in the life of some physical object. As he says: "An actual occasion is the limiting type of event with only one member".6 But, for our purposes here we shall use the generic term 'event' as interchangable with 'actual occasion'.

By his emphasis on identity-by-reference, Strawson falls into the trap of taking what is clear and distinct to presentational immediacy as fundamental. This is indeed one of the striking facts about his approach to category preference, i.e., his defence of the grosser physical bodies immediately present to perception. But are these the true individuals? For Strawson, the point largely hinges on the ability of a community of language users to specify what their discourse is about. They must be able to identify and reidentify the basic objects of reference. But it is painfully naive that linguistic agreement should serve as the ultimate metaphysical criterion for identifying the basic particulars of reality. Just because we do not have the intricate vocabulary to describe and refer to event-processes or flows of experience, this does not mean that the particulars discerned here cannot possibly constitute the basis of reality. It only says something about the development of language in serving our most practical needs.

From the point of view of the event ontology, identity-by-reference is not the real issue at stake. The physical bodies identified and reidentified throughout a given period of time need not be self-identical in any absolute sense. We refer to these bodies as more or less the same- 'Professor Smart has lost more hair'; 'My brother has grown two inches'; 'That cup has lost much of its original color'. We have no trouble recognizing process and change in enduring bodies, but it is only for the most practical purposes that we refer to these bodies as 'the same'. In fact, if it were not for certain recurrent features of process (the eternal objects in Whitehead's system- colors, sounds, shapes, etc.), we would not be able to reidentify physical bodies at all. In the continuous flux of events, it is a dominance of

inherited characteristics which is recognized by a speaker who reidentifies that body as the one he identified before. But the sense-objects recognized here are not the basic particulars. The objects are ingredients, the what's of events. They provide structures for event-sequences, but they are not the basis of their own survival.

Strawson might attempt to counter this move by saying that the subjects of the above sentences have already introduced a particular into the proposition (Professor Smart, My brother, That cup), while the predicate qualifies the change or process that has occurred to the self-identical individual. In other words, say, in the example of the cup, the subject has introduced a particular into the proposition which is sufficient to identify the particular, whereas the predicate 'has lost much of its original color' does not of itself presuppose any fact.7 But, as we have stressed before, the subject-predicate distinction itself is a totally inadequate approach to metaphysics.8

Two points must be made in this connection, and both center upon different aspects of Whitehead's general claim that ordinary language does violence to immediate experience and hinders our ability to get at the very basis of reality. Firstly, the very means of identifying subjects and predicates tends to reinforce our habits of viewing the world in terms of static individuals qualified by various properties. The tendency of natural language is, first to isolate a substantial material entity, and then go on to describe it by its accidental changes. But this basic dualism inherent in the the subject-predicate form of statement cannot possibly grasp the very dynamic character of process. And secondly, the isolation of individuals by ordinary language suggests the complete abstraction from any environment. The problem is that such abstraction from immediate experience neglects the whole background from which the individuals are taken. It is on this point that Whitehead's philosophy of language most agrees with the basic premise of Bradley's logic. The delusive completeness of simple 'facts' in demonstrative propositions (Bradley's analytic judgment of sense) cannot possibly express anything ultimate from the point of view of general metaphysics. Such simple facts or individuals in propositions require the entirety of relations in the systematic environment in order to determine the exact truth value, and this

is quite impossible. As Whitehead puts the point: "... every proposition proposing a fact must, in its complete analysis, propose the general character of the universe required for that fact.9

Whitehead would not wish to deny that the grosser enduring objects and their properties are our primary objects of discourse; but this, in itself, is no ultimate criterion for deciding what the ultimate entities are in the universe. Clearly we are dealing with two very different issues: one concerning the usefulness of ordinary language, and the other concerning basic particulars from which the rest of a satisfying ontology is constructed. As we have argued, the essence of reality will always elude the grasp of a language designed to describe static objects in various spatial relations. It was on this point that Whitehead, at the expense of great obscurity, attempted some 'revisionary metaphysics' by creating a language to fit his novel vision of a dynamic world of processes and events. Contrary to Strawson, then, we do not examine the actual use of words to uncover the basis of reality. Language is the tool required by philosophy, but it is always subject to revision. It is absurd to think that the metaphysician should be a slave to the ordinary man's faith in the adequacy of language in describing reality. We fashion our language and concepts to fit reality, not the other way around. In effect, Strawson has it backwards when he says that the revisionary metaphysician is at the service of the descriptive metaphysician; for the latter is confined to the dictionary, while the former expands the existing repetoire by adjusting the language to new meanings.

Strawson's basic argument against an ontology of events (insofar as there is an argument there at all) is that such states or conditions are always of particulars of other types, namely material bodies. Births and deaths happen to particular creatures. Bangs, flashes and battles are all products, so to speak, of material bodies in motion. But are these the unit-events we have defended throughout the course of this thesis? It is obvious that Strawson has not considered how the material bodies themselves could be composed of aggregates of events by the fact that the types of events he chooses to discuss are not the unit-events which could make this ontology possible.10 For instance, in his chapter on "Sounds", Strawson wishes to construct an ontology in which material bodies are not the basic particulars,

and concludes that a purely auditory world would not make discourse possible because we would not be able to distinguish between ourselves as subjects of experience and other items in the world which were not ourselves. But this conceptual problem of the possibility of a "No-Space World" in which all the sensory items are auditory, is misconceived as an argument against events. Clearly, events which make up the physical world cannot be deprived of their extensive relations in space. The whole experiment is doomed from the start, mainly because sounds are poor examples of the events which could possibly replace an ontology of material bodies. In short, the kinds of events Strawson discusses throughout his book are merely phenomenal and cannot therefore challenge the validity of event-pluralism.11

Much of the difficulty, I think, in getting beyond the merely phenomenal events to the type of events we have in mind for basic particulars surrounds the issue of what is known most clearly to immediate experience. Strawson, if I understand correctly, would claim that there is no such thing-in-itself or noumenal reality which is to be identified with private experiences or subjective states. And even granted the existence of such states, he argues that they are "the most obviously inadmissible" candidates for basic particulars because they depend on the identities of the persons to whose histories they belong.12 But obviously, if one insists that the identity of the private experience is never known as having its own inherent character, but, rather, always in reference to something else, then there will always be this basic stumbling block to seeing how the event immediately present to our experience is the best candidate for a basic particular which constitutes the very backing of all phenomenal reality.

In a very recent defense of the primacy of psychical events, largely consistent with the type of ontology we advocate here, Professor Sprigge, in his book, The Vindication of Absolute Idealism, argues that it is, in fact, our own flow of experience which presents an essence which is transparent to us as is nothing else. And in accordance with Locke's conclusion he says: "... it is the physical, if anything, which is a something-we-know-not-what lying beyond the immediacies of consciousness, not the converse".13 On this view, the basic particulars happen as moments of experience and are known by our living through their very concreteness. What we have first is a knowledge

by acquaintance from which we proceed to a knowledge by description. But the latter is no substitute for what is known in its most direct and purest form. That is, any purely phenomenal or abstract structural description of an individual will never quite grasp what it is actually like being that individual. But our ability to empathize with the type of concreteness experienced, whether it be the experience of another person, animal or lower form of being, is the best we have to understand the reality of that individual.

Having grasped the full force of this argument, we see that Strawson's category preference is turned upside down, for it is the grosser physical bodies which are dependent on the more determinate and complete moments of experience which form the basis of their existence. On this point Hartshorne has argued that the logic which drives us from genus to species to individual is the same logic which should drive us one step further to the event.14 Just as the individual is more determinate than the species, so is the event more determinate than the individual. Strawson seems to have largely accepted the rather arbitrary definition of an individual which serves various scientific or social purposes, but even the biologists recognize that the system of classification is a man-made structure of pigeon-holes, serving the pragmatic purpose of recording observations in a convenient manner.15 In many respects the clusters which we label 'genus' and 'species' are not always clear-cut. And, even if we confine ourselves to individuals, the definitions are often vague. At what point in the life of a tadpole does it become a frog, the caterpillar a butterfly? Similarly, when does the embryo become a foetus, the foetus a 'person'? When does a human being cease to be a 'person'? Religious and state institutions, in their attempt to define an individual, have not found adequate answers to these last few questions. Why should we accept the conventions of ordinary language? The evidence seems to point to a more determinate basic particular than the individual.

If we accept the metaphysical argument that the primacy of the event is secured on the basis of the occasions known most clearly in our own experience, we find that individuals can be defined in terms of a certain dominance of character or recognizable sameness of pattern passed within the

event-sequences which form the basis of the physical body or personality. What we recognize are the eternal objects. They are identified and reidentified in definite space-time regions, but the events which contain them are only here and now and never again. The self-identity of a physical object or person across time which Strawson seeks to vindicate is merely an unwarranted survival of the concept of substance from Aristotle and the scholastic tradition. It is a presupposition required for all social intercourse, but metaphysically it is unfounded. If we require a basis for moral responsibility or ownership in legal theory, all that is needed is that a person or physical object remain more or less the same by the fact that his or its unique line of inheritance is traceable; an earlier event is internally related to the present one, but there is nothing which is wholly the same individual.

2. Cosmological Outlook

The event ontology is no doubt an alternative to established orthodoxy. But it is one, which, I argue, provides the most cogency for our conception of physical objects and the space-time framework. That is, instead of conceiving of material bodies as the basic particulars which constitute the framework of spatial and temporal relations, an ontology of events means that physical objects are constructs of event-particulars in a space and time of their own making. This ontology takes seriously the meaning of the 20th century concept of space-time, for the becoming of each event carries with it a definite quantum of extended space-time, and each discloses a causal background from which it came.

Working from the unit-event as our basic particular, we can construct various levels of physical objects, from the microscopic subatomic level all the way up to star-systems and cosmic epochs, by the manner in which events are united by their more special or general characteristics. This was a central aim in Whitehead's cosmological theory in which he attempted a unification of the special sciences in terms of one coherent and systematic account of social organization.

His own attempt to build up physical objects from the basis of events seems to have been highly influenced by the promising developments in physics

at the turn of this century. While James had supplied the psychological basis for the connectedness of experience in his radical empiricism, the concept of the flux of energy in an electromagnetic field seemed to provide the necessary physical analogue for the doctrine of prehension. We shall discuss two important aspects of the physical theory here, namely, the implications for the concept of space-time and the dematerialization of nature.

When J.C. Maxwell formulated the equations governing the propagation of waves of radiation in the electromagnectic field, the unexpected result for the scientific community was the elimination of bits of matter as the self-identical supports for physical properties. This was the beginning of the breakdown of the old dichotomy of atoms and the void; for the concept of a 'field of force' means that space is made up of various stresses and tensions which transmit energy. And this means that the notion of 'empty space' as the mere vehicle of spatial interconnections is also abandoned as a fundamental principle in physical explanations. The field is rather a medium by which electric or magnetic objects can have an effect over a distance. It is something which pervades space and contains recognizable routes of energy. These routes are sometimes called 'energy vectors' because, at each point, the passing of energy in the flux has a quantitative flow and definite direction.16

As Whitehead points out, the concept of 'continuity' was dominant in Maxwell's theory. It seemed as if the concept of a 'field' had done away with the atomistic conception of nature dominant in classical physics, but when J.J. Thompson and Ernest Rutherford detected the protons, electrons and photons as unit charges of electricity, the atomistic conception emerged again as an indispensable part of science. These subatomic particles were introduced to account for the many different chemical elements formed by various combinations of the basic types of subatomic particles. (For example, the number of electrons revolving round the nucleus in an atom defined the numerical place occupied by the given element in the Periodic Table.) But of course the story does not end here.

With the introduction of the quantum theory in the beginning of this century, the atomistic conception seemed to be dissolved again by a certain

insubstantial and unthinglike behavior of elementary particles. This theory was developed to account for phenomena which were previously unexplained. (e.g. Why does emission of radiation occur at some definite intensities and not at others? And why do different elements emit radiation at distinct wavelengths?)

According to the quantum theory, such phenomena are explained by the notion that energy of all types occurs in quanta or minimal packets. Atoms are then to be understood in terms of waves of radiation which they can emit or absorb, and this occurs at non-uniform spans of time. The reason why a simple 'particle' theory of the atom, using ordinary mechanics and electromagnetic theory does not succeed is that the electron cannot be considered simply as a particle. That is, since it cannot have both a well defined position and velocity, it must be seen in part as a wave.17 The orbits of electrons are to be regarded as series of detached positions rather than continuous lines. This is what is meant by quantum 'leaps' or 'jumps'.

What went out with this theory was the idea that the particles have the definite size, shape and position which classical mechanics had given them. The emphasis now turns on pulses of energy which have an approximate location of space-time, and interact in fields which bear and transmit the forces of nature.18 This idea seemed to correspond with the earlier idea of vectors describing routes of transmission, but the routes are now discontinuous. That is, the idea that light and other electromagnetic radiations are transmitted as continuous trains of waves is replaced by the idea that radiation can only be emitted in pulses.

Now it must be mentioned that much of Whitehead's thought took shape before the detailed elaboration of quantum physics had been achieved. His interpretation derives from the earlier atomic models and theories of Planck and Bohr, not the new quantum theory of 1925-27 proposed by Heisenberg and Schrödinger.19 But it is quite clear that he had attempted to integrate much of the field and quantum theories into the structure of his general cosmological outlook.

Firstly, in Whitehead's theory, we recall that the extensive continuum

provides the general framework of real potentiality rendered specific or actual with the becoming of each event. This means that the whole system of space-time literally grows out of the way that events are systematically related to one another in nature. Since each event carries its own quantum of space and time, the void is clearly impossible. It is, in fact, explicitly ruled out by the 'Ontological Principle' which requires everything to be somewhere in actuality.20 According to Whitehead, even the so-called 'empty space' is filled with activity; it is just that such events involve no specialized characteristics resulting from the negligible amount of eternal objects.21 So it seems that the universe is one endless 'field' of interaction, though, in Whitehead's view, the electromagnetic features are only characteristic of our limited cosmic epoch.

Secondly, the emphasis on pulses of energy in physical theory seemed to suggest that matter had been identified with energy, and energy with sheer activity.22 With the displacement of matter from its primary position, nature is therefore to be understood in terms of dynamic processes standing in various complex relations. Whitehead remarks that: "In place of the Aristotelian notion of the procession of forms, [this new concept] has substituted the notion of the forms of process".23

The metaphysical analogue to the physical concept of an 'energy vector' is Whitehead's concept of 'prehension' where routes of influence or emotional energy are passed from event to event. In his metaphysics, events or actual occasions account for the atomistic aspect of nature, while the subjective form accounts for the continuity between such events. But like the quantum theory, Whitehead holds that all physical experience happens in leaps or definite epochs of becoming. Curiously enough, this theory has come into close accord with the concept of the 'specious present' in psychology where the whole of the duration is required in order that there be any extensiveness at all.24 But what is particularly revealing about the findings of quantum mechanics is that, at the base of things, the discontinuous existence of fundamental particles forms the continuous existence of the larger physical bodies. Undoubtedly, Whitehead found this idea crucial in explaining how his basic ontology of events could form the various levels of enduring 'societies'. He says, in fact, that his cosmological theory is "...perfectly

consistent with the demands for discontinuity which have been urged from the side of physics".25 Physical reality is, at most, quasi-continuous, as successive leaps or vibrations of energy fuse together to form physical objects perceived by us as continuous.

Now this first level of rudimentary physical activity, that of subatomic particles, is not to be identified with the 'basic events' or 'actual occasions' of Whitehead's metaphysics. What is observable to the physicist, i.e. the effects of subatomic particles in the electromagnetic field, is, on Whitehead's view, multiple interactions of events with an electromagnetic character. And as he argues:

> The notion of physical energy, which is at the base of physics, must then be conceived as an abstraction from the complex energy, emotional and purposeful, inherent in the subjective form of the final synthesis in which each occasion completes itself.26

Scientific enquiry obviously involves very high degrees of abstractions which remove us from the concrete real things of nature. From this it should be clear that Whitehead would not appeal to physics to seek the final word on the metaphysical primacy of events. That is, since physics deals in high abstractions, the substance-event issue cannot be settled here. Indeed, in physics it seems that both the particle and wave concepts are required to explain the relevant phenomena investigated. But Whitehead seems to imply that physics (at least that of his day) had come to conclusions which were in much more accordance with a metaphysics which gives the concept of an event a primary place.

In our discussion of Whitehead's conformity to various findings in 20th century physics, we have, to a large extent, avoided the issue of the specific psychical character of events, in order to concentrate on the more general cosmological implications. Physicists may indeed accept the idea that the fundamental constituents of reality are events, but the objectivity required here will, I expect, never reveal the psychical unit at the base of things. As we have argued earlier, this issue belongs to the special province of metaphysical enquiry.27 Admittedly, the hardest gap for the panpsychist to fill is that between the occasions of experience immediately present to

consciousness, and the first level of physical activity. On the one hand, there is the emotional energy entertained in life, and, on the other, the physical flux of energy in nature. But, as Whitehead continually argued throughout his later metaphysical works: "... neither life nor physical nature can be understood unless we fuse them together as essential factors in the composition of 'really real' things whose interconnections and individual characters constitute the universe".28

3. Transmutation and the Theory of Society

At no point in the writings of Bradley do we encounter an analysis or explanation of the way in which nature forms various levels of wholes and parts in the organization of physical reality. Since for the most part, Bradley remains open as to whether the whole of nature is composed of various degrees of finite centres of experience (i.e., those of a non-human sort), no such explanation is required in his metaphysical system. If it were so, perhaps Bradley would have offered some type of theory bordering on cosmology, but it remains doubtful. At most we are to understand that finite centres and their consciousness of themselves as parts finally lose their independent natures once "transmuted and suppressed" in one all-absorbing experience of the Absolute, but the detailed apprehension of this fusion is for finite beings quite impossible.29 As Bradley himself says:

> There really is within the Absolute a diversity of finite centres. There really is within finite centres a world of objects... These things are realities, and yet, because imperfect, they are but appearances which differ in degree. That they are supplemented and without loss are all made good absolutely in the Whole we are led to conclude. But how in detail this is accomplished, and exactly what the diversity of finite centres means in the end, is beyond our knowledge.30

So, for Bradley, we might say that the <u>how</u> is always unnecessary once the general principle is forced upon us.31 And this not only means how the final unity is accomplished by the Absolute, but also how the whole of nature is arranged by finite centres, human or non-human.

Though, in the end, the notion of transmutation of finite actualities

in one all-absorbing experience will be an all-important doctrine for our final comparison between Bradley and Whitehead (Chapter VII), it is our contention that Bradley's agnosticism regarding the variety and linkage of the centres is given a reasonable basis in Whitehead's system. Much of this hinges on the general position taken on relations, and if, as we have argued, relations are indeed 'real', various levels of social organization in nature can be constructed by relations of whole and part.

Other Absolute Idealists, particularly those inclined toward a panpsychist interpretation of the world, have attempted to give some explanation as to how various levels of sentience form wholes which may or may not themselves be sentient organisms. Royce, for example, held that everything 'enjoys' a certain sentience, but depending on the arrangement in the scale of organic and inorganic forms, the specious present experienced varies in different stretches. In his view, the life of experience pulsates throughout the arteries of Being.32 Such an interpretation, which emphasizes a certain individuality within the Whole, is much more inclined to provide some explanation as to how the 'arteries' are arranged. At least here some line of thought is open to the monist who has not been restrained by the more radical conclusions.

