1950

The influence of Bergson on Whitehead

Stahl, Roland Jr.

Boston University

http://hdl.handle.net/2144/5005

Boston University
Dissertation

THE INFLUENCE OF BERGSON ON WHITEHEAD

by

Roland Stahl, Jr.

(A. B., Baldwin-Wallace College, 1939
S.T.B., Boston University School of Theology, 1944)

submitted in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

1950
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTRODUCTION</td>
<td>4</td>
</tr>
<tr>
<td>1. Statement of the Problem</td>
<td>4</td>
</tr>
<tr>
<td>2. Method of Procedure</td>
<td>5</td>
</tr>
<tr>
<td>3. Previous Work on the Problem</td>
<td>6</td>
</tr>
<tr>
<td>4. The Meaning of Influence</td>
<td>10</td>
</tr>
<tr>
<td>I. THE ORGANIC PRINCIPLE</td>
<td>12</td>
</tr>
<tr>
<td>1. In Ancient Philosophy</td>
<td>14</td>
</tr>
<tr>
<td>2. In Modern Philosophy</td>
<td>23</td>
</tr>
<tr>
<td>3. Viewed as a Synthesis of Realism and Idealism</td>
<td>44</td>
</tr>
<tr>
<td>4. The Theory of Relativity</td>
<td>50</td>
</tr>
<tr>
<td>II. PRELIMINARY COMPARISON OF THE PHILOSOPHIES OF WHITEHEAD AND BERGSON</td>
<td>54</td>
</tr>
<tr>
<td>1. Scientific Views</td>
<td>54</td>
</tr>
<tr>
<td>i. Mathematics</td>
<td>54</td>
</tr>
<tr>
<td>ii. Physics</td>
<td>56</td>
</tr>
<tr>
<td>iii. Psychology</td>
<td>60</td>
</tr>
<tr>
<td>iv. Biology</td>
<td>66</td>
</tr>
<tr>
<td>2. Metaphysics</td>
<td>68</td>
</tr>
<tr>
<td>3. Epistemology</td>
<td>77</td>
</tr>
<tr>
<td>4. Philosophy of Value</td>
<td>78</td>
</tr>
<tr>
<td>5. Philosophy of Religion</td>
<td>81</td>
</tr>
<tr>
<td>III. THE ROOTS OF WHITEHEAD'S PHILOSOPHY</td>
<td>86</td>
</tr>
<tr>
<td>1. Formal Education</td>
<td>86</td>
</tr>
</tbody>
</table>
2. Genesis of Whitehead's Ideas ................ 89
3. Common Influences on both Bergson and
   Whitehead ..................................... 126
IV. LEADING BERGSONIAN IDEAS AND THEIR INFLUENCE ON
   WHITEHEAD .................................... 135
   1. Creative Evolution ............................. 135
   2. Time as Real Duration ......................... 155
   3. Intellect and Intuition ....................... 166
   4. Doctrine of Freedom ........................... 183
   5. Matter and Memory ............................. 189
V. LEADING IDEAS OF WHITEHEAD AND THEIR ROOTS IN
   BERGSON ........................................ 197
   1. Inadequacy of Language ....................... 197
   2. Reality as Process ............................ 202
   3. Concept of Nature ............................. 217
   4. Theory of Prehensions ......................... 230
   5. Theory of Knowledge ........................... 242
VI. BERGSON, WHITEHEAD AND MODERN PHILOSOPHY ........ 250
   1. Realism ........................................ 250
   2. Pragmatism ..................................... 264
   3. Idealism ....................................... 270
VII. CONCLUSION: TOTAL INFLUENCE OF BERGSON ON WHITE-
     HEAD ........................................... 290
     1. The Originality of Bergson ................. 290
INTRODUCTION

1. Statement of the Problem

The problem of this dissertation is to determine the extent of Bergson's influence on Whitehead. It is suggested that Whitehead's position in the twentieth century is somewhat comparable to that of Kant in the eighteenth. Kant reared his metaphysics upon the foundation of Newton's physics and profoundly influenced all subsequent philosophical thought. But science and mathematics in the modern world are undergoing such great changes that A. E. Murphy says that there is in progress an "Anti-Copernican Revolution." Modern non-Newtonian physics and non-Euclidian geometry have so altered thought about the nature of the universe that philosophy requires a complete reconstructing in the light of the new physical concepts. This is a task requiring a man of genius like Kant. Such a master was Alfred North Whitehead, and the position of this dissertation is that his philosophy is a significant contribution to the reconstruction in philosophy that modern scientific developments have made necessary.

Whitehead's philosophy is the product of deep learning and years of meditation. Among those who profoundly influenced Whitehead, according to his own statement, was Henri Bergson. The determination of this influence will help


281.
set Whitehead in his proper position in the development of philosophic ideas.

2. Method of Procedure

In order to relate Whitehead's philosophy to the continuity of historic thought there will be made, first of all, a brief historical survey of Whitehead's leading idea, the organic principle, from its first appearance in Greek thought to its modern expression in Whitehead. No attempt will be made to make this survey exhaustive, by indicating wherever ideas parallel to Whitehead's occur, but certain important developments of this type of philosophy will be pointed out as they illustrate its development according to the principles of the Hegelian dialectic. By this principle Whitehead's philosophy will be viewed as a synthesis of idealism and realism.

A brief preliminary summary and comparison of the philosophies of Whitehead and Bergson will follow, indicating general similarities. Next will be an inquiry into the roots of Whitehead's philosophy. There will be, first of all, an account of Whitehead's formal education, then a brief examination of the important men and books among Whitehead's contemporaries that influenced his thought, an account of Whitehead's relation to the philosophical tradition, and finally, a note on the common influences on both Bergson and Whitehead.
The major work of this dissertation will consist of a careful examination and comparison of the work of Whitehead and Bergson. First the leading philosophical ideas of Bergson will be considered, with their influence on Whitehead, after which the leading ideas of Whitehead will be considered, with their roots in Bergson determined.

Since it is quite possible, and indeed probable, that many ideas in Whitehead which parallel those in Bergson may have been independently arrived at, either as novel ideas or as ideas derived from a common source with those of Bergson, the next section of this investigation will consist of a consideration of the places of Bergson and Whitehead in the total picture of modern philosophy. When this has been done it will be possible, with a reasonable degree of accuracy, to distinguish between those ideas in Whitehead that have a direct Bergsonian influence and those ideas which, while parallel to Bergson, have still had other origins.

The final chapter will include a brief discussion of the originality of Bergson, followed by a summary of the total influence of Bergson on Whitehead, and concluding with a summary of the ways in which Whitehead has gone beyond Bergson in those areas in which influence has been noted.

3. Previous Work on the Problem

The problem of this dissertation, the determination of
the influence of Bergson on Whitehead, has had very little treatment in the past. Research into the matter appears to have been carried out only by Victor Lowe, and with negative results. In the volume devoted to Whitehead in The Library of Living Philosophers Professor Lowe, in his article on "Whitehead's Philosophical Development," notes that several times commentators have referred to a Bergsonian influence. Lowe failed to detect such an influence. His conclusion is as follows:

Although Whitehead thinks highly of Alexander's work, and has been sensitive to the lively originality of James and Bergson also, I can find in his metaphysical writings no clear demonstration of their influence either in his choice of problems or in the essentials of his solutions. The references to contemporary philosophers in his prefaces are partly mere appreciations, partly the over-statements of a modest man.1

But in spite of Lowe's negative opinion, the rumor of a Bergsonian influence persisted, partly due to reinforcement it received from other writers in the Schilpp volume to which Lowe had contributed. So in 1949 Lowe investigated further and published an article in the Journal of the History of Ideas on "The Influence of Bergson, James and Alexander on Whitehead." The article did not appear to be based on any new material but was rather a more detailed elaboration of his former view. His conclusion was the same as that of his 1941 article. He was quite willing to admit appreciation on the part of Whitehead but, as he put

1. Lowe, Art. (1941) in Schilpp, 89.
it, "'Influence' means influence."¹

Probably Lowe has overstated his case. He appears to know Whitehead better than he does Bergson. He insists that Bergson is a dualist, while Whitehead is not. Then on the same page he says that "Bergson's conception of life is fundamentally monistic, Whitehead's pluralistic."² Lowe stresses the differences between Bergson and Whitehead and fails to note a similarity of ideas when they are expressed by the two men in different terms. Furthermore, Lowe seemed to feel that to say that Whitehead was influenced by Bergson was the same as saying he was a Bergsonian. This would be going too far. There are a great many differences between the thought of the two men. But there are also similarities. This dissertation will investigate whether or not these indicate influence.

While no one but Lowe seems to have done research on the subject, there are many who have asserted the Bergsonian influence on Whitehead. In the Schilpp volume, Northrup stated that the Bergsonian influence "can hardly be exaggerated."³ He maintained that the Bergsonian philosophy came to Whitehead through H. W. Carr and was basic to "Whitehead's entire scientific and philosophical outlook." He maintained that Whitehead followed Bergson in accepting the

². Lowe, Art. (1949), 286.
primacy of duration and process, and was also influenced by Bergson's doctrine of immediate intuition. Probably Northrop also has gone too far. In spite of his statement to the contrary, it is possible to exaggerate the Bergsonian influence, and Northrop has probably done so.

In the same Schilpp volume, Professor Wilbur W. Urban also asserts the existence of a Bergsonian influence. He maintains that Whitehead's philosophy of language owes much to Bergson's criticism and claims that Whitehead admits that it was from Bergson that "the organicist philosophy got its main insights." ¹

In addition to these statements of Bergsonian influence in the Schilpp volume T. de Laguna, in a review of The Principles of Natural Knowledge in 1920, stated that Whitehead has felt the force of Bergson's criticism of science and wrote PNK to help reform science so that it would not be open to such criticism.

Professor A. E. Taylor in 1927 wrote an article on "Dr. Whitehead's Philosophy of Religion," based upon Science and The Modern World and Religion in the Making. In this article he expressed the opinion that Whitehead's "creativity" meant the same thing as Bergson's élan vital. He definitely stated, however, that it was his own opinion, based upon the similarity of the ideas, and did not offer evidence in support of his view.

¹ Urban, Art. (1941) in Schilpp, PAM, 304.
Bergson, in *The Creative Mind*, mentioned that there seemed to be an influence of his thought upon Whitehead, and referred to an account of this influence by Jean Wahl in his article on "La philosophie speculative de Whitehead" in *Vers le concret*.\(^1\) This article, however, shows a parallelism of ideas rather than their assertion of influence. Wahl maintains that Whitehead attempts to combine the conceptions of duration in James and Bergson\(^2\) to unite in his theory of prehensions James's theory of the double context, analogous to Bergson's theory of images, with the synthetic activity of thought found in Kant.\(^3\) In the "Preface" to *VC*, Wahl mentions the realism of Bergson and Whitehead, their similar insistence upon the continuity of time as duration, and the treatment of possibility by the two men.\(^4\)

4. The Meaning of Influence

In this dissertation a statement of Bergsonian influence upon Whitehead will mean that the thought of Whitehead, as revealed in its literary expression, was different from what it would have been had he not read Bergson. This is a broader view of influence than that taken by Lowe, who seemed to admit influence only where a clear-cut idea of Bergson's appeared in Whitehead's writings. Whitehead, however, seldom accepted the views of anyone without modifying

---

them. He frequently accepted the alternative that another thinker had rejected and developed the thought of a man in a direction quite different from that in which the original author had developed his ideas. Thus ideas in Whitehead may have had a Bergsonian origin and still be quite different from Bergson's thought because of its development by Whitehead. Furthermore, ideas in Whitehead may have been the result of a synthesis of ideas taken from various sources, of which Bergson was only one.

It is not an easy matter to determine the influence which one man has on the thought of another. It is particularly difficult in the case of Whitehead and Bergson. By the time Whitehead began to write philosophy, the influence of Bergson was already present, so that the method of contrasting earlier writings of Whitehead with later ones cannot be used. Furthermore, the most important of Whitehead's philosophical books were written in America, while he had left the bulk of his library in England. He says of PR, "In these lectures I have endeavoured to compress the material derived from years of meditation." Apparently, therefore, Whitehead wrote his philosophy without constant reference to other writers. This may account, in part, for the lack of explicit references to other writers.

1. Whitehead, PR, 16.
2. This information was furnished the author by Mrs. Whitehead in a telephone conversation in January, 1950.
3. Whitehead, PR, x.
These difficulties indicate that the solution of the problem of this dissertation can only be approximate. Where there is close similarity of ideas between Whitehead and Bergson, where Whitehead refers explicitly to Bergson, and where there is no indication that Whitehead had arrived at his views from any other source, it may be concluded that influence is probably or almost certainly present. At other places, the evidence will be inconclusive so that no more can be said except that influence is possible, and conclusions arrived at will be based upon a weighing of the evidence, rather than upon decisive proof. Distinction will be made throughout, between influence and mere similarity of ideas between Bergson and Whitehead.
CHAPTER I

THE ORGANIC PRINCIPLE

H. Wildon Carr, one of the best interpreters of Bergson in English, states Bergson's basic principle as follows:

The fundamental notion on which it is based is that the human mind, raised to self-consciousness, and seeking truth, finds itself dogged by an illusion—an illusion contrived to serve, and splendidly serving, the practical need of life, but an illusion which obscures every effort to attain clear knowledge—the illusion that change is conditioned by things which are changeless.

Whitehead's basic principle is similar. In his "philosophy of organism," the ultimate category is creativity; process is reality. The distinctive characteristic in the thought of both philosophers is creative change. The "organic principle," as used in this chapter, has two characteristics. Reality, according to this principle, is dynamic rather than static. The nature of reality is creative change itself, not merely the subject of the change. The second characteristic follows from the first. Reality is both pluralistic and monistic. It has the pluralism of distinguishable things, but these things are interrelated and have the unity of an organism. Whitehead's phrase, the "philosophy of organism," will be adopted to indicate all philosophies characterized by this principle. As with all

2. Whitehead, PR, 11.
great philosophies, they had their roots in the past and emerged as the natural result of the creative advance of thought. The progress of this organic principle, therefore, will be traced briefly from its origin in antiquity, through its modern exponents, and up to its culmination in the thought of Alfred North Whitehead.

1. In Ancient Philosophy

The real origin of the organic principle seems to have been in Plato, but his thought in turn is the product of the thought that preceded or was contemporaneous with him.¹ Three distinct lines of Greek thought may be distinguished, each containing the germ of the organic principle. They may be designated by the names of their chief exponents, Pythagoras, Heraclitus, and Parmenides. In themselves these forms of thought were not organic in the sense that Plato's philosophy was. But they furnished elements from which Plato's organic philosophy emerged by the synthesizing activity of his mind.

The principle of the Pythagoreans which profoundly influenced Plato was their view that the universe is ultimately to be expressed in mathematical relations.² The Boundless or Unlimited is opposed by the principle of Limit or

---

¹ Whitehead, AI, 162.
² Whitehead, AI, 192.
Form. This Limit is expressed as Numbers and gives to things an eminent reality, or what Whitehead would call actuality.

Heraclitus went to the heart of a perennial metaphysical problem by asserting that "all things flow." He felt that nothing was permanent; all was in a state of flux. Yet he observed a certain order in the world that did not fit in with his theory and so he was led to say that there was a permanence in the world, the Law of Change, which he called the Logos. This is one of the most important ideas in the history of philosophy. As Whitehead puts it, "The elucidation of meaning involved in the phrase 'all things flow,' is one chief task of metaphysics." He further points out that in the modern era the principle of "all things flow" has been paraphrased by mathematical physics to say that, "All things are vectors." It also accepts the atomistic doctrine of Democritus and says that, "All flow of energy obeys 'quantum' conditions."

1. Philolaus, fr. 1-4, in Freeman, APSP, 73-4. Pythagoras left no written works, so far as is known. The earliest published account of Pythagoreanism was that of Philolaus of Tarentum. Miss Freeman accepts the genuineness of these fragments. Cf. Freeman, APSP, 20, 73.
2. Fuller, HOP, 18-19.
5. Whitehead, PR, 317.
6. Whitehead, PR, 471.
Thus in modern thought, as well as in the thought of Plato, Pythagoras and Heraclitus have much in common.

The third school of thought in early Greek philosophy was that of the Eleatics, whose exponents were Parmenides and Zeno. Against the school of Heraclitus, they contended that the fundamental metaphysical category was Being, and that change was an illusion. On the whole, the philosophy of organism has been influenced more by Heraclitus than by Parmenides. Hegel found the idea of pure Being, which is the first category of his logical Idea, an abstract thought that does not contain the idea of existence. He cites Heraclitus's criticism of the Eleatics when he says that, "Being no more is than not-Being." For him the first concrete category was Becoming, or in the concrete sense, Nature. But this school is important for the philosophy of organism for its emphasis on permanence and unity which is as characteristic of an organism as is its change.

These three schools of thought, then, are those that influenced Plato. There is another school of thought which was contemporary with Plato, that of Democritus, the pupil of Leucippus, which attempted to reconcile the Eleatics and Heraclitus. They thought of reality as consisting of tiny, independent atoms moving according to a strict necessity in a void. Plato, however, seems to have rejected

1. Fuller, HOP, 25-29.
2. Wallace, LON, 144 (Hegel, EPW, #88 sn).
3. Fuller, HOP, 38-43.
this solution to the problem.

As has been suggested, the pre-Socratic thought con-
tained hints of an organic principle, but it found its
most complete form in ancient philosophy in that of Plato
and Aristotle. Plato admits with the Pythagoreans that
existence implies limitation or determination.¹ This is
also the view of Hegel.² He rejects the view of Parmenides
and says that things do have an existence in themselves.
But he also rejects the view of the atomists that they exist
only in themselves. Things also exist in other things.
There is both a One and a Many, or in other words, the uni-
verse is interrelated.³ But Demos points out that for all
its relatedness, the universe was not a completed totality,
but incomplete and growing. It is both atomistic and
organic.

There is no ultimate totality. The 'other' per-
vades the whole range of being. It may be ob-
jected that the Good (Rep. Bk. VI) is a totality
inclusive of the whole range of being. Our
answer at this point can be of a general nature,--
that in so far as there is dialectic for Plato,
nothing is complete; whatever is, is transcended
by something else, into which it moves. . . . In
short, every entity is delimited, marked off from
the rest of being. Given an entity, there are
the ̶ | (others).⁴

¹. Plato, Phileb. 26d. Cf. Raphael Demos, "The One and
the Many in Plato," in Northrop and others, PEW, 41-66.
Much of the information on Plato's views in this con-
nection is taken from this article.
². Wallace, LOE, 145 (Hegel, EPW, #89).
³. Demos, Art. (1936), 42.
⁴. Demos, Art. (1936), 49.
The above quotation emphasizes the plurality of being. But Being is also One. Parts exist in harmony and form a unity, which in turn may be a part of a higher unity.¹ We cannot say which, the One or the Many, is most important in Plato's thought, particularly in the later dialogues like the Sophist. Indeed, it seems that it depends upon one's point of view, a thought which, like much in Greek philosophy, reminds one of the advances in philosophy made by the relativity principle.

There are two other thoughts that are important in the philosophy of organism, which are found in Plato. They are the principles of creativity and negativity. Without the principle of creativity we do not have an organism. The thought has its beginning in Heraclitus as the Logos. The suggestiveness of this idea may be judged by considering the Logos-doctrine in Philo and in the Fourth Gospel. In Plato the principle of creativity is δύναμις (power). In a panpsychistic way, everything in the universe partakes of this creative power, although not all in the same degree. This results in what Demos calls "the hierarchy of souls."

This hierarchy, as he lists it, is as follows:

(a) Theos, or God as theoretical activity; (b) the Demiurge, or God in his practical activity; (c) the Gods, or created creative souls of the stars; (d) the world-soul; (e) human reason;

¹. Plato, Sophist, 253d (Cornford). The idea of Harmony was also emphasized by the Pythagoreans. Cf. Philolaus, fr. 6, in Freeman, APSP, 74.
(f) spirit; (g) desire; (h) the souls of animals; 
(i) the souls of plants (i.e. the soul as merely 
vital activity); (j) the purely inert, yet orderly, 
motion of inanimate bodies; (k) the chaotic move-
ment in the receptacle.\(^1\)

There is a passage in the *Sophist* that seems to indicate that 
reality, or real things, are "nothing but power."\(^2\) Cornford 
points out that the Greek construction is difficult and that 
the sense may be either as he has translated it, or it may 
be that "the mark of real things (not the real things them-
selves) is nothing but power."\(^3\) But in any case, this pas-
sage seems to justify the contention that Plato, like White-
head, considered creativity ultimate. But the evidence is 
too scanty to be taken as final, and the question must re-
main, for the time being, one of the unanswered questions re-
ferring to the Platonic philosophy.

The other principle which is found in organic philos-
ophies is that of negativity. This of course is particu-
larly distinctive of the philosophy of Hegel.\(^4\) In Whitehead 
this notion is that of perishing,\(^5\) an idea derived from a 
statement by Locke. In Plato this principle of negativity 
resides in the Form of Difference, a Form that pervades all 
other forms.\(^6\) This principle is necessary in dialectical 
thought. A thing is determinate because it is not something

---

else. But, although Plato said some very relevant things about activity and movement, and his world-view is organic logically, he does not emphasize the reality of process. There is a dualism evident in Plato with the eternal Ideas opposed to the changing flux of the particulars. It remained for Aristotle to bring the principle of movement into prominence.

Plato was an extremely suggestive thinker. As Whitehead says, "Plato raises all fundamental questions without answering them." But Aristotle was more systematic and more critical. He could not accept Plato's dualistic view of a world of Forms separate from the world of particulars. Form, or actuality, could not exist without its correlative, matter or potentiality. All things exist as organic wholes in a trinity of potentiality, movement, and actuality. The essence of a thing is not its thingness, but its becoming, the process by which the potential becomes actual. This principle of movement is pervasive in Aristotle's philosophy, and is found even in the Supreme Being, who is called the Unmoved Mover. God for Aristotle is wholly actual and for this reason does not move. He is final cause and produces movement by being loved. All other things move by being moved. Hegel too found love to be charac-

1. Whitehead, ESP, 117.
2. Weber and Perry, HOF, 84; Aristotle, Met., XII, 5(1071a).
3. Aristotle, Met., XII, 7(1072b).
teristic of spirit in its most highly developed form, that of free and absolute mind.¹

Whitehead recognized a similarity between his views and Aristotle's regarding becoming, although he felt that Aristotle failed to consider perishing of sufficient importance.

I speak from very thin knowledge; but I rather suspect that I am a little more Aristotelian than either Bergson or Bradley. . . . Aristotle has some very relevant suggestions on the analysis of becoming and process. I feel that there is a gap in his thought, that just as much as becoming wants analyzing so does perishing. . . . Almost all of Process and Reality can be read as an attempt to analyze perishing on the same level as Aristotle's analysis of becoming.²

One should not be led to think, however, that Aristotle was totally unaware of the problem. He recognized that perishing and becoming are correlative ideas. He held that sensible substance was of two kinds, one changing and the other eternal. Changing sensible substance, he says, continually undergoes the process of generation and destruction.³

Aristotle's philosophy has, thus, many resemblances to organicism, but he does not carry it as far as did Hegel or Whitehead. Aristotle saw movement and development in all things, but did not find any organic relationship among the discrete things comprising the universe. Instead, he found only a principle of separation, by which he arranged things

¹ Hegel, EPW, #159(Wallace, LOH, 245).
² Whitehead, ESP, 116-117.
³ Aristotle, Met., XIX, 1-2(1069).
in classes. However, Weber points out that there is absolutism in Aristotle in that God is both first and last cause.\(^1\) He even uses the term, absolute, to designate the God of Aristotle.\(^2\) But Aristotle's absolutism was not a Hegelian doctrine of a concrete universal; it was, however, the related doctrine that the whole is prior to the parts.

After the great period of Greek philosophy, there were not any very significant developments of the organic philosophy until the modern period. Greek philosophy of the later period was primarily concerned with the soul, its nature and destiny.\(^3\) The scholastic philosophy of the Middle Ages was concerned more with theology than metaphysics, and what metaphysics remained was mostly a rephrasing of Plato or Aristotle in scholastic terms. A considerable conflict raged over the question of the reality of universals, the conflict between realism and nominalism.

A notable exception to the decline in metaphysical speculation during the Middle Ages was the philosophy of Plotinus, who is called by Fuller "the greatest thinker certainly between Aristotle and Spinoza."\(^4\) The philosophy of Plotinus, "emanatistic pantheism," has Form, Unity, or more particularly God, as the supreme principle.\(^5\) Opposed to

---

2. Weber and Perry, HOP, 79.
4. Fuller, HOP, 282.
God is matter which, however, emanates from God and returns to God, so that it is not really a separate principle. The metaphysics of Plotinus is mystical and closely connected with his ethical views. While his view should certainly be included among the forebears of the philosophy of organism, Plotinus is not always consistent. He sometimes considers God as the unity of all things, nature and mind, and so, considered in the absolute sense, pure perfection. But in other moods, probably the more dominant, he looks upon nature as negative and evil and so makes a dualistic contrast between nature and mind.¹

2. In Modern Philosophy

Modern philosophy, from Descartes until the twentieth century, was dominated by what E. A. Burtt calls "the Galilean-Cartesian-Newtonian world view."² According to this view, the world of nature is mechanistic and materialistic while mind is an immaterial substance differing in essence from nature. The only relationship between mind and nature is that of knowledge. Just as nature is conceived materialistically to be composed of discrete objects, so the ideas of the mind are conceived to be clear and distinct, in so far as they are true. The separation of mind and nature resulted in epistemological problems that were practically

1. Weber and Perry, HOF, 130n.
insoluble. Practically every philosopher wrestled with the problem with many diverse solutions, none of them wholly satisfactory. The result was that the period was marked by a profound skepticism and some brilliant critical thinking. Hobbes attempted a solution of the mind-nature problem by denying the reality of mind. Berkeley denied the reality of matter. Hume was completely skeptical of the possibilities of knowledge. Kant believed in the existence of "things-in-themselves" but held their nature to be unknowable. Thus the dominant world-view was seriously questioned, but it was not until the twentieth century with new physical and mathematical theories that it was possible to supplant it with a more coherent organic world-view in which dynamic process or creativity was substituted for the older doctrine of substance as the basic metaphysical reality. Many of the early attempts to solve the philosophical problems of the day resulted in insights that anticipated modern contemporary thought. One great original thinker was Spinoza.

The brilliant mind of Spinoza refused to rest in the Cartesian dualism, and he could not conceive of the universe in any other terms except as fundamentally one. But, unlike many monists, he felt the need for preserving the reality of both nature and mind. And so, instead of the two substances of Descartes, thinking substance and extended
substance, Spinoza posited a single substance with infinite attributes, two only of which are known to the human mind, thought and extension. Still holding to the Cartesian definition of a true idea as one that is clear and distinct, Spinoza solved the epistemological problem by maintaining that "the order and connection of ideas is the same as the order and connection of things," or in other words, psychophysical parallelism. His advance over Descartes was more than verbal. Spinoza anticipated the organic philosophy of Whitehead by holding to a universe that was organically unified, yet one in which both physical nature and mind had a knowable reality. His psychophysical parallelism was anticipatory of the mental and physical poles of experience in the philosophy of Whitehead. The close alliance of his philosophy with that of Spinoza at certain points has been noted by Whitehead, although, of course, there are a great many fundamental differences.

The philosophy of organism is closely allied to Spinoza's scheme of thought. But it differs by the abandonment of the subject-predicate forms of thought. . . . The result is that the "substance-quality" concept is avoided; and that the morphological description is replaced by description of dynamic process. . . . The coherence, which the system seeks to preserve, is the discovery that the process, or concrescence, of any one actual entity involves the other actual entities among its components. In this way the obvious solidarity of the world receives its explanation.2

1. Spinoza, Ethics, II, Prop. VII.
2. Whitehead, PR, 10.
In general the forerunners of Whitehead's "philosophy of organism" were the philosophers of the seventeenth and eighteenth centuries, in contrast to most of the philosophers of the nineteenth century who, he claimed, by their acceptance of a number of prevalent fallacies, excluded themselves "from relevances to the ordinary stubborn facts of daily life." ¹ Whitehead mentions particularly as thinkers suggestive of his system, Descartes, Newton, Locke, Hume, Kant, although he disagreed in many respects with all of them.

These philosophers were perplexed by the inconsistent presuppositions underlying their inherited modes of expression. In so far as they, or their successors, have endeavored to be rigidly systematic, the tendency has been to abandon just those elements in their thought upon which the philosophy of organism bases itself.²

Locke, he says, was most suggestive of all, especially in his Essay, Bk. IV, Ch. VI. Sect. II.³ Whitehead describes his philosophy as a "recurrence to pre-Kantian modes of thought." The above passage explains why his agreement with the philosophers of the seventeenth and eighteenth centuries is not apparent on the surface. This is because his agreement is in facing the problems they faced rather than accepting their solutions. Their thought was suggestive but, according to Whitehead, they were bound by certain

¹. Whitehead, PR, viii.
². Whitehead, PR, vi.
³. Whitehead, PR, v and n.
conventions of thought which prevented them from following their insights to the end. Since their time, modern developments in science, including the theory of relativity, have made it possible for Whitehead to repudiate many of these conventions and reconstruct philosophy on radically different lines. Among many such conventions, Whitehead cites three which were particularly important in the philosophy of Locke. The first was the dualism which was inherited from Descartes. The second was the "subject-predicate dogma" which results from too much dependence upon the Aristotelian logic. The third convention was

the assumption, unconscious and uncriticized, that logical simplicity can be identified with priority in the process constituting an experient occasion.

This last assumption was abandoned by Locke in the third and fourth books of his Essay, to which fact Whitehead attributes the greater suggestiveness for the philosophy of organism of this great work.

Among the suggestions in Locke that anticipated Whitehead's philosophy were his doctrine of "power," his doctrine of particular things, and his doctrine of "exterior things."

Whitehead finds that Locke hints at the "ontological principle" when he says that "power" is "a great part of our complex ideas of substances." Locke also says:

1. Whitehead, PR, 84-5.
2. Locke, Essay, II, XXIII, 7; quoted in Whitehead, PR, 28.
Power thus conceived is two-fold; viz. as able to make, or able to receive, any change. . . . I confess power includes in it some kind of relation, . . . For our ideas of extension, duration, and number, do they not all contain in them a secret relation of the parts? Figure and motion have something relative in them much more visibly. And sensible qualities, as colours and smells, etc., what are they but the powers of different bodies in relation to our perception?\(^1\)

Whitehead maintains that while Hume has shown that Locke's doctrine is inconsistent with a purely sensationalistic philosophy, it merely illustrates the point that Locke is marked by adequacy rather than consistency. For in Locke's doctrine of "power," Whitehead claims to see the main doctrines of his philosophy of organism. These are, namely:

The principle of relativity; the relational character of eternal objects, whereby they constitute the forms of the objectifications of actual entities for each other; the composite character of an actual entity (i.e. a substance); the notion of "power" as making a principal ingredient in that of actual entity (substance).\(^2\)

This latter notion, Whitehead says, is what he calls the "ontological principle."

Whitehead believes that Locke's use of the term "idea" is a "close analogy to" his own doctrine of feeling and prehension, and also to Bergson's notion of intuition, and Alexander's term, enjoyment.\(^3\) Locke's "ideas of particular things" are comparable to Whitehead's "objectified actual entities" or "nexūs." In Locke's analysis, the epistemo-

\(^1\) Locke, Essay, II, XXI, 1; quoted in Whitehead, PR, 90.
\(^2\) Whitehead, PR, 65.
\(^3\) Whitehead, PR, 65.
logical process starts with the ideas of particular things and then proceeds to the formation of general or abstract ideas. Whitehead concludes that "Locke entirely endorses the doctrine that an actual entity arises out of a complex constitution involving other entities." Also that Locke discovered "that the mind is a unity arising out of the active prehension of ideas into one concrete thing."  

Whitehead felt that he could avoid subjectivism and mentalism without skepticism by a form of epistemological monism. Actual entities have an influence beyond themselves because of the fact of their prehensions of all other actual entities. In the knowing process the percipient event is "compresent" with the object of perception. This doctrine had its origin in Locke's doctrine of "exterior things," a view which Whitehead elaborated in *Process and Reality*. He quotes a statement by Locke which he claims is "exactly the primary assumption of the philosophy of organism:"

> The mind, being furnished with a great number of the simple ideas conveyed in by the senses, as they are found in exterior things, . . .

The phrase which Whitehead underlines he claims to be a statement of the doctrine of his that he calls the "vector character of the primary feelings."

---

2. Locke, *Essay*, II, XXIII, 1; quoted in Whitehead, PR, 86.
The universals are the only elements in the data describable by concepts, because concepts are merely the analytic functioning of universals. But the "exterior things," although they are not expressible by concepts in respect to their individual particularity, are no less data for feeling; so that the congrescent actuality arises from feeling their status of individual particularity; and thus that particularity is included as an element from which feelings originate, and which they concern.¹

The foregoing analysis of Locke's philosophy is necessarily Whitehead's own. Few thinkers would find the same ideas in Locke. Whitehead admits that he goes beyond Locke's explicit statements but believes that Locke himself "saw further into metaphysical problems than some of his followers."²

One of the most curious things which is to be noted in a study of Whitehead is his relationship to Hegel. Whitehead had little use for the nineteenth century philosophy and for Hegel in particular. Yet a careful study of the two men shows that their differences were primarily those of terminology and form. In similarity of ideas no philosopher is closer to Whitehead than Hegel. This matter has been brought to Whitehead's attention and he has made some statements that describe precisely the extent of Hegelian influence.

I have never been able to read Hegel: I initiated my attempt by studying some remarks of his which struck me as complete nonsense. It was

¹. Whitehead, PR, 86.
². Whitehead, PR, 93.
foolish of me, but I am not writing to explain my good sense.1

Whitehead was not the first to acquire a prejudice against Hegel because he appeared at first to be writing nonsense. But Whitehead had a little better excuse than some because when he first read Hegel he was a mathematician, not a philosopher. He later made a more explicit statement.

I said very little in my book Process and Reality about Hegel for a very good reason. You remember that the greater part of my professional life was passed as a mathematician, lecturing and teaching mathematics, and a great deal of the rest has been devoted to the elaboration of symbolic logic. . . . The amount of philosophy I have not read passes all telling. . . . I have never read a page of Hegel. That is not true. I remember . . . I read one page of Hegel. But it is true that I was influenced by Hegel. I was an intimate friend of McTaggart almost from the very first day he came to the University, and saw him for a few minutes almost daily, and I had many a chat with Lord Haldane about his Hegelian point of view, and I have read books about Hegel. But lack of first-hand acquaintance is a very good reason for not endeavoring in print to display any knowledge of Hegel.2

It is unfortunate that Whitehead's knowledge of Hegel is so limited. For Hegel is one philosopher who, like Whitehead, cannot be understood adequately from secondary sources, and who must be taken as a whole to understand him. Some of Hegel's followers and some of his interpreters have notoriously misrepresented him, and it is not safe to take their interpretations. Hegel has been criticized as unempirical.

1. Whitehead, ESP, 7.
2. Whitehead, ESP, 115-16.
His critics fail to understand the significance of his first book, the *Phaenomenologie des Geistes*, which is an empirical or phenomenological account of experience. According to his own claim, it was upon this broad empirical foundation that his monumental *Logic* was built.¹

Whitehead was perhaps influenced by writers who emphasized Hegel's Absolute as the most characteristic thing about his philosophy. William James, for instance, referred to Hegel's cosmos as a "block universe." Many would agree that the Absolute of Hegel is "the night in which . . . all cows are black..." the very *naive* of vacuous knowledge.² But they would fail to realize that these words are Hegel's own criticism of the Absolute of Schelling. Hegel was a sharp critic of abstract views. Truth for him was a "concrete universal." Hegel pointed out that while the true is the whole, the whole is a process and neither the beginning nor the end of any object of thought could be understood without an account of the other as well as the account of the process of becoming which unites them. Neither could there be any isolated ideas or, as Whitehead would say, every actual entity involves every other actual entity.

Impatience asks for the impossible, wants to reach the goal without the means of getting there. The length of the journey has to be borne with, for every moment is necessary; and again we must halt

---

1. Wallace, LOH, 49 (Hegel, EPW, #25).
at every stage, for each is itself a complete individual form, and is fully and finally considered only so far as its determinate character is taken and dealt with as a rounded and concrete whole, or only so far as the whole is looked at in the light of the special and peculiar character which this determination gives it.1

Again and again there occur passages in Hegel which express precisely what Whitehead has in mind. Indeed, there are so many of them that one does not need Whitehead's statement to see that he has not read Hegel. Had he known Hegel as well as he knew Locke, he would surely have hailed Hegel as a great genius who not only anticipated the philosophy of organism but actually created it before Whitehead. The fact that these two men from different backgrounds and presuppositions should have produced philosophies so essentially similar is a phenomenon which cannot be assigned to mere coincidence. It suggests the objectivity of truth and the power of the human mind to search it out.

There are so many parallel ideas in Whitehead and Hegel that it would be beyond the scope of this preliminary historical survey to give an exhaustive analysis of them. A few passages must suffice to indicate the closeness of their thought.

As has been suggested, Hegel conceived the world and truth as a process.

The Idea is essentially a process, because its identity is the absolute and free identity of the notion, only in so far as it is absolute negativity and for that reason dialectical...

1. HS, 25.
As the idea is (a) a process, it follows that the expression for the Absolute (such as unity of thought and being, of finite and infinite, &c.) is false; for unity expresses a tranquil and abstract identity at rest. As the Idea is (b) subjectivity, it follows that the expression is equally false on another account. That unity of which it speaks expresses the substance or implicit nature of the genuine unity. The infinite would thus seem to be merely neutralised by the finite, the subjective by the objective, thought by being. But in the negative unity of the Idea, the infinite overlaps and includes the finite, thought overlaps being, subjectivity overlaps objectivity.

The above quotation has been given at length because this very important passage shows not only that Hegel considered reality to be a process, but also shows how the process is conceived. It also shows that Hegel, like Whitehead, repudiated the "subject-predicate dogma." Also like Whitehead, Hegel was dissatisfied with Aristotle's logic of classes and substituted an organic logic. Hegel, however, failed to recognize the importance of the problem of time. Nor did his system leave a place for the emergence of novelty.

Whitehead's concept of actual entities is also expressed in Hegel many times.

Appearance is the process of arising into being and passing away again, a process that itself does not arise and does not pass away, but is per se, and constitutes reality and the life-movement of truth. In this way truth is the bacchanalian revel, where not a soul is sober; and because every member no sooner gets detached than it ipso collapses

---

1. Wallace, LOH, 308-309 (Hegel, EPW, #215).
straightway, the revel is just as much a state of transparent unbroken calm.\(^1\)

When this passage is compared to Whitehead's statement about the fate of actual entities, it may be seen that the two notions are almost exactly parallel.

In the philosophy of organism it is not "substance" which is permanent, but "form." Forms suffer changing relations; actual entities "perpetually perish" subjectively, but are immortal objectively. Actuality in perishing acquires objectivity, while it loses subjective immediacy.\(^2\)

These passages by no means exhaust the possibilities of finding similarities between the philosophy of Hegel and of Whitehead. But they are sufficient to show how Hegel's philosophy is just as deservedly called a philosophy of organism as is that of Whitehead.

In the philosophy of Schopenhauer, Hegel's famous contemporary, there is much that is suggestive of Bergson. In The World as Will and Idea, will is conceived as a blind, impersonal, driving force. The physical world is considered idea, or representation, or manifestation of the will. Thus Schopenhauer reintroduced an almost forgotten concept into the philosophy of his day, namely, the idea that the basic reality is not necessarily static, but might well be dynamic. This line of thought, coupled with the newly discovered theories of evolution, was to culminate in Bergson's Creative Evolution.

---

1. HS, 41.
2. Whitehead, PR, 44.
It was Hegel, however, who was fated to start a school of thought, but, as is often the case, the teachings of the master were soon lost sight of in their original form, and lesser aspects of his thought were developed and emphasized. Attempts to view his system as a whole led to an emphasis upon the Absolute to the neglect of Hegel's own emphasis on development and process, and his historical, scientific, and cultural empiricism. The school of absolute idealism certainly stemmed from Hegel, but many, like Whitehead, did not bother to read Hegel and got their conception of this school of thought from the followers of Hegel. The ablest in dialectical reasoning, and also the most extreme of the neo-Hegelians, was Bradley. For him the Absolute alone is real and all determinations appear as movement within the Absolute. Any phenomenon taken simply is not reality, but rather appearance. The more organically these various phenomena are seen to be related, the more real they become, until all relations are considered together in a whole which is the Absolute and which is real. This view of Bradley's profoundly influenced Whitehead because of its organic emphasis and it is at least possible that Whitehead had Bradley's book, Appearance and Reality, in mind when he named his own greatest work, Process and Reality. Both recognized an important element of feeling in the knowing process, and in ultimate reality, and both were agreed that a complete and adequate account of reality involved the entire universe.
But Whitehead saw that even the Absolute of Bradley had something unreal about it because, at the stage of the Absolute, reality seemed to be static. For Whitehead reality was dynamic, a process, and the general theory of relativity suggested to him that any "event" might be termed real.
Whitehead's own remarks on his relationship to Bradley are interesting.

I admit a close affiliation with Bradley, except that I differ from Bradley where Bradley agrees with almost all the philosophers of his school and with Plato, insofar as Plato was a Hegelian. I differ from them where they all agree in their feeling of the illusiveness and relative unreality of the temporal world. . . . That process is a somewhat superficial, illusory element in our experience of the eternally real, the essentially permanent . . . is Bradley's standpoint, if I read him correctly. . . . I rather suspect that I am a little more Aristotelian.¹

Whitehead acknowledges his debt to Bradley in the "Preface" to Process and Reality.

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."²

Another philosophy which is particularly suggestive in the use of the organic principle is the philosophy of Samuel Alexander, and Whitehead's writings reveal an accurate knowledge of his work. Alexander's system, embodies in his

¹ Whitehead, ESP, 116. ² Whitehead, PR, vii–viii.
Space, Time, and Deity, conceives reality as composed of "space-time," not as a fusion of the two, but as a single reality. He considers it a fundamental error that conceives of space and time as distinct. There is a "nisus" toward growth with an evolution occurring so that nature, mind, and spirit have emerged as successively higher levels of reality. Deity is the next higher level which has not yet emerged. For each level, deity is the next level above it, and in it resides the "nisus" for growth. Speaking purely from analogy, and not meaning to imply a distinction between space and time, Alexander says that time is "the mind of space." Alexander has much in common with both Whitehead and Bergson. Whitehead agrees with him that space and time constitute a single reality, for which an erring science has assigned two names, emphasizing its two aspects. In his epistemology Alexander is also similar to Whitehead. He believes that in the knowing situation the knower and the object of knowledge are "compresent" or together. The idea of being together is one which Whitehead uses when he says that all actual entities are "together" and prehend one another. Alexander's "nisus" is very like the *elan vital* of Bergson. The "nisus" is of the nature of time and carries its creatures forward through matter and life to mind. Since time is infinite, the process of growth cannot be thought of as coming to an end. "Time itself requires us to think of a

later birth of Time."¹ It should be noted that Alexander differs from both Schopenhauer and Bergson in that the two latter philosophers considered the dynamic element to be the basic reality, while for Alexander the basic reality was space-time, composed of "point-instants." He thus belongs to that group of philosophers who clung to "the illusion that change is conditioned by things which are changeless."²

A form of idealism that makes use of the organic principle is personalism, which had its beginnings in Germany with the spiritualism of Hermann Lotze.³ He held that nature was composed of units in reciprocal and compensatory relations. Since these relations composed a rational system, nature was ultimately a unit. Lotze held that reality was that which maintained its identity throughout changing states. This he found to be the case in the unity of consciousness. He developed a theistic view in which nature was composed of spiritual beings having feeling and will, including selves below the level of man, human selves, and the supreme Self, God. All lesser beings were, however, dependent on God as being modes of his activity.⁴

Lotze's views were further developed in America by his

¹ Alexander, STD, II, 346.
³ Weber and Perry, HOP, 519-523.
⁴ Weber and Perry, HOP, 522.
eminent pupil, Borden Parker Bowne, who gave the name personalism to his system. Bowne emphasized the substantive reality of all persons. He held that the physical world was known by the constitutive activity of mind, but escaped subjectivism with the doctrine that the physical world is other than the individual mind, being the expression of the Divine Mind. Similar views were put forth by George Howison of the University of California, who criticized the monism of Royce and substituted a theory of the plurality of persons, a system he called "Pluralistic Idealism."¹

One may readily see how the requirement of an organic and dynamic explanation of the unity and variety of life is admirably fulfilled in the philosophy of personalism. In fact, Hegel, Bergson, and Whitehead, in describing the organic character of reality, again and again use terms which may be construed as personalistic.

To conclude this historical survey, the philosophies of the two men who are the subject of this paper will be summarily treated. Bergson was dissatisfied with the traditional philosophy. He was interested in practical life and experience and had a great deal in common with American pragmatism. Perry says that "the difference between Bergson and William James is the difference between a psychological biology and a biological psychology." He goes on to say that both philosophies might be described by the

¹. Weber and Perry, HOP, 550.
terms "naturalistic spiritualism" or "spiritualistic naturalism," and both "tend to reduce life and mind to common terms."
"For Bergson's reality the most adequate term is 'activity', for that of James, 'experience'." Bergson once confided to a friend, "Traditional philosophy is always systematic. I have wanted to create a different kind." His objection referred to a system that was bound by a rigid logic, as he felt that this excluded novelty. Bergson's philosophy was distinctly organic. He considered both discontinuous psychic states and discrete objects to be illusion. Life and consciousness were an unbroken "duration." He was so opposed to anything static that H. Wildon Carr calls his philosophy, "The Philosophy of Change." He criticized both idealists and materialists. As Irwin Edman says:

Bergson's critique of the purely intellectual analysis of the idealists and the purely geometrical analysis of the materialists is shrewd criticism, however vague the positive doctrine of 'creative evolution'.

Bergson's leading principle is that life is due to the upward thrust of the "vital impulse" or "clan vital." It is by this power that development and evolution take place, that is "creatively." In certain species this evolution has come to its fullest development, and has therefore stopped. In man alone are evolution and novelty still

2. Report of a visit of M. Cremil to Bergson, Mercure de France, 108 (1914), 397, cited in Scharfstein, RBP.
possible. In his later thought, as seen in The Two Sources of Morality and Religion, Bergson develops this theme in a manner very close to Christian doctrines, particularly as they are found in the Johannine writings. In respect to the ultimate nature of reality, Bergson's metaphysics is close to Whitehead's theory of Creativity as Ultimate, as Edman suggests, commenting on Bergson's Introduction to Metaphysics.

Bergson found reality in movement and change themselves, an aspex not uncogential to the dynamic changing society in which he lived. If change was real, novelty was real; if novelty was real, freedom was real. The immediate was flux, and the changing was ultimate.¹

There are many strong contrasts in Bergson. The one that has raised the greatest controversy is his doctrine that the intellect falsifies experience, and that reality may be grasped by intuition. This doctrine, which will be carefully examined later, was one which Whitehead wished to defend from charges of anti-intellectualism.²

Whitehead is generally recognized as the greatest philosopher of the first half of the twentieth century. As this historical survey has indicated, many of the leading thinkers have made suggestions that showed a feeling for an organic interpretation of the universe. Whitehead, however, has taken these suggestions, coupled with the latest advances of science, particularly physics, and with considerable

¹ Edman, Art. (1943), xii. ² Whitehead, PR, vii.
creative genius, has written a system of philosophy which cannot be classified with any of the traditional systems. Perhaps the best name for it is "organic realism."\(^1\) Whitehead's starting point was English new realism. He combined in his thinking extensive scientific knowledge, the general theory of relativity, wide general reading in history and philosophy, and extensive classical studies. The result was a highly original philosophy completely divorced from the notions of substantial and static reality. For Whitehead, creativity, the notion of a fundamental creative power, is the "category of the Ultimate."\(^2\) The units of reality are not "things" but "actual entities" or "actual occasions" which are organized into "nexus" which comprise "events" or "public matters of fact."\(^3\) Reality is not matter or spirit, but rather has a mental and a physical pole.\(^4\) All experience, which means all existence, consists of feeling. Whitehead calls these feelings "prehensions."\(^5\) All actual entities are in a sense "together" and "prehend" one another. This prehending process is known as "concrecence" and constitutes the actuality of actual entities.\(^6\) God is the "primordial, non-temporal accident" of the ultimate "creativity."\(^7\) God's nature is threefold, primordial, superjective, and consequent.\(^8\) These statements, while not an attempt to summarize his philosophy, may serve to indicate the novelty and

\[^{1}\text{Morris, STM, 182.}\]  \[^{2}\text{Whitehead, PR, 28.}\]  \[^{3}\text{Whitehead, PR, 31.}\]  \[^{4}\text{Whitehead, PR, 32, 113.}\]  \[^{5}\text{Whitehead, PR, 170.}\]  \[^{6}\text{Whitehead, PR, 134-135.}\]  \[^{7}\text{Whitehead, PR, 11.}\]  \[^{8}\text{Whitehead, PR, 33.}\]
complexity of Whitehead's thought, while the previous statements in this survey indicate the way in which he drew upon many modes of thought and many thinkers in the synthetic construction of his philosophy.

3. Viewed as a Synthesis of Realism and Idealism

Charles Morris expressed a widely held opinion of Whitehead's philosophy when he said:

Whitehead's synthetic results break over any simple classification... combining in a remarkable way insights of idealists, realists, and pragmatists. Indeed, to some thinkers Whitehead's results have appeared as the long-awaited synthesis of contemporary philosophy.1

One indication that such a synthesis has been needed is the fact that the views of contemporary thinkers do not fit readily into the categories of traditional thought. There are many types of idealism and many types of realism. Sometimes the different forms overlap. For instance, Durant Drake and C. A. Strong are usually classed as critical realists. They are also classed as panpsychists, which is an idealistic doctrine. Idealists generally favor the objectivity of value, while most realists do not. However, E. G. Spaulding is anti-idealistic, but still holds to the objectivity of values. Most statements about realism or idealism need to be qualified by an adjective denoting which form of idealism or realism is intended. A fuller statement will be made in Chapter VI, where the relation of Bergson

and Whitehead is discussed. For this preliminary historical survey, only general working definitions will be made.

Idealism, then, may be defined as belief in the ultimate reality or significance of mind, or of the ideals and values existing in or revealed to mind.¹ Realism is the view that reality consists of something other than consciousness, and existing independently of it.

In a stimulating article on Bergson, Wilbur Long says that the question before modern philosophy is "the famous debate over the mind-body problem, a debate that compares in magnitude and significance to that over universals in the Middle Ages."² This debate is generally concerned with the

bisection of the world by the human mind... into the two spheres of insides and outsides... between subjective and objective, self and not-self, person and thing, spirit and space.³

This question, which is primarily epistemological, has its counterpart in metaphysics as a debate between idealists and materialists. The idealists appear to have won the first round, because modern scientific discoveries have practically destroyed the position of the crude materialism of an earlier day. However, another rather formidable philosophy, known as realism, arose to threaten seriously the idealistic position, and represents the reforming of

1. Brightman, FOI, 172.
2. Long, Art.(1948), 64.
the materialistic forces in conformity to the new science. In its simplest form, realism means simply that there is something real existing independent of the individual mind. In this sense most philosophies may lay claim to the title of realism. Thus Whitehead calls his philosophy "organic realism" and Flewelling calls his personalism "personal realism." But many realistic systems of thought in twentieth century philosophy resemble the older materialism in being impersonalistic. This is true of naturalism and American neo-realism. It is also true of logical positivism, which excludes the possibility of any experience except sense experience, and repudiates the possibility of a speculative metaphysics.¹

Modern realism stems from the searching inquiries of Locke in the seventeenth century and the positivism of Comte in the nineteenth. Weber and Perry refer to Comte's work as "the realistic counterpart, so to speak, of Hegel's philosophy of mind."² Positivism, whose position is essentially that of empirical realism, looks upon theology and metaphysics as modes of thought prior to the positivistic or scientific stage when phenomena receive their most adequate explanation in the invariable laws of science. Twentieth century science has been changing so rapidly that the laws of science are no longer looked upon as invariable.

---

¹ Brightman, POR, 4-5.
² Weber and Perry, BOP, 493.
but the position remains logically unchanged so that logical positivism still stands as an opponent of the idealistic, subjectivistic position by identifying "knowledge and meaning exclusively with the 'public' and impersonal realms of space and logic."¹ Bertrand Russell calls this position "logical atomism," holding that the world is made up of relations and facts which are distinguishable logically from one another like the terms of a proposition.² Neo-realism adopts a similar position. For the neo-realists, reality consists of relations which exist between groups of "neutral entities." These neutral entities are discoverable only by analysis and are more primitive than either mind or body. Other realists adopt less extreme positions, but they usually agree in holding to theories of mind as relations or functions of entities which are not mental, rather than by explaining reality in terms of mind and value, as the idealists do.

A dialectical progress may be observed in modern philosophy. The seventeenth century witnessed an enlightened reaction to the rather barren rationalism of scholasticism. But the positions of Descartes and Locke led to skepticism when logically extended, as the criticisms of Hume revealed. As the antithesis to these views, there appeared the school of German idealism which, being more empirical than scholasticism and taking the discoveries of science into account,

became known as critical idealism. But the mind-body problem with its attendant epistemological problems was not solved and a counter-reaction then occurred, returning in part to pre-Kantian thought in the development of modern realism, although dealing more seriously with the mind-body problem as well as showing the effect of the new science, mathematics, and logic. Long points out that both schools of traditional philosophy suffered from the same major defect, the failure to take seriously the nature of time.

The two chief expressions of philosophic modernism have been those formulating in various ways the materialism and mathematical determinism of Galilean-Newtonian-LaPlacean cosmology, and those attempting to stem from the principle of personality, notably German idealism. While the former standpoint repudiated the ontological significance of value, and the latter affirmed it, both dominant positions agreed in relegating time and the historical world to the status of appearance or illusion. This is the meaning of Bergson's statements that Galileanism and the Kantian tradition alike, representing modern naturalism and idealism, are Scholasticisms. The reason is that for both 'all is given' and 'the totality of the real is postulated complete in eternity.' /Bergson, CE, (Mod. Lib.) 394, 402./ This explains why the attempts of post-Kantian Idealism as a doctrine of metaphysical history and metaphysical will have proved to be failures.1

Long believes that the synthesis between these two schools of thought occurs in the philosophy of Bergson and that the key to the real is, "Personality rather than Form."2 This is precisely the view of Flewelling expressed in his book, Bergson and Personal Realism. He brings out the

startling fact that neo-realism and idealism are much closer together than either would be willing to admit.

The moment we assume relation as the fundamental reality, that moment we have begun that process of intellectualization against which Bergson protests as leading away from actual experience. We cannot get to relation until we have gotten away from the primary act, which is life, to an analysis of it, which is idealism.

As has been pointed out, personalism is one of the systems that makes use of the organic principle in its interpretation of the universe. Flewelling, in claiming for his views the synthesis of modern philosophy is close to the position of this dissertation, which finds in the organic principle the key to the reconciliation of idealism and realism.

Whitehead also makes use of insights of both realists and idealists. After the manner of the neo-realists, he believed that natural entities have an existence that does not depend upon the perceiving mind. He believed in an atomic pluralism. But he substituted for the "neutral stuff" of the neo-realists, feelings or prehensions as constituting actual entities. In thus making experience to be fundamental in the reality of actual entities, he adopted an idealistic view. Actual entities have both physical and mental poles, but both consist of feelings—the physical pole of physical feelings, or feelings of other feelings, and the mental pole of prehensions of eternal objects.

1. Flewelling, BPR, 203. 2. Whitehead, PR, 165.
In the doctrine of the mental pole, Platonic idealism enters into his system, while the system as a whole is closer to the view of Berkeley. In holding that God is the supreme actual entity in whom all values are conserved, Whitehead is very close to personalism; but in holding that the relation of actual occasions to God is the relation of the parts to the whole, he adopted the view of absolute idealism. But Whitehead felt that each of these views represented the truth only from a limited point of view. The concrete truth, he felt, was dynamic process, the process through which the indeterminate creativity became actual in the concrescence, or becoming, of actual entities.

4. The Theory of Relativity

Philosophy tends to become barren unless it is renewed from time to time by new data, particularly from the field of science. For this reason, philosophy during the twentieth century has enjoyed a rich growth because of the magnitude of basic discoveries in science and mathematics. By far the most important of these discoveries, one which has revolutionized both science and mathematics, has been Einstein's relativity theory, a discovery "which moved the scientific problem into the realm of metaphysics."2 G. D. Birkhoff, in his book, The Origin, Nature and Influence of Relativity, maintains that this theory has provided the

necessary concepts by which the mind-body problem might be solved, and he maintains that Whitehead, more than any other philosopher, has made explicit the philosophical implications of the theory. Bergson, and some others, however, anticipated Whitehead at some important points.

One important result of the emphasis upon relativity is its application to the theory of truth. Viewed in this way, truth is not absolute, but relative. It depends upon one's point of view, one's "perspective," to use Whitehead's term. Thus, instead of considering the matter of nature and mind as a whole, Birkhoff breaks it into a "nature-mind Spectrum" according to the approach which one makes.¹ There are five different lines of approach: mathematical, physical, biological, psychological, and social. These different approaches may be arranged in a table with the traditional philosophy and its fundamental concepts which result from each approach.

<table>
<thead>
<tr>
<th>Mathematical, Absolute Realism; Class, Relation, Influence, Abstraction.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical, Materialism; Time-Space, Matter, Electricity, Uniformity.</td>
</tr>
<tr>
<td>Biological, Detailed Naturalism; Organism, Stimulus, Function, Evolution.</td>
</tr>
<tr>
<td>Psychological, Positivism; Sensation, Memory, Will, Idea.</td>
</tr>
<tr>
<td>Social, Ethical Idealism; Personality, Freedom, Value, Ideal.</td>
</tr>
</tbody>
</table>

The mathematical and physical approaches are objectivistic, resulting in an absolute status for nature and mind. They

result in realistic or materialistic philosophical theories. The psychological and social approaches are subjective and interpret nature and mind in terms of knowledge or conscious experience. The biological or naturalistic approach occupies an intermediate position. In another day these five approaches to the philosophical problem with the five or more different solutions would result in endless debate as to which theory was "true." But now philosophers are in the happy position of saying with Hegel, "The true is the whole." Or according to the relativity theory:

Each conclusion is true relative to the type of approach to the problem. Just as the relativity theory destroys the idea of absolute space and time, so also it destroys the idea of absolute knowledge.¹

Birkhoff illustrates the errors of the older philosophy by pointing to Locke and Newton.

The psychological ideas of Locke and the physical ideas of Newton . . . fixed an apparently impassable gulf between the knower and the known. Nevertheless, space and time were still held to have an a priori character.²

The resulting conflict was due to the introduction of concepts from physics and mathematics into the subjectivistic approach of psychology. Hegel managed to effect their separation in the successive "moments" of the dialectical progression in his Logic. Anyone familiar with Hegel's Logic will note at once that Hegel's progression from the logical to the personal, from the abstract to the concrete, is

followed in Birkhoff's "nature-mind" spectrum. But Hegel's discovery seems to have gone unnoticed, even by most of his followers, until Bergson also managed to analyze consciousness from a similar standpoint.

Hegel abandoned the Kantian idea of an inaccessible reality behind knowledge. He centered in the dynamic aspect of consciousness in its continued transformation of the immediate sensory data. More recently Bergson has analyzed consciousness from a similar position. For him also the starting point and goal lie in directly given knowledge, but he finds the essence to lie in a creative evolution of thought in duration, this duration being unmodified by treatment as abstract moments of time. Thus Hegel and Bergson achieve a return to complete Berkeleyan subjectivity.¹

Since the chief function of philosophy is synoptic, there has come about a reconstruction of philosophy, effected particularly by Whitehead, which looks at the universe not from any one of the five approaches mentioned but in a synthetic way, taking them all together. Whitehead's philosophy is paradoxical and complex, sometimes painfully obscure because he has attempted to construct a coherent system of ideas which includes all points of view. According to his principles, it is possible for men to look at problems from differing standpoints with differing concepts resulting and yet be able to understand one another and cooperate in a united search for truth. It is to be hoped that the world is on the threshold of a great constructive phase in philosophy, with less polemics and apologetics, and more constructive thought and research.

¹: Birkhoff, ONIR, 169.
CHAPTER II

PRELIMINARY COMPARISON OF THE PHILOSOPHIES OF WHITEHEAD AND BERGSON

1. Scientific Views

1. Mathematics. Bergson, like Whitehead, was a student of mathematics in his youth. But while Whitehead went on to become one of the greatest mathematicians of his day, Bergson, at the age of twenty-two, to the great consterna- tion of his teacher of mathematics, made the decision to leave science and mathematics and specialize in letters and philosophy. 1 For this reason, there can be no question of Bergson having influenced Whitehead's mathematics. Yet Bergson never lost his interest in his earlier studies, and if he was a layman in science and mathematics, he was an unusually competent one. 2 On the other hand, Whitehead once remarked to Victor Lowe that Bergson was neither a mathematician nor a mathematical physicist. 3 He was certainly not in the same class with Whitehead, but he was sufficiently competent to analyze time and understand Einstein's theory of relativity. He was not, however, able to see that developments in mathematics of which he was probably aware, were destined in the hands of Whitehead to invalidate his

2. An advertisement of Time and Free Will in the English edition of Matter and Memory contains a quotation from The Spectator in which the following statement occurs: "He is an eminent mathematician and familiar with the most abstract types of symbolical thought."
own criticism of mathematics and science.

Bergson felt that one of the chief troubles with philosophy was the limitation of thought due to mathematical thinking. Mathematics, as the science of magnitude and quantity, could never reveal anything about quality. He recognized the fact that modern mathematics had made some steps in the right direction, such as the development of the infinitesimal calculus, "the most powerful of the methods of investigation at the disposal of the human mind." Yet he felt that for all its promise, mathematics, being the "science of magnitudes," must confine itself to "the outlines of things."