Whitehead, on the other hand, has given a very detailed account as to how his actual occasions form 'societies' by their common characteristics, and these are arranged into various levels of organisms and environments. We have already discussed how Whitehead conceives of the first level of physical activity as multiple interactions of electromagnetic occasions forming routes of energy. But this is still the microscopic world as far as human perception goes. What we require is an explanation of how the occasions form various layers of organisms of organisms (electrons, atoms, molecules, cells,...), until we arrive at the enduring bodies available to perception (stones, plants, animals, planets,...), and finally, cosmic epochs and pure extension.

But before we proceed any further, one point should certainly be clear. That is, societies are the things which endure, but they must not be confused with the completely real things which are the actual occasions.33 This

was the central mistake of Strawson and others following Aristotle.

What, then, needs to be explained is why, in any one moment, we do perceive the tables, chairs and trees, and not multitudes of actual occasions in the immediate environment. (Analogously, this point applies equally to the purely physical interpretation of the world in terms of electrons or routes of energy.) Whitehead makes the transition from the microscopic world of actual occasions to the macroscopic world of our perceptual experiences by his notion of 'transmutation' whereby the occasions in any one physical body are prehended as a unity.34 That is, when we perceive any macroscopic entity, he argues that we prehend an aggregate of many occasions as one final unity. An 'individual' is discerned in the mass of actual occasions present to any one moment by the way in which the perceiver integrates the many members of the society and produces one transmuted feeling. This is possible because the members of the society share a certain dominance of characteristics, i.e., the identity of pattern of the ingredient eternal objects. Hence, we are able to pick out the chair, as opposed to the 'empty space' around it, because of the dominance of certain eternal objects shared by the members of the chair and prehended by us as a unity.

This idea of the many-functioning-as-one is not, perhaps, altogether different from the way the eye fuses together a multiplicity of dots which make up a picture. The French Impressionist, Georges Seurat, in fact, used this technique in painting where dots of color blend together to form more complex colors, and at just the right distance from the canvas, the admiring onlooker perceives figures and shapes instead of the individual dots. The final result is one transmuted feeling- the emotion of that particular painting resulting from the synthesis of colors and shapes.

So for many purposes, a nexus of actualities can be treated as though it were one actuality. This is what happens at several levels of the extensive continuum where some particular entity or group is isolated for the investigation at hand- molecules, cells, a piece of rock, the human body, or the planet Mars. But what is quite clear to Whitehead is that, in this process of abstraction, we should not neglect the importance of the inter-relations within nature which make this possible.

Our sense perceptions, Whitehead argues, are often vague and confused.35 They omit any discrimination of the fundamental activities within nature, even though, via symbolic reference, they do pick out the broad outlines of social order. Whatever predicates we are able to give to any particular body, they approximate, more or less, the type of order which dominates among the members which impose common characteristics on each other.

Whitehead specifically defines a society as a nexūs of social order in which:

> (i) there is a common element of form illustrated in the definiteness of each of its included actual entities, and (ii) this common element of form arises in each member of the nexus by reason of the conditions imposed upon it by its prehensions of some other members of the nexus, and (iii) these prehensions impose that condition of reproduction by reason of their inclusion of positive feelings of that common form.36

These three conditions provide the main point of a society, namely, that it is self-sustaining. The society reproduces itself by the fact that the members of the society must positively prehend those eternal objects which not only define the society in question but ensure its continued survival. In this respect it is quite clear that a society is not simply an aggregate of mutually contemporary occasions, but rather multiple lines of inheritance. Even though there may be a certain amount of contemporaries at any one time, certain genetic conditions of prehension must be satisfied in order that the society endure through time.37

Societies can be simple or vastly complex. The most simple ones are those with 'personal order', in which the members are ordered serially. The most specialized cases of these societies are the routes of electronic or protonic actualities in which the choices are indeed very limited. Here, there is only a single line of inheritance. But these simple societies form the base of 'higher' societies, namely electrons and protons, and thus begins the hierarchy of societies "...of increasing width of prevalence, the more special societies being included in the wider societies".38

Whitehead therefore introduces the idea of a 'structured' society as one which includes subordinate societies and/or nexūs. He says that:

> A structured society consists in the patterned intertwining of various nexūs with markedly diverse defining characteristics. Some of these nexūs are of lower types than others, and some will be of markedly higher types. There will be 'subservient' nexūs and the 'regnant' nexūs within the same structured society. This structured society will provide the immediate environment which sustains each of its sub-societies, subservient and regnant alike.39

A cell, for example, is structured in the sense that it is a society which harbors the existence of lower, more specialized societies- at one level molecules, at another atoms, and so on. So the higher society, (the cell) is regnant, and functions as an 'environment' for the lower level, (the molecules), while the lower societies are subservient and function as 'organisms' for the higher level. This reciprocity of whole and parts applies throughout the various levels of order in the extensive continuum- working outwards in terms of environments or inwards in terms of organisms. In this way, all societies are enmeshed in a system of ever-widening characteristics and influence. The wider environment always provides the necessary conditions for the survival of the more special organism.

"A 'structured society' may be more or less 'complex' in respect to the multiplicity of its associated sub-societies and sub-nexūs and to the intricacy of their structural pattern"40 It may be 'inorganic' (crystals, rocks, planets, suns) or 'organic' (cells, tomatos, human beings). But there is no absolute gap between these two; they merely serve certain purposes where 'life' may be important or unimportant.41 For instance, in the first category of material bodies 'life' is unimportant for the science of dynamics. But up and down the continuum we find that many apparently 'inorganic' societies sustain the organic ones, and 'organic' societies which include subordinate inorganic ones. For example, the solar system sustains the planet earth, and living animals and plants sustain their arrangements of molecules and atoms.

If the society in question forms one body and the subordinate societies constitutive of it are all strands of enduring objects, it is said to be 'corpuscular'. A volume of gas may be a rather loose society in that it

includes subordinate societies (molecules, atoms), but the volume itself is not corpuscular even though the individual molecules are. Corpuscular societies, such as stones and billard balls, consist of very low-level occasions which display little originality, thereby providing ideal instances of efficient causality for mechanics. As Whitehead says, they elicit "...a massive average objectification of a nexus, while eliminating the detailed diversities of the various members of the nexus in question".42 Thus the Castle Rock at Edinburgh changes very little as the same eternal objects are inherited from year to year, century to century. In this sense, it remains 'the same' Rock as seen by the Romans two thousand years ago, by Hume two hundred years ago, and by contemporary Edinburghers today. But sure enough, from the point of view of geological time, it is wearing away in proportion to the changes imposed upon it by the larger society, namely the planet earth.

Most societies we come into contact with are 'democracies' in the sense that their subordinate societies function together without there being some central unified mentality. Certain cell colonies, plants, eco-systems and most lower forms of many-celled animals are democracies. These organisms react to stimuli, but there is no central direction or unified control. Higher animals, however, are those with a dominant living nexus of personal order. In the case of the vertebrate animals, the nexus of occasions with a dominance of the mental pole arises out of the complex nervous system- here defined as a system of neural occasions eventually forming the neurons. And the intensity of this experience, we must presume, varies from species to species.

Whitehead's own account of psychological physiology (physiological psychology reversed) is indeed complex, and far exceeds our central theme of this section. Here we should only mention that the human being is an organic structured society in which the dominant nexus is a purely temporal single-line inheritance of actual occasions known as the 'stream of consciousness'- or what Whitehead calls the 'final percipient occasions' of human experience.43 As we saw in chapter III, this was the rather special stage of the concrescence resulting from a certain intensity of the subjective form.44 As Peirce once said, it is a kind of "public spirit among the nerve cells". Throughout the course of this thesis, it has been our example of

the flow of reality, but one which, unlike the more fundamental types, captures the vivid immediacy of the present awareness of itself.

Were there space to linger here and argue the cogency of Whitehead's views over the physicalist interpretations so popular today, it would be clear how the panpsychist conception of consciousness far surpasses the one-sided accounts of physio-chemical functions of the brain.45 Nonetheless it should be mentioned that, for the panpsychist, consciousness arises from a base which is more like itself (namely sentience), rather than from something which is utterly different. From Whitehead's point of view, the physicalist merely operates within a limited region of structured societies, i.e. internal organs of the body and sub-societies such as molecules and nerve cells. But it is never quite clear how consciousness could evolve from the inert and essentially lifeless base of matter. One set of external relations will be as good as any other set.46

To proceed with the more general considerations of this section then, what makes Whitehead's philosophy an organic view of nature is this central idea of nested hierarchies of societies; of smaller units of organism nested in the larger ones. There is thus a certain interdependence of wholes and parts. But in accordance with the one-way dependence of the temporal process, certain exchanges take place between the organisms and their environments in order that higher, more complex organisms can evolve from lower, more simple ones. That is, the wholes and parts function together such that the parts are modified in accordance with the plan of the whole, and the whole is modified by its internal constituents. Whitehead, on this matter, locates two sides of the machinery involved in the development of nature. He says that: (i) a given environment dominates its subordinate societies such that the organisms adapt themselves to it, and (ii) the organisms create their own environment by a certain cooperation among themselves in producing the desired effect.47 On the first point (i), an individual organism (of whatever level) is liable to have aspects of the larger pattern dominating its own being and thus experiences modifications of the larger pattern reflected in itself. Obviously such reactions to changing circumstances in the wider environment are of utmost importance for the theory of Natural Selection where adaption becomes crucial. But also (ii), organisms can change and mold the environment

which defines them. To take a simple case, body cells, for example, alter their extracellular environment by exchanging chemicals, generating heat, and so on. The environment must therefore have a certain plasticity such that (over a longer period of time) a higher organism can evolve from changes which take place in the subordinate organisms. Changes at the lower level produce an increase of complexity, thus allowing the evolution of novel and more sophisticated organisms.48

So, in the end, the survival and evolution of organisms is dependent upon favorable conditions in the larger environment which allow the proliferation of its members (i.e., the development of a larger number of similar organisms which are productive to the environment itself), while extinction implies the lack of such conditions. That is, an organism dies out when the environment ceases to favor its existence. The deterioration of the environment is the deterioration of the very order which allows for its proliferation.

4. Cosmic Epochs and the Absolute

If we pursue the general principle of whole-part relations, organisms and environments, to the highest conceivable level, we could very well arrive at <u>one</u> final society of the widest possible extension. Although Bradley does not arrive at his notion of the Absolute in quite this way, his general conclusion that there cannot be individuals or relations without some larger whole in which they are contained, approaches this line of thought. Indeed it is not too far off the mark to think of Bradley's supra-relational Absolute as one cosmic Organism which functions as the largest environment for everything in existence.

But, for Bradley, this ultimate society is not in process or capable of evolution or decay. For him the final Reality is a timeless eternity where all subordinate aspects are but 'appearances' of the perfect order. From this perspective, the Absolute experiences the whole of existence in one frozen specious present. It contains process, but process is not reality. As Bradley puts the point in one of his more colorful passages:

> ...this one Reality enters into, but is itself incapable of evolution and progress... progress and decay are alike incompatible with perfection... There is of course progress in the world, and there is also retrogression, but we cannot think that the whole either moves on or backwards. The Absolute has no history of its own, though it contains histories without number... For nothing perfect, nothing genuinely real, can move. The Absolute has no seasons, but all at once bears its leaves, fruit and blossoms. Like our globe it always, and it never, has summer and winter.49

All subordinate aspects of existence essentially contribute the richness of diversity to the life of the one Reality, but there is no sense in which the internal appearances move the Absolute to some state or condition of novelty. The final order simply is what it is; there is no better or worse, for in Bradley's view, these adjectives are but constructions based on some given piece of finitude.

Within the Absolute, Bradley says, there is no logical objection to the possibility of an indefinite number of systems of space and time which have their own order but do not move on one another.50 That is, from the point of view of the type of spatio-temporal order we experience (however much imperfect and unreal), the order in these logically possible worlds is totally inconceivable to us. They are experienced by the Absolute as transmuted into one harmonious unity but each has an independent existence insofar as they do not affect one another causally.

In many respects, though not wholly the same, this idea of alternative systems of spatio-temporal order comes into close accord with what Whitehead called 'cosmic epochs'. Our own epoch of space-time order he says is "... that widest society of actual entities whose immediate relevance to ourselves is traceable".51 But this is only one system of order which we can comprehend more or less by formulating the laws of nature, etc. Like Bradley, Whitehead holds that there is no logical objection, or, indeed, a metaphysical objection, to an indefinite number of such systems. But for Whitehead, they are not all contemporaries in some larger system. We must conjecture that there were an infinite number of cosmic epochs which preceded our present one, and with the decay of the present order reigning in this cosmic society, there will be an infinite number of successors. There was no first event,

nor will there be a final event.

Although we shall discuss, in some detail, Bradley's conception of these alternative systems in our following section on "Temporal Unity and Direction" (Chapter VI), we shall here concentrate our attention on the much broader metaphysical picture.

One of the crucial points of disagreement between Whitehead and Bradley concerns the issue of whether Reality contains process, or whether process is reality. By our short exposition of the Absolute above, Bradley's answer is quite clear. All conflict, movement, evolution and process are finally resolved in one all-embracing, and self-contained Whole. Whitehead's position, however, is indeed complex and sometimes perplexing aside from the obvious answer. In what follows we shall attempt to indicate some of the problems associated with his position, and provide some clarification as to how they may be resolved.

Whereas in Bradley's monism, whole-part relations finally cumulate in one all-embracing cosmic Whole, in Whitehead's view this layering of ultimate social order is potentially infinite. Beginning with our own cosmic epoch, he says, we discern a vast society of electronic and protonic actualities set in a wider social context of four-dimensionality. Beyond this level there is a geometrical society in which the axioms of geometry are discoverable by the method of extensive abstraction. But this 'geometrical' society presupposes even wider societies which fade from realization as they become more distanced from our inner-most cosmic society and our powers of intellectual discernment. At one level, Whitehead thinks, there is a society of mere dimensionality, and then finally we arrive at the widest society of order conceivable, namely, pure extension.52

As Whitehead himself explains this system of whole-part relations in the extensive continuum, he writes:

> In these general properties of extensive connection [whole-part relations and various types of geometrical elements], we discern the defining characteristic of a vast nexus extending far beyond our immediate cosmic epoch. It contains in itself other epochs, with more

> particular characteristics incompatible with each other. Then from the standpoint of our present epoch, the fundamental society in so far as it transcends our own epoch seems a vast confusion mitigated by the few, faint elements of order contained in its own defining characteristics of 'extensive connection'. We cannot discriminate its other epochs of vigorous order, and we merely conceive it as harboring the faint flush of the dawn of order in our own epoch. This ultimate, vast society constitutes the whole environment within which our epoch is set, so far as systematic characteristics are discernible by us in our present stage of development.53

Although it would be tempting to identify this one ultimate society of pure extension with Bradley's Absolute, this is clearly not the case. For Whitehead explicitly says "...there is no society in isolation".54 And to repeat his earlier claim regarding the boundless character of the extensive continuum, "There are always entities beyond entities because non-entity is no boundary".55 Hence, the society of pure extension is not to be thought of as a 'final container', but rather as the largest conceivable society. Perhaps "...in the future the growth of theory may endow our successors with keener powers of discernment...", but at this point in history, Whitehead thinks, the society of pure extension is the largest whole.56

What then is 'beyond' the societies which constitute the physical and geometrical order of nature is unknown, or simply disorderly by our understanding of order, even though some sense of whole and part is still vaguely discerned. As Whitehead makes this point: "Beyond these societies there is disorder, where 'disorder' is a relative term expressing the lack of importance possessed by the defining characteristics of the societies in question beyond their own bounds".57 Chaotic disorder simply means the lack of dominant definition in societies beyond our comprehension.

But here a problem arises with regard to the increasing width of social order beyond our own epoch. That is, once we have transcended the level of the cosmic epoch, is there any sense in which these ultimate societies can be understood to be in process? Does the geometrical society change, such that the axioms which are self-evident to one cosmic epoch become totally different ones to another cosmic epoch? Or even more generally, is there any evolution or process in the society of pure extension? Keeping in mind that the cosmological theory is only applicable to our particular cosmic epoch, the

question then arises as to the metaphysical ultimacy of process in Whitehead's philosophy.

Considering the vastness of the universe, Whitehead does not ascribe to the extensive continuum anything more than the very general properties of extensiveness, divisibility, and the relation of whole and part. As he attempts to locate the ultimate metaphysical necessities in this scheme he writes:

> Some general character of coordinate divisibility is probably an ultimate metaphysical character, persistent in every cosmic epoch of physical occasions. Thus some of the simpler characteristics of extensive connection, as here stated, are probably such ultimate metaphysical necessities...
>
> The more ultimate side of this scheme, perhaps that side which is metaphysically necessary, is at once evident by the consideration of the mutual implication of extensive whole and extensive part...
>
> In this general description of the states of extension, nothing has been said about physical time or physical space, or of the more general notion of creative advance. These are notions which presuppose the more general relationship of extension.58

With considerations of this sort we might be led to find an affinity with Bradley here, for if only such general principles of extensive connection are metaphysically ultimate, then it seems that process and the creative advance apply to the very limited regions of the universe. But this would be contrary to the very spirit of Whitehead's philosophy in which process <u>is</u> reality.

The difficulty can, I think, be cleared up with the essential point that the scheme of extensive connection is an abstraction from the process. That is, this whole scheme is derived from actual occasions. As we recall from an earlier chapter, the extensive continuum is an abstract system of logical relations.59 It is the first determination of order, of real potentiality or possibility for actuality. As we ascend the continuum to various levels of social order, extending outward spatially, we become more removed from the concrete actual occasions, which atomize the continuum, to increasingly abstract levels, where the defining characteristics become so general that we can barely comprehend them. So, when Whitehead is talking

about the metaphysical necessities of extensive connection, he is talking about form in general. No reference is made to the special asymmetry of time or the creative advance at this level of analysis because he is investigating levels of order which transcend, yet apply throughout all cosmic epochs. Indeed, the peculiarity of this scheme is that it can be thought of without reference to physical time, space and the creative advance. But this does not mean that it is disconnected. As Whitehead says: "The 'extensive' scheme is nothing else than the generic morphology of the internal relations which bind the actual occasions into a nexus...."60 It is the most general system of relatedness of all possibilities, but only as a system limited by its relevance to the general fact of actuality.

So the idea of a continuum is a spatialization, or an abstraction, which omits the process by which an individual event comes into being. This is why Whitehead says: "The notion of nature as an organic extensive community omits the equally essential point of view that nature is never complete."61

What we must keep in mind is that, for Whitehead, the whole universe evolves from bottom up. That is, with the becoming and perishing of actual occasions, and the evolution and decay of societies which occur over longer periods of time, cosmic epochs also become and perish over stretches beyond our comprehension. And even beyond cosmic epochs there must be some sense of evolution though the changes may be very minute. The point is that with the passing moment the whole world conspires to produce a new creation and thus changes are felt throughout the universe. This is why Whitehead says that none of the laws of nature give the slightest evidence of necessity.62 With the running down of a cosmic epoch there is a general decay of the dominant patterns of prehensions constituting these 'laws'. Such laws fade into unimportance once the epoch passes into the background of the past. But as a cosmic epoch passes away and another becomes from an aboriginal disorder of actual occasions, we must conjecture that changes are felt at the higher levels of society, even though they may be of negligible importance.

Logical, mathematical and geometrical laws are usually held in such high epistemological esteem because they are seen as eternally true, or true in all possible worlds. But, for Whitehead, even these laws are not metaphysical

truths.63 They seem to be eternally true since they are largely unaffected by the process of the lower levels. But it is possible that in some distant cosmic epoch, where there will have been sufficient change in the wider societies, that 1 + 1 will not make the sum of 2, modus ponens will be an invalid form, and a line will be something other than a breathless length. This is indeed a genuine possibility if process is the ultimate metaphysical necessity, and Whitehead does, I think, convincingly argue the point. It is only that the sense of 'endurance' in the ultimate societies is so general that the laws seem eternal, but they are only propositions about our present cosmic epoch.