Modern mathematics is precisely an effort to substitute the being made for the ready made, to follow the generation of magnitudes, to grasp motion no longer from without and in its displayed result, but from within and in its tendency to change; in short, to adopt the mobile continuity of the outlines of things.¹

Turning to the mathematics of Whitehead, it appears that he made the same criticisms of mathematics that Bergson did, but with his greater equipment was able to see that mathematics could be extended beyond its earlier bounds. Bergson criticized the philosophy of Kant because science meant for him a sort of "universal mathematic" which was "practically unaltered Platonism."² But Whitehead criticized the mathematics of Kant because it was limited to

¹ Bergson, ITM, 51. ² Bergson, ITM, 57.
quantitative conceptions.1 Whitehead's first book was called *Universal Algebra*. Lowe says that the Platonism in it is "almost second nature."2 Yet Whitehead calls it "universal" because it goes beyond the bounds of the merely quantitative. In this work, Whitehead says that he is indebted particularly to Boole's algebra of logic and Grassmann's Calculus of Extension because of their "bold extension beyond the traditional domain of pure quantity."3 While associated with Bertrand Russell, Whitehead was especially interested in "Non-metrical Projective Geometry," which he defined as Geometry developed without any reference to measurement, and thus without any reference to distance, and without any reference to numerical coordinates for the indication of points.4

11. Physics. The relation of Whitehead and Bergson to physical science is similar to their relation in regard to mathematics. Again, Whitehead was a professional who taught at the Imperial College of Science and Technology in London, while Bergson was a very competent amateur. Both of them were searching critics of the science of their day, but while Bergson decided that science could never deliver any

---

knowledge of mind, Whitehead sought a unitary concept by which a reformed physical science could adequately represent the world of experience. This he was able to do because of the radical changes in scientific thinking which were being effected by new developments in science, such as the theory of relativity, the doctrine of a field of physical activity replacing the "receptacle" view of space, and the quantum theory introducing the concept of the vibratory nature of mass.

All of Whitehead's books reveal his fundamental divergence from the physics of Newton and Kant. He objected because their physical ideas did not take adequate account of the facts of biology and psychology, leaving no room for growth or evolution. Nor did they take account of values, or leave room for religion. Whitehead noted that the skepticism about religion in Hume's Dialogues Concerning Natural Religion was an inevitable outcome of the Newtonian physics. 1 Although Whitehead first objected to the physics of Newton on the grounds of physical science, it may well be that the further objection to its inadequacy in regard to biology was occasioned by reading Bergson. As early as 1905, when he wrote a paper on Mathematical Concepts of the Material World, he criticized the classical concept because it did not take adequate account of motion.

1. Whitehead, PR, 144.
Nothing could be more beautiful than the above issue of the classical concept, if only we limit ourselves to the consideration of an unchanging world of space. Unfortunately, it is to a changing world to which the complete concept must apply.¹

Attempts to understand space had led to the introduction of the concept of an all-pervasive ether. But Whitehead felt that this was a concept that was not given in experience and was only introduced to fit a questionable metaphysics. He also rejected the absolute theories of space and time in Newton, for whom space and time were objectively real. Whitehead adopted a relational theory of space and time, in which he substituted for the "material ether" an "ether of events," since "the continuity of nature is the continuity of events."² The work of Minkowski and Einstein on the theory of relativity led him to assimilate both space and time into a single extensive continuum. The new views thus advanced were elaborated in The Principles of Natural Knowledge.³

As early as 1898 when his Universal Algebra⁴ appeared, Whitehead objected to what he was later to call "scientific materialism."⁵ Reality, instead of being ultimately analyzable into bits of matter, was composed of events, which could only be analyzed into other events. Objects, which

¹. Whitehead, Art. (1906), 479.
². Whitehead, PNK, 25.
³. Hereafter referred to as PNK.
⁴. Hereafter referred to as UA.
⁵. Lowe, Art. (1941).
included electrons and molecules, were composed by "infe-
tential constructions."\(^1\) Later, the concept of events was im-
proved upon in Whitehead's metaphysical books. An event was
then described as a nexus of actual occasions, which were
limiting types or events of one member.\(^2\) Enduring objects
were defined by their "significance" or their "subjective
aim," or more generally, their purpose.

Whitehead found it expedient to analyze space and time
according to the method of "Extensive Abstraction" into
points, instants, and other "abstractive sets" taken from
geometry. These entities were not actual, however, but were
abstracted from actuality. Whitehead thus agreed with Berg-
son that real time was not divisible and that mathematical
time was an abstraction. Whether or not Bergson influenced
Whitehead in this respect will be discussed later.

Both Bergson and Whitehead were convinced of the inter-
relatedness of the universe and found scientific confirma-
tion of their views in Kelvin's "vortex ring" theory of mat-
ter and Faraday's view that all atoms are interpenetrating
and "in a sense, an electric charge is everywhere."\(^3\) Ac-
cording to these views, an atom is an intersection or "vor-
tex ring" of lines of force, or vectors, that extend through-
out the universe in every direction.

---

2. Whitehead, PR, 124.
3. Whitehead, CN, 146; Whitehead, Art. (1906), 482; Bergson,
   MM, 265.
Bergson was also a severe critic of the physics of Newton and Kant. His most significant criticism was of the nature of time. He rejected the absolute theories of space and time as found in Newton but admitted the ideality of space found in Kant. But he insisted that time was real, of the very essence of reality. It was not the homogeneous, divisible, "spatialized" time of science, but indivisible, creatively advancing reality; it is time as lived. As such its rate varies with different individuals, especially those of different species. Matter is reality with the intensity of life reduced practically to zero. Physics for Bergson was "simply psychics inverted."  

iii. Psychology. In mathematics and physics, Whitehead was Bergson's master, but in psychology and physiology Bergson was superior. All his works, but especially Matter and Memory, give evidence of his careful study in this field. Both he and Whitehead attempted to base their metaphysics on the analysis of the evidence of experience. According to Jacques Maritain, they both approached their study after the fashion of the German phenomenologists, and examined experience without any ontological assumptions. The result was that both made searching analyses of sense-perception with remarkably similar conclusions. The French title of Bergson's first book, known to English readers as Time and Free Will, brings this out: Essai sur les données immédiates

1. Bergson, CE, 221.  
de la conscience. Bergson maintained that reality as given to sense was composed of images. In the mode of pure perception, experience is entirely physical. The body, including the brain and nervous system, which are also images, are in interaction with the environment. The needs of the physical organism determine which items in the environment will be experienced. The result is the most elementary sensations, without conceptual meaning, except as they are added to from "pure memory," which is the total experience of the past. The greater part of memory is not in consciousness, but specific memory images may at any time become conscious by fusion with pure perception. The purpose of perception is action; that of memory is contemplation. The fusion of the two which is "distinct" or "complete" perception gives conceptual meaning to the experience. The sum total of the memories of an individual constitutes a mind or personality. As such it is distinct from matter, and the material body is merely the instrument through which the mind acts in the material world. Conscious memory is "the intersection of mind and matter."¹ The mind is free at all times to choose which images it will act upon, and there is no way of determining beforehand what images will be chosen or the precise direction of a course of action. For this reason, the universe is a continual creation of novelty.

¹ Bergson, MM, xii.
Bergson thus repudiated the idea of determinism. Scharfstein points out that in asserting that the entire past is always with a person and may be brought into consciousness under the proper conditions, Bergson has a depth psychology, after the manner of Ribot, who was very influential in the development of Bergson's psychology. In MM, Bergson drew on an extensive study of hypnotism and abnormal psychology, especially aphasia.

One of Bergson's most famous ideas was his concept of intuition, along with the allied ideas of instinct and intelligence. Each of these represents an evolutionary development by which the individual relates himself to his environment. Instinct and intelligence are two opposite directions in which the creative force had progressed. Instinct is highly developed in animal life, especially the social insects, but is rudimentary in human life. Intelligence is highly developed in man, but rudimentary in animal life. Instinct is the power of natural adaptation to life, by which the animal, completely without reflection, may continue to exist. The intellect, on the other hand, is conscious and especially adapted to the modification of the material world. But since life is growth and change, and matter is static, the intellect falsifies reality in the practical interests of the individual who is adapting

himself to the material world. Intuition goes beyond both instinct and intelligence in that it is the conscious re-
entrance into the creative advance of life.

But the truth is that our intelligence can follow the opposite method. It can place itself within the mobile reality, and adopt its cease-
lessly changing direction; in short, can grasp it by means of that intellectual sympathy which we call intuition. This is extremely difficult.

Since Bergson felt that intuition is able to grasp reality while the intellect tends to falsify it, he also
felt that metaphysics should make use of the intuition rather than the intellect. For this purpose, Bergson felt
that the deliverances of psychology were more important than those of physics.

Has metaphysics understood its role when it has simply trodden in the steps of physics, in the
chimerical hope of going further in the same
direction? Should not its own task be, on the contrary, to remount the incline that physics
descends, to bring back matter to its origins,
and to build up progressively a cosmology which
would be, so to speak, a reversed psychology?

In the "Preface" to PR, Whitehead listed nine "prevai-
lent habits of thought, which are repudiated, in so far as concerns their influence on philosophy." Two of them con-
cern psychology.

1. Bergson, ITM, 50.
2. Bergson, CE, 227-228.
3. Whitehead, PR, viii.
(iii) The mode of philosophical thought which implies, and is implied by, the faculty-psychology.

(v) The sensationalist doctrine of perception.

Faculty-psychology was rejected because Whitehead did not view experiences of feeling, willing, desiring, and the like, as products of organic or nervous functioning. For Whitehead they were "subjective forms" and constituted elements present in all prehensions, even negative ones. His views represent a form of panpsychism in which the ultimate units of reality are termed actual entities which may be analyzed into their "prehensions," both positive and negative. Positive prehensions are feelings; negative prehensions "eliminate from feeling." In other words, actual entities "prehend" every other actual entity, either by admitting it into significance for its ultimate "satisfaction" or eliminating it from such significance. The essential nature of experience and of existence is feeling. In every actual entity there is both a physical and a mental pole. The physical pole consists of prehensions of other actual entities or prehensions of other feelings. The mental pole consists of prehensions of eternal objects or "Forms of Definiteness." Conscious mentality occurs only when the mental pole has a high degree of significance, but feeling occurs in all actual entities.

Whether or not Whitehead consciously followed Bergson's

1. Whitehead, PR, 35.
2. Whitehead, PR, 32.
suggestion in CE, to create a cosmology in psychological instead of physical terms, that is actually what he did in making his study an analysis of feeling. All prehensions, whether conscious or not, whether positive or negative, consist of three factors which, of course, can only be thought of in abstraction from the total process: (1) the prehending subject; (2) the "datum" prehended; (3) the "subjective form" or the manner of prehension. The subjective forms are "emotions, valuations, purposes, adversions, consciousness," etc. Purposes are called "subjective aims" and because actual entities are free and self-creative, they control the becoming or the "concrescence."

Whitehead also repudiated the sensationalist doctrine of perception. According to this view the individual, in a more or less passive manner, received impressions or sensations from the objective world, which were the data of experience. Whitehead admitted this form of experience in a general way as "perception in the mode of presentational immediacy." A more primitive mode of perception is the "mode of causal efficacy." This is primarily emotional experience. It is vague while the other mode is vivid. Presentational immediacy refers to the present only. Causal efficacy is a "vector feeling" which has roots in the past, as memory, and feelings for the future, as "appetition"—desire or anticipation.2

1. Whitehead, PR, 185. 2. Whitehead, PR, 247.
Bergson had pointed out that in actual experience there is seldom "pure perception" or "pure memory," but that ordinary perception is a combination of the two. Likewise, for Whitehead perception seldom occurs in a "pure" mode, but virtually all conscious perception occurs in the mixed mode of "symbolic reference." In this mode, both pure modes refer to a common ground, the "presented locus" and identical eternal objects ingredient in both of them. In less Whiteheadian terms, the two modes of perception are two ways of experiencing the same object; this common experience is symbolic reference. The pure modes are incapable of error, but symbolic reference introduces "originative freedom," and thus, because it is interpretative, is the source of both error and progress.

In fact, error is the mark of the higher organisms, and is the schoolmaster by whose agency there is upward evolution.1

iv. Biology. Whitehead felt that one of the most important developments of the nineteenth century, rivalling the developments in physics, was the development of the biological sciences. He felt that they made materialism and mechanism untenable and that it was Bergson who had introduced these implications of biology into philosophy, suggesting in this way, a philosophy of organism.2 The results of Bergson's work in biology appear mostly in Creative Evolution, the book of his which probably had the greatest

influence on Whitehead. The most important biological idea in that book is the doctrine of evolution. Darwinism and other evolutionary theories are criticized and held to be inadequate because of the habit of thinking in terms of physical science. Bergson felt that evolution could not be explained unless it were made a fundamental metaphysical principle. Reality is growing, changing, free, self-creative life. Its essential nature is "real duration." Different forms of life have different temporal intensity with matter being life whose temporal intensity is practically zero, while the higher forms of life have increased intensity. Bergson bases his conclusions upon a remarkably detailed study of the different forms of life, and sets forth pertinent examples to illustrate difficulties which are insuperable on other grounds than his own.

The creative force which results in evolution is called the élan vital. Were it not for this force, there could be no progress, even if there were change. But the élan vital is present in all life and continually strives to create novelty in with an increasing amount of freedom and intensity of life. It is only the direction of evolution and not its outcome which is determined. Bergson shows by examples of errors, false starts, and "blind alleys" how improbable it is that the outcome of evolution is determined. He thus repudiates the Aristotelian tradition of a final cause which would have destroyed the idea of novelty and real creativity
as well as real duration, for to posit a final cause, Bergson felt, was to imply a finished creation.¹

One of the most important ideas which Bergson introduced into philosophy from biology was the idea of organic unity. Organisms are not constructed of parts, as a machine is manufactured, but grows by "dissociation and division."² Neither life nor time can be successfully analyzed into parts without destroying the organic unity which makes them what they are.

Whitehead does not make as much use of biology as Bergson, but findings of this science are implied in much of his work. In general, he follows Bergson in his consideration of biological facts. He also follows Alexander and Lloyd Morgan, whose ideas were similar to Bergson's. The idea of evolution is very important for Whitehead. The Bergsonian idea, stated by Whitehead as the "creative advance of nature," and references to the *elan vital* with its relapse into matter occur in Whitehead as early as his *Principles of Natural Knowledge.*³

### 2. Metaphysics

Both Bergson and Whitehead created a process metaphysics on psychological rather than physical lines. Bergson thought that metaphysics was "the science that claims to

---

¹ Bergson, CE, 58.
² Bergson, CE, 99.
³ Whitehead, PNK, 14, 61, 97, 200.
dispense with symbols."¹ Metaphysics was the discipline
which followed intuition into life:

a laborious, and even painful, effort to remount
the natural slope of the work of thought, in or-
der to place oneself directly, by a kind of in-
tellectual expansion, within the thing studied;
in short, a passage from reality to concepts and
no longer from concepts to reality.²

In Matter and Memory, Bergson stated that he was dual-
istic, asserting the reality of both mind and matter.³ But
both matter and mind are referred to a single principle,
real duration, and defined in terms of their respective
rhythms of temporal intensity. For this reason Bergson soon
moves, in CE, to assert the primacy of process with the re-
pudiation of substance as primary. He thus comes to a phi-
losophy of organic process, which in this respect resembles
Whitehead's metaphysics.

Bergson followed Kant in asserting the ideality of
space. He also repudiated the idea of homogeneous "mathe-
matical" time, but held to "real duration" as the fundamental
reality. The intellect, bound as it is to practical pur-
poses, spatializes and thus falsifies reality. Only by in-
tuition, a kind of "intellectual sympathy," may reality be
known. In this contention, there is a sense in which Berg-
son's metaphysics is a repudiation of the possibility of
metaphysics, if by this term is meant Whitehead's definition

¹. Bergson, ITM, 24.
². Bergson, ITM, 44.
of "Speculative Philosophy" as a "coherent, logical, necessary system of general ideas." In this Bergson has much in common with the pragmatists, with whom he is sometimes associated and who also have no systematic metaphysics. But he is at opposite poles with the positivists who repudiate metaphysics in favor of exact scientific knowledge as the only knowable reality.

Whitehead stated that one of his tasks in *Process and Reality* was to rescue Bergson, James and Dewey (all pragmatists of a sort) from the charge of anti-intellectualism. In regard to Bergson, one of the things which he has done has been to create a systematic metaphysics that is not inconsistent with Bergson's type of thought. To do this it was necessary for him to disagree with Bergson at only one point: that the intellect necessarily falsifies the notion of process,

that the intellect in order to report upon experienced intuition must necessarily introduce an apparatus of concepts which falsify the intuition.

That this falsification is the usual occurrence, Whitehead admitted, but he felt that it was possible to express the deliverances of intuition in an intelligible manner without distortion. A. E. Taylor suggests that it is the theory of relativity that introduces the concepts which Whitehead needed to accomplish that which Bergson could not do.

---

In PR, Whitehead set forth an elaborate "categoreal scheme," in terms of which he proposed
to frame a coherent, logical, necessary system of
general ideas in terms of which every element of
our experience can be interpreted.¹

This system consists of a "Category of the Ultimate," eight
"Categories of Existence," twenty-seven "Categories of Ex-
planation" and nine "Categorical Obligations."²

The "Category of the Ultimate" is "creativity." It is
the most general notion possible, combining the ideas of
"many" and "one" into a complex unity. It corresponds to
Aristotle's category of "primary substance," the one sub-
stance of Spinoza, and the Absolute of the absolute idealists.
It also suggests the ultimate principle that Bergson was
feeling after in his notions of "real duration" and "élan
vital." It is the "universal of universals characterizing
ultimate matter of fact." It is the principle of novelty.³
This ultimate is only "actual in virtue of its accidents,"
that is, it only has existence as it is realized in actuality.
"God is its primordial, non-temporal accident."⁴

Among the Categories of Existence, actual entities and
eternal objects stand out as basic, the others being of an
intermediate character. Actual entities, or actual occasions,
are the ultimate atoms of existence, of which all other
forms of reality are composed. In Whitehead's books

on the philosophy of science he refers to events as primary existents in space-time. In PR he refines this view, making actual entities the limiting type of an event, or an event of one member. Actual entities are not instantaneous, but have duration, the extent depending upon the point of view of the actual entity, but comprising for each one its "specious present." This is the temporal extent required for the "concrescence" of the occasion, its process of becoming up to its final "satisfaction" which is the realization of its purpose or "subjective aim" which brought the occasion into being. As soon as the satisfaction is reached an entity perishes, becoming a datum for concrescence in another occasion. It thus loses its individual existence but has "objective immortality" in that it may be prehended in other occasions. God is an actual entity, but because of the eternity of his specious present, he is not referred to as an "actual occasion," by which term is meant "a conditioned actual entity of the temporal world."¹

Eternal objects, which correspond roughly to the Platonic Ideas, have a subsistence in the primordial nature of God. "The 'primordial nature' of God is the concrescence of an unity of conceptual feelings, including among their data all eternal objects."² The eternal objects are called "Pure Potentials for the Specific Determination of Fact."³ By the principle of relativity⁴ every being actual or non-actual is

---

1. Whitehead, PR, 135.  
2. Whitehead, PR, 134.  
3. Whitehead, PR, 32.  
a potential for every becoming. Thus all eternal objects are prehended by every actual occasion. Most of them are eliminated from significance in the concrescence by negative prehensions. A selection of eternal objects is admitted to the significance and so is said to be "felt" or have "ingression" in the subject.¹ This selection of eternal objects gives an actual occasion its definiteness or specific character. All eternal objects are ideally realized in the primordial nature of God.

This ideal realization of potentialities in a primordial actual entity constitutes the metaphysical stability whereby the actual process exemplifies general principles of metaphysics.²

The eternal objects are a necessary part of Whitehead's system, yet Bergson was explicit in excluding the concept of Forms as conceived by Plato and Aristotle. But Bergson thought of them as eternal copies or representations of things in the phenomenal world, and rightly reasoned that this excluded novelty. But Whitehead saved novelty for his system by thinking of the eternal objects only as "Forms of Definiteness," giving determination to actual entities. The eternal objects in themselves do not correspond to any actually existing entities, but represent such entities as bare sensa, logical or mathematical forms, and the like. An eternal object is defined as "any entity whose conceptual recognition does not involve a necessary reference to any

¹. Whitehead, PR, 66.
². Whitehead, PR, 64.
definite actual entities."\(^1\) Eternal objects are ingredient in all actual entities, but other actual entities are also involved in the concrescence. While "there are no novel eternal objects,"\(^2\) novelty is present in actual occasions because of the "novel togetherness" of eternal objects and other actual occasions in a process of concrescence. The consequent actual entity is novel because in the concrescence "the many become one, and are increased by one."\(^3\)

All categories of existents except eternal objects are data which "also become" in the becoming of actual entities. By the concept of eternal objects ideally realized in the primordial nature of God, Whitehead saves permanence for his system. Bergson's philosophy does not do justice to the concept of permanence.

Any set of actual entities in the unity of their relatedness due to their prehensions of one another is called a nexus. Any two actual entities can comprise a nexus, or the entire universe may be considered a nexus. Nexus are of various kinds. The highest type of nexus is a person defined as a set of actual entities in organic relationship with serial order. If they are in organic relationship but without serial order, the nexus is called a society, and the order is termed social order. If the relationship is

---

1. Whitehead, PR, 70.
2. Whitehead, PR, 33.
3. Whitehead, PR, 32.
one of mere togetherness, the set is termed a multiplicity. Whenever a set of actual entities is synthesized in one prehension out of the background of other actual entities, the resulting nexus is called a contrast.

By abstracting from the concrescence, actual entities may be analyzed into eternal objects and other actual entities as data, or analyzed into prehensions. Positive prehensions are known as feelings, while negative prehensions "eliminate from feeling." The modes of feeling in an actual entity are known as the "subjective form." Prehensions are of two kinds, mental or conceptual, and physical. Mental prehensions constitute the mental pole of an actual entity, which is constituted by the prehensions of eternal objects; the physical prehensions constitute the physical pole, which is constituted by the prehensions of other actual entities. When the mental pole is insignificant, the actual entity is a part of that which is ordinarily called matter. Actual entities in which the mental prehensions are significant in the final "satisfaction" are called living, while those in which the mental prehensions are of the highest order are called conscious.

The remaining category of existence is that of Propositions, or Theories, which are datum for "impure" prehensions, a pure conceptual prehension being a prehension of an eternal object. An impure prehension is the integration
of a pure conceptual prehension with a physical prehension originating in the physical pole. In other words, a Proposition is a hybrid of an eternal object and an actual entity, but without the "satisfaction" and "subjective form" to make it an actual occasion in itself.1

The "Categories of Explanation" define and describe the properties of the "Categories of Existence." The "Categorial Obligations" set forth the laws which operate among existing elements when they contribute to an ordered nature.

One of Whitehead's most important metaphysical principles he calls the "ontological principle." This is that nothing can be conceived except as it exists as an actual entity, a nexus of actual entities, or an abstraction from them. When thus abstracted it must be recognized and treated as such. Violation of this principle constitutes the "fallacy of misplaced concreteness" and results in the erroneous notion of "vacuous actuality," or actuality that has no real existence anywhere in the world.2

The metaphysics of Whitehead cannot be conveniently placed in any of the traditional "schools" of philosophy. He started with a close affiliation to the neo-realists, but went so far beyond them that his system must be recognized as forming a new category, the philosophy of organism. To this group also belongs the philosophy of Bergson.

1. Whitehead, PR, 260.
2. Whitehead, PR, viii, 27.
Whitehead's terminology is so novel that the resemblance between his thought and Bergson's is not immediately apparent. But both recognize the primacy of process over substance; both recognize the element of feeling necessary to come to an understanding of the world; both recognize the organic relatedness of the universe; both recognize the presence of real novelty; and both recognize that the process is a creative one moving toward the emergence of higher organisms whose mentality is increasingly significant.

3. Epistemology

The epistemology of Bergson and Whitehead has already been touched upon in a discussion of their respective views on psychology, and a fuller treatment will be given later. It will suffice now to say that both Bergson and Whitehead insisted that for real knowledge, the subject or knower must be present with the object. They thus assert an epistemological monism, and reject representative or associationistic theories of perception. The difficulties ordinarily seen in epistemological monism are due to what Whitehead calls the fallacy of "simple location," a view which Bergson also considers fallacious. According to the organic philosophy as well as the principle of relativity, the elements of the universe interpenetrate and are all related internally. Due to the "vector" nature of feelings it is possible for there to be direct causal action between entities
spatially separated from one another. In Whitehead, both modes of perception, presentational immediacy and causal efficacy, give direct knowledge. Mediate knowledge and consequently the possibility of error comes into his thought in the mixed mode of symbolic reference. Likewise, in Bergson pure perception is direct knowledge and so cannot err. It is only when it is given meaning by elements added from memory that error arises.

4. Philosophy of Value

Bergson's book on The Two Sources of Morality and Religion did not appear until 1934. By this time all of Whitehead's important works except Modes of Thought had appeared, and a large part of this book had appeared earlier. In the work of Bergson that might have influenced Whitehead, the theory of value is hardly discussed. For this reason there was probably very little direct influence on Whitehead's theory of value from Bergson. Apart from The Two Sources of Morality and Religion, Bergson's remarks on the theory of value consist of a few pages on aesthetics and ethics in TFW, and the book Laughter. In CE, he does not discuss value theory explicitly, but the theories expounded in TSMR are implicit.

In TFW aesthetics and ethics are briefly discussed as a part of the affective psychology he discusses in illustrating the thesis that apparent variations in the intensity
of psychic states is actually a succession of different psychic states. The object of art, Bergson says, is similar to that of the processes used to induce hypnosis; that is, to bring the individual to such a state of responsiveness that the desired feelings may be suggested. When this occurs in a responsive individual, a sympathy with nature arises. The artist thus succeeds in suggesting, or inducing, an intuition about that which he cannot express to the intellect. The sympathy is a feeling of beauty because it has the richness of the true living nature, instead of the static nature of science.¹

So art, whether it be painting or sculpture, poetry or music, has no other object than to brush aside the utilitarian symbols, the conventional and socially accepted generalities, in short, everything that veils reality from us, in order to bring us face to face with reality itself.²

The same is true of the moral feelings. They are induced by an experience of human sympathy, followed by a sense of kinship with others and a desire to share their experiences.³

In opposing intuition to intellect, Bergson speaks of intuition as "intellectual sympathy."⁴ Thus, value for Bergson consists in an intuitive experience of partaking in the processes of nature. So long as one is outside of nature reality appears dead, lacking in qualitative richness.

---

1. Bergson, TFW, 11-17.  
4. Bergson, TTM, 50.
lacking in novelty. As soon as one puts himself into the evolution of nature, its richness, life and adventure become evident. This is for Bergson the experience of value.

Bergson's book Laughter brings out the negative aspect of his value theory. Like Aristotle, Bergson considers the Comic as a species of the Ugly. Life is comic which appears mechanized, standardized, automatic, lifeless. It is comic because of an instinctive mechanism by which society protects itself against the intrusion of the static.¹

Also implicit in Bergson's value theory is the value of freedom. This is one of the most significant characteristics of a living being, and Bergson shows in all his works a desire to save freedom. Thus freedom is serious, while the determined is comic. "All that is serious in life comes from our freedom."²

Whitehead agrees with Bergson in regard to the value of freedom and the value of an insight into and participation in life. In CN he says:

The values of nature are perhaps the key to the metaphysical synthesis of existence. But such a synthesis is exactly what I am not attempting.³

When Whitehead came to write his metaphysics, he still believed that value was the key to existence. In his metaphysical writing it is the significance that determines the

---

¹ Bergson, LAU, 37-38.
² Bergson, LAU, 79.
³ Whitehead, CN, 5.
intensity of its actuality. "'Value' is the word I use for the intrinsic reality of an event." An individual's life is a continuous process of creation. The creation of each actual entity results in a "satisfaction." Moral and aesthetic values were both for Whitehead considered as derived from the idea of beauty. The goal of life for Whitehead was beautiful, which meant deep, rich, adventuresome living. Above all, it meant the experience of harmony, the elimination of the non-harmonious with "massive attention to every variety of systematic order."

The canons of art are merely the expression, in specialized forms, of the requisites for depth of experience. The principles of morality are allied to the canons of art, in that they also express, in another connection, the same requisites.2

Whitehead also agrees with Bergson in his view of disvalue as that which is ugly, and ugliness is defined by being static or rigid.

A static value... becomes unendurable by its appalling monotony of endurance. ... the transitions of wit, irreverence, play, sleep, and--above all--art, are necessary.3

Neither Whitehead nor Bergson mention evil as a disvalue. Suffering is recognized as part of the variety and the texture of life, but not as evil nor as a problem. Both have an aesthetic view of value.

Whitehead does not once mention Bergson in connection

---

1. Whitehead, SMW, 95.
2. Whitehead, PR, 483.
with values. Yet the value theories of the two men are, in some respects, similar. This may be the case simply because both men looked at life in a similar manner. On the other hand, Whitehead may have been influenced in his value theory from reading Bergson. If he did it would still have been original with him, occasioned by meditation on what Bergson and others had written, and a creative synthesis of many ideas. Probably there was not a great deal of Bergsonian influence on Whitehead at this point, but very probably his views did receive reinforcement from reading views of Bergson's with which he was in sympathy.

5. Philosophy of Religion

Bergson did not discuss religion, except for certain inadequate ideas of God in the philosophical tradition, in any of his books until TSMR, which came out too late to influence Whitehead. If there has been any influence by Bergson on Whitehead's philosophy of religion, it must have come by implication, for the roots of the ideas in TSMR were in the earlier books. First of all, Bergson asserts freedom. This is usually based in God, as it is in Whitehead. In Religion in the Making, Whitehead lists three "formative elements in the universe, the third of which is

The actual but non-temporal entity whereby the indetermination of mere creativity is transmuted into a determinate freedom. This non-temporal actual entity is what men call God—the supreme God of rationalized religion. 1

1. Whitehead, RIM, 90.
Bergson rejected the God of Aristotle and that of Descartes, Spinoza, and Leibniz because he felt that such a God made real freedom impossible.\(^1\)

Bergson also asserted that the essential nature of the world is creative, that there is a creative urge, the \textit{élan vital}, running through all life. This also is a function usually based in God, although some modern forms of evolutionary naturalism do not find God necessary for creation. Whitehead does not equate creativity with God, but points out that creativity cannot become determinate without God.

The universe exhibits a creativity with infinite freedom, and a realm of forms with infinite possibilities; but that this creativity and these forms are together impotent to achieve actuality apart from the completed ideal harmony, which is God.\(^2\)

Bergson does not say to what extent the creative force is divine, but it may be that he thought of it in this way because of the influence of Plotinus which finally became obvious in TSMR.

Finally, in the philosophy of Bergson, "real duration is a thing spiritual or impregnated with spirituality."\(^3\) Although this is a quotation from a late book, the idea is found in his early books. Mind is the opposite of matter; it goes in the opposite direction. In \textit{MM}, memory or mind has no organic relation with the body or matter. The body

---

is merely its instrument of action. When the body, including the brain and nervous system, is injured, then the possibility of the mind being expressed in nature is diminished, but there is no evidence that the mind itself is impaired. Indeed, there is evidence to the contrary. On such a view there is no objection to a view of immortality. Furthermore, Bergson conceived of an "infinite number of degrees between matter and fully developed spirit." Each higher degree corresponds to a "growing intensity of life," "a higher tension of duration." In this way Bergson asserts a theory of the spiritual life which only wants a doctrine of God to complete it, such as he finally worked out in TSMR.

Whitehead's philosophy of religion, in contrast to Bergson's, was well worked out and it is quite improbable that he owed any of his views in this department to Bergson. Whitehead worked out a doctrine of religion in RIM, and a metaphysical account of God in RIM, SMW, and PR. In his metaphysical account, God is thought of as potential, the "primordial" nature of God, as immanent, the "superjective" nature of God, and transcendent in the sense of being a "completed ideal harmony," the "consequent" nature of God.²

In addition to the topics already discussed, Whitehead expressed himself with all the wisdom of his exceedingly rich and decisive intellect on the philosophy of education.

2. Whitehead, PR, 134-135.
the philosophy of history, and social and political science. But since Bergson did not express himself on these matters, their consideration lies beyond the scope of this dissertation.
1. Formal Education

Although Whitehead has given many interesting glimpses into the scenes of his early life, they give little light on the subject of this dissertation, and so will be treated briefly.

Alfred North Whitehead was born in Kent, England, in 1861. His family had been concerned primarily with education and his father and grandfather were schoolmasters. His father, however, gave up his school to become a clergyman in 1866 or 1867. The cultured atmosphere of his home life appears to have been a major influence toward turning him to academic work, while the breadth of its classical culture resulted in wide learning on his own part.

Whitehead's formal education was primarily the classical education provided by the English schools of the mid-nineteenth century. In 1875, Whitehead was sent to school at Sherborne in Dorsetshire. The school and the surrounding country had roots deep in the ancient past, and this fact, coupled with the classical education, gave Whitehead an abiding interest in history. These factors appeared, in retrospect at least, to have been as important as the

1. This biographical material is from Whitehead's essay, "Autobiographical Notes," in ESP, 3-14.
academic work in which he engaged. This work was classical in the extreme, although typical of the educational policies of the time.

On the intellectual side, my education also conformed to the normal standard of the time. Latin began at the age of ten years, and Greek at twelve. Holidays excepted, my recollection is that daily, up to the age of nineteen and a half years, some pages of Latin and Greek authors were construed, and their grammar examined. Before going to school pages of rules of Latin grammar could be repeated, all in Latin, and exemplified by quotations. The classical studies were interspersed with mathematics. Of course, such studies included history—namely, Herodotus, Xenophon, Thucydides, Sallust, Livy, and Tacitus. I can still feel the dullness of Xenophon, Sallust, and Livy. . . . My recollection is that the classics were well taught, with an unconscious comparison of the older civilization with modern life. . . . We read the Bible in Greek, namely, with the Septuagint for the Old Testament. . . . There was however spare time for private reading. Poetry, more especially Wordsworth and Shelley, became a major interest, and also history.

In 1880 Whitehead went to Trinity College, Cambridge, and as student and teacher, remained there in unbroken residence until 1910. His life in Cambridge meant a great deal to him, as one can tell by the manner in which he writes of it.

I cannot exaggerate my obligation to the University of Cambridge, and in particular to Trinity College, for social and intellectual training.

Whitehead admits that the changes in educational policies occurring since his days in school have been all to the good and that the system was outmoded even in his day. All the same, the system seemed to be ideal for Whitehead's own
mental development, and apparently there were elements in this training that brought out the finest that a man had in him.

The formal teaching at Cambridge was competently done, by interesting men of first-rate ability. But courses assigned to each undergraduate might cover a narrow range. For example, during my whole undergraduate period at Trinity, all my lectures were on mathematics, pure and applied. I never went inside another lecture room. But the lectures were only one side of the education. The missing portions were supplied by incessant conversation, with our friends, undergraduates, or members of the staff.

The "incessant conversation" with men of excellent and mature minds, and with brilliant students like himself, was a most important factor in Whitehead's early life.

We discussed everything--politics, religion, philosophy, literature--with a bias toward literature. This experience led to a large amount of miscellaneous reading. . . . Looking backwards across more than half a century, the conversations have the appearance of a daily Platonic dialogue. . . .

My Cambridge education with its emphasis on mathematics and on free discussion among friends would have gained Plato's approval. As times changed, Cambridge University has reformed its methods. Its success in the nineteenth century was a happy accident dependent on social circumstances which have passed away--fortunately. The Platonic education was very limited in its application to life.

In 1885 Whitehead received a fellowship at Trinity and with it a teaching position. His final post at Cambridge was that of Senior Lecturer which he resigned in 1910 when he moved to London. He was elected to the Royal Society in 1903 as a result of the publication of his treatment on Universal Algebra in 1898.
From 1911 until 1924, Whitehead held various academic positions in the University of London, where his educational views developed considerably.

This experience of the problems of London, extending for fourteen years, transformed my views as to the problem of higher education in a modern industrial civilization. It was then the fashion—not yet extinct—to take a narrow view of the function of Universities. There were the Oxford and Cambridge type, and the German type. Any other type was viewed with ignorant contempt. The seething mass of artisans seeking intellectual enlightenment, of young people from every social grade craving for adequate knowledge, the variety of problems thus introduced—all this was a new factor in civilization.

Toward the latter part of the war, in London, Whitehead's works on the philosophy of physics began to appear, in which he expanded his views into a wider philosophical context. In 1924, at the age of sixty-three, he was invited to join the faculty of Harvard in the Department of Philosophy. It was while at Harvard that his organic philosophy became fully matured, and he will always be remembered as one of the most brilliant of a long line of distinguished Harvard philosophers. He became Professor Emeritus in 1937. He died December 30, 1947, the result of a shock.

2. The Genesis of Whitehead's Ideas

Whitehead's creative career may be divided into three periods, corresponding to his field of concentration, and corresponding also to the institution to which he was connected. While at Cambridge, he was noted for his work in
mathematics; in London, his work was in science, primarily the philosophy of physics; at Harvard, his metaphysics, the crown of his career, was completed. These three periods are not to be thought of as distinct, but as ever-widening circles of the scope of his mind, the later periods including the former, and existing undeveloped in the former. In addition, there was a humanistic interest which was evident in his youth, and which permeated the thought of his entire career. This is what makes *Adventures of Ideas*, published when Whitehead was seventy-two, one of the wisest books of the twentieth century.

Whitehead's humanism is a tendency in his thought which must not be overlooked. It began in his home life as the son of a schoolmaster turned clergyman, and continued as a result of his classical education. As has been noted, while in school in Sherborne, "poetry became a major interest." The poets that interested him most were the English Romantic poets, and both a study of his writings and the testimony of Whitehead's friends reveal that this interest never left him. Furthermore, he not only enjoyed them, but was influenced by their ideas. Victor Lowe, who knew Whitehead well, says, "Some of those who know Whitehead wonder if William Wordsworth did not influence him more than any other man."¹ Whitehead wrote that with the Romantic poets and other

artists of like mind, "the simple immediate facts are the
topics of interest, and these reappear in the thought of
science as the 'irreducible stubborn facts'."¹ Writing on
Wordsworth, Whitehead says:

Wordsworth in his whole being expresses a con-
scious reaction against the mentality of the
eighteenth century. This mentality means
nothing else than the acceptance of the scienti-
fic ideas at their full face value. Words-
worth was not bothered by any intellectual an-
tagönism. What moved him was a moral repulsion.
He felt that something had been left out, and
that what had been left out comprised every-
thing that was most important.²

Whitehead's humanism is also revealed in his interest
in history. It will not be necessary to determine what
writers formed the basis for his historical knowledge. Let
it suffice to say that it was completely adequate. He was
widely read in every period of history, as his writings bear
abundant testimony. He was especially familiar with the
ancient Greek and Latin historians. He had an excellent
grasp of the facts of history, and his works reveal an earnest
and not unsuccessful attempt to comprehend the meaning of
these facts. For Whitehead, the insight that "the process is
the reality," is a datum of history as well as metaphysics.

Besides the interest in history and poetry, Whitehead's
humanism was developed by his lifelong concern with educa-
tion and by his interest in religion. The importance and
depth of his numerous articles and addresses on the subject

¹ Whitehead, SMW, 17.  ² Whitehead, SMW, 78.
of education reveal that he was as able a thinker in this field as in mathematics and philosophy. In all his work in this field, he protests against "inert ideas" and merely informative teaching.\(^1\) Whitehead cites no authorities on education, as such. He does say that he was "greatly indebted" to John Dewey, along with Bergson and William James, but this reference is almost certainly to Dewey as a philosopher rather than as an educator.\(^2\) Whitehead's educational views were developed almost wholly from observation and critical reflection upon his task as a teacher.

Although Whitehead's philosophy of religion is an important part of his metaphysics, his interest in religion was much more than speculative. All his philosophical works show a deep sense of the importance of practical religion. As the phrase "With Applications" was added to the title of his Universal Algebra, so Whitehead does not neglect the applications for his religious philosophy. His writings show an excellent equipment for a student of religion. He was familiar with the Christian Scriptures—the Old and New Testaments and the Apocrypha. He was familiar with the history of the Christian church, as well as the secular history of the various periods. In addition, he was familiar with the history and literature of other great religions. Needless to say, he also studied the works of the great philosophers of religion, but this will be taken up where the influences

---

upon his philosophical ideas are considered.

One other factor in Whitehead's humanism must not be overlooked. This was the influence of his wife, the former Evelyn Willoughby Wade, whom he married in 1890.

The effect of my wife upon my outlook on the world has been so fundamental that it must be mentioned as an essential factor in my philosophical output. . . . Her vivid life has taught me that beauty, moral and aesthetic, is the aim of existence; and that kindness, and love, and artistic satisfaction are among its modes of attainment.1

It now remains to indicate the books and men that influenced the thought of Whitehead for each of the three periods of his career, as mentioned above.

Whitehead's investigations in Mathematical Logic which formed the basis for his Universal Algebra came from three sources primarily, according to his own statement.2 The most important were Grassmann's two books, the Ausdehnungslehre (Calculus of Extension) of 1844, and the Ausdehnungslehre of 1862, especially the earlier. The other two influences were Sir William Hamilton's Quaternions, and Boole's Symbolic Logic. These last two were "almost equally influential." Whitehead says, "My whole subsequent work on Mathematical Logic is derived from these sources." He was especially interested in the new developments in mathematics in the field of geometry, where the non-metrical mathematical views were most fruitful, with the discovery

1. Whitehead, ESP, 8-9. 2. Whitehead, ESP, 10,
of the relativity of geometrical systems and the invention of many non-Euclidean geometries. Among those who influenced Whitehead in this field were Lobatchewsky, Saccheri, Gauss, Bolyai, Riemann, and Beltrami. Whitehead made his own distinctive contributions to geometry in the elaboration of "Non-metrical Projective Geometry." He published The Axioms of Projective Geometry in 1906,¹ and the fourth volume of Principia Mathematica, which never appeared, was to have been written by Whitehead alone, and deal with Projective Geometry.

In 1903 Bertrand Russell published his Principles of Mathematics. As a result, he and Whitehead decided to work jointly because their interests in mathematics coincided so closely that each had planned on second volumes which were on "practically identical topics." The result was three volumes of Principia Mathematica, produced over the course of eight or nine years. While it may be assumed that there was considerable mutual influence between the two philosophers, it is probable that it did not extend far beyond the field of mathematics. In other fields their views were too divergent.

Russell had entered the University at the beginning of the eighteen nineties. Like the rest of the world, we enjoyed his brilliance, first as my pupil and then as a colleague and friend. He was a great factor in our lives, during our Cambridge period.

---

But our fundamental points of view—philosophical and sociological—diverged, and so with different interests our collaboration came to a natural end.  

In 1910 Whitehead moved to London. From 1911 to 1914 he taught at University College, London, and from 1914 to 1924 at the Imperial College of Science and Technology. His work in the philosophy of science dates from this period, although of course the influences upon his thought were many of them antecedent to his stay in London. "On Mathematical Concepts of the Material World," which, Lowe reports, was considered by Whitehead one of his best papers, contained his first criticism of scientific materialism. The influence of Bertrand Russell is very prominent in this memoir. His discussion is logical rather than epistemological, and while he was to disagree with Russell on a great many points, he always agreed that Russell's work in logic was fundamental. Whitehead tends in this memoir to a Leibnizian monism and was influenced by Leibniz's theory of the relativity of space, and by the work of physicists, such as Kelvin, who asserted that the essence of matter is motion. His information about Leibniz was supplemented by Russell and Couturat. The memoir also shows the use of remarks by Couturat and Hamilton on the philosophy of Kant, and a study of the work of Poincaré, as well as a large

group of other mathematicians and physicists of many nationalities.\footnote{1}

In 1911, Whitehead's \textit{Introduction to Mathematics} was published. In this book he presents admirably the general ideas underlying mathematical concepts and also shows a thorough understanding of the historical development of the subject.

Whitehead's most important works from his natural science period are \textit{Principles of Natural Knowledge} and \textit{Concept of Nature}. In these books the greatest single influence was the theory of relativity. He is deeply appreciative of the work of Einstein, although he is not in complete agreement with all of his conclusions and offers a revised theory. "In my judgment," said Whitehead, "he has cramped the development of his brilliant method in the narrow bounds of a very doubtful philosophy."\footnote{2} In the Preface to \textit{PNK}, he cites two works which he found very helpful, especially as offering divergent interpretations of the theory. They are, \textit{Theory of Relativity}, by Dr. L. Silberstein, and a memoir by E. B. Wilson and G. N. Lewis in the \textit{Proceedings of the American Academy of Arts and Sciences}, 1912, "The Space-Time Manifold of Relativity."\footnote{3} His definition of congruence was influenced by this memoir.\footnote{4}

\footnotesize
\begin{enumerate}
  \item Whitehead, \textit{Art.}(1906), 468, 476n.
  \item Whitehead, \textit{PNK}, vii.
  \item Whitehead, \textit{PNK}, vii.
  \item Whitehead, \textit{PNK}, 141.
\end{enumerate}
Many other physicists are also mentioned by Whitehead and their work formed the foundation upon which his work was based.

The successive labours of Larmor, Lorenz, Einstein and Minkowski have opened a new world of thought as to the relations of space and time to the ultimate data of perceptual knowledge. The present work is largely concerned with providing a basis for the more modern views which have thus emerged.¹

The work of Larmor and Lorenz is mentioned frequently, and Lowe says, "It is practically certain that Minkowski's work influenced Whitehead considerably."² In the same place, Lowe disagrees with the assertion of Netz that Whitehead was awakened to the possibilities of the theory of relativity by Einstein, but that he had previously been working toward it, and the work of Einstein "spurred him on."

Another most important influence on Whitehead's philosophy of science was Clerk Maxwell's *Electricity and Magnetism*, which is very frequently referred to. In *Science and the Modern World*, Whitehead places this work with Newton's *Principia*, and the *Mechanique Analytique* of Lagrange. "Each of these three books introduces new horizons of thought affecting everything which comes after them."³ In the "Preface" to CN, Whitehead acknowledges his debt to C. D. Broad's *Perception, Physics and Reality*, which he had seen too late to use in writing *PNK*, but which had been used in writing

---

¹ Whitehead, *PNK*, vi.
Chapter II of CN.\textsuperscript{1} In *Adventures of Ideas*, Whitehead refers to the importance of the Poynting Flux of Energy, and the fact that he first heard of it in a lecture by Sir J. J. Thomson, about 1886.\textsuperscript{2} Victor Lowe points out that the "two great English physicists" mentioned in the "Prefatory Explanations" of Whitehead's *Principle of Relativity* were these same two men, Poynting and Sir J. J. Thomson.\textsuperscript{3}

Among the ideas which the above men and others contributed to the thinking of Whitehead, Lowe notes several as being especially important. The most important mathematical development, he thought, was the discovery of alternative geometries.

The moral of the geometrical development is that not one pattern of ideas, but many patterns of ideas, are illustrated in nature. It is because of our particular purposes and our limited insight that we discover some and not others.\textsuperscript{4}

The man most influential for Whitehead's mathematics, Hermann Grassmann, was also influential in his philosophy of science. Grassmann's Calculus of Extension aided Whitehead in the invention of his "Method of Extensive Abstraction," which is an important part of both PNK and CN.\textsuperscript{5}

Lowe finds six developments in physics of great importance for Whitehead.\textsuperscript{6} Three developments influenced him very early, while the other three came to him after the writing of the 1905 memoir. Especially important was the

\begin{flushleft}
1. Whitehead, CN, viii.
2. Whitehead, AI, 238.
6. Ibid., 41.
\end{flushleft}
development of vector physics. Other theories which influenced him prior to 1905 were theories of molecular and sub-molecular energetic vibration, and the theory of the "field" as a basic concept for physics. Later, Whitehead became interested in the statistical conception of physical laws, the theory of relativity, and the quantum theory.

During this period there is the first definite appearance of influence by Bergson. In the "Preface" to Principles of Natural Knowledge, Whitehead noted that "among others," Bergson was discussed at the meetings of the Aristotelian Society in London. In the same book, on the last page he makes a reference to Bergson's "élan vital." Both in PNK and in Concept of Nature Whitehead speaks frequently of "the passage of nature" or of "creative advance." In CN he states that he feels this view to be "in full accord with Bergson." These books, while dealing mostly with mathematical physics, show that the doctrine of evolution and the development of the biological sciences were beginning to affect his thinking.

In 1915 Whitehead became a member of the London Aristotelian Society, and the minutes of that organization, as well as Whitehead's own statement, reveal that he was active and frequently entered into the discussions. There is no doubt that these contacts had a profound influence on his thought, particularly on his metaphysics, but also on his philosophy.

of science. However, a discussion of this group belongs with a treatment of Whitehead's metaphysical period, because although he wrote his works on the philosophy of science at this time, most of the ideas had come to him previously. Most of the influence that came through his London associates were on the more metaphysical portions of the books, and he confined himself mostly to the study of nature, explicitly refusing more than once to discuss metaphysics.¹

In 1924 Whitehead moved to the United States to join the Faculty of Harvard University in the Philosophy Department. It was there that his most distinctive philosophical works were produced. Yet for the most part, the ideas which he came to express were already formed, at least in part. Science and the Modern World came out in 1925. Process and Reality appeared in 1929, and as Whitehead states, he "endeavored to compress the material derived from years of meditation."² Whitehead owed much to the contacts he made in the London Aristotelian Society which included in its membership most of the important persons in British philosophy as well as many continental and American philosophers.

My philosophic writings started in London, at the latter end of the war. The London Aristotelian Society was a pleasant centre of discussion, and close friendships were formed.³

¹ Whitehead, PNK, vii; CN, 5.
² Whitehead, PR, x.
³ Whitehead, ESP, 14.
In matters philosophic the obligations of an author to others usually arise from schools of debate rather than from schools of agreement.

... I have heavy obligation to acknowledge to Bertrand Russell, Wilfrid Carr, F. C. Schiller, T. F. Nunn, Dawes Hicks, McTaggart, James Ward, and many others.\(^1\)

The latter passage is important for bringing out the point that Whitehead makes again in PR, that "we are no less indebted to a thinker when we adopt the alternative which he discarded."\(^2\) More disagreement with a thinker is no sign of lack of influence, at least in the case of Whitehead. He modified and stamped with his own genius every concept which he used.

Among the "many others" with whom Whitehead was associated in London were Samuel Alexander, Mrs. Karen Stephen, Mrs. Duddington, Norman Kemp Smith, and A. E. Taylor. Mrs. Duddington was the pupil and translator of the Russian philosophers, N. O. Lossky. Whitehead makes one reference to the first of Lossky's works to appear in translation, The Intuitive Basis of Knowledge.\(^3\) This single reference, which quotes Schelling rather than Lossky himself, is nevertheless interesting because Lossky created an organic philosophy that has many points of similarity to the philosophy of Whitehead, particularly in the rejection of the subject-predicate or subject-object antithesis, the Leibnizian monism, the criticism of Kant, the modification of British empiricism, and

---

2. Whitehead, PR, 16.
the role of intuition in knowledge. In this last respect Lossky's view is also quite similar to Bergson's. It is possible that Whitehead was considerably influenced by this book. It is more probable, however, in view of the fact that he makes no further reference to it nor to others of Lossky's works that appeared, that he found it interesting, but with nothing new in it that had not already occurred to him, or that he had not read elsewhere.

Among the others of his London associates, Whitehead mentions specifically Professor T. P. Nunn in acknowledging an obligation to American and British realists. The work of Norman Kemp Smith was important to Whitehead for his study of Kant. Whitehead also notes that he was influenced in his epistemology by Smith's Prolegomena to An Idealist Theory of Knowledge (Macmillan, 1924). In addition to his personal study of Plato and other Greek philosophers, Whitehead relies heavily on the work of A. E. Taylor, particularly his interpretation of the Timaeus. In the "Preface" to PR, he says:

I regret that Professor A. E. Taylor's Commentary on Plato's Timaeus was only published after this work was prepared for the press. Thus, with the exception of one small reference, no use could be made of it. I am very greatly indebted to Professor Taylor's other writings.

Then in the Preface to AI, he says:

1. Whitehead, PR, viii.   3. Whitehead, PR, ixn.
2. Whitehead, PR, 185n.
In Part II, dealing with Cosmology, I have made constant use of two books published by the Oxford University Press in 1928, namely, A Commentary on Plato’s Timaeus, by Professor A. E. Taylor of the University of Edinburgh, and The Greek Atomists and Epicurus, by Dr. Cyril Bailey, Tutor of Balliol College, Oxford.1

The Minutes of the Aristotelian Society reveal that during the years when Whitehead was in London, the philosophy of Bergson was frequently discussed. Among the active members who were particularly interested in Bergson and who influenced Whitehead were Mrs. Karen Stephen and H. Wildon Carr, who was President of the Aristotelian Society from 1915 to 1918. Carr’s influence is especially important.

Dr. F. S. C. Northrop maintains that Bergson’s philosophy was one of the three main influences upon his reconstruction of physical science that prepared the way for Process and Reality, and that this influence came to him in a large measure from H. Wildon Carr.

The third was a Bergsonian influence which came to Whitehead through his personal friend, the late H. Wildon Carr. During those impressionable war years, when Whitehead’s philosophy of science was taking shape, Carr was writing a book on Bergson and continuously conversing with Whitehead concerning the French philosopher. From this source came the doctrine of the primacy of process, which is as basic to Whitehead’s philosophy of science as it is to his metaphysics.

Northrop then goes on to say that the Bergsonian influence “can hardly be exaggerated.”

1. Whitehead, A.I., viii.
It presented the basic concept and doctrine of Whitehead’s entire scientific and philosophical outlook.

With only one major point in Bergson's doctrine did Whitehead disagree. This was Bergson's contention that spatialization in science is falsification.

Consequently, Whitehead conceived it to be one of his major tasks to follow Bergson in accepting duration and process as primary and at the same time to derive the concepts of space in a manner that will exhibit them as concrete factors in fact.

The Bergsonian emphasis on immediate intuition led Whitehead to deny any scientific knowledge except that given by sense awareness.1

Victor Lowe takes exception to Northrop's contention that the Bergsonian influence could "hardly be exaggerated." He felt that the influence was less and occurred earlier than Northrop claimed.2 Northrop replied to this in a recent letter.

The information about Whitehead came to me through personal contact when I was studying with Whitehead at the Imperial College of Science and Technology in London in the academic year 1922-23. Whitehead and Carr met quite frequently during this period. Lowe is undoubtedly quite right in his article in the Schilpp volume in pointing out that there was a Bergsonian influence on Whitehead dating back before this time. I am sure that Carr reinforced this influence.3

Whether or not the influence of Carr was as important as Northrop believes, at least it was considerable. When Whitehead was writing PR, he went back ten years to make use of Carr's Presidential address to the Aristotelian Society

2. Lowe, Art. (1949), 278.
in 1917.¹ The idea of "solidarity" which Whitehead takes from this address, while not coming from Bergson, appears to be a development from the philosophical position of CE. Most of Carr's ideas were Bergsonian. While it may be possible to exaggerate Bergson's influence on Whitehead, it is probably not possible to exaggerate Bergson's influence on Carr. Flewelling, who was a colleague of Carr's at the University of Southern California, says that it amounted to a "conversion."²

The Bergsonian influence on Whitehead's doctrine of process was reinforced, Northrop says, by Samuel Alexander. He was another very important influence while Whitehead was in London. The importance of this relationship is brought out by Victor Lowe in referring to a conversation which he had with Whitehead in August, 1942.

I have known Whitehead, in a conversation about Bergson, to inject the remark that the contemporary from whom he actually got most was Samuel Alexander: he and Alexander "conceived the problem of metaphysics in the same way." In particular, Alexander had the important idea that the unity of the universe (developed most prominently in Spinoza's metaphysics) and the many individuals (Leibniz's emphasis) had somehow to be reconciled. Another common element which I have heard Whitehead mention is the fact that Alexander almost alone among Whitehead's British contemporaries, did not, implicitly at least, assume that our experience is basically an experience of sense-data.³

Although Whitehead speaks appreciatively of Alexander's

¹. Whitehead, PR, 65n.
"general assimilation of space and time," very probably Whitehead was not greatly influenced by him in his philosophy of science. Before Alexander's work appeared, Whitehead had already formulated his philosophy of science from his work in mathematics and mathematical physics. Alexander's influence appears particularly in Whitehead's doctrine of feeling, his interpretation of evolution, his philosophy of religion, and his philosophy of value. In the "Preface" to SMW, Whitehead says:

There has been no occasion in the text to make detailed reference to Lloyd Morgan's Emergent Evolution or to Alexander's Space, Time and Deity. It will be obvious to readers that I have found them very suggestive. I am especially indebted to Alexander's great work.

Both of these works show a considerable Bergsonian influence, so that even an influence from these writers would be a Bergsonian influence once removed. But Whitehead had already read Bergson by the time Alexander and Morgan wrote their works, so that any Bergsonian influence from these two men would have been but a reinforcement of an earlier Bergsonian influence. In referring to his doctrine of "process" in PR, Whitehead says that "every ultimate actuality embodies in its own essence what Alexander terms 'a principle of unrest,' namely, its becoming." He further says that his "use of the term 'feeling' has a close analogy to Alexander's use of the term 'enjoyment'." Like Alexander,

Morgan, and Bergson, Whitehead's interpretations of evolution as a creative process lead him into the philosophy of religion and value.

As to my own views of permanence and transience, I think the universe has a side which is mental and permanent. This side is that prime conceptual drive which I call the primordial nature of God. It is Alexander's nisus conceived as actual.1

Whitehead also finds in Alexander the concept of the "consequent nature of God." Referring to Alexander he says:

A great philosopher has said that time is the mind of space. In respect to one particular new birth of one centre of experience, this novelty of ideal forms will be termed the "consequent." 2

In Nature and Life, later appearing as part of Modes of Thought, Whitehead has a most appreciative summary of Alexander's Space, Time and Deity, in terms of his own thought. There he describes ideals and all experience of transcendent value as the experience of Deity in the world.3

Lowe summarizes his discussion of Alexander's influence on Whitehead by saying:

Thus we have here, once more, a case of encouragement and sympathy, rather than of indispensable influence. This encouragement should not be magnified into the primary cause of Whitehead's going in for metaphysics; more probably it simply reinforced the natural causes which were suggested in the discussion of Whitehead and Bergson, above.4

Whether or not Lowe is right, Whitehead considers

1. Whitehead, ESP, 117-118.
2. Whitehead, RIM, 114.
3. Whitehead, MOT, 139-142.
Alexander's philosophy so important that, in determining the influence of Bergson, extreme care must be exercised to distinguish between the two influences.

The influence of Bradley must not be overlooked. As Whitehead says, he is frequently at variance with Bradley, but since he finds it necessary in several places to point out precisely where he agrees and where he disagrees with Bradley, it seems that he gave his work careful consideration. In the "Preface" to PR, he says:

The fifth part is concerned with the final interpretation of the ultimate way in which the cosmological problem is to be conceived. . . . 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.1

In ESP, Whitehead discusses the notion of perishing and immortality. This, he says, is the "one key thought" around which the development of PR is woven, and "in many ways I find that I am in complete agreement with Bradley." Whitehead concludes by saying that Bradley "gets into a great muddle because he accepts the language which is developed from another point of view."2

Probably the conclusion may safely be drawn that Whitehead was not greatly influenced by Bradley, but recognized his genius and since Bradley was considered so important during Whitehead's London period, when he noted some

similarities in their completed systems, he thought it wise to note them.

Whitehead does not mention many American philosophers. He does mention his obligations to the English and American Realists as "obvious." Immediately following in the "Preface" to PR, comes the statement, "I am also greatly indebted to Bergson, William James, and John Dewey." In SMW he makes a great deal of use of a phrase of James's which he noted in a letter from William James to his brother Henry, where he refers to "irreducible and stubborn facts." The same "radical empiricism" may be noted in Bergson and Dewey also, but James had the facility for the happy phrase. Also Whitehead considers James's essay "Does Consciousness Exist?" as of primary importance, comparing its influence with that of Descartes' Discourse on Method.

The scientific materialism and the Cartesian Ego were both challenged at the same moment, one by science and the other by philosophy as represented by William James with his psychological antecedents.

Whitehead frequently mentions the importance for modern thought of new developments in physiology and psychology. He may have learned a good deal of his psychology from James. He was also quite impressed by the pluralism of James and Dewey.

In spite of Whitehead's sympathy with these men, however, Lowe is undoubtedly quite correct in his belief that

2. Whitehead, SMW, 3.
Whitehead's contact with James and Dewey was not early enough to have influenced him very profoundly in the formulation of his philosophy. Whitehead, in conversation with Lowe in May, 1941, admitted that "there was no question of James affecting the direction of his thinking."\(^1\) Lowe does admit that Dewey might "have had something to do" with Whitehead's doctrine of a direct experience of causality, which first appeared in 1927 in Whitehead's lectures on Symbolism.\(^2\) Whitehead himself says that Dewey is more important for his influence and attitude toward philosophy than for any doctrines that he set forth.

John Dewey is to be classed among those men who have made philosophic thought relevant to the needs of their own day.

John Dewey is the typical effective American thinker.

Dewey has never been appalled by the novelty of an idea.\(^3\)

The previous discussion has been an examination of the men and books most significant among Whitehead's contemporaries in the background of his thought. It now remains to discuss briefly Whitehead's relation to the philosophic tradition. Although Whitehead was widely read in all periods of philosophy, there are two periods which particularly dominated his thinking. These are the periods of Plato and

---

Aristotle, and British empiricism of the seventeenth and eighteenth centuries. A glance at the "Index of Proper Names" in PR reveals that seven names dominate the discussion. They are Plato and Aristotle, Descartes, Hume, Kant, Locke, and Newton. To this list should be added the names of three men who were almost as influential, although they are not quite so frequently referred to. They are Berkeley, Leibniz, and Spinoza. All Whitehead's philosophic writings abound in references to these ten names.

The influence of Plato on Whitehead is exceedingly important. Whitehead is responsible for the famous statement that the European philosophical tradition "consists of a series of footnotes to Plato." He goes on, after stating that "the train of thought in these lectures is Platonic," to explain what he means.

I mean that if we had to render Plato's general point of view with the least changes made necessary by the intervening two thousand years of human experience... we should have to set about the construction of a philosophy of organism. In such a philosophy the actualities constituting the process of the world are conceived as exemplifying the ingestion (or 'participation') of other things which constitute the potentialities of definiteness for any actual existence. The things which are temporal arise by their participation in the things which are eternal.