By the 'Ontological Principle' we have a metaphysical necessity that the whole universe is composed of actual occasions whose essence is process. When we abstract from this process of occasions certain formal properties of extensive connection can be formulated as whole and part, which is probably, Whitehead says, a metaphysical ultimate. Points, lines, surfaces, straightness and flatness are the geometrical elements applicable to this stage of cosmic history, then there are the more special characteristics of the specific cosmic epoch in question. In ours the laws of electromagnetic phenomena reign. In others perhaps laws of anti-electromagnetic phenomena are dominant, or the social order is radically different from the order we experience. But it is quite clear that nothing of this scheme gains any meaning without the activity of actual occasions.

For Whitehead, we saw that the level of social order known as 'pure extension' was the largest conceivable level, but this vastly general society was not the end of relations in the Bradleian sense. There is no 'final' or 'perfect' level of order in the universe. There is always room for improvement, and equally, every chance of destruction. Whitehead therefore criticizes Bradley in several places for absorbing process into the perfection of the Absolute.64 And, generally speaking, he writes of Absolute Idealism:

> ...the immensity of the world negatives the belief that any state of order can be so established that beyond it there can be no progress. This belief in a final order popular in religious and philosophic thought seems to be due to the prevalent fallacy that all types of seriality necessarily involve terminal instances.65

Clearly Whitehead is allowing for some further order to be achieved out of the nebulous disorder beyond. So, extensive relations must be potentially infinite in both the temporal sense of before and after, and the spatial sense of whole and part. Aside from these most general properties of the extensive continuum, there is no eternal static order as one final container. Just as various forms of seriality extend on infinitely on one or both sides, there is no reason why the universe cannot be conceived in similar fashion. This is the doctrine of the unbounded universe- the 'seamless coat'.

Whitehead could very well accept Bradley's general conclusion that there cannot be individuals or relations without there being some larger whole, but there is no reason to accept one final Whole, if the wholes are themselves generated by the creative process. Instead of postulating one final Whole in order to understand how the levels of society nestle inside one another, the essential notion for event-pluralism is that the actual occasion is "... the whole universe in process of attainment of a particular satisfaction".66 The actuality of the universe is derivative from the solidarity in each occasion. This is, I think, what Whitehead means when he says that his cosmology is a "...transformation of some of the main doctrines of Absolute Idealism onto a realistic basis".67 The essential modification is that the 'realistic basis' is evolutionary.68

Recalling that Whitehead's pluralism necessitates an inversion of Bradley's doctrine of actuality, W. E. Hocking, recording his recollection of a conversation with Whitehead, quotes him as follows:

> I am very near to absolute idealism when you take the finite as an abstraction; the slightest push would push me over. But where I differ is, your Absolute is a super-reality. My point is, when you try to get at a ground of reality more real than the given, you get an abstraction; your super-reality is an under-reality. Reality is always emergence into a finite modal entity.69

This may seem odd indeed when we consider Bradley's claim that the Absolute is the most concrete Reality, but of course the Absolute is not the <u>given</u> concrete reality, but rather a hypothesis about how all the finite centres

form one larger concrete Whole. Even Bradley is quite clear that it is only in feeling that we have a low and imperfect example of an immediate whole, and this is never more than the unity of our own finite centre.

So, in the end, as to our central problem of whether the Absolute swallows process in one timeless eternity, or process and the general flux of the creative advance dissolve any conception of a final order, we have slightly pressed Whitehead's position over Bradley's. But, for the most part we have, in this section, simply wished to expose the very different conceptions of the universe which occur in their respective metaphysical speculations.

It may indeed be said that one side reduces time to space by defining all temporal relations in terms of parts or appearances of the Whole, while the other side reduces space to time by defining all spatial relations in terms of process and evolution. In some sense this is true, but it is much too simple a formulation of the conflict between Bradley and Whitehead. Whether we are monists or pluralists on the question whether ultimate reality is one or many, I think, largely depends upon the soundness of the general arguments on relations. And, although Bradley's analysis of the relational was, for the most part, rejected in our last chapter, we now turn to a more detailed examination of his arguments and others' on the theory of time, where the problem of relations once again becomes acute.

CHAPTER VI

TIME

1. Temporal Unity and Direction

In this chapter we concentrate on special problems of time which arise in connection with the conflict between Bradley's conception of the Absolute and Whitehead's conception of an infinite process. After considering how Whitehead might have attempted to solve various problems raised by Bradley, we shall consider how Santayana's theory of time might be used to clarify various points in Bradley. Given this new formulation of the argument, various objections will be raised in connection with Whitehead's theory of prehension and objectification, and finally an attempt will be made to defend Whitehead against these objections.

Although Bradley never mitigates the severity of his treatment of time as a low appearance on the scale of reality, he does wish to establish "... how by its inconsistency time directs us beyond itself".1 By this we understand that time must find its wider harmony and consumption within the experience of the Absolute. In effect, Bradley repeatedly argues that the essential togetherness or cohesion of the universe is a result of the total interdependence of experience happening in an eternal present. Such a teleology, it must be noted, does not involve a dependence of becoming in time and satisfaction of purpose in sequential order, but rather the telos of parts which form a de facto whole. From this it is clear that time cannot hold a primary place in such a system; that is, given its relational and atomistic character as conceived by ordinary thought. It is but an isolated aspect which loses its special character when absorbed into the timelessness of the Absolute.

In two of our chapters above we gave considerable attention to Bradley's views regarding the inconsistency of time as a plurality of discrete moments.2 But we now turn our attention to his arguments where his theory of the transcendence of time comes clearly into focus. Here the attack is focused on temporal unity and direction as a one-way succession in which everything in

the universe must conform.

As regards the unity of time, Bradley says we have a tendency to regard all events "...as members in one temporal whole, and standing therefore throughout to one another in relations of 'before' and 'after' or'together'."3 However, evidence which runs against this notion is the possibility of a number of independent time-series which have their own serial unity but do not form a unity when considered all together. This, presumably, would look like layers of overlapping series though no one series would be dominant or play the foundational role upon which the others are interwoven. Each would have its own phenomenal order. To illustrate these possible realms, Bradley considers dreams, imaginative wanderings and fictions. Each dream, for example, has its own logical order and time lapse, yet when considered in relation to the order in a different dream or fiction, we find no sense in which they can be said to be part of one series of real events. This, Bradley concludes, leads us "...to realize that the successive need have no temporal connection".4

On a slightly different but related theme, Bradley now considers direction in time which follows much the same course as temporal unity. The direction of time poses a most interesting problem. Is it the case that time, past and present, moves forwards into a novel future, or that the succession of events becoming as fresh sensations each moment, immediately slip backwards into the past? Though Bradley thinks the latter is more natural, either direction is entirely dependent on present experience.5 Why one may be preferred to another is not a matter of how time is directed in reality, but rather a habit of the animal nature for best practical results. Mockingly, he relates such sense of direction in time to the principle by which fish feed heading upstream instead of downstream.6 Direction, he thinks, is infected with relativity. Being a construction of the present, direction in time is entirely a convenient way of dealing with our world. To make this point Bradley entertains the notion of a direction in time which would be the reversal of our order of events. In such a world we may conceive of a high technologically advanced society de-evolving into unicellular organisms. This world, in its reversed causation, doesn't in any way come into contact with our own experienced world for it is totally independent. By our understanding

"Death would come before birth, the blow would follow the wound, and all must seem irrational".7 One is here reminded of the story of Benjamin Button in F. Scott Fitzgerald's Tales of the Jazz Age.8 His life, moving backwards from the grave to cradle, began in the last stages of senility and became younger until he perished as an embryo, splitting into an egg and sperm. One imperfection though, is that Fitzgerald conceived of Benjamin's stream of consciousness as running forwards instead of backwards with the diminishing physical regression. Bradley, to be consistent, I presume, would also have to accept the notion of a causally reversed consciousness in his reversed order. Still the aim of such a thought experiment is obvious. If there are multiple overlapping directions in time which are counter to our own experience, then in the timeless perfection of the Absolute, all times must be transmuted and balanced into an eternal present.

Bradley again takes up the problem of direction in time in a most curious and puzzling essay "Why Do We Remember Forwards And Not Backwards?". Here as the title suggests, his main concern is the general tendency of memory to trace events forwards from the past to present.9 However, in so doing, he wishes to refute the idea that memory follows a real direction in time. The image of a flowing stream is used to indicate the direction of our consciousness in time. Bradley explains:

> It is not a stream in general which we have to do with, but the stream of our events. And here we have the essence. It is our psychical states which furnish both the flood and all the matter which flows or which stands against the stream. In the succession of these states it is the group of self, more or less unvarying, that has the place taken by a in our scheme.10 And it is the attitude of this group towards the incoming new presentations on which everything turns. It is this relation which gives a meaning to direction, and shows the essence of our problem.11

The forward direction of time, Bradley thinks, is tied to our tendency of thinking that consciousness flows as a stream forwards to "meet fresh experiences". Or, if we think of time as moving backwards "it is because we do not go back", but hold our own against change, like the fish feeding upstream. Lastly, if we think of ourselves as stationary, the direction is relative to our experience and makes no real difference. In the end, Bradley thinks that our tendency to remember forwards is tied with the first

of these notions of direction in time. It is simply a habit, in that we anticipate the future, and this suits our needs best for approaching coming sensations and actions. Instances in which we would remember backwards are just as valid, but not so common, because we would be directed away in time from our present selves which concern us most.12 This Bradley concludes should convience us that direction is just as much an illusion as time itself. The appearance of a direction which time follows is of our own psychological making and not part of the nature of reality.

Now Whitehead, I think, would challenge Bradley from the point of view that our intuitive grasp of time as moving forward exemplifies the very process of becoming in which the antecedent world forces a novel moment in the immediate present. This asymmetry of concrete relations implies a concept of time in which the past is determinate, the present in the making and the future indeterminate. There is no altering what is fixed in the past but as such data exist as an accumulation in the present, there is a genuine choice to be made regarding the future. As the present moment sheds its actuality it does not merely become nothing as it fades into the past. Having perished, its determinate and individual character achieved as present is preserved in the form of an organic memory, though its degree of existence in the future is to be determined by the positive prehensions of subsequent actual occasions, that is, the extent to which the future shall choose the past and provide its objective immortality. The process of time is not, therefore, a shifting of eternally present occasions of experience, but the actualization of a potentiality as creative choice determines a particular distinctness with a subsequent loss of its actuality.

Implicit in Bradley's arguments which purport to establish that temporal unity and direction are ideal constructions from our present experience, is a universe of symmetrical interdependence. His realms of possible time series do not, however, refute or show the absurdity of time as one unifying process of events. Firstly, it is highly unlikely that the fictions and dreams which Bradley points out as having their own independent time series occur to any of us as having the same degree of reality as our normal conscious states.13 We can surely discriminate by the fact that dreams and unconscious states do not form a continuous identity of the self, as is the case with normal

consciousness. Secondly, his attempt to refute the idea of one asymmetrical series of temporal unity is based on an erroneous assumption that these realms of floating fictions are on the same level as our experience of universals, yet to be seen as independent from the temporal process. But our experience of dreams, imaginative wanderings and various fictions in time is how we come to know them, and the mode of being which they have is entirely dependent upon our memory of them. This is a point which Bradley fails to consider. What he does ask us to consider is how various fictions and dreams stand in the order of 'before' and 'after' in time.14 Each fictional series, he thinks, has its own logical order, but is independent, insofar as we try to relate it to one temporal process. But it must be noted that each came into existence by our creating them in time. Upon subsequent reflection, each fiction easily has the appearance of not being a part of time, especially when considered in relation to one another. Thus, their status seem equal to that of timeless universals. But unlike the universal, the fiction is dependent upon memory in the temporal process.

Let us pursue a similar analogy. Mozart, for example, writes the score for his Don Giovanni. Surely his act of creating the opera is in the temporal process and each time it is performed it has a phenomenal unity recognized as Don Giovanni. The individual notes which constitute the music of the opera exist as timeless universals, however the patterns themselves are not universals because they can be destroyed or lost to humanity. Hence the opera does not occupy an independent realm with its own time. In Whitehead's view it exists only insofar as actual occasions are prehending this pattern or sequence of eternal objects. The only sense in which Don Giovanni exists after its composition and aside from its being performed, is in some form of memory (e.g., musical notation, or human memory) which has potential to be performed in the present. Accordingly, patterns of universals or eternal objects would not establish the existence of a number of time series.

Following this line of thought the argument opposing direction, though parasitic on the argument opposing temporal connection, can be seen as clarifying Bradley's position regarding symmetry. The direction of a series which we experience as a,b,c,d,...z is counterbalanced and therefore

neutralized in a totality which contains the possible world in which direction runs z,y,x,w,...a. Though these serial orders within the Absolute may be multiple and overlapping in their timelessness, for our present purposes with regard to symmetrical interdependence, it will be sufficient to consider the case running directly opposite to our own experienced world. Bradley asks if such a world is contradictory or anything but possible. But what is crucial about this conceptual problem is that the reversed direction is not part of our experience which is directional in terms of aim and memory. It merely occurs as one of many within the comprehensive experience of the Absolute. This being the case, it is conceivable that such a world might exist outside of our current cosmic epoch, provided that we are mere observers, and not agents who affect the order of events. Also, with this reversed direction, it must be noted that experience in this world too is an asymmetrical relation; one-way, except from effects to causes. An apple would then roll along the ground, bounce and leap upwards attaching itself to a branch of a tree. A man's life from death to birth (with a reversed flow of consciousness also) would de-evolve and in such a world people would use 'before' and 'after' in a sense which would have the exact opposite logical ramifications. But what does this all come to? Here we would have a world in which the laws of physics and biology would be reversed to apply to the reversed order in which physical bodies move. Also, the laws of psychology would explain how events are contained in memory and become more vivid until they happen and become a desire or aim, finally vanishing as the bud of an idea. This being so, the creatures in this world would still experience events as an irreversible asymmetric process. Now it seems difficult to see how Bradley establishes the symmetrical case. This world could be reconciled just as easily with the direction of our world. It is just that people in the reversed world would talk about aim and memory to mean the opposite of what we mean. The sequences- a,b,c,d,...z and z,y,x,w,...a, then, would not be running counter to one another, but rather they would be synchronized in the momentary pulse of becoming.

What is surely rejected by the primacy of process is the notion that the future can exist as determinate moments beyond the present. That is, a cannot exist as a determinate occcasion happening first in one sequence and last in the other. In the reversed order, all that exists at the instance of

a's becoming is the becoming of z. Bradley, in order to establish the symmetrical case must always presuppose the existence of the Absolute to provide a basis in which events would run counter to each other in seperate times. For example, he assumes that all moments in both independent series exist in a timeless Whole. However, without this unnecessary hypothesis, time and direction conform as a one-way dependence.

As active participants in the creative process, that is, as agents which affect the content in experience through our volition and activity, we shape the present and essentially contribute to the direction in time. Anticipation of fresh sensations, then, does describe the nature of directed experience in that we are conscious of creating the present and how that experience will be continuous with the future.

Though Bradley's theory is founded upon a universe of innumerable centres of experience, he argues that much of our understanding of this experience is illusory. But, if the occasions of experience which compose our psychical states provide a sense of direction as a stream of events moving forwards, then why not take this as the paradigm of reality? This I find to be something of an inconsistency in Bradley's thought. For, on the one hand, he certainly emphasizes our taking feeling and direct intuition just as it comes without the mutilation of analysis. Yet, on the other hand, his interpretation of experience is a concentration on timeless being, in which our experience is to be understood as eternally present. The obvious difficulty is a result of defining experience in terms of a permanent and essentially static conception of the Absolute.

As I have argued above, Whitehead's criticism of Bradley focuses on distinguishing the occasion of experience into its becoming and perishing. In this analysis, Whitehead further distinguishes two aspects of our continuous experience as a passage from re-enaction to anticipation. This was Whitehead's earliest preoccupation in his scientific works regarding our inability to experience a durationless instant, i.e., a point in time which is a pure abstraction from process. The notion which is fundamental in experience, he says, is that each occasion is not without the past or future- "...the present is the fringe of memory tinged with anticipation"- a point

often alluded to by the poet's insight:

> Life is what happens,
> While you're busy,
> Making other plans.

Re-enaction is the inheritance of experience as cumulative through a selective process in which each novel re-arrangement involves some degree of the past as objective data. Likewise, the status of the future, though indeterminate insofar as it exists in some definite point beyond the present, can be seen as immanent in each occasion. That is to say, the present occasion anticipates existence beyond itself in that its achievement will have value for occasions in the future. The future then is a necessary aspect of the present. Without it, "...the present collapses, emptied of its proper content".15 However this is not to say that the future is actual. For Whitehead, the disparity between past and future is grounded in asymmetrical relations. Though both past and future are immanent in the present, the past is objective in the present, while the present will be objective in the future.

2. The Eternalistic Theory of Time

The notion that temporal passage must be resolved ultimately into a static eternity is by no means a novel idea to metaphysicians. Plato had said that time is nothing but a "moving image of eternity", and Bradley does seem to follow him here with his notion that Reality does not exist in time but only appears there. But aside from the claims of various forms of Idealism, others who have meditated on the nature of time have discovered something very peculiar about the notion of becoming and perishing, and the unequal ontological status of past, present and future events. Santayana, for instance, in his argument for determinationism, claims that the basis for the truth or falsehood of our judgments about the past or future lies in the correspondence between such judgments in the present and the actual existence of past and future events. This leads him to the view that all events are intrinsically present and that past and future are simply relative to the now in question. Truth in Santayana's view is therefore eternal, but this does not mean that the actual passage of events is resolved into a static

eternity. Santayana, in fact, stresses that it is of the very essence of each event or 'natural moment' to be lapsing into the next. The dynamics of process are not, in his view, illusory; for this too is a part of the eternal truth of things. But the important point to keep in mind is that each moment, though propulsive in one respect, is also eternally fixed in its place in the temporal flux.16

Although we shall return to consider the arguments for this theory in more detail later in this section, we must here return to Bradley's theory of time for further elaboration. Having briefly introduced the central problem which gives rise to what is sometimes called "the eternalistic theory of time", we shall find some indication that Bradley himself leaned in this direction, but of course developed his view in a much more monistic fashion. Also I should mention here that in large measure I derive my understanding of the compatibility of the eternalistic theory of time and the doctrine of the Absolute from Professor Sprigge's metaphysics, where this synthesis has been shown to be most effective.17

At times, Bradley seems to deny that there is a real past or future. He calls such mental phenomena 'ideal constructions'. The past, for instance, is constructed from the present because it is not directly experienced and must therefore be unreal; albeit an important aspect of dealing with the identity of our present selves. Since the past is not a part of immediate experience, it can only be considered in terms of synthetic judgments of sense which involve an inference from our present memory-experience. Similarly, the future would be a construction based on a present expectation. Reality then can never be known in its totality though, our best intuition comes in the undivided immediacy of feeling. As Bradley argues in his Principles of Logic: "It is impossible, perhaps, to get directly at reality, except in the content of one presentation; we may never see it, so to speak, but through a hole."18 Such remarks might lead one to believe that Bradley is advocating the view sometimes called "the philosophy of the present"- that past and future are unreal because all that truly exists is the particular 'now' immediately present.

But this is clearly not the case, for even though Bradley here, and in

other places, emphasizes that past and future are, from our point of view, "ideally constructed", he also says that they must be real for there to be anything for our judgments to be true about. For example, in his essay, "What is the Real Julius Caesar?" he writes:

> The past and future vary, and they have to vary, with the changes of the present, and, to any man whose eyes are open, such variation is no mere theory but is plain fact. But, though ideal, the past and future are also real, and, if they were otherwise, they could be nothing for judgment or knowledge. They are actual, but must remain incomplete essentially.19

But here we seem to be faced with the problem as to how the past and future can be both real and ideal. Or, put another way, how can past and future be actual if time itself remains, in Bradley's view, essentially unreal? Bradley is far from clear about the exact formulation of his theory, but at least here he seems to have approached the idea that all events past, present and future are just "eternally there" in the Absolute.

The reason why Bradley seems to be rather obscure here is due to a tension in his thought between Reality as one timeless moment, and reality as many 'related' moments contained in this eternal present. In fact the obvious difficulty with the latter is the amount of abstraction involved once analysis has cut into the continuous Whole present in immediate feeling. Indeed it is quite clear that the division of time into past, present and future leads invariably to an infinity of relations, and this is never ultimately satisfactory in Bradley's view. However we must also keep in mind that some of the restrictions of Bradley's radical monism are mitigated by his notion of 'degrees' of truth and reality, and this I take to be the key to understanding the above dilemma.

As we recall, there are in Bradley's philosophy, many levels of truth and reality which are valid for their limited purposes. Hence, various types of thought which deal with some form of plurality are 'necessary' and this is particularly true of our judgments about past and future events. Once the Absolute is broken down into various degrees of reality, we discover a hierarchy of levels in which these various forms of plurality begin to

appear. (For our present purposes we distinguish four levels, and, once again, we employ the distinction made earlier in this thesis between centres of experience as 'enduring' and 'momentary'.20) Our analysis of this hierarchy proceeds as follows:

1. The Absolute as an undivided Individual
2. The Absolute as the unity of enduring centres
3. The enduring centres as the unity of momentary centres
4. The momentary centres as the unity of 'that' and 'what'

At the first level, the Absolute is the only fully complete and final Reality existing in one timeless eternal present. Then, one step down the Absolute is the unity of an indefinite number of enduring centres of experience. Since they are at one with the Absolute they are eternal, though, from our perspective, they 'endure' throughout all time. Then, another step down, each enduring centre is the unity of its many momentary qualifications, i.e., the momentary centres or 'this-nows'. As Bradley says on this point, the enduring centre "... contains a lapse and a before and after, but these are subordinate".21 It is at this level that time 'appears' and judgment about the various moments of time becomes important. And, finally, another step down, we arrive at the level in which each momentary centre is a unity of existence and content, of 'that' and 'what' fused together to make up the individual psychical unities.

Now quite clearly, each lower level will be an adjective of the immediately higher level, and each will have therefore a perfectly determinate place in the Absolute. All will be present but at the third and fourth levels past and future will be relative to the point of view of any particular 'now' of a momentary centre. That is, each 'this-now' will feel its place in the particular series of the enduring centre to which it belongs; and it will also have a certain perspective on the Whole from this particular place.

What we must remember is that Reality, for Bradley, is continuous throughout, but since our given presentation is merely a restricted hole through which we gaze into the eternal, we see it only partially. This is why past and future are but constructions from our present point of view.

We 'ideally' fill in the portions of the continuous reality which are not present. But for the Absolute, past and future are just as real and actual as is our given present. All moments, then, are just "eternally there" in the Absolute, even though they remain essentially incomplete and imperfect in themselves.

Bradley himself does not say this in so many words, but I think this is the upshot of his theory and it is the only sense which I can make of his notion that past and future are both ideal and real. That is, what makes our judgments more or less true or false is that there is that portion of reality actually present in the Absolute experience.

One point emphasized by many Absolute Idealists is that any representation of the Absolute will fail miserably simply because our humble finite perspective on Reality never comes close to grasping the whole of eternity beyond. Also, any particular model will be illuminating only for certain points, while wholly deceptive for others. But, if we are to choose the best of the worst, perhaps a globe comes closest to satisfying this need of an image, and this will (I hope) aid us in our present discussion. As we recall from our last chapter, this was, in fact, one of the few images which Bradley himself offers. With such a model we can imagine a whole which contains at its core the enduring centres of experience all fused together in absolute harmony, but on the outer surface there are innumerable routes which belong to one centre or another. Such routes will be the various appearances of finite centres in time forming what might be called 'space-time worms', and at each point, there will be a momentary centre which fills that portion of reality. Leaving aside for the moment the complications of points of contact where two or more routes cross or run parallel to one another, we can easily conceive of how each momentary centre must always be eternally there from the point of view of the Absolute.

What Bradley seems to say in this connection is that all finite centres of experience are ultimately present and influence one another in some degree or other, but within certain limits we separate them into distinct periods of time which are not contemporary, i.e., their various momentary appearances.22 As he puts this point in the conclusion to his

essay on Julius Caesar, he writes:

> The real individual then... we find does not fall merely within a moment, nor is he bounded by his birth and death, nor is he in principle confined to any limited period. He lives <u>there</u> wherever the past or future of our 'real' order is present to his mind, and where in any other way whatever he influences or acts on it.23

So at the core of Reality lies the real Julius Caesar who was and always will be present there. But what Bradley also says here is that the limits in which we fix the period of Caesar's life (100-44 B.C.) are arbitrary. Thus, there is reason to believe that in the end, Bradley himself would not wholly ascribe to the theory we have constructed above (that all moments are determinately fixed in the Absolute experience) since he does not give too much reality to what we have called 'momentary centres'. That is, since he thinks the more pluralistic and atomistic views are largely our constructions in order to deal with time, we cannot be sure exactly how such momentary aspects are ordered in the Absolute. But let us here return to Santayana, who did expound a pluralistic theory compatible with eternalism, and whose arguments can be used to clarify the more obscure points in Bradley, at least where he seems to have leaned towards some theory of determinationism.

What Santayana calls his 'realm of truth' is, in many ways, quite consistent with the Bradleian Absolute. For instance, Santayana says that:

> The truth... forms an ideal realm of being impersonal and super-existential. Though everything in the panorama of history be temporal, the panorama itself is dateless: for evidently the sum and system of events cannot be one of them. It cannot occur after anything else. Thus the truth of existence differs altogether in ontological quality from existence itself.24

Such views accord quite well with the Bradleian view of the Absolute as the one Reality which has no history, but contains histories without end. The realm of truth, like the Absolute, is ontologically distinct and supertemporal; it does not however carry any implications of absolute spirit nor is it the non-relational One by which everything is finally absorbed. But such differences need not concern us now.25

What is quite relevant in this context is that past, present and future are, for Santayana, eternally fixed in the universe as determinate moments of temporal order. Contrary to Bradley then, Santayana would accept that the reality of Caesar is bounded by his birth and death, but this stretch of history is always present in its own time. The limits of his life are not arbitrary; each moment forms a determinate piece of reality.

As mentioned above, Santayana's central argument for this view is that a proposition or judgment must have an existing object, and this applies regardless of the specific period of time which contains the referent. Intelligence, he says, comes to perceive a certain continuity of events and definite truths about them.26 For instance, in our own flow of consciousness we have a direct experience of the truth of each moment, and of the substantial derivation of one to the next. But the truth of each moment is a fact which does not itself change with the passage of time.

Santayana insists that the present point of view, the 'I' or 'now' of present immediacy, is particularly deceptive with regard to the eternal truth of all time. Since "nowness runs like a fire along the fuse of time"27 we might be led to see truth changing as fast as the spark of immediacy. But, for Santayana, this is to confuse the essence 'now' with particular 'nows'. Particular 'nows' change one for another in rapid succession, but the truth of each distinct 'now' in its determinate place in the flux, forms the unchangeable truth of history. The fallacy in thinking that past events have simply perished is therefore a result of sliding "from a truism to a private perspective". That Caesar lived long ago is true only in relation to <u>our</u> present. But Caesar's present is a truth which does not change: it will always be there in that particular portion of reality. In what must be the clearest statement of this argument, Santayana writes:

> If Julius Caesar was alive at a certain date, it was then true, it had been true before, and it will be true always that at that date he was or would be or had been alive. These three assertions, in their deliverance, are identical; and in order to be identical in their deliverance, they have to be different in form, because the report is made in each case from a different point in time, so that the temporal perspectives of the same fact, Caesar's death on the Ides of March, require different tenses of the verbs. This is a proof of the

> instability of knowledge in contrast to the fixity of truth. For the whispered oracle, Beware the Ides of March, the tragic event was future; for the Senators crowding round Pompey's statue it was present; for the historian it is past: and the truth of these several perspectives, each from its own point of origin, is a part of the eternal truth about that event.28

From this it is quite clear that past, present and future must all have an equal ontological status, regardless of which particular date we choose as our point of departure. The future beyond my writing this sentence is just as determinate in character as is yesterday or the day of Caesar's death. It is only that our knowledge of such future events is limited by the fact that they have not occurred in relation to our present, and this is, Santayana claims, only a pecularity of human life- that we have much knowledge of the past and little of the future. But the alleged disparity between past and future is not an issue of our knowledge which wants to identify truth with our knowledge of it. Eternal truth is rather supertemporal and involves no limitation of scope in which human opinions operate. It is complete, accurate and perfectly determinate in either direction.

3. Replies to Some Objections to Whitehead

Our discussion has now reached the threshold of our final comparison, yet at the same time we seem to be confronted with a grave difficulty. In one respect, the central issue raised by the eternalistic theory of time is crucial to the final question: "What does it all come to?". For without some fadeless preservation of the perfect moment there can be no determinate truth.29 The passing of each moment cannot simply become nothing. If it did (and this is quite clear) the position would not be altogether different from the Heraclitean paradox of 'that which is always becoming and never is'. The basic problem for a philosophy of process, then, is how novelty does not entail loss, for the flux of existence is essentially meaningless without reference to permanance. As Whitehead on this point often quoted:

> Abide with me;
> Fast falls the eventide.30

But on the other hand, the position we have sketched above is clearly at odds with Whitehead regarding the equal status of past, present and future. If

indeed Santayana's argument is a sound one, Creativity cannot be the ultimate principle governing the becoming of experience, for the truth of every actual occasion is definite prior to its instant of becoming.

Professor Sprigge, having adopted Santayana's theory of time in his own metaphysics, has in The Vindication of Absolute Idealism and elsewhere, raised several pointed objections to Whitehead's theory of prehension and objectification.31 Since these two notions were seen to be the very heart of the mechanism of process, the criticisms advanced by Sprigge will be especially important here in order to illuminate further the central contrast with the theory of eternalism. And although I cannot, in this limited space, do justice to his intricate arguments for 'holistic relations' essential to his view, I will simply point to various ways in which the process view may be defended against these objections.

Sprigge concedes that in large measure the panpsychist ontology espoused by Whitehead accords quite well with his own conclusions. However, he utterly rejects the notion of a later occasion containing an earlier one as opposed to some manner of echoing it. If an actual occasion has been prehended by a later one, it has lost subjective immediacy, or, as Sprigge puts it, "suffered a kind of sea-change" and attained objective immortality.32 But Sprigge asks, how can this earlier occasion be the same particular as an element in the later one?33

The point crucial to Whitehead is that an actual occasion creates itself out of its causes; it prehends the multitude of occasions in its immediate past as the essential data in which it forms its novel synthesis, again to be broken down into data for future prehensions. But it is clear that in this process a past occasion does not survive as a whole in any future occasions. It has only a partial existence (with a continuance of subjective form) in many subsequent occasions, since the very concept of prehension demands that a successor eliminate certain elements incompatible with its own unique subjective aim, (i.e., the positive and negative prehensions). But if a past occasion has been altered such that it exists only as separate elements objectified in many present ones, what then guarantees the truth of it when it was subjectively immediate? Why should not the death of Julius Caesar become

a little less bloody as subsequent prehensions thousands of years later continue to redistribute the data that was this determinate event in the history of the Roman empire? The upshot of Whitehead's theory, at this point, seems to force him to the unfortunate conclusion that there is nothing actually existent which would settle the issue of what would make a judgment about the inherent character of this event true.

In effect, Sprigge argues that the whole notion of perishing or loss of subjective immediacy is incoherent, and that we must, in the end, accept the idea that Caesar's death is an untransformed event, eternally present in that particular portion of Reality.

Sprigge's objection to Whitehead really falls into two separate problems which we shall address as follows: (i) the problem of prehension, and (ii) the problem of perishing. Both are of course intimately connected in order to understand the mechanism of process. But for our present purpose we shall approach them separately.

(i) As to the first problem, in which Sprigge asks how an earlier occasion (which has lost subjective immediacy) can be the same particular as an element in the later one (or ones), I reply that it is not. The conjunctive unity achieved at the end-point of its process is not the same <u>particular</u> as the disjunctive diversity scattered among its successors. That is, the elements or 'objects' prehended as data are not to be understood as the real 'particulars' of the process. Only the actual occasions achieve this ontological status once they have become fully determinate and complete moments of experience. Also, what is quite clear is that we can make no sense of prehension of the past without the crucial point that when an occasion is subjectively immediate, the extensive characteristics or objects have not yet appeared. Objects only arise once the occasion has reached its satisfaction and has become a determinate entity. The whole notion of subjective immediacy, then, means that the occasion is "still in the making" and therefore indeterminate. But once it does reach its satisfaction the truth of this entity is not altered by the fact that the successors must have something to work with. That is, since the successors cannot create <u>ex nihilo</u>, there must be some material or data there to manipulate, in order

to produce the novel unity.

Some explanation is still needed. What we require is more elucidation of the various stages of the concrescence where the fluency of the past world makes its transition into the actual world of the immediate present. As we recall, this was the main concern of our section "Genetic Analysis and the Component Elements".34

Generally speaking, the occasion must be seen as a process which moves from <u>becoming</u> in which the occasion is subjectively immediate, to <u>being</u> which is the completed satisfaction or superject, to <u>perishing</u>. Now it is this second stage in which the determinate entity appears and becomes a potential object for a novel becoming. When an occasion reaches its satisfaction and becomes part of the actual world composed of other occasions which have reached their end-points simultaneously, it becomes a datum for a successor now in the stage of becoming (subjective immediacy). But this new occasion, having picked up where the others left off, begins to break down the actual world to form its own conjunctive unity and will choose only those elements compatible with its own present ideal. And here is the crucial point. Even though the chief ontological status of the predecessor is that of an 'initium' of its successors, the organic unity thus formed is greater than the sum of its parts which will become the elements in subsequent prehensions. Hence, any element which survives beyond this organic unity is but an abstraction from this concrete whole.

Sprigge goes further to say that those who hold this view of the objectification of the earlier in the later, have the notion of influence as injection of something of its quality by one experience into a successor, but this is inconceivable unless understood as "...the passage of quality from one locus to another within something like a single specious present...."35 But are actual occasions, natural moments, or momentary centres of experience so impenetrable that no feelings of the others can enter into them and affect their own internal constitution? A simple echo or manner of influence does not seem to do the trick. And even here I should like to point out that I can make no sense of Santayana's metaphor of the moments "lapsing into one

another" without some penetration of content. One's ability to sympathize with the type of experience another being has seems a good point of departure here, since this is, in fact, so important for Sprigge's own view.36 But it becomes rather difficult to imagine how one could truly sympathize with the reality of another being if one did not literally share in his (or its) experience, and feel at least some of those feelings. If so much is granted, it seems that the door is open for prehension. And this is because any experience of sympathy which one may feel for another is of that experience in what is one's own immediate past. This is, in fact, what Whitehead claims is happening in the first stage of becoming in the new occasion, i.e., a receptive sympathy. He says: "There is always the vague feeling of things beyond us, which are also within us, and within which we live."37

(ii) Now however much we may (or may not) be inclined to accept the notion of prehension as one experience containing elements of other experiences, we are still left with the problem of perishing. Where is the real past if it is only the elements which survive in the present? This I take to be the stronger part of Sprigge's objection to Whitehead, and it is one which deserves considerable attention.

According to Whitehead the past is real but gone. Just when the occasion reached its satisfaction (from becoming to being) it 'handed off' its data to the immediate present and perished. But where is it, if real and not still actual in the past? As we have said, it is partially here in the present, but as past, it is dead and gone. But if only the constituents survive, what determines the truth of the occasion as it was when present?

In reply to this objection it will be necessary to anticipate many of the conclusions of our final chapter where Whitehead's notion of the consequent nature of God finds a definite parallel with Bradley's notion of the Absolute. And here it is quite clear that Whitehead himself recognized that the prehension and objectification of finite actualities was not sufficient to complete his final vision of reality.

In the "Final Interpretation" of Process and Reality, Whitehead remarks with a certain poetic insight: "Objectification involves elimination",

for the present never fully embodies the past in its totality. The world craves for novelty, yet, at the same time, it "...is haunted by terror at the loss of the past".38 Such is our experience of the joy of birth and the sorrow of death in the world. But the whole issue of the loss of the past is one which sets the stage for the most general formulation of the religious problem. Whitehead here writes:

> In the temporal world, it is the empirical fact that process entails loss: the past is present under as abstraction. But there is no reason, of any ultimate metaphysical generality, why this should be the whole story.39

Indeed the truth of the temporal world must be somewhere in actuality, and Whitehead's solution here involves one actual entity which moves with the whole of creation, absorbing each occasion in perfect harmony. As he says, "...there can be no determinate truth, correlating impartially the partial experiences of many actual entities, apart from one actual entity to which it can be referred".40 "The truth itself is nothing else than how the composite natures of the organic actualities of the world obtain adequate representation in the divine nature".41 And here, Whitehead, by one actual entity, means God, who in His consequent nature, prehends every actuality as a determinate whole.

But here we have another problem. Sprigge in an article appropriately entitled "Ideal Immortality" raises the point that the attempt to resolve the problem of perishing by envisaging the realm of past events as contained in God's memory of all things that have happened, creates another problem of distinguishing the real past event from the memory of it in God's mind.42 Whitehead's use of the term 'representation' above does indeed suggest that there is such a difference. But he also says that the passing moment can find its adequate intensity only by submission to permanence, which indicates that he thought of the absorption as something more than just a cosmic memory.43 Let us then see how such an interpretation is possible by applying the concept of prehension to God.

Whitehead says that God is devoid of negative prehensions. He prehends the whole world positively such that He saves it as it passes into His

immediacy. God differs from actual occasions of the temporal world in that He is an eternal actual entity which never perishes. He is dynamic, creating and flowing with the world, and therefore changes not into a more excellent being, but into a more excellect state of the same being. Through His prehensions, nothing is lost that was a "mere wreckage" in the temporal world.44 All becomes objectively immortal.

Now if God positively prehends the whole world, this is not a mere memory in the cosmic mind. When He prehends the world it becomes the internal constitution of His eternal being. Hence, every occasion, once it is absorbed into God's essence, is preserved as perfectly determinate in every aspect. And if this sort of retention justifies the reality of the past and satisfies the problem of the interdependence between the permanent eternal side of the universe and the momentary finite side, the problem as to how we distinguish between the real past and the cosmic mind which retains it vanishes. The non-actuality of the past only refers to the finite character of the temporal world. Objective immortality, when considered as an aspect of God's nature, provides the notion of the eternal presence of all that has happened. This explains why Whitehead says that, apart from God, every actuality is merely a "passing whiff of insignificance".

Perhaps Whitehead's notion of perishing is rather misleading in the sense that it carries with it such implications of "dead and gone" or becoming nothing. It may therefore help if we distinguish two senses of perishing- (i) perishing from the temporal world, and (ii) perishing from reality. Clearly Whitehead does not mean that (ii) occasions completely vanish from reality, if, in fact, they "live for evermore" as elements in God's nature. According to the 'Ontological Principle', everything must be somewhere in actuality, and Whitehead explicitly says here that the principle is maintained by the absorption of finite actualities into the divine nature.45 On the other hand, Whitehead does mean that, (i) an occasion perishes from the temporal flux in order to make room for the new.