In this passage Whitehead is expressing the view that his doctrine of eternal objects is derived from Plato. Later he

1. Whitehead, PR, 63.
states explicitly that by the term "eternal object" he means "Platonic form."\(^1\)

Reference has already been made to Whitehead's indebtedness to A. E. Taylor's work on Plato, especially his Commentary on Plato's *Timaeus*, of which Whitehead made "constant use" in the section on Cosmology of AI. According to Whitehead, there have been two cosmologies which have dominated European thought, that of Plato's *Timaeus* and the materialistic cosmology of Newton, Locke, Descartes, and Galileo. PR attempted to "follow the clue that perhaps the true solution consists in a fusion of the two previous schemes."\(^2\) In the *Timaeus*, Whitehead saw a hint of an evolutionary scheme which would fit but awkwardly into the Newtonian cosmology.\(^3\) He praised this dialogue especially for its "metaphysical character ... its endeavor to connect the behaviour of things with the formal nature of things."\(^4\) He was likewise impressed by Plato's analysis of becoming. All these ideas fit much better into Whitehead's doctrine of process than into the ideas of the seventeenth century science. The later dialogues of Plato, of which the *Timaeus* is one, influenced Whitehead most. In AI, he cites seven main notions in the thought of Plato. These are, "The Ideas, The Physical Elements, The Psyche, The Eros, The Harmony, The Mathematical Relations, The Receptacle."\(^5\)

---

1. Whitehead, PR, 70.
2. Whitehead, PR, ix.
3. Whitehead, PR, 146.
4. Whitehead, PR, 144.
5. Whitehead, AI, 188.
Each of these have an important place in Whitehead's system. Probably hindsight is responsible for the inclusion of some of them, but, in view of Whitehead's constant study of Plato, these various notions may all have impressed him to some extent at an early date. He admits that "it is most unscholarly to identify our modern notions with these archaic thoughts of Plato. For us everything has a subtle difference."¹ Yet he repeats the list of seven notions four times in AI, and says, "I hold that all philosophy is in fact an endeavour to obtain a coherent system out of some modifications of these notions."² The Ideas are, of course, Whitehead's "eternal objects." They are not the transcendent Ideas of the earlier dialogues, but rather represent Plato's later criticized view.³ The Physical Elements are the physical side of actuality conceived as a process.⁴ The Psyche and the Eros are "life and motion" without which the universe is static.⁵ The Psyche is the realization of the Ideas in a "living intelligence." Whitehead's important doctrine of "appetition" has its source, or at least its counterpart, in the Platonic Eros.⁶ The Harmony is the Greek notion of Beauty and Goodness, which have such a prominent place in Whitehead's theory of value.⁷ The notion of Mathematical Relations is closely

¹ Whitehead, AI, 203.  
² Whitehead, AI, 354.  
³ Whitehead, AI, 354.  
⁴ Whitehead, AI, 355.  
⁵ Whitehead, AI, 355.  
⁶ Whitehead, AI, 189.  
⁷ Whitehead, AI, 180.
connected to that of Harmony as being, in part, its explanation. The two together form the concept of "the general interconnectedness of things, which transform the manifoldness of the many into the unity of the one." This is Process.\(^1\) Finally, the Receptacle is "almost exactly" the "space-time of modern mathematical physics, conceived in abstraction from the particular mathematical formulae which applies to the happenings in it."\(^2\) The Receptacle as "the foster-mother of all becoming" is analogous to Alexander's concept of space-time.

Whitehead links Aristotle with Plato as one of the founders of Western thought.\(^3\) Two major ideas of Aristotle function in Whitehead's thought, one positive and one negative. On the negative side, he rejects Aristotle's logic of classes, and particularly the subject-object classification that has passed into epistemology. Again and again, in his criticism of traditional thought, Whitehead remarks on the mischief done by this idea. He rejects Aristotle's definition of a primary substance as "always a subject and never a predicate."\(^4\) For this he substitutes the Category of the Ultimate, or Creativity.\(^5\) He points out, however, that Aristotle was greater than his errors.

---

1. Whitehead, \(\text{AI, 192}\).
2. Whitehead, \(\text{AI, 192}\).
3. Whitehead, \(\text{PR, v.}\)
4. Whitehead, \(\text{PR, 239}\).
5. This creativity is the most abstract category imaginable, comparable in this respect to Hegel's category of Being.
This dominance of his logic does not seem to have been characteristic of Aristotle's own metaphysical speculations. The divergencies, such as they are, in these lectures from other philosophical doctrines mostly depend upon the fact that many philosophers, who in their explicit statements criticize the Aristotelian notion of 'substance,' yet implicitly throughout their discussions presuppose that the 'subject-predicate' form of proposition embodies the finally adequate mode of statement about the actual world. The evil produced by the Aristotelian 'primary substance' is exactly this habit of metaphysical emphasis upon the 'subject-predicate' form of proposition.

On the positive side, Whitehead was most impressed by Aristotle's analysis of "becoming." He says he makes a "masterly analysis of the notion of 'generation'." Aristotle, however, does not go far enough because he omits the

Whitehead called creativity "the universal of universals characterizing ultimate matter of fact." It is "the ultimate behind all forms, inexplicable by forms, and conditioned by its creatures." It differs from Hegel's category of Being in that creativity is dynamic, rather than static. Three notions are included in Whitehead's concept. Creativity is the universe conjunctively or the principle of unity. It is also the universe disjunctively or the principle of the "many." It is also the principle of novelty, by which an actual occasion is a novel occasion "diverse from any entity in the 'many' which it unifies." The application of this principle to each novel situation which it originates is the "creative advance." Creativity is thus external to any one actual occasion in that it is the process by which the occasion came into being. On the other hand, it is an immanent principle in the universe as a whole and has no meaning apart from its determinations. As an abstract principle Creativity has no actuality. Only as it becomes determinate in actual occasions does it have concrete reality. God is the "primordial, non-temporal accident of Creativity. God is thus the most ultimate being that is actual, but since he is determinate, he is also limited. Cf. Whitehead, PR, 30-32.

1. Whitehead, PR, 45.
2. Whitehead, PR, 319.
idea of perishing, which Whitehead feels is a correlative
in a philosophy of organism and process.

I feel that there is a gap in his thought, that
just as much as becoming wants analyzing so does
perishing. . . . Almost all of Process and Reality
can be read as an attempt to analyze perishing on
the same level as Aristotle's analysis of becoming.¹

Whitehead appreciates the way in which Aristotle tends to
correct the dualism of Plato by suggesting the participation
of the Forms in actual entities, although the later Plato
did the same to some extent.² Whitehead's doctrine of app-
petition also owes something to Aristotle, especially as re-
lated to God, in which it is "the lure for feeling, the
eternal surge of desire."³

When Whitehead was in London attending meetings of the
Aristotelian Society he enjoyed much discussion of philos-
ophy. He once stated that "among others" they discussed
Berkeley, Hume, Kant, Mill, Huxley, Bertrand Russell, and
Bergson.⁴ He was particularly interested when the discus-
sion was on the great men of the formative period of modern
thought, men of the seventeenth and eighteenth centuries.
This was the period of great scientists as well as philos-
ophers, and as a person interested in the reformation of
physics, Whitehead inevitably went back to the fountainhead
of modern physical ideas. Most of his philosophical writing
is a constructive criticism of these ideas, both physical

¹. Whitehead, Art.(1932), 116-117.
². Whitehead, PR, 319 and 147.
³. Whitehead, PR, 522.
and metaphysical. He studied carefully Galileo, Newton, Descartes, as well as the men who criticized and modified their ideas, such as Berkeley, Locke, Hume, Kant, and Spinoza. Many of his positive ideas come from the men of this latter group, although in all of them he found certain uncriticized assumptions which he felt needed to be corrected by the construction of a philosophy of organism which substituted in many respects the older cosmology of Plato for the modern cosmology.

Whitehead's relation to Newton was primarily critical. Newton's chief fault, Whitehead thought, was "the fallacy of misplaced concreteness."1 Newton had a system of physics which had proved admirable for physical science for three hundred years, but it was constructed on a high level of abstraction and therefore could not be taken as a true description of the universe. This was made evident by certain modern scientific discoveries that were inconsistent with Newton's physics. Whitehead did recognize that Newton's views had a great deal of truth with a limited application and tried to adjust his theories to fit the facts which Newton described, but in a way coherent with facts of which Newton was ignorant. Newton held to theories of absolute space and absolute time. Whitehead chose a relational view. He criticized Newton as guilty of the "fallacy of misplaced

1. Whitehead, PR, 142-143.
concreteness" when Newton assumed that space was an actual entity. This, thought Whitehead, was moving illegally from potentiality to actuality.\(^1\) Whitehead criticized Newton especially for his basic materialism, the assumption that substance was the basic metaphysical reality.

The nemesis of the Newtonian physics was this barrier of materialism, constituting a block to any further advance to rationalism.\(^2\)

Whitehead found the Newtonian world-view one in which the concepts of generation or self-development could find no place. Evolution could have no real meaning in the Newtonian cosmology.

The Scholium made no provision for the evolution of matter. \(\ldots\) The result has been that the non-evolution of matter has been a tacit presupposition throughout modern thought.\(^3\)

Whitehead's relation to Kant was similar to his relation to Newton, naturally, since Kant's metaphysics was based upon Newton's physics. Whitehead started his study of Kant at a very early age.

By the time that I gained my fellowship in 1885 I nearly knew by heart parts of Kant's Critique of Pure Reason. Now I have forgotten it, because I was early disenchanted.\(^4\)

In PR, his references to Kant are very frequent and show a thorough knowledge of his work, but most of the references show the divergence of Kant from Whitehead's philosophy of organism. He speaks of his philosophy as

---

1. Whitehead, PR, 123.
2. Whitehead, FOR, 42.
3. Whitehead, PR, 146.
"the inversion of Kant's philosophy." By this he meant that in his own philosophy he repudiated Kant's method of reasoning from subjective data. This led to an objective world known only as appearance. Whitehead reasoned from an ordered nature to determine how the objective data entered into experience. ¹ "Kant," said Whitehead, "drove a wedge between science and the speculative reason." ²

Whitehead's criticism of Kant is very close to Bergson's. In a section devoted largely to a criticism of Kant, Bergson suggested that physics ought to be "simply psychics inverted." ³ He suggested that metaphysics, instead of following physics "in the chimerical hope of going further in the same direction," should go in the opposite direction "and build up progressively a cosmology which would be . . . a reversed psychology." ⁴ Whitehead made a similar statement when he said:

The philosophy of organism aspires to construct a critique of pure feeling, in the philosophical position in which Kant put his Critique of Pure Reason. ⁵

Both Whitehead and Bergson also found Kant's Transcendental Aesthetic the part of Kant's work closest to their own views. ⁶ Whitehead's discussion of Kant is so similar to Bergson's at this point that it seems very probable that Whitehead, either consciously or unconsciously, had this

---

section of Creative Evolution in his mind.

Whitehead also noted that his doctrine of intuition was the reverse of Kant. Kant implied that the order of nature was phenomenal, that Kant's "pure intuition" was productive of the ordered world. Whitehead, on the other hand, held that intuition was derived from the order of nature, that in a Bergsonian sense, one felt oneself within it as a "superject" rather than as a "subject."¹

Kant's great positive insight, according to Whitehead, was that he

first, fully and explicitly, introduced into philosophy the conception of an act of experience as a constructive functioning, transforming subjectivity into objectivity, or objectivity into subjectivity.²

But for Kant the process was from subjectivity to objectivity, while in the philosophy of organism this order is inverted.

In spite of a certain similarity in the minds of Whitehead and Leibniz, Whitehead does not acknowledge as great an indebtedness to the latter thinker as to others of his era. Victor Lowe says that "Leibniz's mind is more akin to Whitehead than is that of any other philosopher, except possibly Plato."³ He says that Whitehead's Universal Algebra was an attempt to construct the "universal calculus of reasoning"

---

¹ Whitehead, FOR, 49; PR, 112.
² Whitehead, PR, 236.
³ Lowe, Art. (1941), in Schilpp, PAW, 18.
which has been Leibniz's dream. Probably, however, Leibniz
was not greatly influential on Whitehead's logic and mathe-
matics. "My knowledge of Leibniz's investigations," White-
head admitted, "was entirely based on L. Couturat's book,
La Logique de Leibniz."1

Whitehead's panpsychistic tendencies have some resem-
blance to Leibniz's Monadology. Whitehead points out that
his actual entities are similar to Leibniz's monads, but
that the latter were "best conceived as generalizations of
contemporary notions of mentality," and that he intended to
formulate a better balanced view by giving a more adequate
account of physical bodies.2 Furthermore, Whitehead pointed
out that in Leibniz's view the monads change, while in the
philosophy of organism they only become.

In SMW, Whitehead shows considerable interest in Berke-
ley because "quite at the commencement of the epoch, he made
all the right criticisms, at least in principle."3 It is not
Berkeley's subjective idealism that Whitehead is interested
in, although he is close to Berkeley in his doctrine that all
actual occasions are of the nature of feeling, but in certain
criticisms which Berkeley made of current ideas. He criti-
cized the idea of simple location, and also in raising the
question of the meaning of things being actualized in nature,
suggested Whitehead's doctrine of prehensions.4 Also

Berkeley's philosophy criticizes what Whitehead called the "bifurcation of nature." Whitehead says that Berkeley's criticism is fatal to any of the traditional types of "mind-watching-things' philosophy, even if those things be events and not substance or material.¹

The three men of the seventeenth century to whom Whitehead owed the most in the construction of his philosophy were Descartes, Locke, and Hume. An indication of the relation of Locke to Whitehead has already been given in the discussion of the organic principle, where Locke is chosen as the representative of British empiricism who suggested this principle. The three men, Descartes, Locke and Hume, may be treated together, along with Spinoza, whose work was an important modification of Descartes.

Most of the ideas of Whitehead's philosophy of organism were stated first by either Descartes or Locke but, Whitehead says, neither worked out coherent systems and they failed to emphasize their most valuable (to Whitehead) insights, because of certain prevalent habits of thought from which they could not break away.² Descartes and Locke both suffered from subjectivism, the doctrine that the nature of experience is due to the "perceptive peculiarities of the subject enjoying the experience."³ The Cartesian dualism

and the Newtonian materialism "combined to set a false goal before philosophic speculation."¹ This dualism, explicit in Descartes, was also implied in Locke.² Both Descartes and Locke rely generally on an epistemologically dualistic theory of representation, although both at times inconsistently state an epistemological monism that is close to Whitehead's own view.³ The chief office of Hume was to criticize the philosophy of Locke and bring it into greater logical coherence. Yet he also could not break away from the habits of thought of his day and did not question the subject-predicate form of thinking that Aristotle had bequeathed to the world.⁴ He consequently saved what Whitehead considers the wrong side of Locke.⁵ The chief value in Locke for Whitehead is his "adequacy" rather than his consistency. He makes "clear statements of the obvious deliverances of common sense."⁶ Among the ideas that Whitehead got from Locke was that of time as "perpetual perishing,"⁷ the doctrine of "power," suggesting Whitehead's "ontological principle,"⁸ and the concept of "ideas of particular things" which Whitehead says is like his own concept of feeling.⁹

Whitehead considered Locke quite important and suggests that he is in British philosophy "the analogue to Plato."¹⁰

He also says that Locke and Bergson "were the most characteristic philosophers of their respective epochs."¹ Since Plato was the most important of the ancients for Whitehead's thought and Locke the most important of the seventeenth century, then it is logical to assume that Whitehead gives Bergson an extremely important place in modern thought. While this indicates a very high regard, and suggests considerable influence of Bergson on Whitehead, it does not prove it because Whitehead could have come to this opinion about Bergson after his own views were formulated. Coupled, however, with other evidence of Bergsonian influence this appreciative statement by Whitehead makes the case considerably stronger.

One of the chief objections which Whitehead found in the British empiricists was their sensationalistic doctrine of perception. For the analysis of perception, Whitehead relies mostly on Hume, because of his "unrivalled clearness."² Whitehead finds him instructive because even the defects in his statements are eminently natural defects which emerge with great clearness, owing to the excellence of his presentation.

Whitehead also finds Hume's examination of experience useful because

Hume differs from the great majority of his followers chiefly by the way in which he faces up to the problems raised by his own philosophy.³

---

¹ Whitehead, SMW, 147.  
² Whitehead, PR, 198.  
³ Whitehead, PR, 206.
The sensationalistic psychology of Descartes, Locke and Hume emphasized the primacy of what Whitehead called perception in the "mode of presentational immediacy." Hume's polemic respecting causation was simply, Whitehead believed, "a convincing argument that pure presentational immediacy does not disclose any causal influence."1 Whitehead refers cause to the mode of "causal efficacy."

In one respect Whitehead felt that Hume was considerably superior to Locke. Locke left no room for growth or evolution, but "Hume's train of thought unwittingly emphasizes 'process'."2 This takes place, according to Hume, in the soul. Whitehead notes that by soul Hume means what he means by actual entity.3

The chief office of Spinoza, according to Whitehead, was to bring the philosophy of Descartes into greater coherence.4 In this respect he did for Descartes what Hume did for Locke. But, like Hume, he tended to emphasize just those portions of Descartes which the philosophy of organism rejects.5 Whitehead felt that as his philosophy was an inversion of Kant, it was also an inversion of Spinoza. In Spinoza substance is the primary actuality, with inferior modes. In Whitehead's philosophy, the modes of Spinoza become the actual entities while process is primary.6

---

1. Whitehead, PR, 186. 4. Whitehead, PR, 10.
2. Whitehead, PR, 212. 5. Whitehead, PR, 114.
3. Common Influences on both Bergson and Whitehead

The question naturally arises, how much of the similarity between the philosophies of Bergson and Whitehead comes from independent lines of development springing from common sources. The first answer will be that both men were very original in their treatment of philosophic problems. The second answer is that a study of the backgrounds of their thought reveals that, aside from a general acquaintance with the philosophical tradition, they arrived at their views in different ways. Whitehead's philosophy of organism developed from his studies in mathematics and mathematical physics.\(^1\) Bergson's views were developed primarily from psychology and biology, although mathematics and physics were not absent from his background.

There is one influence, however, in the background of both Bergson and Whitehead that is quite significant. This is what Whitehead calls "The Romantic Reaction," that reaction, primarily in literature, against the rationalism and materialism of the eighteenth century.\(^2\) As has been noted, Whitehead's humanism was in part derived from this source. The chapter in SMW by this title shows how much Whitehead was influenced by this movement. He felt that it was caused by a natural desire to return to the deliverances of common sense. In fact, this was the reason that he liked

---

the philosophy of Locke; he combined clear exposition with
common sense.¹ His trouble was that faulty presuppositions
resulted in wrong conclusions. Whitehead places Bergson at
the top of the list of modern philosophers who have been able
to move away from the assumptions of the seventeenth and
eighteenth centuries.

He has most completely moved away from the static
materialism of the seventeenth century.²

Bergson was thus not only influenced by this romantic
reaction, he was a part of it. Scharfstein shows that Berg-
son was very much a product of the French culture of the
nineteenth century.³ Charles Milligan maintains that he
"is best understood as the culmination of a period, not the
radical innovator of a new one," and points out his rela-
tionship to the art and music of the late nineteenth century.

The emphasis upon life force, élan vital, was
much older than Darwin, whose Origin of Species
appeared the year Bergson was born. It was a
familiar theme with Wordsworth. Bergson’s em-
phasis upon the flowing of reality and the in-
accuracy of static concepts was the principal
conviction of Renoir and the Impressionist
painters. . . . He was to philosophy what Debus-
sy was to music.⁴

Bergson, unlike Whitehead, depended very little upon
ancient Greek philosophy. In MM and TFW he makes almost no
reference to Plato and Aristotle. However, in CE he has a

¹. Whitehead, PR, 80.
². Whitehead, SMW, 148.
³. Scharfstein, RBP, 128-138.
section on Plato and Aristotle that shows he was quite familiar with their type of thought. He refers many times to Aristotle particularly, even to quoting him in Greek. Bergson thought that Plato's independently existing Ideas or Forms had helped impose the illusion of changeless entities upon all subsequent philosophy. This, he felt, was an example of the way the intellect falsifies reality.

To reduce things to Ideas is therefore to resolve becoming into its principal moments, each of these being, moreover, by the hypothesis, screened from the laws of time and, as it were, plucked out of eternity. That is to say that we end in the philosophy of Ideas when we apply the cinematographical mechanism of the intellect to the analysis of the real.\[1\]

Bergson thought more of Aristotle than he did of Plato, for Aristotle recognized the fact of becoming and attempted to include it in his philosophy. Aristotle refused to admit that the Forms existed independently, and so he included them in a unity, a "Form of Forms," or God. The Forms then issuing forth from God mix with matter, with "becoming" the result. Bergson's description of this process is like Whitehead's "ingression" of eternal objects into actuality. It is very probable that Whitehead got this idea from Aristotle; he speaks highly of Aristotle's analysis of becoming.

It is therefore something negative, or zero at most, that must be added to Ideas to obtain change. In that consists the Platonic "non-being," the Aristotelian "matter"—a metaphysical zero which, joined to the Idea, like the arithmetical zero to unity.

---

1. Bergson, CE, 342.
multiplies it in space and time. By it the motionless and simple Idea is refracted into a movement spread out indefinitely. In right, there ought to be nothing but immutable Ideas, immutably fitted to each other. In fact, matter comes to add to them its void, and thereby lets loose the universal becoming.¹

Bergson, however, felt that Aristotle failed to extricate himself from Plato's difficulty, because it was necessary to postulate God as an "unmoved mover," in order that the movement could be unbegun and unending.

A perpetuity of mobility is possible only if it is backed by an eternity of immutability, which it unwinds in a chain without beginning or end.²

Whitehead saw this same difficulty in Aristotle, but he was able to save Aristotle's general principle for substituting "creativity" for Aristotle's "primary substance" and considering creativity prior to God, in whose primordial nature the Forms or "eternal objects" subsist.³

Bergson felt that what was most valuable in Plato and Aristotle was carried into the system of Plotinus, who was certainly more of an influence on Bergson than any of the ancient Greeks.⁴ In fact, Bergson admitted that Plotinus was one of the three men who influenced him most profoundly, the other two being Maine de Biran and Ravaisson.⁵

Besides a single reference to the physics of Archimedes, the only other ancient thinker that Bergson mentions is Zeno,

¹ Bergson, CE, 344. ² Bergson, CE, 353. ³ Whitehead, PR, 11, 32. ⁴ Bergson, CE, 351. ⁵ Scharfstein, RBP, 101, quoting from the reminiscences of Gilbert Maire in Bergson mon maître, 222.
whose paradoxes he thought illustrated the absurdity of thinking that movement is made of immobilities.\textsuperscript{1} Whitehead also examined the paradoxes of Zeno, but took them more seriously. After pointing out certain mathematical fallacies in Zeno, he then showed how the arguments might be met by distinguishing between the act of becoming, which is without temporal extension, and the actual entity which is extended temporally.\textsuperscript{2}

Among the philosophers of the seventeenth and eighteenth centuries, the most important common influences were Descartes, Kant, Leibniz, Spinoza and Galileo. Galileo, with Kepler and Newton, is given the credit of laying the foundations of modern science in astronomy and physics. These laws became the ideals of knowledge which were generally accepted by philosophers, with the result that all philosophical views "had to pass through an atmosphere of intellectuality."\textsuperscript{3}

Descartes, Leibniz, and Spinoza are frequently referred to, each for the same reason as the others, usually. Bergson felt that all of them neglected the importance of time and developed a mechanism from which all contingency is excluded. Descartes, it is true, was undecided. On the physical side he asserted mechanism, but on the side of thought he tried to find room for free will. Thus, in the philosophy of Descartes, two directions were offered to the

\begin{itemize}
\item[1.] Bergson, GE, 335-340.
\item[2.] Whitehead, PR, 107.
\item[3.] Bergson, GE, 250-251.
\end{itemize}
history of thought, mechanism and determinism, or evolution and freedom. Because of the prevalence of the modern scientific thought, philosophy took the first alternative.¹

Leibniz and Spinoza brought the ideas of Descartes into greater consistency, but by moving farther from the truth, according to Bergson, although he admitted they did display a good deal of genius, especially Spinoza.² Spinoza and Leibniz both posited an underlying unity, or God, in which truth and reality both were eternally given.³ They needed to introduce God into their systems, Bergson thought, because they could see that the notion of causality would otherwise lead to contingency, since it cannot be proved that the same antecedents will always necessarily bring the same consequents. God, then, was for Spinoza and Leibniz only a deus ex machina introduced to save efficient and final causation, or mechanism and determinism.⁴ Descartes, Spinoza, and Leibniz also failed to consider the true nature of time. They accepted an "instantaneous physics," such that the duration of the universe might have been confined to the present moment.⁵ This is due to the falsification of reality by the intellect, which conceives of reality as static.

In general, Bergson felt that the philosophers and

scientists of the seventeenth and eighteenth centuries brought the metaphysical ideas of Plato and Aristotle once again into prominence, only stating them in terms of Cartesian dualism.

Bergson frequently refers to Kant. One reason for this is that when Bergson was writing his philosophy, Kant's influence was so widely felt that the "regular way of formulating a thesis was to ask how Kant had approached it and how Kant's theory might be surpassed." Bergson points out that the criticisms he makes of Leibniz and Spinoza apply equally to Kant, except that Kant was cautious enough not to carry his dogmatism too far. The human intellect conceived of reality as a mechanism, but the ultimate nature of reality was unknown.

Kant stops this dogmatism on the incline that was making it slip too far toward the Greek metaphysics; he reduces to the strict minimum the hypothesis which is necessary in order to suppose the physics of Galileo indefinitely extensible.

On the other hand, Bergson points out, Kant almost went ahead to develop the side of Descartes that the Cartesianians had abandoned. Kant had discovered an extra-intellectual origin to the terms between which the intellect establishes relations. Bergson felt that Kant could have seen that reality has two forms, matter and mind. The reason he did not was that he felt that the intuition was less than the intellect and that it could never go beyond the intellect.

The post-Kantian idealists did attempt to develop this side of Kantianism, but they failed because they were unable to abandon the idea that science is the same for all types of reality. In adhering to the mechanistic, mathematical idea of science, they appealed to rationalism, instead of appealing to experience.¹

Bergson and Whitehead thus appear to use their sources in the same way. They acknowledge indebtedness to men of importance in the philosophical tradition with whom they disagree, by showing that these men had a side to their thought which might have been developed in a more fruitful manner than the side which was actually developed.

Although Bergson’s scientific studies were mostly in the fields of biology and psychology, indications in his work show that he also kept up with developments in physics, so that many important physicists are included among those who influenced both Bergson and Whitehead. Bergson frequently gives exact references to scientific papers he has consulted.² Kelvin, Faraday, and Clerk-Maxwell influenced both Bergson and Whitehead in their theories of the interpretations of atoms. One of Clerk-Maxwell’s papers that Bergson refers to, "Action at a Distance,"³ is one that Whitehead refers to many times. Einstein’s theory of

¹ Bergson, CE, 389-395.
² Cf. Bergson, MM, 263n, 265n, 266n.
relativity had a profound influence on Bergson as well as Whitehead.¹

By far the greatest number of influences on Bergson were French. Many of his ideas had been hinted at previously by men who are not well known to English-speaking people. Ravaisson, Lachelier, Cournot, Delboeuf, Lalande, Charcot, Ribot, deBiran, and Guyau are a few of those cited by Scharfstein as being important. This great French tradition was by no means closed to Whitehead. The language presented no problem, and he frequently refers to French writers—Poincaré, for instance, who influenced Bergson. But, generally speaking, the common influences on Bergson and Whitehead in the French tradition are not significant.

¹. Scharfstein, RBP, 42.
CHAPTER IV

LEADING BERGSONIAN IDEAS AND THEIR INFLUENCE ON WHITEHEAD

1. Creative Evolution

H. Wildon Carr's book discussing "the fundamental principle of the philosophy of Bergson" is called *The Philosophy of Change*. This title was suggested by Bergson himself. 1

The principle is evident in all Bergson's writing but is expressed most fully in *Creative Evolution*. This book is based on an extensive study of biology, with special emphasis upon the evidence of evolution. Bergson was of the opinion that philosophy had erred in the past by attempting to come to a basic understanding of reality through a study of the physical sciences, which viewed reality as static, cutting across reality and viewing it abstractly at instantaneous moments. Bergson felt that this resulted in a faulty understanding because reality as experienced was never static but in constant flux. For this reason he felt that the proper subject matter for metaphysics was life as revealed in a study of biology and psychology. Such a study reveals that reality is movement and change, but more than that it is the constant creation of novelty. In other words, this constant change is not a continual rearrangement of particles in themselves changeless, but reality is a constant process of becoming.

---

1. Carr, POC, viii.
A fundamental characteristic of this process is that it occurs as "real duration," not as a succession of simultaneities. An instantaneous view of the world reveals it as static, but experience is never instantaneous. It is an experience of duration, and reality can only be understood truly when seen in its living advance.

A study of the biological sciences reveals an evolution from very simple forms of life to exceedingly complex forms. But, Bergson felt, evolution cannot be explained by the operation of the laws of traditional physics and chemistry because they presuppose unchanging subjects of change. Bergson felt that the theories of evolution current in his day were inadequate to account for the appearance of novelty and for the production of ever higher and more complex organisms. He thought that the evidence required the introduction of a new principle which he called the *élan vital*, or vital impetus. This vital urge always moves in one direction, toward the creation of novelty and of freedom. It moves upward producing organisms of greater sensitivity and a greater intensity of duration. This urge is completely free and is in no way determined either by antecedent events or by final cause except that the direction of the movement is given in the nature of the *élan vital* and is always toward the creation of mind or spirit. This is because "duration means invention,"¹ and in duration "the past presses against the

¹. Bergson, CE, 14.
present," causing the invention of new forms. The tension of duration which holds the new forms caused by the accumulation and synthesis of past experience in a unity is mind. Matter is a secondary production caused by the relaxation of this tension. Physical bodies, or forms of life, are made up of matter animated by mind or spirit, which requires the matter in order to act. There is a large amount of contingency in the forms invented, resulting in a great deal of variety. Some forms of life are more successful than others, the most successful being human life, the only form thus far produced that is still capable of continued development.

At the end of the vast spring-board from which life has taken its leap, all the others have stepped down, finding the cord stretched too high, man alone has cleared the obstacle. . . .

Life appears in its entirety as an immense wave which, starting from a center, spreads outwards, and which on almost the whole of its circumference is stopped and converted into oscillation; at one single point the obstacle has been forced, the impulsion has passed freely. It is this freedom that the human form registers. Everywhere but in man, consciousness has had to come to a stand; in man alone it has kept on its way.

But the evolutionary process is not unopposed. Evolution at every step of the way represents a conflict, which accounts for the lack of success of most of the forms produced. The opposition is supplied by an inverse movement, which is the production of matter. Matter is the opposite of life. It is the diminution of the vital energy, the re-

1. Bergson, CE, 32.
2. Bergson, CE, 278.
laxation of the tension which is consciousness, the passing from freedom to mechanical necessity.¹ This opposite tendency does not represent a contrary force, but only the fact that the vital impulse is finite, and "given once for all."² In a striking figure of speech Bergson compares the twofold production of life and matter to a fireworks display in which the vital impetus shoots upward through descending matter like the fiery path torn by the last rocket of a fireworks display through the black cinders of the spent rockets that are falling dead.³

In CE, Bergson admitted that his views were a departure from traditional philosophy. This was because his appeal was to intuition instead of to the intellect. The intellect, he said, had for its purpose the understanding and modification of matter and so followed its direction, viewing reality as static and bound by mechanical necessity. Time was viewed as being composed of simultaneities after the manner of spatial extension which was composed of points. Time for the intellect, then, was spatialized and reality was static and mechanized. In this way the intellect falsified reality and could not understand life. But if the intelligence were to invert itself and place itself within the movement of life and appeal simply to the psychological experience thus received, it would be able to experience life in the living of it as growing, creative and free. It was

¹ Bergson, CE, 258.
² Bergson, CE, 277.
³ Bergson, CE, 273-274.
the business of science to analyze reality for practical purposes as though it were composed of inert matter, but the purpose of metaphysics was to understand life in its true nature. The proper philosophic method is therefore intuition.\(^1\)

When Whitehead's PNK appeared in 1919, Professor T. de Laguna said in a review:

Mr. Whitehead seems to have felt very keenly the force of Bergson's criticism of natural science as incapable of expressing the continuity of things. But he finds the criticism to apply not to science as it may be, but to science as it has been, and the ulterior aim of his whole work is to reform science so that it shall no longer be open to such criticism.\(^2\)

VICTOR LOWE minimizes the value of this report and cites it as an example of the way "the relation of Whitehead's thought to physical science is easily misconceived."