What I take to be the Whiteheadian modification of the theory of determinationism is that occasions cannot be eternally "subjectively immediate" because this stage of becoming is indeterminate, in the making,

and so forth. There cannot be events there in the past world still feeling that particular portion of reality because none of them would be determinate entities. They would all be eternally "frustrated" in the stage of becoming. Thus, it is only as completed entities that something is available for the prehensions of the future occasions; and for God, where adequate intensity is finally obtained.

One negative consequence of this position is that, one way or another, it seems that subjective immediacy is lost. Here I suppose Whitehead would have to accept that the truth of each occasion as it was when subjectively immediate is preserved as objectified by God, but only as the determinate choices it made in forming a satisfaction. God knows, in objectifying them, what they were as subjectively immediate by the very character of the final entity which was prehended as a whole.

So, we see that past events must be somewhere in reality for there to be any truth about them. But what about future events? We have not yet addressed the issue of the equal determination of the past and future. For, as Santayana argued, if we accept the determinateness of the past, it is relatively easy to see how the equal determinateness of the future logically follows. If one side is fixed, so is the other. But, on the other hand, if Creativity is the ultimate metaphysical principle, as Whitehead and Hartshorne argue, no actual occasion, not even God, has yet reached the future and created anything beyond the immediate past. Hence there is nothing that would make a judgment about a future event true because there is literally nothing there. The point which Whitehead makes in this connection is that: "The proposition 'Caesar crossed the Rubicon' could not be felt by Hannibal in any occasion of his existence on earth".46 No actual occasion can feel a proposition, if its actual world does not include the logical subjects of that proposition.47

As we recall, the essential point of the argument for equal determination was that there is no real difference between past and future (aside from the present "now" which establishes point of view) because all events are "intrinsically present". But here the determinateness of the present is the crucial issue at stake in order to show the equal

determinateness of events on either side, first, from present to past, and then from present and past to future. This is precisely what is rejected by Whitehead.

From the process point of view "intrinsically present" essentially means a stage of indeterminateness. Within the duration (or specious present) which constitutes the "subjective immediacy" of an occasion, there is something determinate, but this is only what is felt as already settled by the actual world of the immediate past. The present itself is essentially a transition where the potential objects supplied by this actual world are in the process of actualization, and this is what provides us with a sense of genuine choice regarding our present actions. The present is always a transition of <u>becoming</u> determinate. And indeed this being the case, it follows that the future must be open.

Of course this very rich and complex activity of the immediate present and the whole notion of 'stages' of the concrescence is not likely to be accepted by determination theorists. Sprigge, for example, denies that there is this much going on in any occasion of human experience.48 But, if I understand correctly, the theory of determinationism holds that all genuine possibilities could be exhaustively actualized. (Here I say 'could be' because it is not metaphysically necessary, but it seems more than likely.) And if this is so, it looks as if actual occasions would be valueless since all of the possiblities must be already fixed in the actual. But doesn't our experience seem to suggest otherwise? Beauty and value seem to be the unconscious aim of each moment of existence.

I think there is a slight of hand in Santayana's argument in that he moves from the truth of the past to the truth of the future, but always in retrospect. The future of the <u>Ides of March</u> is determinate only for those who now have that future in their past. This is a rather obvious point, but Santayana seems to treat all events, past, present and future as if they were all past. Perhaps it is no accident that the examples of determinationism work from the present backwards.

Also, what I find rather odd about Santayana's theory of time is this

combination of equal determinateness of all events and the genuine asymmetry of the flux in which predecessors lapse into successors, i.e., the one-way influence. But are these two notions satisfactorily combined in his theory? If an event is forever present in its own place in the flux, isn't this to deprive it of its very eventfulness in affecting the course of events beyond its present position? In other words, how can an event truly influence any other event if both predecessors and successors are equally determinate? Another question which naturally arises in this context is, why do not future events equally influence past ones if the limits are absolutely fixed in both directions? It seems that Santayana is saying that all events are interdependent and that dependence works only one-way.

What is usually meant when philosophers have claimed that 'time is unreal' is that the intuitive grasp of it as the becoming and perishing of experience is largely illusory. This is, I suggest, because time is interpreted not just as it is experienced, but usually through some sort of transcendental and essentially static realm of being or Absolute. But if all of time is eternally present (as opposed to the eternal presence of the past), this sense of the importance of the present moment, becoming afresh in the flux of experience, seems to lose its special meaning.

According to the process view, the asymmetry from past to present is unique in the sense that it is cumulative. Our present memory-experience of the past provides a good indication of definite traces of it. But what is there in the present which provides any traces of the future?[49] Expectation is a poor example of a future analogue of memory. At most it provides us with probability. For Whitehead the truth is always unfolding. The truth about the past is retrospective while the truth about the future is simply a matter of possibility. Santayana is right to claim that truth does not change. But it is a paradox that there is an unchanging truth about an event which has not yet become.

CHAPTER VII

God and the Absolute

1. Universal Absorption

Throughout the course of this thesis we have seen considerable resistance on the part of Whitehead to a supra-relational Absolute reality as espoused by Bradley. In the early chapters, I attempted to elucidate definite points of affinity regarding the doctrine of experience, but in the later chapters the interpretation of feeling in terms of a distinctive pluralistic ontology led to definite points of conflict under three major topics of investigation: (i) relations, (ii) extension, and (iii) time. However, as I indicated in the last section of our preceding chapter, there is one attribute of Bradley's Absolute which Whitehead wholeheartedly accepts as essential to complete his system of reality.

As we recall, in the preface to Process and Reality, Whitehead wrote: "...though throughout the main body of the work I am in sharp disagreement with Bradley, the final outcome is after all not so greatly different".1 And in a later essay entitled "Process and Reality", Whitehead articulates what he means by the 'final outcome':

> If you get a general notion of what is meant by perishing, you will have accomplished an apprehension of what you mean by memory and causality, what you mean when you feel that what we are is of infinite importance, because as we perish we are immortal. That is the one key thought around which the whole development of Process and Reality is woven, and in many ways I find that I am in complete agreement with Bradley.2

Indeed, it is the concept of 'universal absorption' of all finite actualities in one eternal actual entity which will occupy our attention in this final chapter of our comparative analysis of Whitehead and Bradley. Let us then first look to Bradley for the source of this idea with which Whitehead finds himself in 'complete agreement'.

One of Bradley's central arguments for the Absolute focuses on the mere

fragmentariness of feeling and our sense of incompleteness and imperfection in the passing of each moment. In Appearance and Reality, he says that the universe, in its diversity, has always shown itself to be inexplicable.3 But in feeling, he also says, we are supplied with a clue as to how the universe finally comes together in absolute perfection. Bradley emphasizes time and time again that such perfection is never comprehended by man in any detail, but to grasp something of its nature in broad outline is sufficient for our purpose in knowing ultimate Reality.

In feeling, Bradley argues, we have an immediate experience of a non-relational many-into-one which, if developed to a final completion, provides us with our basis for belief in a Whole qualified non-relationally by every fragment of experience.4 In other words, since feeling supplies us with only a "low and imperfect example of an immediate whole", we are compelled to further the many-into-one principle to the idea of a perfect Experience which embraces all finite appearances in absolute harmony.5 This is, in fact, what constitutes a satisfaction of the intellect for Bradley. Reality as Absolute is the crowning conception attained by the intellect in its struggle to comprehend the less intelligible forms of appearance and imperfection. Thus he writes:

> The universe as a whole may be called intelligible. It may be known to come together in such a way as to realize, throughout and thoroughly, the complete demands of perfect intellect. And every single element, again, in the world is intelligible because it is taken up into and absorbed in a whole of this character.6

So we see that finitude, diversity and appearance can only become intelligible by our realization of how things come together in one final Experience, which, for Bradley, is achieved by nothing short of the Absolute. Everything begins and ends in feeling. The many become one.

Not only does the Absolute absorb every detail of finite appearance into a final unity; perfection requires that it transform all diversity and conflict into cosmic harmony. This is an essential principle of monism. All discord, strife and opposition must come to rest in one final unity. Goodness, evil, beauty, ugliness, pleasure, suffering and error all come

together in a unity which includes all, yet cannot be identified with any one per se.

What we find operating here is an implicit acknowledgement by Bradley of something like Whitehead's doctrine or category of 'transmutation'. Whenever diversity and conflict are felt as an harmonious unity, there must be a transmutation of the many once absorbed into the final feeling. As Bradley says: "We have a rearrangement not merely of things but of their internal elements. We have an all-pervasive transfusion with a re-blending of all material."7 This is quite essential when we consider how it is possible that opposition and discord finally achieve a harmonious unity. In fact, the doctrine of transmutation is exactly what is needed in Bradley's philosophy in order that the Absolute override the relational form of ordinary thought. There must be a process of filtering in the higher order such that diversity is blended and transmuted into a richer and more concrete form of Reality.

But here a problem seems to arise. Bradley, in several places is quite insistent on the point that, in the process of absorption by which transmutation takes effect, the individual natures are lost.8 And this applies whether we are concerned with selves, finite centres or mere properties of individual facts. Yet, in other places he is equally, if not more strongly, insistent that nothing is lost, and that it is only by realizing how things come together in a larger Whole that we understand how every single appearance survives in the result. He says: "We can find no province of the world so low but the Absolute inhabits it. Nowhere is there even a single fact so fragmentary and so poor that to the universe it does not matter."9

So, on the one hand, transmutation and perfection in the final unity seem to demand that the constituent individual natures and appearances surrender their unique characters to the Whole, yet on the other hand, the only sense in which all things finite reach their ultimate immortality in the universe is by consumption in this higher Feeling which at once both retains and transmutes them. This I shall call the 'problem of transmutation' which (we shall see) applies to both Bradley and Whitehead, and serves as a final

point of affinity in our comparative analysis.

Now, Bradley is well aware of such an objection to his Absolute. If in the process of absorption all individual detail and variety is completely lost, the end result would be indeed really poorer. The Absolute in its absolute harmony and perfection would be simply a "flat monotony of emptiness" standing outside of all life as a bare Thing-in-itself.10 But Bradley says this would be a serious misunderstanding of the final solution. Because we cannot tell how inconsistencies are united or how the final unity harmonizes all detail, this does not imply that all detail is abolished. He says that: "We do not know how all these partial unities come together in the Absolute, but we may be sure that the content of not one is obliterated."11 And elsewhere he offers the solution to this problem as such: even though the private characters remain, they must be "neutralized by complement and addition".12 There must be an attenuated importance of the individual nature in the Whole such that the balance can be achieved, but quite clearly it does not vanish. In fact, Bradley says that the Absolute is there to see that nothing is in the end lost.13 But the Whole will always be an infinitely richer Individual than the mere sum of its parts.

What I think we must keep in mind when reading those passages where Bradley is concerned with loss of individual natures is that he means the sense of absolute independence must be lost once we accept the idea that inconsistency and imperfection can only be resolved by a more complete and comprehensive form of Reality. Individuals and private characters do exist though none exist in and by themselves. In fact, for Bradley, it is only by absorption in the higher Reality that the individual has gained its survival beyond its merely finite and transitory character. As he sums up his position with a mastery of eloquence, he writes:

> 'For love and beauty and delight', it is no matter where they have shown themselves, 'there is no death nor change'; and this conclusion is true. These things do not die, since the Paradise in which they bloom is immortal. That Paradise is no special region nor any given particular spot in time and space. It is here, it is everywhere where any finite being is lifted into that higher life which alone is waking reality.14

There is, however, one qualification which remains in the end. Even though the Absolute becomes richer through absorbing every detail of individual appearance, it is quite clear that some appearances are more real than others. So, for example, since Bradley thinks that beauty and goodness contain more reality than ugliness and evil, the end result must be understood as balanced only in the sense in which the appearances find their proper place in the eternal harmony.

2. The Consequent Nature of God

When Whitehead claims that he is in complete agreement with Bradley, or that the final outcome of his cosmology is not so greatly different, it is quite clear that he has in mind the ultimate immortality of the temporal world as it passes into God's nature. In fact, for Whitehead, the concept of universal absorption of the finite into one eternal harmony supplied the key to the problem as to how the two cravings of the world could be jointly satisfied- that permanence and transience could be combined in such a way that novelty does not mean loss. But on the other hand, there is reason to believe that Whitehead, in his acknowledgement to Bradley, has once again slightly overstated the extent to which his doctrine actually agrees. Nonetheless, given that our discussion above has grasped Bradley's essential position, we shall find that Whitehead's conception of the consequent nature of God does have strong points of contact with the Bradleian Absolute, even though, in the end, Whitehead's God must be conceived as an 'Absolute open at one end'. Also in what follows, we shall find that there are problems which Whitehead seems not to have realized in his description of God as one actual entity. But before we become engaged in these purely Whiteheadian concerns, let us first concentrate on the points of affinity with Bradley.

Running throughout Whitehead's philosophy is a principle of harmony of opposites. In his view, the universe has a side which is mental and permanent, and a side which is physical and transient. He says: "The key to metaphysics is this doctrine of mutual immanence, each side lending to the other a factor necessary for its reality."15 Much of this comes clearly

into focus in his speculations on natural theology, where God is understood to embody this harmony of opposites in Himself. He is the reason for order and provides the transition from the eternal to the actual, and the actual to the eternal. Like the Bradleian Absolute, He is the beginning and the end of feeling, the alpha and omega of existence.

Whitehead says that God is not to be thought of as an exception to the metaphysical principles, but as their chief exemplification.16 Like every actual occasion, God has a twofold nature: one side which is conceptual and atemporal, and another side which is physical and temporal. But God, as one final actual entity, differs from ordinary actual occasions of the temporal world in several important ways.

According to Whitehead, God has a side which is primordial and a side which is consequent. As primordial, He is the aboriginal instance of creativity and the keeper of the wealth of atemporal potentials. He is the primordial conceptual valuation of the entire multiplicity of eternal objects, and, in this respect, He is the beginning of feeling in the world by providing the lure for their realization. The point Whitehead here wishes to stress is that God is immanent in each occasion by supplying it with its initial subjective aim; instilling in it the desire for perfection as is possible in its immediate situation. On the other hand, as consequent, God is the conscious and unbiased reception of the physical world as it passes into the immediacy of His feeling. Regardless of the outcome in the temporal world (however much each occasion approximated its ideal for perfection), it is taken into a harmonious unity which preserves every detail of finite achievement. As Whitehead here says:

> ...there is the phase of perfected actuality, in which the many are one everlastingly, without qualification of any loss either of individual identity or of completeness of unity. In everlastingness, immediacy is reconciled with objective immortality.17

As consequent, God is therefore the end of feeling in the sense that every occasion of the physical world finds its ultimate completion in a unity which contains it with a fadeless preservation.

So, in summary, the mental permanent side of the universe passes into the physical transient side by the primordial nature of God, which is primarily His drive for realization. The one becomes many by the unity of His vision passing into the physical world. And the transient physical side of the universe passes into the mental permanent side by the consequent nature of God, which is His coordination of achievement. The many become one by reaching a final completion and harmonization in God's eternal being.

Now as we recall from our preceeding chapter, it is this latter conception, God as consequent, which finds a definite parallel with the Bradleian Absolute. Compare, for example, the manner in which Bradley expresses his view that:

> ...the Absolute is there to see that nothing in the world is lost. That effort which for our vision is wasted, passes over beyond our vision into reality and is crowned with success.18

with Whitehead's conception that:

> He [God] saves the world as it passes into the immediacy of his own life. It is the judgment of a tenderness which loses nothing that can be saved. It is also the judgment of a wisdom which uses what in the temporal world is mere wreckage.19

On this point, both Bradley and Whitehead agree on the final result- our actions "perish yet live for evermore" as they are perfected by the reality of divine wisdom.

As I said in section 1 of this chapter, the essential concept which brings Bradley and Whitehead together on the notion of universal absorption is to be found in the doctrine of transmutation.20 In the end, the final unity must be achieved by one transmuted feeling where the many become one everlastingly. But here it is obvious that Whitehead runs into the same difficulty as Bradley, i.e., the problem of transmutation.

In accordance with Bradley, Whitehead holds that all opposition and discord come together in God's nature such that the immediacies of sufferings,

sorrows, failures, triumphs and joys are "...woven by the rightness of feeling into the harmony of the universal feeling..."21 But how is it that an individual remains once it has been transmuted into the final unity? In Modes of Thought, Whitehead says: "...the summation of the many into the one, and the derivation of importance from the one into the many, involves the notion of disorder, of conflict, of frustration."22 In fact, the very nature of individuality in the physical world involves conflict of finite realizations. But again, how can nothing be lost from this world when everything must be transmuted into one final harmonious feeling?

Although Whitehead makes no explicit reference to the difficulties which arise in connection with the doctrine of transmutation (as applied to God), it seems clear enough that his solution would run fairly close to Bradley's. Individual facts are not themselves altered once absorbed into the higher unity. (Obviously if they were there would be no determinate truth about them.) Like Bradley, Whitehead contends that there is no loss of individual identity. The private characters remain. But the synthesis which emerges from this final unification is more than the world as a mere collection of individual achievements. God's consequent nature, Whitehead says: "... originates with physical experience derived from the temporal world, and then acquires integration with the primordial side".23 Or more eloquently put: "...the consequent nature is the weaving of God's physical feelings upon his primordial concepts".24 So even though every detail of finite fact remains once prehended by God's consequent nature, there is some sense of transformation as the many acquire integration with the all-embracing primordial nature.

The exact meaning of this transformation in God's primordial nature is, at best, unclear. Whitehead emphasizes that this integration of God's twofold nature results in a conscious, infinitely wide harmony of feeling which grows without any loss or fading of its members. Yet in some sense, God, like other actual occasions, necessarily involves a valuation and coordination of His prehensions. And this means that there must be a certain frustration of conflicting achievements in the final unity.

Some hint of Whitehead's position, I think, can be found in his

conception of God as necessarily good. In one place he writes:

> The revolts of destructive evil, purely self-regarding, are dismissed into their triviality of mere individual facts; and yet the good they did achieve in individual joy, in individual sorrow, in the introduction of needed contrast, is yet saved by its relation to the completed whole.25

Once the world is prehended by God's consequent nature, there is no obstruction. But in His integration with His primordial side, there must be an attenuated importance of the "revolts of destructive evil"; and here, parenthetically, we may find another note concordant with Bradley. God salvages from the wreckage. The truth of the individual facts remain, but the good achieved reaches a higher harmonization in God's nature. He is the fellow sufferer with the world; prehending every actuality just as it is. But He uses the goodness achieved for His own vision of what the world may become in some unrealized future.

I do not wish to claim that Whitehead's position here is wholly compatible with Bradley. There are elements of the Galilean vision of God--as-Love mixed into Whitehead's conception, and this would not be accepted by Bradley as an essential attribute of his Absolute. But in another respect, (at least as I see it) the notion that goodness and beauty reach a higher harmonization with God's wisdom does come fairly close to Bradley's notion that such appearances involve less transformation in the final unity, and therefore conduce to a higher Reality. This is not to say that, for Whitehead, goodness is more 'real'; but that it is valued more by God in His function as Prime Mover. Evil and ugliness are never eliminated from the world. They are, in fact, required for various forms of contrast, which save the world from bland monotony. God's vision, then, does include His desire for contrast, but the fact that each occasion only approximates the ideal set by God means that failures and various forms of destructive evil are inevitable.

Obviously one crucial point of divergence in Whitehead's position concerns the openness of the future for God. Since, for Whitehead, both God and the World are both in the grip of the ultimate metaphysical ground of

process, neither reaches a final completion or perfection. In order to understand exactly where Whitehead parts company with Bradley here, let us return to the essential doctrine of mutual immanence or harmony of opposites.

Although for Bradley all finite appearances belong together in one all-embracing Experience, it is just as true for him that the one Absolute is present in each of its many parts. So not only is it true for him that appearance is reality; it is equally true that reality is appearance. The many are one, and the one is many.

It is indeed tempting to see this same dialectical relationship repeated in Whitehead's philosophy when, in his analysis of ideal opposites, he concludes that none of the concepts- 'God', 'permanence', 'eternity', 'unity', or 'the One' can be understood without reference to their opposites- 'the World', 'flux', 'actuality', 'diversity', or 'the Many'.26 But a more careful study would reveal that, where for Bradley, these opposites are interpreted in terms of one final timeless order; for Whitehead, the universe continually weaves itself between the opposites such that new orders evolve with the creative advance into novelty. The key concept, for Whitehead, is that universal relativity (mutual immanence) does not stop with the consequent nature of God. If it did, his God would not be altogether different from Bradley's Absolute. But instead, his God is an Absolute open at one end. By this I mean that God is not the <u>only</u> real Individual, as is commonly held in monistic philosophies (e.g. Spinoza's God, Bradley's Absolute), but one divine and eternal actual entity which moves with the whole of creation. That is, He is only 'Absolute' as regards the absorption of the past. In the immediately present, however, there remains the multiplicity of contemporary actual occasions moving through their concrescence, and these many will only become one (with God) once they have reached their satisfaction. Whitehead's position, then, remains pluralistic.

As we saw above, God embodies both permanence and flux in His twofold nature. But since He can only prehend what has already become determinate in the immediate past, the present and the future are genuinely open for Him as well. In fact, the whole concept of freedom requires that God should not have omnipotence over the world. God is therefore 'open' in the sense that He is

never complete. But whatever is decided by the temporal world, He is always there in a unison of immediacy to receive the outcome.

This very concept constitutes Whitehead's most radical divergence from both Western philosophic thought and 'orthodox' theology: God too is in process. In his criticism of previous systems Whitehead writes: "The vicious separation of the flux from the permanent leads to the concept of an entirely static God, with eminent reality, in relation to an entirely fluent world, with deficient reality".27 But if the flux essentially qualifies God, He too acquires a new life and refreshment with each successive stage of the universe, and in turn, He provides the ideal for the novel order in the present. "What is done in the world is transformed into a reality in heaven, and the reality in heaven passes back into the world."28

The idea that God is dynamic; creating and flowing with the world, yet saving it by absorbing every detail of finite achievement is an attractive alternative to the traditional Judeo-Christian conception. It has been the motivating force which has inspired a whole 'school' of process theology. But there are difficulties in Whitehead's conception of God as one actual entity, at least insofar as we take seriously his claim that He is the chief exemplification of the metaphysical principles. Indeed, in most cases, the problems which arise with Whitehead's God are a result of inconsistencies with the rest of the metaphysics.

Despite the analogies with actual occasions, it is far from clear how this conception of God as chief exemplification can be maintained.29 Even though God, like ordinary actual occasions, is dipolar, essentially a mass of feeling, and a diversity in unity, He cannot accomplish what the occasions of the temporal world can- namely, satisfaction, or completion of the process of becoming.

It seems clear enough that Whitehead thought of God as an exception here. After all, if God reached a final satisfaction, He would not be God. He must therefore be conceived of as a creative advance devoid of perishing. He is always becoming, even though as primordial keeper of the eternal objects, He must, in some sense, have being. God therefore differs from

ordinary actual occasions in the sense that He is an 'everlasting concrescence' which reaches satisfaction only in the sense that, at each moment, He "delights" and "suffers" with the world as it passes into His consequent nature.

But the problem of not reaching satisfaction creates yet another difficulty. If God does not reach a completed stage of His concrescence (being), He cannot be objectified so as to provide initial aims for the occasions beginning the new concrescence. In other words, since God is always 'open', there is no determinate entity to function as 'object' for the actual occasions of the temporal world. This I shall call the 'problem of causal independence'. According to the metaphysical principles, two contemporary occasions of experience cannot prehend each other. But God as an everlasting concrescence is always subjectively immediate, and cannot, therefore, influence a present occasion in its novel becoming.

Modification of some sort is certainly required here, and Whiteheadians have, for years, sought various alternatives to Whitehead's view.30 As I see it, the main problem confronting Whitehead is how God is to be conceived as a temporal entity. This is indeed a very difficult problem.

One way out of the difficulty is to conceive of God's experience as happening in one grand epochal moment or specious present. Proceeding along these lines we would be approaching Bradley's or Royce's conception of the Absolute as that Individual whose time span overlaps all others; whose temporal epoch is such that within which all other temporal epochs are encompassed. This would solve the problem of casual independence because all the actual occasions; past, present, and future, would be subjectively immediate in God's experience, and there would be no need of initial aims. In effect, the order in the world would be aboriginal, rather than continually evolving, and God's physical experience of the world would be analogous to His conceptual experience of the realm of eternal objects. But quite clearly, this would be to abandon the whole notion of God's creative advance <u>with</u> the world because God would be bound on both ends of time, and all would be determinate within. We would be left with one final order- permanent and static. Hartshorne, criticizing this view, remarks: "A God who eternally knew all that the fulfillment of his purpose would bring could have no need of

that fulfillment or of purpose."31

But how else are we to conceive of God's experience as temporal? Hartshorne has attempted to solve the problem of causal independence by conceiving of God as a personally ordered society of divine occasions.32 On this modification of Whitehead's doctrine, God is a 'stream of experience' analogous to that of human consciousness, and, at first sight, this idea does seem promising. Instead of being purely subjectively immediate, God's experience is subjective-becoming-objective, (i.e., predecessors objectified in successors). And, if this idea is adopted, God's antecedent states (as objectified) are capable of interaction with the world. However, aside from the obvious anthropomorphism, this modification generates new problems which do not necessarily apply to Whitehead. In particular, this view of God runs into the difficulty of reconciling a general 'creative advance' with the denial by relativity physics of a cosmic simultaneity. Since God's experience happens as a succession of occasions, His prehension of the world would require a cosmic "now". Each divine occasion would have to be almost instantaneous, yet fill all of space.33 Moreover, on this view, Hartshorne seems to approach the idea of God's experience of the world as contained in a cosmic memory since His antecedent states accumulate in the present occasion. But here, as Sprigge points out, we would have to distinguish between the real event as it was in the temporal world and the memory of it in God's mind.34

Perhaps Whitehead recognized some of the difficulties in this conception when he chose to view God as <u>one</u> actual entity (as opposed to an 'actual occasion'). He wished to emphasize the permanent, eternal character of God, who absorbs every detail of the world in everlasting harmony; while at the same time, he wished to emphasize the idea that God sets the ideal for what the world can achieve. On the former, his affinity to Bradley is quite clear. Whitehead saw in Bradley's Absolute a model for the <u>one</u> which preserves the many without loss or fading. But on the latter, Whitehead's qualification that this <u>one</u> continually evolves <u>with</u> the world and therefore never reaches a static completion results in his inability to account for God's initial action on the world. This is important because without God's ideal there could be no order.

Much of this, I think, depends upon how we interpret God's incompleteness. As we have seen, the essential problem is that if God is genuinely open and never reaches satisfaction, then there cannot be an 'object' to act on the present. But at one point, Whitehead does mention the 'superjective' nature of God as the "...pragmatic value of his specific satisfaction qualifying the transcendent creativity in the various temporal instances".35 And this idea appears again when he discusses the four phases in which the universe accomplishes its actuality.36 Here he seems to imply that the movement of the universe from many to one, and one to many does provide an internal satisfaction or objectification in God's experience.

What I think Whitehead means when he says that God does not reach a static completion is that there is always room for novelty. There is always room for some unrealized achievement to become part of His nature. But as each moment completes itself and passes into His consequent nature, there is an internal or momentary satisfaction in God. As one divine entity, God continually recycles the data of the temporal world to formulate His own ideal vision, which in turn, acts back into the world.

But how does this solve the problem of causal independence? On this view we have a process within a process: the latter is God as an everlasting concrescence, never complete and always moving with the world; while the former is the process of internal satisfaction- God as 'enriched' by the world as each occasion passes into His aesthetic harmony. Even though the many continually add to the one (i.e., the weaving of the physical onto the conceptual), the one is always there for each new occasion to receive its ideal. For each occasion, God is complete at the instant of its becoming. There is, at that time, the vision that God has for the world. But for God, the world is incomplete since the occasions recur and recur.

Whitehead's admirable precision and accuracy of detail seem to fail him when he attempts to reconcile his conception of God with the mechanics of his cosmology. It is as if his romantic mode of expression and his classic, rational mode of expression clash once he attempts to integrate the two in his natural theology.37 But if the details of Whitehead's description of God are

here lacking, is this altogether different from Bradley's repeated claim that the details of the Absolute completely escape finite judgment? With both philosophers we seem to be left with a broad outline. But in the end, whether we side with Bradley, that all moments are just eternally there in the Absolute experience, or with Whitehead, that all moments become elements in God's consequent nature, the result is indeed "not so greatly different". As we speculate on the endless succession of drops, we are inspired with a sense of the importance of our actions as we realize how each forms part of an eternity beyond.

3. Concluding Remarks

Our examination of the affinities and contrasts in the philosophies of Whitehead and Bradley has now come to a close. In the above chapters I attempted to bring to light points of contact between Whitehead and Bradley, and to show how the central doctrine of feeling provides a common bond uniting their respective philosophies. It was here that we found how a metaphysics of sentient experience far surpasses the materialist or physicalist conception of the universe and man's place in the scheme of things. But I have also attempted to expose the differences between Whitehead and Bradley regarding the problem of relations. In this respect, I have argued Whitehead's position over Bradley's in an attempt to defend:

(i) the more pluralistic interpretation of the world in which science and metaphysics can be seen as developing concurrently as opposed to the radically monistic interpretation in which science and metaphysics are to be seen as different points of view,

(ii) the general notion of creative advance and evolving order in opposition to the idea of a final and perfect order,

(iii) the reality of process and time as opposed to the relative unreality of time, and

(iv) the idea of a genuine freedom of choice and the openness of the future as opposed to the idea that the whole of time is determinately fixed within the experience of the Absolute.

But even though Whitehead's views on these points have been seen to be more satisfactory than Bradley's, I am nonetheless aware of certain difficulties in the process view which do not arise in a more eternalistic view of the universe. Some of this came to surface in our final chapter where inconsistencies were discovered in Whitehead's conception of God. But whether or not the explanations offered above proved satisfactory, these problems do not seem to be insurmountable. Even though Bradley's system, in the end, might be seen as more internally consistent, the idea that the whole of history; past, present, and future is eternally there in the Absolute seems just as perplexing as Whitehead's idea that the history of the universe accumulates in God's consequent nature.

To admit a certain ambivalence here is not to overthrow the conclusions of this thesis; for this is just one of the enduring questions which forms the crux of speculative philosophy, and stimulates the mind to the sense of mystery and enchantment in the universe.

-NOTES-

CHAPTER I

1. Understanding Whitehead (John Hopkins Press, Baltimore, 1966), p.24.
2. Process and Reality, Corrected Edition (The Free Press, New York, 1978), p.xi.
3. Essays in Science and Philosophy (Rider and Company, London, 1948), p.88.
4. PR, p.vii.
5. ESP, p.88.
6. Appearance and Reality (Oxford University Press, 1978), p.511.
7. Passmore, J., A Hundred Years of Philosophy (Pelican Books, Middlesex, 1968), p. 227.
8. Edinburgh University Library
9. Hicks, G.D., Critical Realism (Macmillian and Co., London, 1938), p.22.
10. Understanding Whitehead, p.192.
11. Concept of Nature (Cambridge University Press, 1926), p.4.
12. CN, p.2.
13. Understanding Whitehead, p.192.
14. CN, p.3.
15. An Enquiry Concerning the Principles of Natural Knowledge (Cambridge University Press, 1925), p.vii.
16. PR, p.xii.
17. Adventures of Ideas (The Free Press, New York, 1961), p.154.
18. PR, p.xiv.
19. Religion in the Making (Cambridge University Press, 1930), p.84.
20. The Function of Reason (Princeton University Press, 1929), p.61.
21. Leclerc, I., Whitehead's Metaphysics (Indiana University Press, Bloomington, 1975), p.224.
22. PR, p.189.
23. PR, p.4.
24. RM, p.76.
25. PR, p.42
26. PR, p.4.
27. Whitehead has been compared to Alexander on this criticism. See for example, Passmore, A Hundred Years of Philosophy, p.343.
28. Principles of Logic, Vol. I. (Oxford University Press, 1922), p.x.
29. Proceedings of the British Academy, Vol.XI, 1924-25, p.458.
30. PL, p.151.
31. AR, p.1.
32. Essays on Truth and Reality (Oxford University Press, 1914), p.3.
33. AR, p.120.
34. PL, pp.146-47.
35. AR, p.130.
36. This necessity does indeed distinguish his Absolute from that of Hegel in which contradiction essentially qualifies Reality.
37. PL, p.431.
38. Wollheim, R., F.H. Bradley (Penguin Books, Middlesex, 1969), pp.17-18.
39. PL, p.117.
40. Saxena, S.K., Studies in the Metaphysics of Bradley (George Allen and Unwin, London, 1967), p.25.
41. ETR, pp.17-18.
42. Cf. below Ch.IV.
43. AR, p.29.
44. Wollheim, F.H. Bradley, pp.90-91.
45. "A Defense of Phenomenalism in Psychology", Collected Essays, Vol. I. (Oxford University Press, 1935).
46. AR, pp.250-51.
47. Cf. discussion below chapter V, section 2, pp.123-128.
48. AR, p.x.

CHAPTER II

1. (Kegan Paul, Treach, Trubner, and Co., London, 1925), p.11.
2. Science and the Modern World (The Free Press, New York, 1967), p.32.
3. William McDougall, Body and Mind (Methuen and Co., London, 1911), p.47.
4. SMW, p.31.
5. Metaphysical Foundations of Modern Science, p.76.
6. Cf. Metaphysical Foundations of Modern Science, p.76, and Whitehead, "First Physical Synthesis", ESP, p.173.
7. AR, p.17.
8. Metaphysical Foundations of Modern Science, p.97.
9. The Philosophical Works of Descartes, Haldane and Ross Translation (Cambridge University Press, 1931), p.270.
10. ibid., p.154.
11. Metaphysical Foundations of Modern Science, p.110.
12. Of course, in the very strict sense, this applies to God alone. Created substance is dependent upon uncreated substance, but when applied only to created substances the definition holds as well.
13. Cf. SMW, p.55 and p.145.
14. Metaphysical Foundations of Modern Science, 240.
15. ibid., 209.
16. Keith Campbell, Metaphysics: An Introduction (Dickenson Publishing Co., Inc., Encino, California, 1976), p.52.
17. AI, p.113.
18. Jose Ortega y Gasset, "The Barbarism of Specialization", Great Essays in Science, Ed. by Martin Gardner (Pocket Books, Inc., New York, 1957), p.122.
19. SMW, p.50.
20. This was particularly true as mechanism became the central idea for the industrial revolution.
21. Henri Bergson, Creative Evolution (Macmillian and Co., London, 1911), p.224.
22. McDougall, Body and Mind, p.48.
23. Hans Driesch, The Science and Philosophy of Organism (Aberdeen University Press, 1908), p.283.
24. SMW, p.78.
25. Peter Singer, Animal Liberation (Jonathan Cape, London, 1975), p.218.
26. SMW, p.202.
27. SMW, p.199.
28. PR, p.189.
29. The Principle of Individuality and Value (Macmillian and Co., London, 1912), p.362n.
30. Bergson, in his appeal to our intuitive experience of process as the basis of reality satisfies part of our criteria. But Bergson is an exception to the philosophers we have in mind in that he did not specify what the ultimate units of experience are. In this respect, he does not satisfy the ontological requirement. His concentration focused on the stream of duration itself as ultimately real and his descriptions are often metaphorical as when he speaks of experience as "interpenetrating" or "melting together". Much the same is often said of James's 'pluralistic universe' in that the question remains as to the exact nature of the plurality. But James most definitely advanced an ontology of pure experience forming his theory of neutral monism. Santayana, on the other hand, satisfies the ontological requirement in his theory of 'natural moments' but does not satisfy the criterion of experience as the basis of existence. For Santayana, there are distinct units which make up the temporal flux, but unlike Bergson or James, he does not think that our own conscious experience provides the key as to the essence of physical reality. Though the passage of physical nature and the flow of consciousness are both considered natural moments, the former are quite opaque to the latter. In fact, apart from the essences which participate in the temporal flux, the substance of matter is unknowable. See The Realm of Matter (Constable and Co., London, 1930).
31. T.L.S. Sprigge, "The Distinctiveness of American Philosophy", Two Centuries of Philosophy in America, Ed. by Peter Caws, (American Philosophical Quaterly Library of Philosophers, Blackwell, 1980), p.202.
32. Royce's Metaphysics (Greenwood Press, Westport, 1975).

33. Leibniz, Monadology, section 14., translated by Robert Latta (Oxford University Press, 1965), p.224.
34. Royce, The World and the Individual, Second Series (Macmillian and Co., London, 1901), p.240
35. ibid., p.228.
36. SMW, p.102.
37. Cf. C.H. Waddington, Towards a Theoretical Biology (Edinburgh University Press, 1968), Vol. 1, pp.1-32 and Vol. 2, pp.72-81.
38. T.L.S. Sprigge, "Metaphysical Enquiry", Theoria to Theory, 1978, Vol. 1, p.140.
39. PL, p.95.
40. AR, pp.332-33.
41. ETR, p.194.
42. ETR, p.43.
43. ETR, p.173.
44. ETR, p.194.
45. AR, p.508n.
46. ETR, p.174.
47. AR, p.465.
48. ETR, p.420.
49. Though employed in a slightly different sense, these terms are borrowed from Prof. Sprigge's The Vindication of Absolute Idealism (Edinburgh University Press, 1983), see especially pp.10-38.
50. CE, Vol. II, p.688.
51. ETR, p.421.
52. A discrepancy immediately arises if the term 'enduring' is chosen to describe the centres. We must therefore distinguish point of view. That is, if we view the centre from the side of the Absolute, they are better described as 'eternal' and 'timeless'. But from our perspective this timeless character which appears in time seems to endure. That is, its self-identical character throughout momentary qualifications makes it enduring to us. I choose to adopt the term 'enduring' rather than 'eternal' because our primary concern is immediate experience from the point of view of human consciousness. See AR, p.199.
53. Knowledge and Experience in the Philosophy of F.H. Bradley (Faber and Faber, London, 1964), p.200. (Eliot's Ph.D. dissertation submitted to the philosophy faculty of Harvard University.)
54. Cf. index: finite centres and souls.
55. ETR, pp.414-15.
56. ETR, p.410.
57. ETR, p.424, also cf. chapter VI, section 2 below, pp.151-158.
58. ETR, p.169.
59. ETR, p.410.
60. AR, p.198.
61. AR, p.407.
62. AR, p.223.
63. Cf. ETR, p.157 and CE, Vol.II, p.696.
64. AR, p.215.
65. AR, p.494.
66. AR, p.125.
67. AR, p.231.
68. AR, p.239.
69. AR, p.240.
70. Cf. ETR, pp.350-51 and AR, p.304.
71. AR, p.241.
72. AR, p.466, also see ETR, pp.350-51.
73. AR, p.467.
74. Though Whitehead sometimes uses 'actual entity' and 'actual occasion' interchangably, he does make a distinction in that the use of 'actual occasion' excludes God from its scope. I shall consistently employ the term 'actual occasion' in this essay to emphasize the event character of process. God will be referred to as an 'actual entity' to convey the eternal and enduring side of His nature. See for example, PR, p.87.
75. PR, p.19.
76. Sprigge, "The Distinctiveness of American Philosophy", p.202.
77. PR, p.162. "Consciousness only illuminates the more primitive types of prehension so far as these prehensions are still elements in the products of integration. Thus those elements of our experience which stand out clearly and distinctly in our consciousness are not its basic facts; they are the derivative modifications which arise in the process." Also cf. PR, p.236 and ETR, p.194.