Speaking of de Laguna's review he said:

The reviewer must have had inside information, since the only reference to Bergson in the book is a statement that Whitehead believes his doctrine of the "passage of nature" is "in full accord with Bergson." On putting the reviewer's opinion before Whitehead, several years ago, I received the reply that he had read Bergson, but was not much worried by him; what did worry him at that time was "the muddle geometry had got into" (in relation to the physical world).\(^3\)

Very probably Lowe has gone too far. In the first place, Whitehead's reply is ambiguous. He admits having

---

1. Bergson, ITM, 44.
read Bergson, but one would wish that he had explained what he meant when he said "he was not much worried by him." It is evident from reading the book that he was primarily interested in geometry, but since much of Bergson's criticism of science was a criticism of the mathematical way of looking at the world, it is not at all inconsistent with Professor de Laguna's remark to say that he wished to show that the scope of mathematics could be broadened until it was adequate for physical science. Whitehead has said that his chief objection to Bergson is his opinion that the intellect necessarily falsifies the notion of process. It is possible that "the muddle geometry has gotten into" was the fact that geometers had failed to extend mathematics beyond the mere notion of magnitude, and had been slow to follow the theory of relativity into the construction of four-dimensional geometry that could account properly for time and motion.

In the second place, much of the force of Lowe's criticism evaporates when it is noted that he erred in saying that the review in question was a review of CN, instead of PNK, and the single reference to Bergson is from CN. There is more evidence of Bergsonian influence in PNK. Whitehead admits there that science had been prone to error.

Modern speculative physics with its revolutionary theories concerning the natures of matter and of

1. Whitehead, ESP, 116. All references in this chapter will be to Whitehead, unless otherwise indicated.
electricity has made urgent the question, "What are the ultimate data of science? It is in accordance with the nature of things that mankind should find itself acting and should then proceed to discuss the rationale of its activities. Thus the creation of science precedes the analysis of its data and can even be accompanied by the acceptance of faulty analyses, though such errors end by warping scientific imagination."

Whitehead also proposes to answer the question, "How is space rooted in experience?" and says that the theory of relativity has "opened a new world of thought as to the relations of space and time to the ultimate data of perceptual experience." He then goes on to say that this emphasis upon the deduction of scientific concepts from "the simplest elements of perceptual knowledge" brings the discussion into the field of philosophy.

Berkeley, Hume, Kant, Mill, Huxley, Bertrand Russell and Bergson, among others, have initiated and sustained relevant discussions.

Whitehead further points out that he gained a great deal from the philosophical discussion which was prevalent in England at the time. Among those whom he cited as being influential was H. Wildon Carr. A study of the Proceedings of the Aristotelian Society from 1914 to 1919, which is the period from Whitehead's arrival in London from Cambridge and the appearance of PNK, reveals that much of the discussion was on various phases of the work of Bergson. Northrop has noted that Carr influenced Whitehead in favor of Bergson during this period.

1. PNK, v.
2. PNK, v-vi.
3. PNK, vii.
There are at least three indications of Bergsonian influence in the text of FNK. One is the frequent use of the term "creative advance of nature;" one is the application of the principles of the book to life; and the third is a concluding specific reference to Bergson and his doctrine of the "élan vital."

The term "creative advance" is certainly a Bergsonian idea, although the precise term does not appear in Bergson. Many commentators have noted, however, that Whitehead's term is a Bergsonian idea and generally assume that Bergson is the source of the idea. Taylor, in his 1927 article, assumed that Bergson's "élan vital" and Whitehead's "creativity" were practically identical, and that Whitehead was referring to the Bergsonian concept.¹ Metz, in his treatment of Whitehead in A Hundred Years of British Philosophy, asserted that Whitehead had gained much from Bergson and Alexander, including the idea of "creative advance."

Whitehead stands in very close intellectual relationship to these two great metaphysicians of our day, to whom he joins himself as a third ally ... especially in the idea of the creative advance of nature.²

Metz goes on to say that Alexander's emergence theory is "merely a variant of Bergson's."³ Since Whitehead had read Bergson before Alexander, it may be assumed that, though he

¹. Taylor, Art. (1927), 34, 37.
². Metz, HYBP, 609-610; Cf. also 621-622.
³. Metz, HYBP, 617.
might have been influenced by Alexander's theory; the Bergsonian influence was prior. Recently, Roger Hazelton has mentioned Whitehead's "creative advance" with the assumption that it is a Bergsonian idea.¹

The term "creative advance," or "creative advance into novelty," was probably Whitehead's own. However, Bergson's whole CE is, of course, a discussion of the creative power in nature and he frequently speaks of it as advancing.

*Duration is the continuous progress of the past which gnaws into the future and which swells as it advances.*²

Whitehead noted that several terms of his, including "creative advance into novelty," were "explicitly formulated either by Descartes or by Locke."³ The exact term, however, does not appear in either of them. The closest reference is to Descartes. He described God's creation of the world in the evolutionary manner of the first chapter of Genesis, and in the course of this description, spoke of "ce qui arriverait dans un nouveau."⁴ Bergson mentioned that Descartes spoke of "continued creation."⁵ This passage in Bergson is also quoted by William James.⁶ Bergson does not cite the reference in Descartes and his allusion is not definite enough to be traced. Whitehead, however, found a similarity between the views of Descartes and Bergson at this point.

2. Bergson, CE, 7.
3. PR, 196.
4. Descartes, *Discours de la* methode, in Adam and Tannery, CED, VI, 42.
5. Bergson, CE, 27.
6. James, PU, 236.
Descartes in his distinction between time and duration, and in his way of grounding time upon motion, and in his close relation between matter and extension, anticipates, as far as it was possible at his epoch, modern notions suggested by the doctrine of relativity, or by some aspects of Bergson's doctrine of the generation of things.1

Whether Whitehead first found the idea of "creative advance" in Descartes or Bergson, it is certain that he was impressed by Bergson's doctrine and very probably it influenced his theory of "creativity." "Creative advance" is usually coupled in PNK with the correlative phrase "passage of nature," a concept which, Whitehead states in CN, is "in full accord with Bergson." The context of this passage shows that, while it is the only reference to Bergson in CN, it is an important one for determining the Bergsonian influence because it states one of Whitehead's most basic ideas, one which recurs frequently in all his subsequent work.

The process of nature can also be termed the passage of nature. I definitely refrain at this stage from using the word 'time,' since the measurable time of science and of civilised life generally merely exhibits some aspects of the more fundamental fact of the passage of nature. I believe that in this doctrine I am in full accord with Bergson, though he uses 'time' for the fundamental fact which I call the 'passage of nature.' Also the passage of nature is exhibited equally in spatial transition as well as in temporal transition. It is in virtue of its passage that nature is always moving on.2

Whitehead here accepts Bergson's criticism that the "measurable time of science and of civilized life" does not

1. SMW, 145.
2. CN, 54.
reveal all that is involved in the idea of time. Then Whitehead criticizes Bergson for confining his discussion to time when it should have been applied equally to space as also involved in the passage of nature. With this correction Whitehead's doctrine of the passage of nature is what Bergson means by "real duration," the fundamental fact in the concept of "creative evolution." Because "nature is ever originating its own development," because time is always moving forward, perception cannot be passive contemplation.

We essentially perceive our relations with nature because they are in the making. The sense of action is that essential factor in natural knowledge. . . . The forward moving time exhibits this characteristic of experience, that it is essentially action. This passage of nature—or, in other words, its creative advance—is its fundamental characteristic; the traditional concept is an attempt to catch nature without its passage.1

This criticism of the "traditional concept" is Bergson's criticism of the intellect viewing nature as static.

Bergson exhibits nature as a universal becoming. This also is involved in Whitehead's doctrine of the creative advance, although he goes beyond Bergson to indicate precisely what is becoming and what has become. "Events are essentially elements of actuality and elements of becomingness."2 Each actual event is completely actual and devoid of all indetermination, but the passage of nature, its "creative advance," involves the "becomingness of nature."

1. PNK, 14. 2. PNK, 61.
Bergson's view is also reflected in this doctrine when Whitehead says that the relations of extension are combined with the directional factor in time which expresses that ultimate becomingness which is the creative advance of nature.\(^1\)

The above quotations from PNK are by no means the only references that Whitehead makes to "creative advance" or "passage of nature." The doctrine is referred to at many other places in PNK and in all Whitehead's later books, especially in CN and PR. Since Whitehead has made the statement that he is expressing a Bergsonian idea, and since there are so many points of resemblance between the expression of the idea by the two men, and since Whitehead has pointed out specifically where he diverges from Bergson, it may be assumed that de Laguna is correct in his statement that PNK was influenced by Bergson. But further evidence may be introduced.

Lowe, in the Schilpp volume, states several times that the doctrine of evolution was profoundly influential on Whitehead.\(^2\) Whitehead's statement in SMW suggests that he was particularly interested in Bergson's formulation of the doctrine, although in the "Preface" to SMW he also acknowledges a debt to Lloyd Morgan and Samuel Alexander.\(^3\) Speaking of the reign of materialism, he says:

---

1. PNK, 63.
3. SMW, ix.
The biological developments, the doctrine of evolution, the doctrine of energy, and the molecular theories were rapidly undermining the adequacy of the orthodox materialism. But until the close of the century no one drew that conclusion.¹

But by the turn of the century the conclusion was drawn that the "orthodox materialism" had been undermined by the new science, and Whitehead felt that, in the fields of biology and psychology at least, it was Bergson and William James that made this clear. Whitehead considered Bergson the "most characteristic" philosopher of his epoch, comparing his position in the twentieth century with that of Locke in the seventeenth,

at least so far as concerns their relations to the science of their times. ... Bergson introduced into philosophy the organic conceptions of physiological science. He has most completely moved away from the static materialism of the seventeenth century. His protest against spatialisation is a protest against taking the Newtonian conception of nature as being anything except a high abstraction. His so-called anti-intellectualism should be construed in this sense. In some respects he recurs to Descartes; but the recurrence is accompanied with an instinctive grasp of modern biology.²

PNK is primarily concerned with physical science. But in the last chapter, entitled "Rhythms," Whitehead points out that since "nature includes life" the way of conceiving nature developed in the book "has its bearing on biological conceptions."³ This chapter shows many influences of Bergson. Whitehead speaks of the discussion of life in nature becoming "canalized" along certain conventional lines.⁴

---

1. SMW, 115.
2. SMW, 147–148.
3. PNK, 195.
4. PNK, 195.
Whitehead uses this term many times in PR, stating as he
does so, that it is Bergson's term. Bergson uses the term
frequently in CE to indicate the way an organism directs and
limits its action along specific lines of relevancy. The
fact that in PNK Whitehead uses the term in a general sense
rather than as a specific technical term, indicates that he
had already read CE with sufficient interest to make the term
his own.

The chapter title "Rhythms" is an important Bergsonian
concept also and Whitehead's discussion shows that it is used
as such. Bergson's idea is that consciousness has "its own
determined rhythm" of duration, and that there may be as
many different tensions of duration, or rhythms, as there
are degrees of consciousness. Bergson first uses the idea
in TFW where he uses the same analogy that Whitehead uses,
that of a musical phrase, which is a unity requiring dura-
tion of a specific rhythm, such that if the duration is al-
tered, the phrase ceases to be itself. Such is also the
nature of life. This idea is a frequent theme in CE. In
PNK life is described as having "more complex, subtler
rhythms" than matter.

Furthermore in the physical object we have in a
sense lost the rhythms in the macroscopic aggre-
gate which is the final causal character. But

1. PR, 163.  4. Bergson, TFW, 100;
life preserves its expression of rhythm and its sensitiveness to rhythm. Life is the rhythm as such, whereas a physical object is an average of rhythms which build no rhythm in their aggregation; and thus matter is in itself lifeless. . . . Wherever there is some rhythm, there is some life.1

The last page of PNK contains an important reference to Bergson's *élan vital*, but then Whitehead goes beyond Bergson to express his own idea of objective immortality.

So far as direct observation is concerned all that we know of the essential relations of life in nature is stated in two short poetic phrases. The obvious aspect by Tennyson,

"Blow, bugle, blow, set the wild echoes flying,
And answer, echoes, answer, dying, dying, dying."

Namely, Bergson's *élan vital* and its relapse into matter.

And Wordsworth with more depth,

"The music in my heart I bore,
Long after it was heard no more."2

Besides the reference to Bergson's *élan vital* in PNK, Whitehead makes of it a basic concept and uses the term many times. He also makes use of a number of figures of speech that express the same idea.

There is in nature, some tendency upwards, in a contrary direction to the aspect of physical decay. In our experience we find appetition, effecting a final causation toward ideal ends which lie outside the mere physical tendency.3

What distinguishes men from the animals, some humans, is the inclusion in their natures, waveringly and dimly, of a disturbing element, which is the flight after the unattainable. This element is that touch of infinity. . . a tropism to the beckoning light.4

1. PNK, 197. 2. PNK, 200. 3. FOR, 72. 4. FOR, 51.
The whole point of the modern doctrine of evolution ... requires an underlying activity—a substantial activity—expressing itself in individual embodiments, and evolving in achievements of organism. The organism is a unit of emergent value.

The passage of nature ... is only another name for the creative force of existence. ... Its operative presence which is now urging nature forward must be sought for throughout the whole, in the remotest past as well as in the narrowest breadth of any present duration. Perhaps also in the unrealised future.

A living organism ... grows by its own impulse toward self-development. ... The creative impulse towards growth comes from within.

Life acts as though it were a catalytic agent.

The canalization of the creative urge, exemplified in its massive reproduction of social nexus, is for common sense the final illustration of the power of stubborn fact.

These quotations do not constitute all the implicit references of Whitehead to this basic idea of Bergson's, but they should suffice to prove that it was a recurrent theme of Whitehead's. Sometimes Whitehead, as at the end of PNK, uses the idea of the \( \text{\textcopyright} \text{élan vital} \) with its correlative notion of a relapse into matter. This is to be expected since Whitehead adopts Bergson's view of life as consisting of a definite rhythm, lacking in matter. Like PNK, Religion in the Making also closes with the \( \text{\textcopyright} \text{élan vital} \) and its relapse into matter.

The passage of time is the journey of the world towards the gathering of new ideas into actual

1. SMW, 110. 4. PR, 162.
2. CN, 73. 5. PR, 197.
fact. This adventure is upwards and downwards. Whatever ceases to ascend, fails to preserve itself and enters upon its inevitable path of decay. It decays by transmitting its nature to slighter occasions of actuality. . . . The universe shows us two aspects: on one side it is physically wasting, on the other side it is spiritually ascending.

It is thus passing with a slowness, inconceivable in our measures of time, to new creative conditions, amid which the physical world, as we at present know it, will be represented by a ripple barely to be distinguished from non-entity.1

Whitehead does not, however, accept the idea ready-made from the hand of Bergson. For all its usefulness he recognizes in the \textit{élan vital} something of an "unsolved mystery."

But if we survey the universe of nature, mere static survival seems to be the general rule, accompanied by a slow decay. The instances of the upward trend are represented by a sprinkling of exceptional cases. . . . This empirical fact constitutes one of the deepest unsolved mysteries. . . .

We all recognize Bergson's doctrine of the \textit{élán vital} and its relapse into matter. The double tendency of advance and relapse is here plainly stated. But we are not given any explanatory insight.2

This same hesitation to go all the way with Bergson is suggested in a discussion at the Aristotelian Society in which Whitehead took part.

What I really doubt is whether there is any term sufficiently comprehensive to embrace the ultimate concrete fact. . . . Our analysis is always by way of abstraction, thus we have Bergson's urge of life, Haldane's knowledge, Berkeley's mind, and so on. Some of these terms are better

\begin{thebibliography}{9}
\bibitem{1} RIM, 159-160.
\bibitem{2} FOR, 23.
\end{thebibliography}
than others as being less misleading, but they are all too narrow. Against the background of the becomingness of existence we can only project the various abstractions which are the product of the differing modes of analysis—

The ages pass with splendid fires
Trailing along their shadowy tread,
Behind the curtain of the dead
Life sits alone and still desires.1

In PR, Whitehead came to grips with the "mystery" and solved it as well as he could by the use of the term "creativity" for Bergson's term *élan vital*, but including in the idea more than Bergson had explicitly included. In PR, Whitehead developed more fully than Aristotle or Bergson had done, the concept of "perishing" and added the concept of "objective immortality."

The creative advance of the world is the becoming, the perishing, and the objective immortalities of those things which jointly constitute stubborn fact.2

The basic idea of evolution for both Whitehead and Bergson is that it is creative, that it results in the continual emergence of novelty. The universe is always growing, and because the results of the growth are the results of creation, the actual creations are not determined. Neither is there imaginable a finished creation because the process is the filling of a void, but is rather a "passing into what has never yet been."3

1. Art. (1922), 133-134.
2. PR, 1x.
3. PNK, 96.
Nature exhibits itself as exemplifying a philosophy of the evolution of organisms subject to determinate conditions. . . . But the very nature of these entities, the very nature of their spatiality and temporality, should exhibit the arbitrariness of these conditions as the outcome of a wider evolution beyond nature itself and within which nature is but a limited mode.¹

Nature is never complete. It is always passing beyond itself. This is the creative advance of nature.²

Bergson insists that "the role of life is to insert some indetermination into matter."³ Whitehead has a similar idea when he states that natural laws have only a statistical validity and that they hold only for "inorganic societies." But, "in a living cell, the statistical balance has been disturbed."⁴ This indetermination does not always result directly in emergents of value. Each actual entity is itself creative, *causa sui.*⁵ In this respect it enjoys freedom, and thus is subject to error. Here Whitehead agrees with Bergson in the idea that the advance is not always successful or value-producing. "Error is the price we pay for progress."⁶

At this point Whitehead does go beyond Bergson in asserting that, while life cannot be explained mechanically by antecedent efficient causes, neither is there as much contingency in nature as Bergson seems to find. Life needs

---

1. SMW, 94.
2. PR, 443.
3. Bergson, GE, 139.
4. PR, 162.
5. PR, 339.
6. PR, 284.
to be explained by "final cause."¹ This final cause is to be found in the subjective form of every actual occasion; it is also to be found for every actual occasion in the consequent nature of God. God does not control the creativity because even he may be transcended; in fact, as "superject" God grows with the advance of nature.

The creativity is not an external agency with its own ulterior purposes. All actual entities share with God the characteristic of self-causation. For this reason every actual entity also shares with God the characteristic of transcending all other actual entities, including God.²

But God is a power working for the emergence of value, and in this respect there is less contingency in Whitehead's system than in Bergson's.

The novel fact may throw back, inhibit, and delay. But the advance, when it does arrive, will be richer in content, more fully conditioned, and more stable. . . . The categories governing the determination of things are the reasons why there should be evil; and are also the reasons why, in the advance of the world, particular evil facts are finally transcended.³

The problem of evolution is the development of enduring harmonies of enduring shapes of value, which merge into higher attainments of things beyond themselves.⁴

Bergson in GE is anxious to avoid the doctrine of final cause, but later, in TSMR, he approaches Whitehead's doctrine of God more closely.

One of the ways value is produced in the world is the adaptation of organism to their environment. This is a

¹ PR, 150.
² PR, 339.
³ PR, 341.
⁴ SMW, 96.
point in Darwinian evolution. But a more important fact is that organisms may modify their environment. This is especially true of higher organisms who are capable of thinking, a form of appetition, in Whitehead's terminology.¹

The foregoing discussion of Bergson's doctrine of "creative evolution" in the philosophy of Whitehead indicates considerable influence of Bergson on Whitehead. It needs to be pointed out again that this doctrine also received reinforcement from Lloyd Morgan and Samuel Alexander, and that Whitehead came to the philosophy of organism through the study of mathematics and mathematical physics. But after this has been said, there still remains sufficient evidence to show that this doctrine of Bergson's found ready acceptance in Whitehead's mind and helped him in developing his philosophical system. The influence, especially of Creative Evolution, was quite marked in PNK, but the book also influenced profoundly his later thought.

2. Time as Real Duration

Bergson's first book, Time and Free Will, was called in French, Essai sur les données immédiates de la conscience, "An Essay on the Immediate Data of Consciousness." The reason for this title is Bergson's conviction that the starting point in philosophy is experience. He was convinced that traditional concepts may so color thinking that errors are

1. PR, 155-156.
perpetuated indefinitely. One such error is the introduction of the idea of spatial extension into the idea of time. The traditional concept, or the absolute theory of space and time, saw both as real, homogeneous, and infinitely divisible into points without magnitude and instants without duration. Bergson contended that an unprejudiced analysis of experience gave this view of space, but not of time. The experience of time is that of endurance. The present is never separated from the past except abstractly. Instants, or as he terms it, "simultaneities," are never experienced, but each blend with one another like the notes of a tune.

Pure duration is the form which the succession of our conscious states assumes when our ego lets itself live, when it refrains from separating its present state from its former states. . . . Nor need it forget its former states: it is enough that, in recalling these states, it does not set them alongside its actual state as one point alongside another, but forms both the past and the present states into an organic whole, as happens when we recall the notes of a tune, melting, so to speak, into one another.1

Thus for Bergson time was seen as pure duration, indivisible into parts except by abstraction. This pure duration is not homogeneous, but composed of the varying rhythms of life itself; it is the forward moving creative advance of the élan vital. This concept is fundamental to all of Bergson's thinking and is presupposed as basic in everything which he has written. If Whitehead was to find much of value in

1. Bergson, TFW, 100.
Bergson, it would be necessary for him to accept Bergson's view of pure duration, in principle at least. This he evidently did, although he modified Bergson's views somewhat in order to bring them into greater coherence.

Whitehead the mathematician was more adept than Bergson in dealing with abstractions; at least, he was more willing to deal with them and considered them important for clarity of thought. He had not the slightest difficulty in separating in his mind abstractions from the facts of experience and has succeeded admirably in keeping them separate in his writings. This facility in abstractions accounts for some of his apparent divergences from Bergson in the discussion of time. When he discusses "the immediate data of consciousness" he is very close to Bergson. Whitehead's distinction between instantaneousness and simultaneity, which Bergson uses synonymously, illustrates this. Whitehead was careful to make his meaning clear because he was aware that his usage was at variance with tradition. Simultaneity is a property of elements which are the components of a duration. It is thus a relative term. Events which are successive for some beings would be simultaneous for a being with a wider span of duration for his specious present.

A duration retains within itself the passage of nature. There are within it antecedents and consequents which are also durations which may be the complete specious presents of quicker consciousesses. In other words a duration retains temporal thickness. Any concept of all nature as
immediately known is always a concept of some duration though it may be enlarged in its temporal thickness beyond the possible spacious present of any being known to us as existing within nature. Thus simultaneity is an ultimate factor in nature, immediate for sense-awareness.¹

But instantaneousness is an abstraction.

Instantaneousness is a complex logical concept of a procedure in thought by which constructed logical entities are produced for the sake of the simple expression in thought of properties of nature. Instantaneousness is the concept of all nature at an instant, where an instant is conceived as deprived of all temporal extension.²

Whitehead agrees with Bergson that measurable time as ordinarily conceived is neither found in experience nor expressive of actuality.

But what extends beyond nature to mind is not the serial and measurable time, ... but the quality of passage itself which is in no way measurable except so far as it obtains in nature. That is to say, 'passage' is not measurable except as it occurs in nature in connexion with extension. In passage we reach a connexion of nature with the ultimate metaphysical reality. ... Durations have all the reality that nature has. ... The measurableness of time is derivative from the properties of durations. So also is the serial character of time.³

We live in durations and not in instants.⁴

No single characteristic property of iron as such can be manifested at an instant. Instantaneously there is simply a distribution of electricity and Maxwell's equations to express our expectations. But iron is not an expectation or even a recollection. It is a fact; and this fact, which is iron, is what happens during a period of time. Iron.

¹ CN, 56.
² CN, 56-57.
³ CN, 55.
⁴ CCT, in AE, 189.
and a biological organism are on a level in requiring time for functioning.\(^1\)

Our perception of time is as a duration, and these instants have only been introduced by reason of a supposed necessity of thought. In fact absolute time is just as much a metaphysical monstrosity as absolute space.\(^2\)

One fact that suggests a possible Bergsonian influence on Whitehead's theory of time is that in 1905, in the Memoir of that year, Whitehead had accepted the theory of time as composed of instants.

Time must be composed of Instants. . . . Instants of time will be found to be included among the ultimate existents of every concept.

In every concept a dyadic serial relation, having for its field the instants of time and these only is necessary.\(^3\)

Whitehead's primary interest in the 1905 Memoir was mathematical and not metaphysical, but since he refers to "Instants" as "ultimate existents" his views must also be taken as a metaphysical assumption as well. Apparently it was the consideration of the nature of change that caused him to alter his position and since, as has been shown, the writing of PNK was considerably under the influence of Bergson, it is very likely that Bergson's views on change and duration were, in part at least, responsible for the change. The following quotation may even be a reference to his former position:

---

1. PNK, 22-23.
2. PNK, 8.
A state of change at a durationless instant is a very difficult conception. It is impossible to define velocity without some reference to the past and the future. Thus change is essentially the importation of the past and of the future into the immediate fact embodied in the durationless present instant. This conclusion is destructive of the fundamental assumption that the ultimate facts for science are to be found at durationless instants of time.1

But Whitehead's view of duration is not identical with Bergson's. Under the influence of the theory of relativity, in which space and time are inseparable, Whitehead considered both space and time as abstractions from the more fundamental relation of spatio-temporal extension. Thus Whitehead defines duration as "a temporal slab of nature."2 Whitehead points out that he purposely refrains from using time for the passage of nature, or duration, because it is not sufficiently fundamental, and he criticizes Bergson for his use of time in this way. In this passage Whitehead acknowledges that in other respects his view is in "full accord with Bergson."3

Because a duration includes all of nature throughout its space, and because the present duration contains elements from the past and future, Whitehead believes that Bergson is in error in attributing "spatialization" to a distortion of the world introduced by the intellect. Rather, "spatialization is a real factor in the physical constitution of every

2. P.M.K., 69.  
3. C.N., 54.
The reason for this criticism of Bergson was Bergson's concept of space. He accepted the Kantian view of space as a form of the understanding. As such it was infinitely divisible into points without magnitude. This static view of space Bergson rejected as expressive of anything but a distortion by the intellect which conceived of space in this way for practical purposes. But Whitehead thought of space as real in conjunction with time. The ultimate existents are events, of which the limiting type is an actual entity. Spatial extension is of the same order as durations in that it has spatial thickness. In fact it includes the whole of nature, although percipient events select only a small part of nature as relevant.

One of Whitehead's chief divergences from the view of Bergson is that while Bergson usually speaks only of duration, Whitehead speaks of durations. This really is not so much a divergence as a refinement of Bergson's view occasioned by the theory of relativity. In fact, there are places in Bergson's writings where he seems to approach Whitehead's views and might have come to them had he carried his analysis further. Whitehead is in agreement with Bergson from Bergson's point of view. His divergence comes from a different view of science. This is brought out at the beginning of PNK where Whitehead discusses the traditional view that Bergson criticizes.

1. PR, 489.
What is a physical explanation? .. During the modern period the orthodox answer has invariably been couched in terms of Time (flowing equably in measurable lapses) and of Space (timeless, void of activity, euclidean), and of Material in space (such as matter, ether, or electricity).

The governing principle underlying this scheme is that extension, namely extension in time or extension in space, expresses disconnection. This principle issues in the assumptions that causal action between entities separated in time or in space is impossible and that extension in space and unity of being are inconsistent.1

After criticizing the traditional concepts, Whitehead goes on to express his own view of events as the elements of actuality which partake of the passage of nature, otherwise called, in Bergsonian terms, the creative advance of nature. Bergson expressed this advance in terms of time as pure duration. Whitehead however was not completely satisfied.

There is a structure of events and this structure provides the framework of the externality of nature within which objects are located. .. Space and time are abstractions expressive of certain qualities of the structure. .. Many space-time abstractions are possible, each with its own specific relation to nature. .. In a space-time abstraction, time expresses certain qualities of the passage of nature. This passage has also been called the creative advance of nature. But this passage is not adequately expressed by any one time-system. The whole set of time-systems derived from the whole set of space-time abstractions expresses the totality of those properties of the creative advance which are capable of being rendered explicit in thought. Thus no single duration can be completely concrete in the sense of representing a possible whole of all nature without omission. For a duration is essentially

1. PNE, 1.
related to one space-time system and thus omits those aspects of the passage which find expression in other space-time systems. Accordingly there can be no duration whose bounding moments are the first and last moments of creation.1

For Whitehead, a duration is an experience of a particular percipient event and corresponds to its specious present.

The ultimate fact for observational knowledge is perception through a duration; namely, that the content of a specious present, and not that of a durationless instant, is an ultimate datum for science.2

Whitehead seems to have felt that Bergson's view of duration was true as far as he went, but that as he expressed it, it was too general. He therefore gave the term passage of nature to what Bergson called duration and gave the term duration to the experience of this passage which, he maintained, was neither continuous nor infinitely divisible. In other words, it was atomic or epochal.3 In this view Whitehead distinguishes between actuality and potentiality.4 Potentially duration is pure continuity, but actuality is atomic, composed of actual entities, each with its own specious present and so its own duration. Therefore, time viewed historically is a succession of durations, or epochs.5

This theory of duration seems at first to differ widely from Bergson. He could not conceive of duration as divided, except in distortion by the intellect.

1. PNK, 80-81. 2. PNK, 8. 3. SMW, 127f.
4. PR, 95. 5. SMW, 129.
For we can analyse a thing, but not a process; we can break up extensity, but not duration. Or, if we persist in analysing it, we unconsciously transform the process into a thing and duration into extensity.¹

Whitehead in his "method of extensive abstraction" does consciously what Bergson says here is done unconsciously when we analyze a duration. But by the conscious abstraction, Whitehead is able to distinguish between the abstraction and the actual and he maintains that while extension is analyzed into "abstractive elements," the relation of spatio-temporal extension is real as expressive of the structure of events. For Bergson, extension meant the absolute theory of space and time which both he and Whitehead rejected.

If the ideas of Bergson and Whitehead are compared, instead of their terminology, the view of Bergson is after all not so very far from Whitehead. Bergson hinted at the idea of divergent time-systems in his view of the varied tensions of duration as lived by creatures with differing degrees of consciousness.² Whitehead suggests a very similar view when he says, "We shall find that there are in nature competing time-systems derived from different families of durations."³ And Bergson suggests that there is a sense in which duration may be conceived as a multiplicity, namely, the sense in which Whitehead finds duration divided, duration as experienced. Bergson says that "duration within us" is a

---

2. Bergson, MW, 275.  
3. CN, 55.
"qualitative multiplicity." But, he says, "The moments of inner duration are not external to one another."¹

Bergson is very close to Whitehead in the analysis of the experience of the present. Whitehead analyzes the "observational present"² in a general way, applicable to any perciptional occasion. Bergson analyzes it from the point of view of one experiencing subject. Aside from Bergson's failure to note that there might be any number of different time-systems, his view is practically identical with Whitehead's, so that what Whitehead calls a duration, Bergson calls the "present."