78. PR, p.176.
79. PR, pp.176-77.
80. PR, p.123.
81. Russell, Portraits from Memory (George Allen and Unwin, Ltd., London, 1956), p.40f.
82. "The reason that I call my doctrine logical atomism is because the atoms that I wish to arrive at as the sort of last residue in analysis are logical atoms and not physical atoms. Some of them will be what I call 'particulars'- such things as little patches of colour or sounds, momentary things- and some of them will be predicates or relations and so on. The point is that the atom I wish to arrive at is the atom of logical analysis, not the atom of physical analysis." Logic and Knowledge (George Allen and Unwin, Ltd., London, 1956), pp.178-9.
83. Cf. PR, p.137, and MT, p.90.
84. Cf. PR, Ch. I, Section V, and Lucien Price, Dialogues of Alfred North Whitehead (Max Reinhardt, London, 1954), p.14.
85. Modes of Thought (Capricorn Books, New York, 1938), p.121.
86. PR, p.200.
87. AI, p.231, also see chapter III, section 4 below pp.81-86.
88. PR, p.80.
89. PR, p.21.
90. We must not be misled that this activity of creative 'choosing' has moved us to a level of complex human consciousness. Such a feature is generic to all actual occasions throughout the universe. In short, we are here still focusing primarily within the primitive level of causal efficacy which involves 'degrees' of conscious selection but not consciousness.
91. PR, p.xiii.

CHAPTER III

1. CE, Vol. II, p.662.
2. ESP, p.15.
3. Cf. above pp.17-18.
4. Principles of Psychology, Vol. I (Macmillian and Co., London, 1891), p.605.
5. ibid., p.631.
6. ibid., p.608.
7. Sprigge, "The Distinctiveness of American Philosophy", Two Centuries of Philosophy in America, p.202.
8. Principles of Psychology, Vol. I, pp.609-10.
9. "The Thing and Its Relations", Essays in Radical Empiricism (Longmans, Green and Co., New York, 1912), p.95.
10. ETR, p.157.
11. ETR, p.412
12. PL, p.52.
13. See Wollheim, F.H. Bradley, p.202.
14. PL, pp.54-56, also cf. AR, pp.223-24.
15. PL, p.56
16. PL, p.53
17. Later in SMW, Whitehead called this view the 'fallacy of simple location', that is, the notion that bits of matter can be simply located here in time or here in space and held up by on either side by purely external supports.
18. PNK, p.8, CN, pp.57,68.
19. CN, p.56.
20. See Victor Lowe," A.N.W.: A Biographical Perspective", Process Studies, Vol. 12, Number 3, 1982, p.139.
21. CN, p.189.
22. The idea of narrowing perceptible durations is illustrated by the notion of "whole-part" relations and "overlapping" where events extend over one another in a pattern like a nest of Chinese boxes. The point, of course, lies at the center. PNK, p.105, also cf. Robert M. Palter, Whitehead's Philosophy of Science (University of Chicago Press, 1960), Ch. V.
23. CN, pp.56, 59, 69.
24. CN, p.69.
25. PNK, p.vii.
26. CN, p.5.

27. PNK, p.202.
28. PR, p.68.
29. PR, p.68.
30. PR, p.35.
31. 'Time' in the Proc. Sixth International Congress of Philosophy (Longmans, Green and Company, New York, 1927), p.63.
32. PR, p.69.
33. PR, p.283.
34. Though modified I owe the idea for this diagram to Professor Sprigge.
35. ETR, p.173.
36. PL, p.101.
37. PL, p.101.
38. PR, p.154.
39. PR, p.211.
40. PR, p.29.
41. Donald Sherburne, A Key to Whitehead's Process and Reality (Indiana University Press, Bloomington, 1975), p.39.
42. PR, p.50.
43. The Philosophy of Whitehead (George Allen and Unwin, Ltd., London, 1959), p.101.
44. AI, p.183.
45. Understanding Whitehead, p.43.
46. PR, p.239.
47. PR, p.248.
48. A Key to Whitehead's Process and Reality, p.54.
49. PR, p.279.
50. PR, p.280.
51. PR, p.280.
52. PR, p.266.
53. PR, p.267.
54. PR, p.215.
55. Understanding Whitehead, p.49.
56. Waddington, The Evolution of an Evolutionist (Edinburgh University Press, 1974), p.5.
57. AI, p.231 from ETR, p.159.
58. ETR, p.171 (misquoted as p.161)
59. AI, pp.231-32.
60. AI, p.233.
61. ETR, p.181.
62. ETR, p.166n.
63. ETR, p.171.
64. ETR, p.168.
65. ETR, p.168.
66. ETR, p.182.
67. ETR, p.188.
68. Letter of 6 October 1950 to W.E. Cushin quoted in an unpublished Ph.D thesis, "The Physical Cosmology of Alfred North Whitehead", Edinburgh University Library, 1951, pp.418-19. Included here by permission of Professor Dorothy Emmet.
69. Understanding Whitehead, p.256.
70. Letter of Professor Emmet to author, 21 September 1983.

CHAPTER IV

1. Cf. above pp.15-16.
2. Wollheim, F.H. Bradley, p.109.
3. AR, p.24.
4. AR, p.26.
5. ETR, Appendix to Ch. IV; CE, Vol. II, Ch. XXXI; PL, Ch. II and AR, note B.
6. See M.S. Gram, "The Reality of Relations", New Scholasticism, Pt.44, 1970, pp.49-68.
7. AR, p.28.
8. ETR, p.190.
9. T.L.S. Sprigge, "Bradley and Russell on Relations", Bertrand Russell Memorial Volume, ed. by. George Roberts (George Allen and Urwin, London, 1979), p.161.
10. AR, p.512, "They are not given except as contained in and as qualifying

some whole, and their independence consists merely in our vicious abstraction. Nor when we pass to the relational stage does diversity cease to be the inseparable adjective of unity. For the relations themselves cannot exist except within and as the adjectives of an underlying unity. The whole that is analysed into relations and terms can fall into the background and be obscured, but it can never be dissipated.

11. For example, in the Treatise, Hume writes: "Again, every thing which is different, is distinguishable, is separable by the imagination... My conclusion... is, that since all our perceptions are different from each other, and from every thing else in the universe, they are also distinct and separable, and may be considered as separately existent, and may exist separately, and have no need of anything else to support their existence." Bk. I, Pt. IV, Sec. V.
12. CN, pp.141-42, also see SMW, p.180.
13. Pluralistic Universe (Longmans, Green and Co., New York, 1909), p.79.
14. ibid., p.73.
15. Essays in Radical Empiricism, p.62.
16. Pluralistic Universe, pp.79-80.
17. Cf. CE, Vol. II, "Relations", Notes 4 and 5, pp.654-55, and ETR, p.149f.
18. Some Problems of Philosophy (Longmans, Green and Co., New York, 1911), pp.92-93.
19. Principles of Psychology, Vol. I, p.241.
20. Cf. Pluralistic Universe, pp.69-70, and pp.257-58.
21. Cf. McTaggart, The Nature of Existence (Cambridge University Press, 1921), Ch. VII, "Relations", and Russell, The Principles of Mathematics (George Allen and Unwin, Ltd., London, 1903), pp.99-100.
22. Cf. below chapter V, section 2, pp.123-128.
23. Robert C. Whittemore, "Whitehead's Process and Bradley's Reality", The Modern Schoolman, Vol. XXXII, 1954, p.61.
24. Russell, Outline of Philosophy (George Allen and Unwin, Ltd., London, 1961), p.263.
25. Understanding Whitehead, p.344.
26. AI, p.230, also see his discussion of relations and contrasts, PR, pp.228-29.
27. Understanding Whitehead, p.347.
28. ETR, pp.176-77.
29. PL, p.96.
30. CE, Vol. II, pp.657-58.
31. See my article "Time, Relations and Dependence", The Southern Journal of Philosophy, Vol. XXI, Number 3, 1983, p. 411.
32. Charles M. Johnson, "On Prehending the Past", Process Studies, Vol. 6, Winter, 1976, p.263.
33. PR, p.237.
34. PL, p.101.
35. AR, p.464.
36. PR, p.50.
37. "On the Nature of Truth", Proceedings of the Aristotelian Society, 1906-07, Also see My Philosophical Development (George Allen and Unwin, Ltd., London, 1959), pp.54-64.
38. The Principles of Mathematics, p.221.
39. ibid., p.225.
40. For an example of the way in which Bradley may be defended by arguments from his Principles of Logic, see T.L.S. Sprigge, "Russell and Bradley on Relations", pp.150-59.
41. CE, Vol. II, p.671.
42. ibid., p.669.
43. Of course, for reasons just mentioned Bradley cannot be said to hold to the doctrine of internal relations in any strict sense, but for the purpose at hand this formulation will do no real damage.
44. ETR, p.327.
45. Failure to understand this has led some writers to suggest that pluralism and the doctrine of internal relations are incompatible in Whitehead. See especially, W.P. Alston, "Internal Relatedness and Pluralism in Whitehead", Review of Metaphysics, 5, 1952, pp.535-58.
46. Cf. Charles Hartshorne, Creative Synthesis and Philosophic Method (SCM Press, London, 1970), Ch.X and Whitehead, AI, Ch.XII. Also the formal properties of causal prehension and temporal ordering in the extensive continuum can be expressed as:

asymmetrical $(a)(b)[aRb \supset \sim bRa]$

transitive $(a)(b)(c)[(aRb \cdot bRc) \supset aRc]$

irreflexive (a)~[aRa]

47. AI, p.195.
48. Even here Hartshorne insists that the relationship is still asymmetrical. The spatial relations of the contemporary nexus can only be related by causation or inheritance. See Creative Synthsis and Philosophic Method, p.219. Spatial relations are "multiple lines of inheritance" and cannot interpenetrate.
49. AI, p.195.
50. Cf. Creative Synthesis and Philosophic Method, p.211f and Reality as Social Process (The Free Press, Glencoe, Illinois, 1953), p.70f.
51. Letter of Prof. Hartshorne to author, 2 March 1982.
52. "My Neoclassical Metaphysics", Uit Tijdschrift Voor Filosofie 42e Jaargang- Nummer 1- Maart 1980, p.5.
53. One idea of crucial importance for the thesis of Principia was the development of the logic of relations by DeMorgan and Peirce in which the scope of logic was enlarged with the admission of polyadic relations. Russell had said that the new logic gave thought wings where the older Aristotelian logic caused it to flutter, and at this time, Whitehead was quick to recognize its importance for cosmology with the publication of his memoir "On Mathematical Concepts of the Material World". Whitehead criticizes philosophers for an inadequate logical apparatus which admits no more than substances, qualities and at most two-termed relations. But what is required in order to explain the relations of space and the ultimate entities which constitute the "stuff of space" is many-termed relations. See especially, Wolfe Mays, "On the Relevance of 'On Mathematical Concepts of the Material World' to Whitehead's Philosophy", The Relevance of Whitehead, ed. by Ivor Leclerc (George Allen and Unwin, New York, 1961).
54. ESP, p.85.
55. PR, p.326.
56. PR, p.327.
57. PR, p.66.
58. PR, p.66.
59. SMW, p.18.
60. PR, p.66.
61. Mays, The Philosophy of Whitehead, p.106.
62. PR, p.66.
63. PR, p.308.
64. SMW, p.160.
65. PR, p.291.
66. PR, p.257.
67. SMW, p.160.
68. PR, p.257.
69. SMW, p.163.
70. SMW, p.165.
71. See especially, Charles Hartshorne, "Whitehead's Idea of God", The Philosophy of Alfred North Whitehead, Library of Living Philosophers, ed. by P.A. Schilpp (Tudor Publishing Company, New York, 1941), p.556f and Everett W. Hall, "Of What Use Are Whitehead's Eternal Objects", Journal of Philosophy, Vol. XXVII, Number 20, 1930.
72. ESP, p.81.
73. Dorothy Emmet, Whitehead's Philosophy of Organism (Greenwood Press, Westport, Conn., 1966), p.57.

CHAPTER V

1. PR, p.163.
2. AR, p.236
3. Individuals (Methuen and Co., London, 1964), p.38.
4. ibid., p.55.
5. ibid., pp.59-60.
6. PR, p.73.
7. Individuals, p.181ff.
8. Cf. above p.55.

9. PR, p.11.
10. This criticism is borrowed from Hartshorne, Creative Synthesis and Philosophic Method, p.186.
11. It might be objected that Strawson does consider unit-events as centers of consciousness in his criticism of a version of Leibniz's monadism. The point, as in the purely auditory world, is that the essential conditions of reference could not be satisfied with particulars which were not of a spatio-temporal character. But I think here, as in the case of sounds, the real events cannot be deprived of their extensive characteristics. They necessarily involve a lapse of time as well as an extension in space, and in the end, it is not even clear whether Strawson's 'version' of Leibniz's monadism does justice to the intricate system of perceptions in which space and time arise out of the relations between monads.
12. Individuals, p.41.
13. Sprigge, The Vindication of Absolute Idealism, p.100.
14. Hartshorne, Creative Synthesis and Philosophic Method, pp.173-74.
15. Theodosius Dobzhansky, Genetics of the Evolutionary Process (Columbia University Press, New York, 1970), p.22.
16. AI, p.185.
17. G.O. Jones, J. Rotblat, G.J. Whitrow, Atoms and the Universe (Penguin, Middlesex, 1973), p.138.
18. Campbell, Metaphysics: An Introduction, p.99.
19. Henry J. Folse, "Complementarity, Bell's Theorem, and the Framework of Process Metaphysics", Process Studies, Vol. 11, 1981, p.261.
20. PR, p.40, and p.46, CN, p.146.
21. PR, p.177.
22. MT, p.188.
23. MT, p.192.
24. SMW, p.104 and p.135, CN, pp.187-89. Also it is interesting to note that Niels Bohr, in his early formulation of the quantum theory had sought to apply the ideas of radical empiricism to physics. See especially, Henry J. Folse, "The Copenhagen Interpretation of Quantum Theory and Whitehead's Philosophy of Organism", Tulane Studies in Philosophy, Vol. 23, 1974, p.39.
25. SMW, p.136.
26. AI, p.186.
27. Cf. above p.40.
28. MT, p.205.
29. AR, p.162.
30. ETR, p.412
31. AR, p.214.
32. The World and the Individual, First Series, p.261. Also see Sprigge, The Vindication of Absolute Idealism, Chapter IV.
33. AI, p.204.
34. PR, p.112.
35. MT, p.210.
36. PR, p.34.
37. AI, p.204.
38. PR, p.92.
39. PR, p.103.
40. PR, p.100.
41. PR, p.102.
42. PR, p.101.
43. Some doubt may be expressed here as to this 'purely temporal' character since Whitehead always held to the idea that all the occasions carry extensive characteristics. My present occasion has a locus in space, namely, my present location. See George Wolf, "Psychological Physiology From the Standpoint of a Physiological Psychologist", Process Studies, Vol. 11, 1981, pp.274-291.
44. Cf. above p.79-80.
45. For example, see D.A. Armstrong, A Materialist Theory of Mind (Routledge and Kegan Paul, London, 1968)
46. SMW, p.107.
47. SMW, pp.111-112.
48. Waddington having developed some of these points along Whiteheadian lines writes: "What we find is a whole complex cell becoming either a nerve or kidney or a muscle cell... the process of becoming (say) a nerve cell should be regarded as the result of the activities of large numbers of genes, which interact together to form a unified 'concrescence'" Towards a Theoretical Biology, Vol.2, p.80. And more generally: "... the environment which exerts selection on one organism is influenced

by the presence of other organisms; and as the other organisms change in evolution, so the environment of the first organism is altered, and it must evolve too." ibid., p.116.

49. AR, p.442.
50. Cf. CE, Vol.II, p.596, and AR, pp.186-191.
51. PR, p.91.
52. ibid.
53. PR, p.97.
54. PR, p.90.
55. PR, p.66.
56. PR, p.97.
57. PR, p.92.
58. PR, pp.288-89.
59. Cf. pp.108-09 above.
60. PR, p.288.
61. ibid.
62. MT, pp.211-12. Also on this point we should note the affinity with Plato's conception of cosmology and science as nothing more than 'likely stories'. That is with the category of becoming an account can be no more accurate than the subject matter will allow. One cannot expect to formulate accurate, reliable and permanent knowledge about a subject matter which is itself imperfect and full of change. We may discover the various patterns of the universe (the laws) but there will always be this never-ending work of revision as science continually redefines itself. See Timaeus.
63. PR, p.198.
64. ESP, p.88, and PR, pp.43, 54, 156, 190, 200, 229.
65. PR, p.198.
66. PR, p.200.
67. PR, p.xiii.
68. On this point Whitehead says that his philosophy of organism simply repeats Plato's doctrine in Timaeus.
69. W.E. Hocking, "Whitehead on Mind and Nature", The Philosophy of Alfred North Whitehead, p.386.

CHAPTER VI

1. AR, p.183.
2. Cf. above pp. 63-66, 70, 87-91, 102.
3. AR, p.186.
4. AR, p.187.
5. CE, Vol. I, "Why Do We Remember Forwards And Not Backwards?", p.240.
6. AR, p.189.
7. AR, p.190.
8. "The Curious Case of Benjamin Button" (Scribners, New York, 1922).
9. For example, one may remember a past holiday abroad and trace the events from departure to returning home and on up to the present day.
10. This a refers to an identity among change in a succession- abc-acd ade-aef-afg-....
11. CE, Vol. I, p.241.
12. Provided that Bradley wrote this paper for psychology in order to simply explain a mental phenomenon, it does not and was not intended to express his ultimate metaphysical position. However, I do think that it is consistent with his final conclusion that direction, temporal unity and memory are all ideal constructions from the present which serve our practical purposes and should not be taken as the final truth about the nature of reality.
13. After having substantially written this section, I have discovered another argument where Whitehead makes explicit reference to the space-time of dreams. He writes in "Uniformity and Contingency": "The distinction between the dream-world and nature is, that the space-time of the dream-world cannot conjoin with the scheme of the space-time of nature, as constituted by any part of nature. The dream-world is nowhere at no time, though it has a dream-time and dream-space of its own...

    The position we are led to is that we are aware of a dominant space-time continuum and that reality consists of the sense-objects

projected into that continuum. It is not true that the apprehended process invariably fits into the dominant continuum: for example, dreams do not. But it is true that by direct inference we can always correlate the process of apprehension with the dominant continuum: for example, in the case of a dream we can note the time of going to bed and the time of waking, and can correlate the process of apprehending the dream with some portion of the intervening night." ESP, pp.102-03. With this I think that I have argued in accordance with the one dominant continuum by showing how apparently detached phenomena relate to the temporal process.