The real, concrete, live present . . . necessarily occupies a duration. . . . What I call 'my present' has one foot in my past and another in my future.³

The conclusion to be drawn from this discussion is that Bergson's doctrine of time as real duration influenced Whitehead's revision of his view of time, and especially in the formation of his view of the passage of nature. But Whitehead, under the influence of the theory of relativity together with an abstractive analysis that Bergson did not attempt, refined Bergson's view in assimilating spatial extension to temporal extension as together expressive of the actual structure of events. Whitehead also developed Bergson's general view of duration into his own "epochal" theory of time.

¹ Bergson, TF*, 226.
² CN, 186.
³ Bergson, M*W, 176-177.
3. Intellect and Intuition

Bergson's doctrine of intuition and the corresponding criticism of the intellect represent one of the basic principles of his philosophy and the chief area in which he diverges from tradition. His view is that, in the process of evolution, from simplest to the most complex living being there has been a progressive development of the intellect as an instrument by which it may "secure the perfect fitting of our body to its environment."

We shall see that the human intellect feels at home among inanimate objects, more especially among solids, where our action finds its fulcrum and our industry its tools; that our concepts have been formed on the model of solids; that our logic is, pre-eminently, the logic of solids; that, consequently, our intellect triumphs in geometry, wherein is revealed the kinship of logical thought with unorganized matter, and where the intellect has only to follow its natural movement, after the lightest possible contact with experience, in order to go from discovery to discovery, sure that experience is following behind it and will justify it invariably.¹

Because of its nature, as developed in the evolutionary process, the intellect views all reality in the same way. It sees time as composed of instants, space as composed of points, and all reality as inert, following the laws of mechanics by which objects move in space and endure in successive moments of time. All positive science is thus the work of the intellect,² and positivism as a philosophy is practically the apotheosis of the intellect.

¹ Bergson, CE, xix-xx. ² Bergson, CE, 214.
But because the intellect has developed in this way, there are certain areas in which it is unreliable. It cannot understand life, because its categories do not leave room for growth, for novelty, for freedom, for qualitative distinctions, for change. And because the intellect is thus limited in its scope it cannot comprehend the ultimate nature of reality, which is the province of metaphysics. When one attempts to understand the universe intellectually, he sees it only in terms of physical categories and a materialistic, mechanistic philosophy that is contrary to the deliverances of experience is the result. This is either a "metaphysical dogmatism" or "a metaphysical skepticism," neither of which "adds anything to positive science."

The only possible method of philosophy, Bergson thought, was an inversion of the intellectual method. Instead of an intellectual analysis, one must learn of life from the inside, in the act of living.

A beneficent fluid bathes us, whence we draw the very force to labor and to live. From this ocean of life, in which we are immersed, we are continually drawing something, and we feel that our being, or at least the intellect that guides it, has been formed therein by a kind of local concentration. Philosophy can only be an effort to dissolve again into the Whole. Intelligence, reabsorbed into its principle, may thus live back again its own genesis.1

This consciousness of life as lived, Bergson calls intuition.

By intuition is meant the kind of intellectual sympathy by which one places oneself within an object in order to coincide with what is unique in it and consequently inexpressible. . . . If there exists any means of possessing a reality absolutely instead of knowing it relatively, of placing oneself within it instead of looking at it from outside points of view, of having the intuition instead of making the analysis; in short, of seizing it without any expression, translation, or symbolic representation—metaphysics is that means.¹

Bergson’s attack on the intellect led to a defense of the traditional method. Rationalists accused him of anti-intellectualism, the abandonment of the hope of verifiable knowledge. His emphasis upon intuition seemed a retreat into mysticism and subjectivism, and consequently unreliable. Even Hocking, who allows a large place for mysticism in his religious philosophy, criticized Bergson’s conception of intuition as immediate experience, because "whatever can interest in experience is already caught in idea." Hocking felt that there need be no discrepancy between the fluency of reality and the rigidity of ideas, because ideas are able to entertain changes and developments in their objects without themselves being changed.² In spite of this criticism, the beauty and clarity of Bergson’s exposition, the range of his learning, and the brilliance and relevance of some of his insights commanded the attention and even the admiration of the philosophical world. Then, when Whitehead’s Process and Reality appeared, Whitehead declared that he intended to defend Bergson.

¹ Bergson, ITM, 23-24.  
² Hocking, MGHE, 82-83.
I am also greatly indebted to Bergson, William James, and John Dewey. One of my preoccupations has been to rescue their type of thought from the charge of anti-intellectualism, which rightly or wrongly has been associated with it.¹

This meant two things. It meant that he agreed with Bergson's criticism of science and philosophy, at least in part, and it meant that he considered Bergson's method of intuition to be valid. Whitehead's theory of intuition is not identical with Bergson's, but there are many points of agreement.

Whitehead stated that he disagreed with Bergson's assertion that "the intellect necessarily falsifies process."² But, like Bergson, Whitehead criticized many of the traditional concepts of science and philosophy. As has been shown, this was always his way. In whatever field he worked, whether mathematics, science, or philosophy, he engaged in constructive criticism, questioning the presuppositions of the traditional concepts and introducing novel concepts, or reenforcing those introduced by others. He admitted that Bergson's criticism of traditional philosophy was in general justified, but felt that Bergson had carried his protest too far.

On the whole, the history of philosophy supports Bergson's charge that the human intellect 'spatializes the universe'; that is to say, that it tends to ignore the fluency, and to analyse the world in terms of static categories. Indeed Bergson went further and conceived this tendency as an inherent necessity of the intellect. I do

¹. PR, vii. ². ESP, 116.
not believe this accusation; but I do hold that 'spatialization' is the shortest route to a clear-cut philosophy expressed in reasonably familiar language.1

Whitehead's divergence from Bergson's view was due to the differences in their ideas of space. Bergson accepted Kant's conception of space as a form of the understanding, while Whitehead held to a theory of space-time, as space and time has been assimilated in the theory of relativity.2 By "spatialization" Bergson meant the tendency to ignore the fact that change is a fundamental aspect of reality. The intellect tends to think of the universe as spread out in space like a multiplicity of points set side by side. Whitehead agreed with Bergson in his criticism, and felt that before Bergson time had not been considered with sufficient seriousness. But Whitehead did not agree that spatialization distorted reality. In Whitehead's opinion, spatialization was an abstraction that was necessary for perception and knowledge. According to the theory of relativity, the universe may be viewed from differing viewpoints, but an individual observer cannot view the universe from more than one. For any one observer, spatialization occurs whenever there is

1. PR, 319.
2. Bergson later came to accept the general conclusions of relativity but felt that they made no difference for his theory, since an individual observer must adopt a single space-time system, and within that system the older Newtonian physics held true. In other words, the intellect makes judgments according to its experiences and its experience is not that of the relativity physics but of the Newtonian physics. Cf. Bergson, CM, 302-303.
perception in the mode of presentational immediacy—the spatialization of the presented duration. This mode of perception has no reference to the past or future and so has no reference to time. But if there is going to be any knowledge of enduring objects, they must be thought of as "spatialized." Whitehead's four-dimensional geometry, by which he works out his theory of order in nature, requires both perception of presented durations in the mode of causal efficacy, and the perception of "presented loci" in the mode of presentational immediacy." Spatialization thus does not distort reality but expresses a factor of real importance in the physical constitution of actual entities.

Thus in so far as Bergson ascribes the 'spatialisation' of the world to a distortion introduced by the intellect, he is in error. This spatialisation is a real factor in the physical constitution of every actual occasion belonging to the life history of an enduring physical object. Alexander agrees with Whitehead in his criticism of Bergson's view.

Whitehead's own criticism of science and philosophy was similar to Bergson's. He criticized the subject-predicate form of expression which was a legacy to philosophy from Aristotle's logic, and which resulted in the failure to recognize the actual interconnectedness of the world.

1. PR, 195.
2. PR, 459.
3. Alexander, STD, I, 149.

intellectual knowledge. Whitehead agreed with Bergson in asserting the practical value of the intellect and the science which it created in

1. SMW, 52.
2. SMW, 19.
3. CN, 142.
The same type of thought resulted in the idea of "simple location" which Whitehead denied. In general, he criticized the confusion of abstraction with actuality, which he called the "Fallacy of Misplaced Concreteness." He recognized a kinship with Bergson at this point, but considered "simple location" to be a fallacy of the intellect rather than a necessary defect.

This simple location of instantaneous material configurations is what Bergson has protested against, so far as it concerns time and so far as it is taken to be the fundamental fact of concrete nature. He calls it a distortion of nature due to the intellectual 'spatialisation' of things. I agree with Bergson in his protest; but I do not agree that such distortion is a vice necessary to the intellectual apprehension of nature. . . . Spatialisation is the expression of more concrete facts under the guise of very abstract logical constructions. There is an error; but it is merely the accidental error of mistaking the abstract for the concrete. It is an example of what I will call the 'Fallacy of Misplaced Concreteness.' This fallacy is the occasion of great confusion in philosophy. It is not necessary for the intellect to fall into the trap, though in this example there has been a very general tendency to do so.1

Thought is abstract; and the intolerant use of abstractions is the major vice of the intellect.2

The isolation of an entity in thought, when we think of it as a bare "it" has no counterpart in any corresponding isolation in nature. Such isolation is merely part of the procedure of intellectual knowledge.3

Whitehead agreed with Bergson in asserting the practical value of the intellect and the science which it created in

1. SMW, 52.
2. SMW, 19.
3. CN, 142.
the seventeenth and eighteenth centuries. He noted its "astounding efficiency" in the organization of scientific research. But it was a "scheme of scientific thought framed by mathematicians for the use of mathematicians." Its great service was its capacity for dealing with abstractions. But it resulted in the "bifurcation of nature" with "matter with its simple location in space and time" on one hand, and on the other hand, "mind, perceiving, suffering, reasoning, but not interfering." This, he concluded, has "ruined" modern philosophy.

It has oscillated in a complex manner between three extremes. There are the dualists, who accept matter and mind as on an equal basis, and the two varieties of monists, those who put mind inside matter, and those who put matter inside mind. But this juggling with abstractions can never overcome the inherent confusion introduced by the ascription of misplaced concreteness to the scientific scheme of the seventeenth century.¹

Even the development of biology and psychology, which helped to break down the traditional concepts in favor of more fluid ones, he felt "has probably been checked by the uncritical assumption of half-truths." The value of the abstractions of science, Whitehead felt in agreement with Bergson, was in the facility acquired by the relative simplicity of the concepts.

Civilization advances by extending the number of important operations which one can perform without thinking about them.²

1. SMW, 56-57.
2. ITM, 61.
Whitehead accordingly devised a motto for the natural philosopher: "Seek simplicity and distrust it." ¹

A tiresome list of quotations might be made to show how frequently Whitehead criticized philosophy for accepting the abstractions of science as ultimate facts. But perhaps one more will suffice to make the point clear.

The various human interests which suggest cosmologies, and also are influenced by them, are science, aesthetics, ethics, religion. In every age each of these topics suggests a view of the world. In so far as the same set of people are swayed by all, or more than one, of these interests, their effective outlook will be the joint production from these sources. But each age has its dominant preoccupation; and, during the three centuries in question, the cosmology derived from science has been asserting itself at the expense of older points of view with their origins elsewhere. Men can be provincial in time, as well as in place. We may ask ourselves whether the scientific mentality of the modern world in the immediate past is not a successful example of such provincial limitation. ²

Whitehead criticized Bergson for going too far, but he accepted Bergson's general principle that to arrive at metaphysical truth one must go beyond the usual operations of the intellect, the methods of "rigid empiricism" and analysis, and adopt the "method of imaginative rationalization," ³ or the use of the Speculative Reason. A part of Whitehead's defense of Bergson's alleged anti-intellectualism is the first chapter of PR, which is an admirable defense of speculative philosophy. Whitehead there criticized the

¹. CW, 163.
2. SMW, viii.
3. PR, 7.
method of induction, which was brought into philosophy from scientific method, as the sole method of philosophical investigation. What Bacon omitted in the method of induction was "the play of a free imagination, controlled by the requirements of coherence and logic."

The true method of discovery is like the flight of an aeroplane. It starts from the ground of particular observation; it makes a flight in the thin air of imaginative generalization; and it again lands for renewed observation rendered acute by rational interpretation.¹

This simile is similar to one used by Bergson. He compares the use of intuition as a philosophic method to a man learning to swim. Although the mechanism of swimming is connected with that of walking, countless "variations on the theme of walking will never yield a rule for swimming."

To learn to swim one must leave the environment of the solid earth and enter the new environment of water.

So you may speculate as intelligently as you will on the mechanism of intelligence; you will never, by this method, succeed in going beyond it. You may get something more complex, but not something higher nor even something different. You must take things by storm; you must thrust intelligence outside itself by an act of will.²

Bergson says that the true object of philosophy should be "to speculate, that is to say, to see." It must abandon the object of science, which is action, and "examine the living without any reservation as to practical utility."³

---

1. PR, 7.
2. Bergson, CE, 212.
To intuition Bergson designated "the metaphysical function of thought."¹ This statement of Bergson's is in close agreement with Whitehead's distinction in PR between the Practical and the Speculative Reason.² Whitehead points out in the "Preface" to PR that he repudiates the mistrust of speculative philosophy.³ It would be going too far to claim that Whitehead's use of the term "speculative" came from Bergson—the evidence is too flimsy—but it is certain that he distinguished, with Bergson, between that type of thought which is merely a detailed study of the known, and the synthetic, creatively imaginative type of thought that can make progress in the search for ever more adequate truth.

One of the methods which both Whitehead and Bergson use in order to go beyond the traditional concepts is the method now known as phenomenology. They both begin their studies with a consideration of scientific data. But they begin by excluding all ontological (i.e. metaphysical), ethical, and aesthetic judgments.⁴ They then study their scientific data as "nothing else than the deliverance of sense awareness."⁵

Our datum is the actual world, including ourselves; and this actual world spreads itself for observation in the guise of the topic of our immediate experience. The elucidation of immediate experience is the sole justification for any thought.⁶

The results of such "phenomenological reduction" are what

---

2. PR, 7-8.  
3. PR, viii.  
4. OOT, in AE, 180.  
5. CN, 185.  
Whitehead calls "stubborn facts." They are arrived at without any uncriticized assumptions and thus save philosophy from a barren rationalism. Whitehead points out that, although Locke and Hume were unable to divest themselves of all their faulty assumptions, this was their method and their philosophy was thus a triumph over the rationalism of the Middle Ages. This was Whitehead's method in his books on physical science, and the results of his work formed the basis for the novel metaphysics of PR. This was also the method of Bergson in each of his main works, each of which is based upon a detailed study of one of the sciences.

The speculation that follows such a study makes use of the method of intuition as the similes of an aeroplane flight and a leap into the water suggest. Whitehead's use of intuition is both implicit and explicit. He unashamedly uses the term or the idea in a variety of contexts. In speaking of moral education, he says, "Now the sense of greatness is

---

1. Whitehead's use of the term "fact" is apt to be confusing, unless the passage in PR has been noted where Whitehead gave a clear definition of "fact" as the "totality" of presented data, and distinguished between "fact" and "factors."

   Fact . . . is not the sum of factors, it is rather the concreteness (or, imbeddedness) of factors, and the concreteness of an inexhaustible relatedness among inexhaustible relata. . . . "Fact" suggests one fact among others. This is not what I mean, and is a subordinate meaning which I express by "factor." (POR, 15).

2. PR, 231-232.
an immediate intuition and not the conclusion of an argument."¹
In RIM he frequently speaks of intuition or "direct intuition" in religious experience.² In SMW he speaks of the belief in an "Order of Nature" as due to "an instinctive faith." And in PR he says:

These ultimate notions of 'production of novelty' and of 'concrete togetherness' are inexplicable. . . . The analysis of the components abstracts from the concrecence. The sole appeal is to intuition.³

It is significant that in PNK, the book which more than any other seems most dominated by Bergson, he writes in Bergsonian language of the idea of intuition.

Our perception of natural events and natural objects is a perception from within nature, and is not an awareness contemplating all nature impartially from without.⁴

Events are lived through, they extend around us. . . . They are themselves the development of . . . experience. The facts of life are the events of life.⁵

Whitehead is careful, however, to keep his intuition within the bounds of "rational interpretation" and the "requirements of coherence and logic." As has been noted, Whitehead criticized Bergson for going too far. In Whitehead's discussion of the "dogmatic fallacy" he pointed out that Bergson had made an extreme reaction from it.

2. Cf. RIM, 59f.
3. PR, 32.
4. PNK, 13.
5. PNK, 63.
Another type of reaction is to assume, often tacitly, that if there can be any intellectual analysis it must proceed according to some one discarded dogmatic method, and thence to deduce that intellect is intrinsically tied to erroneous fictions. This type is illustrated by the anti-intellectualism of Nietzsche and Bergson, and gives rise to American Pragmatism.1

On his side, Bergson apparently felt that the criticism of anti-intellectualism was unjust, because he took occasion to defend himself. He did not feel that intellect and intuition are necessarily opposed.

Intuition and intellect do not oppose each other, save where intuition refuses to become more precise by coming into touch with facts scientifically studied, and where intellect, instead of confining itself to science proper (that is, to what can be inferred from facts or proved by reasoning), combines with this an unconscious and inconsistent metaphysic which in vain lays claim to scientific pretensions.2

If this was always Bergson's view, he apparently overstated his case, and Whitehead may be pardoned for assuming that intuition and intellect are necessarily opposed. But there are a few other indications in Bergson's writings that the opposition is not a necessary one. In CE, he says that "The vicious circle is only apparent."3 By the "intellectual sympathy" which is intuition "our intelligence can follow the opposite method" from that which the intellect usually follows.4 It is very possible that Bergson did not consider intuition a special faculty at all, but that the

---

1. AI, 287.
4. Bergson, ITM, 50.
method of the intellect is simply the usual way that the intelligence works. Certainly if intuition were a special faculty, then its use by most persons would be more than extremely difficult; it would be impossible, unless one happened to be blessed with this faculty. If on the other hand intuition is a power that everyone has but which is not ordinarily used, then Bergson has simply expressed a view that is common to Plato, Kant, Hegel, Whitehead, and many others. In Plato's philosophy there is the realm of opinion and then there is the synoptic view of reality arrived at through reasoning. In Kant there is the distinction between Understanding (Verstand) and Reason (Vernunft). In Hegel's logic, there is the distinction between the level of Being (Sein), the level of Essence (Wesen), and the level of the Notion (Begriff). The Wesen level is the realm of science, the realm of separately existing things in external relations; the Begriff level is the level of internal relations, of mind, of the interconnectedness of all things in the whole, The Absolute. And Whitehead in The Function of Reason distinguishes between the Practical Reason which Ulysses shares with the foxes, and the Speculative Reason, which Plato shares with the gods.¹ In describing the Speculative Reason, Whitehead says:

¹. FOR, 7-8.
In this function Reason is enthroned above the practical tasks of the world. It is not concerned with keeping alive. ... Its sole satisfaction is that experience has been understood. It presupposes life, and seeks life rendered good with the goodness of understanding.1

In terms of Bergson's philosophy, the intellect is the Practical Reason, while intuition is the Speculative Reason. The difference between Bergson and Whitehead at this point is not one of kind, but only of degree. Both men agreed that the operations of the intellect need to be complemented by the intuition, or the Speculative Reason. Whitehead differs from Bergson in making a less drastic distinction between the two types of reason and insisting more strongly upon the criticism of the intuition by the requirements of coherence and logic.

In PR, Whitehead attempts to show precisely how Bergson's idea of intuition is used in terms of his own metaphysics. He says that his own term "feeling" has "some kinship with Bergson's use of the term 'intuition'." It is also similar to Alexander's use of the term "enjoyment," Locke's "idea," and Descartes' use of the term feeling.2 In discussing "conceptual prehensions" Whitehead notes his relation to Bergson's "intuition."

We are closely concerned with what Bergson calls 'intuition'—with some differences however. Bergson's intuition is an 'impure' operation; it is an integral feeling derived from the synthesis of the conceptual prehension with the physical

1. FOR, 29-30.  
2. PR, 65.
prehension from which it has been derived according to the 'category of conceptual reproduction' (Categorical Obligation IV). It seems that Bergson's term 'intuition' has the same meaning as 'physical purpose' in Part III of these lectures. Also Bergson's 'intuition' seems to abstract from the subjective form of emotion and purpose.1

Whitehead describes "physical purpose" as an integration of a physical and a conceptual prehension in which the eternal object involved in the conceptual prehension has lost its determinateness and become a definitely realized element of the physical datum. It has acquired thereby a "special appettition--adversion or aversion--in respect to that eternal object. . . . The 'abruptness' of mental operations is here illustrated."2 Whitehead felt that, in this view, he was expressing what Bergson meant by an intuition. There is in this mental operation, by reason of its abruptness, a "flash of novelty" and a consequent growth of intensity in the mental pole, which means that it represents a value-judgment as well as a judgment of fact. When this happens the prehension is a "propositional prehension." Physical purposes, or intuitions, are not conscious purposes; that is, the choice is made by the organism, not by the mind, but when such choices become important they become clothed with emotion.

This particular possibility has been picked out, held up, and clothed with emotion. The stage of existence in which propositional feelings are important, apart from intellectual feelings, may be identified with Bergson's stage of pure and instinctive intuition.3

1. PR, 49. 2. PR, 280. 3. PR, 428.
As a physical feeling, Whitehead's "physical purpose" or Bergson's intuition is involved in perception in the mode of "causal efficacy," but as an impure prehension it is also involved in "symbolic reference" and so subject both to error and the perception of novelty.

Whitehead's criticism of science and philosophy was not initiated by reading Bergson, but was probably reenforced by Bergson. Whitehead accepted Bergson's view that the intellect generally results in falsification but did not believe it was a necessity of the intellect. Whitehead accepted Bergson's view of intuition and felt that the use of the method of intuition was necessary for advance in philosophic thought. However, he felt that its use should be more closely guarded by logic and rational coherence than Bergson was apt to do. In these views he showed that he had been influenced by Bergson but was critical in his use of these Bergsonian ideas.

4. Doctrine of Freedom

The doctrine of freedom in Bergson and Whitehead has already been expressed to some extent in the discussion of "creative evolution." There it was pointed out that the very idea of creation involves the idea of freedom and the continual production of novelty. The theory does not need full exposition here, although Bergson's view of free will does need some discussion.

Bergson flatly refused to give a positive definition of
freedom. To do so, he said, would "ensure the victory of determinism." The reason for this strange statement is Bergson's constant insistence that duration cannot be conceived in terms of space. A definition of freedom, he felt, would need to be some account of how a person is able to choose among alternatives. But such a view would be an extension of duration into the future in which the possibilities are lying. This is the spatialization of duration. Actually, freedom is not a choice between alternatives but the creation of novelty, and what is to be created cannot be determined until it is created. This is because each creation is an advance into novelty, and as such, the creative advance is also the creation of possibility.

Whitehead is, in general, in agreement with Bergson. He agrees that creation involves the idea of freedom, and he agrees that the creative advance is also the continual creation of possibility. This is because it is a process of becoming and every actual entity is a potential for every becoming. Whitehead also insists that the difference between freedom and determination is the difference between potentiality and actuality. There is indetermination until the process of concrescence is completed and the entity is fully actual. Eternal objects, which are "pure potentials," are indeterminate and are potentials for ingress into

---

1. Bergson, TFW, 220.  
2. PR, 33.
any actual entities and integration with any eternal objects. But as soon as the ingression takes place the indetermination is removed.

Whitehead's view of freedom is expressed in the ninth Categorical Obligation, "The Category of Freedom and Determination." According to this category, "the concrescence of each individual actual entity is internally determined and is externally free."1 This means that "whatever is determinable is determined," but there is always an element of freedom which depends upon the decision of the whole. This whole, which Whitehead calls the "subject-superject," is the whole universe from the standpoint of the given synthesis or concrescence. This decision involves "emotion, appreciation, and purpose." But the decision of the whole is always relevant to the parts, because it arises out of the determination of the parts.2 Bergson's views, of course, are not expressed in Whitehead's terminology, but he seems to have a similar idea when he says that a personality is made up of many psychic states and that unless the psychic states are integrated a truly free act is impossible, because one or another of the psychic states may control the personality. But when a free act is performed, it is done with "the whole of the self."3 "We are free when our acts spring from our whole personality."4

1. PR, 41. 3. Bergson, TFW, 166.
2. PR, 41-42. 4. Bergson, TFW, 172.
Both Bergson and Whitehead thought of freedom and indetermination as inherent in the creative process which was conceived of as unlimited—a continual advance into that which was absolutely new and therefore could never have been predicted. Bergson says, "Reality is a perpetual growth, a creation pursued without end."¹ In CN, Whitehead wrote that in virtue of the passage of nature, "nature is always moving on."² This statement occurs in connection with Whitehead's statement that his doctrine of passage of nature is in accord with Bergson, and it is possible that the idea of an advancing creation came from him.

In PR, Whitehead states this view more precisely:

The immanence of God gives reason for the belief that pure chaos is intrinsically impossible. At the other end of the scale, 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. It follows that Tennyson's phrase,

... that far-off divine event
To which the whole creation moves,

presents a fallacious conception of the universe.³

By this doctrine of the immanence of God, Whitehead brought Bergson's doctrine into greater coherence. While not eliminating chance, Whitehead gave less place to it than Bergson did, and gave a better reason for the fact of progress.

Bergson himself came to a similar view when he wrote TSMR.

---

¹. Bergson, CE, 261. ². CN, 54. ³. PR, 169.
Both Whitehead and Bergson found in the idea of an indeterminate creation the grounds for morality. Whitehead said that "the environment has a plasticity which alters the whole ethical aspect of evolution."\(^1\) He felt that actual entities are free and self-creative. As such they are ethically responsible.\(^2\) Bergson also felt that nature appears as "an immense inflorescence of unforeseeable novelty."\(^3\) Because of this it is possible to create value, but man is the only animal left with sufficient freedom to do so. Thus the moral man "is a creator in the highest degree."\(^4\) From this it follows that what is created is not axiologically neutral, but that this self-creation is the creation of value. This is a cardinal point with Whitehead.

But in abstraction from actuality, the eternal activity is divorced from value. For the actuality is the value.\(^5\)

In Whitehead's thought, "mere creativity" is indeterminate and so neither actual nor valuable. Conversely, the more definiteness, the more significance an actual entity possesses, the more actual it is and the more valuable. Since definiteness is acquired through the ingress of eternal objects, values are eternal and God who "envisages" all eternal objects is the supreme value. The process is thus not only the actualization of potentiality, but also

---

1. SMW, 114.  
2. SYM, 8.  
3. Bergson, Art.(1911), in  
4. Bergson, ME, 32.  
5. SMW, 108.
the creation of value. This value does not perish with
perishing occasions but is carried on into other actual oc-
casions because of "objective immortality," rooted in the
"consequent nature of God," who is thus the preserver as
well as the creator of value. Although Bergson seems to
have recognized the production of value in the creative
process, Whitehead's fully developed view went far beyond
his, and was probably influenced more by Alexander than
Bergson in this respect.

In Whitehead's philosophy there are many different
types of nexus or the togetherness of actual entities, and
they are of different grades. The lowest form is a mere
multiplicity. A higher grade is the social nexus, which
has organic but not serial order. A still higher grade is
personal order which is ordered serially as well as organi-
cally. Although these terms in Whitehead do not correspond
exactly to the terms society and person in common speech,
yet the common usage represents the most obvious examples of
what he is talking about. So in Whitehead's scheme, by rea-
son of their gradations of actuality, social values are
higher than material values, and personal values are higher
still. This seems to have been the case with Bergson also.
The creative urge has arrived at its highest development in
societies, both the societies of human persons and the so-
cieties of insects. But the insect society is incapable of
further progress. Man having achieved a free personality,
as well as a social consciousness, is still capable of growth.\(^1\) He therefore represents the highest peak of the upward movement of creation so far achieved. Thus Bergson places a high value on society and a higher value on personality, which preserves social values while creating higher personal values.

As the foregoing has shown, there is much similarity between the views of Whitehead and Bergson, and the possibility of a Bergsonian influence cannot be excluded. On the other hand, Whitehead does not refer in any way to the views of Bergson in this connection. He develops his views in his own way, with his own distinctive terminology, and at many points goes beyond Bergson, especially in the theory of value which, in Bergson's work prior to TSMR, was only suggested but not developed. For this reason, there can be no significant influence asserted.

5. Matter and Memory

Much of Bergson's book *Matter and Memory* deals with epistemology. This part of Bergson's work will be dealt with in connection with the study of Whitehead's epistemology. However, MM also discusses the distinction between matter and mind. This topic is the one that will be discussed in this section.

Bergson's view of matter and mind underwent some change

---

\(^1\) Bergson, *Art.* (1911), in ME, 32-33.
from the early expression in MM until the later expression in CE. In MM Bergson is dualistic, admitting that there are two different types of reality, matter and mind. But both are describable in terms of the tension of duration. As space is described in terms of extension, time is expressed in terms of tension.\(^1\) The degree of mind which an individual possesses corresponds to the degree of tension in which it is able to hold time.

In reality there is no one rhythm of duration; it is possible to imagine many different rhythms which, slower or faster, measure the degree of tension or relaxation of different kinds of consciousness, and thereby fix their respective places in the scale of being.\(^2\)

Thus matter has negligible tension, while conscious persons have the greatest amount. The body is composed of matter but it is animated by mind. The nature of mind is memory; that is, the accumulation of experience in mind. Memory is only conscious as it is expressed in action through the body where the material relevant for the activity of the body is brought forward. Matter and mind are thus entirely unconnected, although they are contemporaneous.\(^3\) Bergson believed that there is a great deal more mind than there is matter, although most of mind is not discernible, because it is only discovered in the process of acting through the body in the form of conscious recognition. Bergson believed that, since mental life is "much more vast than the cerebral

---

1. Bergson, MM, 239.
life," immortality of the mind or soul is "so probable that the onus of proof falls on him who denies it rather than on him who affirms it." 1

Bergson deviated somewhat in CE from his earlier views. He apparently abandoned his dualism and he developed a somewhat different view of matter. He still held to the distinction between mind and matter, except that duration was conceived in CE as more fundamental. In asserting a dualism in MM, Bergson made the mistake of those whom he criticized, that change is conditioned by things or substances that are in themselves changeless; namely, matter and mind. In this respect Bergson was Cartesian. But in CE he held that change or duration was fundamental. Then matter and mind were simply divergent tendencies of the underlying duration.