14. AR, p.187.
15. AI, p.191.
16. Santayana, The Realm of Matter, pp.86-91.
17. Sprigge, The Vindication of Absolute Idealism, pp.30-33, and Chapter 6. Also for detailed discussion of Santayana's theory of time see his Chapter IX of Santayana: An Examination of His Philosophy (Routledge & Kegan Paul, London, 1974), and "Ideal Immortality", The Southern Journal of Philosophy, Volume X, Number 2, 1972.
18. PL, p.70.
19. ETR, p.426.
20. Cf. pp.45-47 above.
21. ETR, p.410.
22. ETR, p.424.
23. ETR, p.427. (My emphasis)
24. Santayana, The Realm of Truth (Constable & Company, Ltd., London, 1937), pp.79-80.
25. Also on this comparison, see Sprigge, Santayana: An Examination of His Philosophy, Note 12, p.231.
26. The Realm of Truth, p.82.
27. ibid., p.85.
28. ibid., p.83.
29. PR, pp.12-13.
30. PR, pp.209 and 338. Poem by Henry Francis Lyte in hymn by William Henry Monk.
31. The Vindication of Absolute Idealism, pp.225-232, and op. cit., note 17 above. Also here we should note that Hartshorne reports that Whitehead once said that he would like to see a "conflation" of his views with a more monistic view. This is perhaps what Professor Sprigge has approached in his own system. The "conflation" however necessitates a rejection of the very heart of process- prehension and objectification. See Process Studies, Volume 13, Number 2, 1983, p.178.
32. "Ideal Immortality", p.226.
33. The Vindication of Absolute Idealism, p.230.
34. Cf. pp.71-80 above.
35. The Vindication of Absolute Idealism, p.231.
36. Actually Sprigge here uses the phrase "imaginative sympathy" but I think the main point of grasping the reality of another as a state of consciousness is the same. For instance, he writes: "... to grasp something of the very essence of a reality by actualizing it in one's own mind and attributing it to that reality beyond seems to me knowledge of the deepest and most concrete sort". ibid., p.5.
37. Letter from Whitehead to Professor Emmet, See p.xxiv, Whitehead's Philosophy of Organism.
38. PR, p.340
39. ibid.
40. PR, p.13.
41. PR, p.12.
42. "Ideal Immortality", p.227.
43. PR, p.338.
44. PR, p.346.
45. PR, p.13.
46. PR, p.259.
47. Here we note the difference between judgments and propositions in that Whitehead held that propositions are "entertained" as lures for feeling whereas judgments are true or false because they arise out of integrations between the eternal objects as possibilities and actual facts. See Emmet, Whitehead's Philosophy of Organism, pp.164-167.
48. The Vindication of Absolute Idealism, p.142.
49. See J.J.C. Smart, "The Temporal Asymmetry of the World", Analysis 14 1954, p.79.

CHAPTER VII

1. PR, p.vii.
2. ESP, p.89.
3. AR, p.458.
4. AR, p.470, 140-41, 494.
5. AR, p.215.
6. AR, p.427.
7. AR, p.469, also see 371, 414.
8. Cf. AR, p.412, 371, 414, 469.
9. AR, p.431.
10. AR, p.180.
11. ibid.
12. AR, p.453.
13. ETR, p.348.
14. ETR, p.469.
15. ESP, p.90.
16. PR, p.343.
17. PR, pp.350-51.
18. ETR, p.348.
19. PR, p.346.
20. Cf. above p.170. Also, on this point R. C. Whittemore has made this comparison quite clear in a paper entitled, "Whitehead's Process and Bradley's Reality", see especially, p.71.
21. PR, p.346.
22. MT, p.71.
23. PR, p.345.
24. ibid.
25. PR, p.346. Also see, RM, p.83.
26. See especially, PR, p.348.
27. PR, p.346, also see, ESP, p.88, MT, p.109.
28. PR, p.351.
29. See especially, Whittemore, R.C., "Time and Whitehead's God", Tulane Studies in Philosophy, 4, 1955.
30. See especially, Ford, Lewis, "The Divine Activity of the Future", Process Studies, 11/3, 1981, pp.169-78. Also see, Two Process Philosophers, pp.36-37, 66-67.
31. Hartshorne, The Logic of Perfection, (Open Court, La Salle, 1962), p.205.
32. ibid., pp.92-93, and Creative Synthesis and Philosophic Method, p.xv.
33. Ford, op. cit.
34. Sprigge, "Ideal Immortality", p.227.
35. PR, p.88.
36. PR, pp.350-51.
37. cf. p.1 above.

BIBLIOGRAPHY

BOOKS

Armstrong, D. M. A Materialist Theory of Mind. New York: Routledge & Kegan Paul, 1968.

Bergson, Henri. Creative Evolution. London: Macmillian and Company, 1911.

Bradley, F. H. Appearance and Reality. Oxford: Oxford University Press, 1978.

_____. Collected Essays. Vols. 1 & 2. Oxford: Oxford University Press, 1935.

_____. Essays on Truth and Reality. Oxford: Oxford University Press, Oxford, 1914.

_____. Ethical Studies. Oxford: Oxford University Press, 1879.

_____. Principles of Logic. Vols. 1 & 2. Oxford: Oxford University Press, 1922.

Burtt, E. A. The Metaphysical Foundations of Modern Science. London: Kegan Paul, Treach, Trubner, and Company, 1925.

Campbell, Keith. Metaphysics: An Introduction. Encino: Dickenson Publishing Company, Inc., 1976.

Christian, William. An Interpretation of Whitehead's Metaphysics. New Haven: Yale University Press, 1967.

Caws, Peter, ed. Two Centuries of Philosophy in America. Blackwell: American Philosophical Quarterly Library of Philosophers, 1980.

Church, R. W. Bradley's Dialectic. London: George Allen and Unwin, Ltd., 1942.

Cushin, W. E. The Physical Cosmology of Alfred North Whitehead. unpublished Ph. D. thesis. Edinburgh University Library, 1951.

Descartes, Rene. Meditations On First Philosophy. tr. Haldane, E. and Ross, G. The Philosophical Works of Descartes. Cambridge: Cambridge University Press, 1931.

_____. The Principles of Philosophy. tr. Haldane, E. and Ross, G. The Philosophical Works of Descartes. Cambridge: Cambridge University Press, 1931.

Dobzhansky, Theodosius. Genetics of the Evolutionary Process. New York: Columbia University Press, 1970.

Driesch, Hans. The Science and Philosophy of Organism. Aberdeen: Aberdeen University Press, 1908.

Eisendrath, C. R. The Unifying Moment: The Psychological Philosophy of William James and Alfred North Whitehead. Harvard: Harvard University Press, 1971.

Eliot, T. S. Knowledge and Experience in the Philosophy of F. H. Bradley. London: Faber and Faber, 1964.

Emmet, Dorothy. Whitehead's Philosophy of Organism. Westport: Greenwood Press, 1966.

Fitzgerald, F. Scott. Tales of the Jazz Age. New York: Scribners,

1922.

Ford, Lewis, ed. Two Process Philosophers. Tallahassee: American Academy of Religion, 1973.

Gale, R. M., ed. The Philosophy of Time. London: Macmillian and Company, 1968.

Gardner, Martin, ed. Great Essays in Science. New York: Pocket Books, Inc., 1957.

Hartshorne, Charles. Creative Synthesis and Philosophic Method. London: SCM Press, Ltd., 1970.

_____. The Logic of Perfection. Lasalle: Open Court 1962.

_____. Reality as Social Process. Glenco: The Free Press, 1953.

Hicks, G. D. Critical Realism. London: Macmillian and Company, 1938.

Howie, J. and Buford, T. O., ed. Contemporary Studies in Philosophical Idealism. Cape Cod: Claude Stark and Company, 1975.

Hume, David. A Treatise of Human Nature. Oxford: Oxford University Press, 1888.

James, William. Essays in Radical Empiricism. New York: Longmans, Green and Company, 1911.

_____. Pluralistic Universe. New York: Longmans, Green and Company, 1909.

_____. Principles of Psychology. Vols 1 & 2. London: Macmillian and Company, 1891.

_____. Some Problems of Philosophy. New York: Longmans, Green and Company, 1911.

Jones, G. O.; Rotblat, J.; and Whitrow G. J. Atoms and the Universe. Middlesex: Pelican Books, Ltd., 1973.

Jordan, Martin. New Shapes of Reality. London: George Allen & Unwin, Ltd., 1968.

Kneebone, G. T. Mathematical Logic and the Foundations of Mathematics. London: D. Van Nostrand Company, Ltd., 1963.

Lango, John. Whitehead's Ontology. New York: State University Press of New York, 1972.

Lawrence, Nathaniel. Whitehead's Philosophical Development. Berkeley: University of California Press, 1956.

Leclerc, Ivor, ed. The Relevance of Whitehead. New York: George Allen and Unwin, 1961.

_____. Whitehead's Metaphysics. Bloomington: Indiana University Press, 1975.

Leibniz, W. G. Monadology. tr. Latta, Robert. Oxford: Oxford University Press, 1965.

Lowe, Victor. Understanding Whitehead. Baltimore: John Hopkins Press, 1966.

Marcel, Gabriel. Royce's Metaphysics. Westport: Greenwood Press, 1975.

Mays, Wolfe. The Philosophy of Whitehead. London: George Allen and Unwin, Ltd., 1959.

McDougall, William. Body and Mind. London: Methuen and Company, 1911.

Northrop, F. S. C. and Gross, M. W., ed. Alfred North Whitehead: An Anthology. Cambridge: Cambridge University Press, 1953.

O'Connor, D. J. O., ed. A Critical History of Western Philosophy. London: The Free Press, 1964.

Palter, Robert. Whitehead's Philosophy of Science. Chicago: University of Chicago Press, 1960.

Passmore, John. A Hundred Years of Philosophy. Middlesex: Pelican Books, Ltd., 1968.

Pittenger, Norman. Alfred North Whitehead. London: Lutterworth Press, 1969.

Plamondon, A. L. Whitehead's Organic Philosophy of Science. New York: State University Press of New York, 1979.

Plato. Republic. tr. Jowett, Benjamin. The Dialogues of Plato. Vol. 2. Oxford: Oxford University Press, 1953.

_____. Timaeus. tr. Jowett, Benjamin. The Dialogues of Plato. Vol. 3. Oxford: Oxford University Press, 1953.

Polis, Edward. Whitehead's Metaphysics. Carbondale: Southern Illinois University Press, 1967.

Price, Lucien. Dialogues of Alfred North Whitehead. London: Max Reinhardt, 1954.

Roberts, George, ed. Bertrand Russell Memorial Volume. London: George Allen and Unwin, Ltd., 1979.

Royce, Josiah. The World and the Individual. Vols 1 & 2. London: Macmillian and Company, 1901.

Russell, Bertrand. Logic and Knowledge. London: George Allen and Unwin, Ltd., 1956.

_____. My Philosophical Development. London: George Allen and Unwin, Ltd., 1959.

_____. Outline of Philosophy. London: George Allen and Unwin, Ltd., 1961.

_____. Portraits From Memory. London: George Allen and Unwin, Ltd., 1956.

_____. Principles of Mathematics. London: George Allen and Unwin, Ltd., 1903.

Santayana, George. The Realm of Essence. London: Constable and Company, Ltd., 1928.

_____. The Realm of Matter. London: Constable and Company, Ltd., 1930.

_____. The Realm of Truth. London: Constable and Company, Ltd., 1937.

_____. Skepticism and Animal Faith. London: Constable and Company, Ltd., 1923.

Saxena, S. K. Studies in the Metaphysics of Bradley. London: George Allen and Unwin, Ltd., 1967.

Schilpp, Paul, ed. The Philosophy of Alfred North Whitehead, The Library of Living Philosophers. New York: Tudor Publishing

Company, 1941.

Singer, Peter. Animal Liberation. London: Jonathen Cape, 1975.

Shahan, E. P. Whitehead's Theory of Experience. New York: Kings Crown Press, 1950.

Sherburne, Donald. A Key to Whitehead's Process and Reality. Bloomington: Indiana University Press, 1975.

Smith, Norman Kemp. The Credibility of Divine Existence, Porteous, A. J. D.; Maclennan, R. D.; and Davie, G. E., ed. London: Macmillan and Company, 1967.

Sprigge, T. L. S. Santayana: An Examination of His Philosophy. London: Routledge & Kegan Paul, 1974.

_____. The Vindication of Absolute Idealism. Edinburgh: Edinburgh University Press, 1983.

Strawson, P. F. Individuals. London: Methuen & Company, Ltd., 1964.

Taylor, A. E. The Elements of Metaphysics. London: Methuen & Company, Ltd., 1961.

Taylor, Richard. Metaphysics. Englewood Cliffs: Prentice-Hall, Inc., 1974.

Waddington, C. H. Beyond Appearance. Edinburgh: Edinburgh University Press, 1969.

_____. Evolution of an Evolutionist. Edinburgh: Edinburgh University Press, 1974.

_____, ed. Towards A Theoretical Biology. Edinburgh: Edinburgh University Press, 1968.

Weisenbeck, J. D. Alfred North Whitehead's Philosophy of Value. Waukesha: Thomas Press, Inc., 1969.

Whitehead, A. N. The Aims of Education. New York: Macmillan and Company, 1929.

_____. Adventures of Ideas. New York: The Free Press, 1961.

_____. Concept of Nature. Cambridge: Cambridge University Press, 1926.

_____. Essays in Science and Philosophy. London: Rider and Company, 1948.

_____. The Function of Reason. Princeton: Princeton University Press, 1929.

_____. Modes of Thought. New York: Capricorn Books, 1938.

_____. The Organisation of Thought. London: Williams and Norgate, 1917.

_____. Principia Mathematica to *56, with Bertrand Russell. Cambridge: Cambridge University Press, 1964.

_____. An Enquiry Concerning the Principles of Natural Knowledge. Cambridge: Cambridge University Press, 1925.

_____. Process and Reality, Corrected Edition. New York: The Free Press, 1978.

_____. The Principle of Relativity. Cambridge: Cambridge University Press, 1922.

_____. Religion in the Making. Cambridge: Cambridge University Press, 1930.

_____. Symbolism: Its Meaning and Effect. New York: Macmillian and Company, 1927.

_____. Science and the Modern World. New York: The Free Press, 1967.

Wollheim, Richard. F. H. Bradley. Middlesex: Penguin Books, Ltd., 1969.

ARTICLES

Alston, W. P. "Internal Relatedness and Pluralism in Whitehead." Review of Metaphysics 5 (1952).

Ariel, R. A. "A Mathematical Root of Whitehead's Cosmological Thought." Process Studies 4 (1974).

Barnhart, J. E. "Bradley's Monism and Whitehead's Neo- Pluralism." The Southern Journal of Philosophy 7 (1969-70).

Bedell, Gary. "The Relation of Logic and Metaphysics in the Philosophy of F. H. Bradley." The Modern Schoolman XLVIII (1971).

Bigger, Charles. "Objects and Events." The Southern Journal of Philosophy (1973).

Casey, G. S. "Keeping the Past in Mind." Review of Metaphysics 37 (1983).

Crossley, D. J. "Holism, Individualism and Internal Relations." Journal of the History of Philosophy 15 (1977).

Datta, A. M. "Bradley's Conception of Degrees of Truth and Reality." Pakistan Philosophical Journal 3 (1966).

Dilworth, D. A. "Whitehead's Process Realism, The Abhidharma Dharma Theory, and The Mahayana Critique." International Philosophical Quarterly 18 (1978).

Eliot, T. S. "Leibniz's Monads and Bradley's Finite Centres." The Monist XXVI (1916).

Emmet, Dorothy. "Alfred North Whitehead." Proceedings of the British Academy XXXIII (1949).

_____. "Language and Metaphysics: Introduction to a Symposium." Theoria to Theory 11 (1977).

Folse, Henry. "Complementarity, Bell's Theorem, and the Framework of Process Metaphysics." Process Studies 11 (1981).

_____. "The Copenhagen Interpretation of Quantum Theory and Whitehead's Philosophy of Organism." Tulane Studies in Philosophy 23 (1974).

Ford, Lewis. "The Divine Activity of the Future." Process Studies 11 (1981).

_____. "Some Proposals Concerning the Composition of Process and Reality." Process Studies 8 (1978).

Gram, M. S. "The Reality of Relations." New Scholasticism 44 (1970).

Gross, M. W. "Whitehead's Answer to Hume." Journal of Philosophy

38 (1941).

Hall, Everett. "Of What Use Are Whitehead's Eternal Objects?" Journal of Philosophy 27 (1930).

Harrah, David. "The Influence of Logic and Mathematics on Whitehead." Journal of Philosophy 20 (1959).

Hartshorne, Charles. "The Case For Idealism." Philosophical Forum 1 (1968).

_____. "Causal Necessities: An Alternative to Hume." Review of Metaphysics 63 (1954).

_____. "My Neoclassical Metaphysics." UIT Tijdschrift Voor Filosofie 42e, 1 (1980).

_____. "Neoclassical Metaphysics." Philosophers on Their Own Work 8 (1981).

_____. review of Genesis of Modern Process Thought: A Historical Outline with Bibliography. by George R. Lucas, Jr. Process Studies 13 (1983).

Huchingson, James. "Organization and Process: Systems Philosophy and Whiteheadian Metaphysics." Process Studies 11, (1981).

Johnson, A. H. "Leibniz and Whitehead." Philosophy and Phenomenological Research 19 (1959).

Johnson, Charles. "On Prehending the Past." Process Studies 6 (1976).

Kalupahana, David. "The Buddhist Conception of Time and Temporality." Philosophy East and West 24 (1974).

Kulkarni, N. G. "Bradley's Anti-Relational Argument." Philosophical Quarterly 7 (1957).

Leclerc, Ivor. "Internal Relatedness in Whitehead: A Rejoiner." Review of Metaphysics 6 (1952-53).

Lowe, Victor. "A. N. W.: A Biographical Perspective." Process Studies 12 (1982).

_____. "Whitehead's Gifford Lectures." The Southern Journal of Philosophy 7 (1969-70).

Mays, Wolfe. "Whitehead and the Philosophy of Time." Studium Generale 23 (1970).

McHenry, Leemon. "Time, Relations and Dependence." The Southern Journal of Philosophy 23 (1983).

Nelson, A. F. "Internal Relations." Southwestern Journal of Philosophy 3 (1972).

Royce, Josiah. "Mind and Reality." Mind VII (1882).

Russell, Bertrand. "On the Nature of Truth." Proceedings of the Aristotelian Society (1906-07).

Silkstone, T. W. "Bradley on Relations." Idealistic Studies 4 (1974).

Smart, J. J. C. "The Temporal Asymmetry of the World." Analysis 14 (1954).

Sprigge, T. L. S. "Ideal Immortality." The Southern Journal of Philosophy (1972).

_____. "The Importance of Subjectivity: An Inaugural Lecture." Inquiry 25 (1981).

_____. "Knowledge of Subjectivity." Theoria to Theory 14 (1979).

_____. "Metaphysical Enquiry." Theoria to Theory 12 (1978).

_____. "The Privacy of Experience." Mind LXXVII (1969).

Taylor, A. E. "F. H. Bradley." Mind XXXIV (1925).

_____. "F. H. Bradley." Proceedings of the British Academy 21 (1924-25).

Vlastos, G. "Organic Categories in Whitehead." Journal of Philosophy 34 (1937).

Whittemore, R. C. "The Metaphysics of Whitehead's Feeling." Tulane Studies in Philosophy 10 (1961).

_____. "Time and Whitehead's God." Tulane Studies in Philosophy 4 (1955).

_____. "Whitehead's Process and Bradley's Reality." The Modern Schoolman 32 (1954-55).

Whitehead, A. N. "Time." Proceedings of the Sixth International Congress of Philosophy (1926).

Wolfe, George. "Psychological Physiology From the Standpoint of a Physiological Psychologist." Process Studies 12 (1982).