In MM, Bergson described matter in terms of the rhythm of duration, matter being duration with a rhythm so slow as to be practically inefficacious in causing action. But in CE, he developed his theory of the *élan vital*, which was the principle of growth and creation, causing the increased tension by which the higher forms of consciousness were produced. He still held to his view of matter, except that he developed a theory of its creation along with life. The vital energy is limited and is opposed by the recalcitrance of matter through which it moves and spends itself in opposite

1. Bergson, *Art.* (1912) in *ME*, 71. Cf. also Bergson, *Art.* (1913) in *ME*, 97, where practically the exact words are repeated.
direction. While on the one hand life is continually being created, that is, the tension of duration increases, on the other hand, life continually dies, that is, it lets go its tension. It "detends" in order to "extend."¹

Whitehead's metaphysics is similar to Bergson's later view in respect to the distinction between matter and mind. Actual entities are analyzed into their prehensions. These are both physical and conceptual, comprising the physical and mental poles of the actual entity. The prehensions in both poles are either feelings, or, in the case of negative prehensions, they eliminate from feeling. This does not mean conscious feeling, but expresses the fact derived from the theory of relativity that every actual entity involves every other actual entity. Consciousness, for Whitehead, is a characteristic of highly developed organisms only. Whitehead defines consciousness as "the feeling of the contrast of theory, as mere theory, with fact, as mere fact."² Theories, or propositions, are hybrid entities including a "definite set of actual entities in a nexus of reactions involving the hypothetical ingression of a definite set of eternal objects."³ Theories may involve feelings conformal to fact, or non-conformal. If the latter, then alternatives enter into the experience, and it is the feeling of the contrast of theories

¹. Bergson, CE, 259. ². PR, 286. ³. PR, 282.
involving alternatives with fact that constitutes consciousness, for Whitehead. Since consciousness is such a feeling of contrasts involving alternatives, then consciousness is liable to error.

Whitehead distinguishes four grades of actual entities. They are "empty space," inorganic objects, living beings, and conscious beings. In the first grade the "presented durations" are negligible. In the second grade, the mental pole is negligible, with only the prehensions from the physical pole of importance. The third grade of actuality is characterized by "flashes of conceptual originality constituting life." In the highest grade of actuality, freedom emerges, with conceptual prehensions of the greatest definiteness. There is also vivid perception in the mode of presentational immediacy, a mode not found in lower grades of actuality.¹ The measure of actuality for Whitehead is "vivid experience" or "definiteness."² Each occasion, Whitehead felt, was a "value of some specific definite sort."³ Mind and matter are two different types of value. In a living being they are together in the "closest connection." The highest type of value is found in conscious life,

the canalized importance of free conceptual functionings, whereby blind experience is analyzed by comparison with the imaginative realization of mere potentiality.⁴

---

¹ PR, 269-270.
² RIM, 109.
³ RIM, 113.
⁴ PR, 270.
In this view Whitehead and Bergson are in agreement; both felt that conscious life is the most actual, the highest developed, and the most valuable. There is a suggestion of Bergsonian influence here in that the term "canalized" is Bergson's term. Whitehead found the term "very convenient." By the term both Whitehead and Bergson meant that the indetermination of the creative force becomes definite when it is actualized. But in becoming definite, in assuming a definite direction, it is also limited in that it becomes just what it is and nothing else.

I use the term 'limitation' for the most general conception of finitude. In a somewhat more restricted sense Bergson uses the very convenient term 'canalization.' . . . Thus a factor is a limitation of fact in the sense that a factor refers to fact canalized into a system of re-lata to itself. . . . Thus also a finite consciousness is a limitation of fact, in the sense that it is a factor canalizing fact in ways peculiar to itself.1

Bergson uses the term canalization in the same way. By it he means the limitation by which definiteness and effectiveness are brought about.2

Whitehead says that there are two principles inherent in the nature of things, "change," and "conservation." Different grades of actuality express varying degrees of these principles, but the living soul contains both principles in the fullest intensity.

1. POR, 16.
The secret of the higher organisms lies in their two grades of permanences. By this means the freshness of the environment is absorbed into the permanence of the soul.\(^1\)

Bergson felt that the immortality of the soul was very probable. Whitehead did not go as far as Bergson in this belief, although he recognized with Bergson that there is no metaphysical objection to such a belief. On the other hand, he finds "no warrant" for it. On this point, Whitehead claims to be "entirely neutral."

Finally, Whitehead's view of matter and mind is in agreement with Bergson in CE where the primacy of process is asserted. As in Bergson mind and matter are two divergent directions of the élan vital. So Whitehead refers several times to the ascent of the élan vital and its relapse into matter. Whitehead also stresses the primacy of process with "creativity" as the underlying reality.

In conclusion, Whitehead and Bergson are in substantial agreement on the distinction between matter and mind. For both, mind is the more actual and the more valuable. For both, matter is simply that in which the amount of mind is negligible. Both recognized degrees of actuality between matter and fully developed conscious mind. Once again there is a possibility of influence by Bergson, but no certainty of it. His views might also have been elaborated from the insights of Alexander. But Whitehead was familiar with Bergson

---

1. SMW, 202.
and at least noticed the similarity of his views with his own.
LEADING IDEAS OF WHITEHEAD AND THEIR ROOTS IN BERGSON

1. Inadequacy of Language

A characteristic statement of Whitehead's is his definition of philosophy as "an attempt to express the infinity of the universe in terms of the limitations of language." One of the nine points of thought which are listed in the "Preface" of PR as being repudiated is, "The trust in language as an adequate expression of propositions."  

Whitehead's first criticism of language is that it is abstract. The universe is infinitely complex. Even that part of the universe which is found in sense-awareness is infinitely complex. But the intelligence suppresses irrelevant detail, and language deals only with that part of sense-awareness that stands out from the background.

Thus language habitually sets before the mind a misleading abstract of the infinite complexity of the fact of sense-awareness.

Whitehead points out that this simplification of experience is made only by high-grade organism. A low-grade organism receives and transmits, but "fails to simplify into intelligible system."

1. Whitehead, ESP, 14. In this chapter all references are to Whitehead, unless otherwise noted.
2. PR, viii.
3. CN, 108.
4. PR, 389.
Whitehead also felt that language was inadequate because it was ambiguous. Words are likely to mean different things to different people, or at least the meanings are apt not to be identical. Words carry emotional overtones, associations of all types. Words are only symbols, not the real things referred to by language.

Language . . . is always ambiguous as to the exact proposition which it indicates. Spoken language is merely a series of squeaks.¹

Much of the trouble in philosophy, Whitehead thought, came from the Aristotelian logic which attempted absolutely precise statements in words. Clear and distinct ideas, Whitehead felt, were not signs of truth, as Descartes had taught. Knowledge must necessarily be vague, because the universe is in a state of flux and things do not have the clear-cut nature that the intellect assigns to them.

The reason for this dominance of vagueness and clarity in respect to the problem of knowledge is that the world is not made up of independent things, each completely determinate in abstraction from all the rest. . . . Our experience is dominated by composite whole, more or less clear in the focus, and more or less vague in the penumbra, and with the whole shading off into umbral darkness which is ignorance.²

Whitehead has been criticized for his assertion that knowledge is vague and that clear ideas are likely to be, partially at least, mistaken.³ But Whitehead has not implied

---

1. PR, 403.
that the condition is a desirable one. He only wished to state that, as a matter of fact, the human mind can only achieve clear ideas by abstraction from the rest of reality, which is an instance of the "fallacy of misplaced concreteness." Whitehead noted that this is what Bergson was protesting against in his protest against spatialization, because as Plato said:

"That which is conceived by opinion with the help of sensation and without reason, is always in the process of becoming and perishing and never really is." Bergson, in his protest against "spatialization," is only echoing Plato's phrase "and never really is." 1

Whitehead particularly objected to the subject-predicate type of expressions which he called "a trap set for philosophers by the syntax of language." 2 Accordingly, Whitehead felt that understanding required imagination.

But no language can be anything but elliptical, requiring a leap of the imagination to understand its meaning in its relevance to immediate experience. . . . No verbal statement is the adequate expression of a proposition. 3

Language is always elliptical, and depends for its meaning upon the circumstances of its publication. For example, the word 'Caesar' may mean a puppy dog, or a negro slave, or the first Roman emperor. 4

Language, in Whitehead's thought, is most adequate at the level of social life and action, least adequate in the expression of precise truth. Plato, he says, "wrestles with the difficulty of making language express anything

1. PR, 126. 3. PR, 20.
2. PCOR, 14. 4. PR, 397.
beyond the familiarities of daily life."¹ Whitehead also points out that at times the distrust in language is misplaced, at least according to his views. He maintains that it is actually the eye that sees, the ear that hears—instances of perception in the mode of causal efficacy. The language of common speech is "literary and intelligible because it expresses the ultimate truth of animal perception."²

It was Whitehead's mistrust of language that caused him to pay so much attention to it. For language is the tool of the philosopher,³ and, inadequate though it may be, he must use it and perfect it as well as possible. Whitehead makes the most of this tool in two ways. He tries to avoid the ambiguity of language by constructing a precise and, to a large extent, novel terminology. In this way the terms could refer only to the concepts to which he intended them to refer. Then, because words ordinarily have too much content rather than too little, Whitehead attempted to define experience in terms of entities of such utter simplicity that there would be no danger of further abstraction.

Bergson's attitude toward language was very much like Whitehead's. He maintained that thought is a continuity, a process, but that for thought to become distinct, that is, expressible, "there must be dispersion in words."⁴ Words,

¹ PR, 180.
² PR, 16.
³ PR, 155.
⁴ Bergson, Art. (1911), in ME, 28.
he felt, are "clumsy symbols," which set forth conscious states as though they were externalized, isolated from one another, in other words, that expresses the world in terms of space rather than the movement of duration. Language takes fleeting sensations and transforms them into objects, placed in space. But this is merely taking a symbol for reality because "in the human soul there are only processes."

Bergson, like Whitehead, says that language grew up as the response to a social need: "By language community of action is made possible." But language cannot possibly refer to reality in all its complexity, because the signs of language are limited in numbers but the variations of reality are infinite. Thus logic is not the form of language in which the greatest truth is to be expressed, but literary art, which by suggestion is able to indicate the infinite complexity of life and lead one back to an experience of reality. Whitehead also believed that one can go "beyond meanings already stabilized in etymology and grammar," to "meaning miraculously revealed in great literature." But he also believed that the special sciences and philosophy were other fields in which "meanings as yet unexpressed" were emerging. Bergson seemed inclined to distrust language still more than Whitehead. For him the language of

1. Bergson, TFW, xix.  5. Bergson, CE, 177.
science and philosophy could result only in a distortion of experience. Language should be used only because no other tool of expression is available.

In general, both Whitehead and Bergson have similar attitudes toward language, considering it a very imperfect tool. Whitehead had more faith in its improvement, but agreed that it could never be perfect. Whitehead does not refer to Bergson's attitude on language at any time, and it is probable that his distrust of language is largely a result of his own meditation. The similarity with Bergson's attitude could be explained under the general principle that both reacted against traditional forms of thought. It is quite possible, however, that the idea in Whitehead that language arose in response to practical, social needs, was an idea that he found in Bergson, since it appears to be particularly Bergsonian.

2. Reality as Process

When Whitehead first began writing in the field of natural science and philosophy, he was expressing a protest against what he called "the bifurcation of nature." By this he meant a division of nature into nature as perceived and nature as postulated by traditional science. He maintained that the past three centuries of science had interpreted nature in a thoroughly materialistic manner. The

1. CN, 26f.
categories of the seventeenth and eighteenth century physics were based on the assumption that substance was fundamental to all nature. The empirical reduction of Locke seemed to show that the secondary qualities of this substance were due to the activity of the perceiving mind. Berkeley carried his work further to show that all qualities, primary and secondary, were mental in character, with subjective idealism as his conclusion. Hume criticized Locke and Berkeley, arriving at a thoroughly skeptical conclusion about the possibility of knowledge. Kant was impressed by the work of Hume, and in his Critique of Pure Reason reduced the physical world to phenomena whose ultimate nature could not be known. With Kant the "bifurcation" was complete with an impassable gulf fixed between the knower and the known.

In the meantime, as Whitehead says, science "remained blandly indifferent to its refutation by Hume." Science ignored metaphysics and by emphasizing its materialistic assumptions, had a remarkably successful development, especially in technology. But this science was the science of quantity. Qualities, as attributes of substance, occupied a secondary position and their investigation was neglected. Ignoring quality, science also ignored values—aesthetic, moral, and religious. Philosophy, however, especially in the nineteenth century, emphasized mind but due to the bifurcation of nature remained out of touch with science.

1. SMW, 17. 2. SMW, 192.
Bergson also objected to this "bifurcation of nature," although the term is Whitehead's. In MM Bergson criticized idealism, both that of Berkeley and that of Kant. It was this "bifurcation of nature" that was criticized in favor of a more organic view.

My consciousness of matter is then no longer either subjective, as it is for English idealism, or relative, as it is for the Kantian idealism. It is not subjective, for it is in things rather than in me. It is not relative, because the relation between the 'phenomenon' and the 'thing' is not that of appearance to reality, but merely that of the part to the whole.1

The organic relation of part to whole is an essential feature of Whitehead's philosophy of organism. The parts are related to the whole in the way that the cells of an organism are related to the whole body, and the parts derive their meaning and existence from the whole.

The full universe, disclosed for every variety of experience, is a universe in which every detail enters into its proper relationship with the immediate occasion.2

This organic relationship is expressed by Whitehead as a relationship of "solidarity," a term which he borrowed from Carr's 1917 Presidential Address to the Aristotelian Society.3 Carr sets forth the organic relationship in this article.

Every new experience modifies the whole mind, and the modification of the whole mind entails an altered attitude of the whole body.

2. SMW, 27.  
3. PR, 65n.
Both the term "solidarity" and probably Carr's use of it came from Bergson. Carr did not refer to Bergson in his use of this term, but Carr used it in the same way Bergson did, and Carr was so thoroughly imbued with the Bergsonian philosophy that it is quite probable that he got the term from Bergson. Thus Whitehead was influenced by Bergson through Carr in this respect. There was very probably an earlier direct influence of Bergson which helped to predispose Whitehead's mind toward this view. Whitehead certainly read CE, and he was impressed with the fact that Bergson had introduced into philosophy the organic conceptions of physiological science.2

In the twentieth century, the breakdown of some of the seventeenth century scientific ideas coupled with the rise of psychology and physiology tended to bring about a closer harmony between science and philosophy. The bifurcation of nature was alleviated. "The effect of physiology was to put mind back into nature."3 The ideas which "collectively form the Achilles heel" of the seventeenth century ideas of science, "life, organism, function, instantaneous reality, interaction, order of nature,"4 were used by Whitehead in his reconstruction of metaphysics. He repudiated any substance theory, that is, any theory that conceived of

1. Bergson, CE, 197, 238.  
2. SMW, 192.  
3. SMW, 148.  
4. SMW, 58.
the ultimate as a changeless substratum underlying all actuality. In this repudiation he included not only materialism but also such philosophies as Spinozism and absolute idealism.

In such monistic schemes, the ultimate is illegitimately allowed a final, 'eminent' reality, beyond that ascribed to any of its accidents. In this general position the philosophy of organism seems to approximate more to some strains of Indian, or Chinese, thought, than to western Asiatic, or European, thought. One side makes process ultimate; the other side makes fact ultimate.1

In this statement Whitehead meant by process, creativity, which is the category of the Ultimate. It is not actual until it becomes determinate in actual occasions. Then it is fact. Whitehead defined fact, as has been previously noted, as "the concreteness (or imbeddedness) of factors, and the concreteness of an inexhaustible relatedness among inexhaustible relata."2 Abstract creativity, "the universal of universals,"3 is prior to concrete fact.

Whitehead did not formulate the idea of process and creativity until after writing PNK and CN. In 1922 he said that he believed it was impossible to select a term for the "ultimate fact," because if it had a positive content it would thereby exclude something, but if something were excluded, it would not be ultimate fact.4 But in 1924, in Note II to the second edition of PNK, Whitehead had adopted the principle of the primacy of process.

1. PR, 11. 3. PR, 31.
2. POR, 15. 4. Art. (1922), 133.
The true doctrine, that 'process' is the fundamental idea, was not in my mind with sufficient emphasis. Extension is derivative from process, and is required by it.¹

In 1926, in RIM, Whitehead's doctrine of process and creativity appeared almost as it did in its final formulation in PR, although less fully developed. In RIM, there are three "formative elements" which constitute the character of the temporal world. They are: (1) "The creativity whereby the actual world has its character of temporal passage to novelty;" (2) "The realm of ideal entities, or forms," which in SMW (1925) and in PR are termed "eternal objects;" (3) "The non-temporal actual entity" known as God, "whereby the indetermination of mere creativity is transmuted into a determinate freedom."²

In certain respects these "formative elements" show the influence of Bergson, although not wholly so. Northrup has stated that Whitehead was influenced by Bergson through H. Wildon Carr "during the impressionable war years." He maintains that "from this source came the doctrine of the primacy of process."³ If this is true, then only the germ of his fully developed ideas of process came to him at this time, because as has just been shown, the idea was not fully in his mind until after 1922, and the term creativity as the ultimate category was not used until 1926. In 1925, in SMW,

². RIM, 90.
he used the term "eternal activity," and the doctrine of "creative advance" had been Whitehead's since he first began writing on natural science. But he had not settled on the definite form of his doctrine until 1926. It is quite possible that he was influenced by Alexander in the final formulation. Lowe reports that Whitehead in conversation stated that "the contemporary from whom he actually got most was Samuel Alexander: he and Alexander 'conceived of the problem of metaphysics in the same way.'"

Alexander's *Space, Time and Deity* was published in 1920, after Whitehead had written PNK and CN. The lectures forming STD were delivered from 1916 to 1918 and Whitehead was somewhat familiar with them as is indicated by his reference in the "Preface" to CN, but the wording there suggests that he had not had an opportunity to study the work. When Whitehead had had an opportunity to study the work, it evidently influenced him considerably, and it is probable that his doctrine of God, although not identical with Alexander's doctrine was, in part, suggested by it. The idea of the ultimate as creative and having the character of "temporal passage to novelty," is found in both Bergson and

1. SMW, 108.
3. CN, viii. "The general assimilation of space and time... was, I believe, one theme of Professor Alexander's Gifford lectures delivered some few years ago but not yet published."
Alexander. Probably Alexander himself was influenced by Bergson at this point.¹ Whitehead was, however, already familiar with this aspect of Bergson's thought. No doubt Alexander reinforced this influence and aided Whitehead in the final formulation of the doctrine of creativity. The doctrine of eternal objects came from neither Bergson nor Alexander, but is clearly a Platonic doctrine modified by Whitehead.

At one point in regard to the creativity, Whitehead differs from Alexander. The latter considered "space-time" to be the ultimate fact of the universe. In Whitehead's philosophy of organism he could find "a space-time fact," but space-time in itself he considered to be an abstraction.²

Space-time cannot in reality be considered as a self-subsistent entity. It is an abstraction, and its explanation requires reference to that from which it has been extracted.³

Whitehead's creativity is not a "self-subsistent entity" but is an "underlying eternal energy" or "eternal activity," which is an abstraction "divorced from the matter-of-fact

1. Alexander said of Bergson that "No one has rendered such service to metaphysics as he has done in maintaining the claims of time to be considered as ultimate reality." (Alexander, STD, I, 150) However, Alexander felt that Space-Time was the ultimate reality, contrary to Bergson's view. "I am unable to accept the doctrine of Mr. Bergson that change is the stuff of things." (Alexander, STD, I, 329.)


3. SMW, 37.
events of the real world." In H. Wildon Carr's 1918 article which Whitehead refers to as being influential, Carr called life "the ultimate fact behind which even thought cannot get." The metaphysical status of Whitehead's creativity can best be understood by comparing it to Carr's use of the term "life." Life is also an activity; it has a "directional factor in time;" it is "becomingness." But life cannot be thought of as a self-subsistent entity. Mere life has no meaning apart from something living. It is wholly indeterminate, until it finds determination in a living being. So creativity is indeterminate until it becomes actual--in God eternally, and in actual occasions temporally.

But creativity was too abstract to serve as a definition of "the ultimate concrete fact," that is, of reality. In 1922 Whitehead had stated that he doubted whether any term would be sufficiently comprehensive. But in 1925, Whitehead appeared to have found his term. In SMW, he compares his philosophy to that of Spinoza.

In the analogy with Spinoza, his one substance is for me the one underlying activity of realisation individualising itself in an interlocked plurality of modes. Thus, concrete fact is process. Later he said, "Nature is a structure of evolving process. The reality is the process." In PR he made this idea the

1. SMW, 107. 4. SMW, 71.
2. Carr, Art. (1918), 27. 5. SMW, 74.
3. PNK, 63.
basic principle of his metaphysics. Creativity is the "underlying eternal energy," but the reality is the process of realization of this creative energy in determinate actual entities.

The question remains as to how close Whitehead's doctrine of process is to the thought of Bergson. It seems to be very close indeed. Whitehead stated in the 1922 discussion referred to above that "Bergson's urge of life" was one of the many attempts to define the ultimate concrete facts, which were "all too narrow." On the other hand, there is no indication that Bergson thought of any entity as underlying reality. He would have thought that such an entity was a case of "spatialization." For Bergson, movement is prior to immobility, which is "only the extreme limit of the slowing down of movement." The underlying activity is the \( \text{élan vital} \) and the process of creation is real duration, "unceasing creation, the uninterrupted upsurge of novelty."2

The flux of time is the reality itself. . . . By following the new conception to the end, we should come to see in time a progressive growth of the absolute, and in the evolution of things a continual invention of forms ever new.3

Whitehead, in comparing his philosophy with that of Spinoza, recognized the fact that the philosophy of organism is both a monism and a pluralism.4 It was a monism in that

---

the actual world was interrelated and, conceivable under a single ultimate category, that of creativity. This is compared to Spinoza's one substance. The philosophy of organism is viewed as a pluralism, in that it is composed of a multiplicity of actual entities. In this way it is compared to Spinoza's multiplicity of "modes." Whitehead recognized also that this was an Hegelian view.

It is now evident that the final analogy to philosophies of the Hegelian school, noted in the Preface, is not accidental. The universe is at once the multiplicity of res verae and the solidarity of res verae. The solidarity is itself the efficiency of the macroscopic res verae, embodying the principle of unbounded permanence acquiring novelty through flux. The multiplicity is composed of microscopic res verae, each embodying the principle of bounded flux acquiring 'eternal" permanence. On one side, the one becomes many; and on the other side, the many become one. But what becomes is always a res vera, and the concrecence of a res vera is the development of a subjective aim. This development is nothing else than the Hegelian development of an idea.¹

The "solidarity" expressed in this view is an idea which comes from Bergson through H. Wildon Carr in his 1918 article. The Hegelianism is Bradley's view, although Whitehead says that it came as a recognition of a similarity of his final view to that of Bradley, even though throughout the development of his philosophy he is in disagreement with Bradley."² Whitehead advances over Spinoza in this view by the description of reality as "dynamic process" and the avoidance of the "subject-predicate forms of thought."³ In this respect

¹. PR, 254.
². PR, vii.
³. PR, 10.
Whitehead is close to Bergson. Bergson criticizes the method of analysis and what Whitehead called "the fallacy of simple location" as the spatializing work of the intellect. He said in TFW, "We can analyze a thing, but not a process." In this respect he agreed with Whitehead that analysis may be useful, but it always results in abstractions, not actual things. Whitehead, however, trusted the method of analysis more than Bergson. He had the skill to use it without falling into error. Whitehead noted that the subject-predicate form of thought, coming from Aristotelian logic, resulted in the substance-quality metaphysics and the bifurcation of nature that "triumphed with exclusive dominance in Descartes' doctrines." Locke and Hume reacted against this form of thought, Hume most consistently. For this reason, Whitehead wrote:

Hume's train of thought unwittingly emphasizes "process." His very scepticism is nothing but the discovery that there is something in the world which cannot be expressed in analytic propositions.

Bergson also objected to the "substance-quality metaphysics," for the same reason.

If a modern philosopher . . . makes all the conclusions of a physics supposed omniscient converge on a single point, he neglects what is concrete in the phenomena--the qualities perceived, the perceptions themselves. His synthesis comprises, it seems, only a fraction of reality. In fact, the first

2. PR, 209.
3. PR, 212.
result of the new science was to cut the real into two halves, quantity and quality, the former being credited to the account of bodies and the latter to the account of souls.¹

A further point in Whitehead's doctrine of process that needs to be mentioned is his analysis of becoming, which he called concrescence, and the correlative idea of perishing, which he called "transition."² The concrescence is "the internal process whereby the actual entity becomes itself." This is an expression of final causation. Transition is the expression of efficient causation, "the transition from actual entity to actual entity."³

The concrescence is the actuality of the universe. Macroscopically, the process of universal becoming constitutes the actuality of God. Microscopically, each actual entity is an occasion of concrescence. As soon as it becomes, it perishes. The actuality is the activity.

The conception of the world here adopted is that of functional activity. By this I mean that every actual thing is something by reason of its activity.⁴ "Things" or "objects" only exist in experience by reason of the abstractive process of "objectification."⁵ These have the appearance of endurance, but this is not due to the fact that they do not change. It is due to the fact that there is "reproduction." That is, an "historic route" of actual

---

2. PR, 320. 5. SYM, 25.
3. PR, 228.
occasions are so similar that so far as relevance for the percipient is concerned, they are identical.\textsuperscript{1} Whitehead pointed out that this view which he was including in his philosophy is one that is derived from modern science.

If science be right, nobody ever perceived a thing, but only an event. . . . Philosophy—that is, the older philosophy—conceives the thing as directly perceived. According to scientific thought, the ultimate thing is never perceived, perception essentially issuing from a series of events.\textsuperscript{2}

This view is one which is particularly Bergsonian, as Miss Emmet has noted.

The very being of things consists in their process of concrescence—their being a growth into a new unity. . . . Whitehead (like Bergson and Alexander) sees that growth and creative process must be taken as fundamental.\textsuperscript{3}

Bergson suggested that objectification was a process of abstraction—that the reality is the process.

Everything is obscure in the idea of creation if we think of things which are created and a thing which creates. . . . It is natural to our intellect, whose function is essentially practical, made to present to us things and states rather than changes and acts. But things and states are only views, taken by our mind, of becoming. There are no things, there are only actions.\textsuperscript{4}

As has been previously pointed out, Whitehead differs from Bergson in the latter's belief that the intellect falsifies the notion of process. For Whitehead objectification is a "spatialization" and a "temporalization" of experience.

\textsuperscript{1} PR, 365.
\textsuperscript{2} OOT, in AE, 221.
\textsuperscript{3} Emmet, WPO, 275.
\textsuperscript{4} Bergson, CE, 270-271.
But this does not falsify the idea of process, even though it is an abstraction, for the concrescence of an actual entity occupies a duration, and the extensive continuum includes both space and time. Space for Whitehead, however, was not a sort of receptacle, as it was for Newton; it was the "physical field" of modern science. Because this extensive continuum "expresses a fact derived from the actual world," Whitehead considered it to be "real,"—not the reality of being actual, but rather "the reality of what is potential, in its character of being a real component of what is actual."1 Newton, from whom traditional science, and so Bergson, took their ideas of space, erred, in Whitehead's opinion, in transforming into actuality that which is potential.2

Whitehead divides the process of concrescence into several successive phases, which lack actuality because they fail to fulfill the category of subjective unity. These phases are the initial phase of primary feelings, intermediary stages comprised of successively more complex feelings by reason of the integration of the earlier phases, and the final phase or "satisfaction" when the concrescence acquires full subjective unity and the actual entity is formally complete.3

1. PR, 103.
2. PR, 123.
3. PR, 337.
A full description of this process will be made in consideration of Whitehead's theory of prehensions.

3. Concept of Nature

When Whitehead wrote his books on physical science, he was not attempting to give a complete metaphysical account of nature. In fact, he insisted that he was simply describing the concept of nature as given in sense-awareness, without discussing metaphysical questions, although he recognized the fact that such questions were being raised. As he said in the "Preface" to PNK, "The book is merely an enquiry. It raises more difficulties than those which it professes to settle."\(^1\)

These difficulties were recognized by many critics, one of the most searching of whom was Dr. D. S. Robinson in his article, "Dr. Whitehead's Theory of Events."\(^2\)

Most of the questions raised by this and other critical articles and reviews were very well answered by Whitehead in his metaphysical books, especially PR. For Whitehead's concept of nature, both the scientific and metaphysical works need to be consulted.

Whitehead conceived of nature as made up of actual entities, or events as he called them in his earlier works. His theory was similar to that of Leibniz in that the study of an actual entity revealed the nature of the entire organism, the whole. As Leibniz's monads mirror the universe, so

---

1. PNK, viii.  
Whitehead's actual entities are microscopic views of reality. The macroscopic view is God, the primordial, non-temporal actual entity. Whitehead analyzes actual entities in two ways, genetically and morphologically. The morphological analysis dominates the books on physical science and Part IV, "The Theory of Extension," of PR. This description is primarily mathematical and concerns extensive relations of the universe, the manner in which entities are related in space-time. An analysis of Whitehead's morphological description of reality is chiefly beyond the scope of this dissertation, because it has no relation to the work of Bergson, with one exception. Whitehead included time in the extensive continuum and so his description of the extensive relations included the nature of time and duration. Whitehead's idea of duration has been examined in Chapter IV.

When Whitehead was in London, he considered himself a realist; that is, he was convinced that nature had a real existence apart from the perceiving mind, and that perception was not simply an awareness of subjective psychic states, but rather the content of perception was determined by the order of nature. The mind could adopt a "perspective," it could select its material by intensifying, or eliminating data from relevance, but it could not determine what was "given." An actual entity, he said, is a

1. PR, 334-335.
2. Art.(1922), 131.
"definite, determinate, settled fact, stubborn and with unavoidable consequences."¹ In spite of the remarkable synthesis of modern philosophy which he was able to achieve, it is probable that he always considered himself a realist.

"The ultimate facts of nature," Whitehead said in PNK, "are events connected by their spatio-temporal relations."² These events he considered the only real facts of nature. There were other ways of looking at the universe, yielding various types of objects, percipients objects, sense-objects, perceptual objects, and scientific objects.³ But all objects were derived by abstraction. They were usual in dealing with nature, but their use omitted the fundamental principle of the passage of nature. Whitehead did not, however, consider that events were simply related to one another in serial order. Instead each event "extends over other events which are parts of itself, and every event is extended over by other events of which it is a part."⁴ Thus there is an organic relation among events. In PR, Whitehead refers to his theory as a "cell-theory."

Whitehead was profoundly influenced in this view by the quantum theory in physics. According to this view, reality is not made up of static units, however small. Rather the ultimate quanta which make up physical reality

¹. PR, 336.
². PNK, 4.
³. PNK, 60.
⁴. PNK, 61.
are the "vibratory production of energy." ¹ The mass of a physical unit is the energy itself. This vibratory production has a certain pattern and occupies a certain duration. Science, trying to locate electrons, fails because it detects only an instantaneous part of a temporal, active structure. But the quanta themselves are the actualities and have no reality apart from their vibratory activity.

It is possible therefore that for the existence of certain sorts of objects, e.g. electrons, minimum quanta of time are requisite. Some such postulate is apparently indicated by the modern quantum theory and it is perfectly consistent with the doctrine of objects maintained in these lectures.²

In emphasizing the quantum theory, Whitehead is pointing, not so much to the divisibility of nature, as to the ultimate indivisibility of the elements of which nature is composed. So in Whitehead’s metaphysics, time proceeds, not by instants, but by "epochs" of a definite duration. Actual entities are not divisible into parts, except by abstraction from actuality. Whitehead cautions his hearers to remember, however, that the organic wholeness of the world is more important than its atomicity.

You must not think of the world as ultimately built up of event-particles. That is to put the cart before the horse. The world we know is a continuous stream of occurrence which we can discriminate into finite events forming by their overlappings and containings of each other and separations a spatio-temporal structure. . . .

¹. SMW, 136.  ². CN, 162.
The abstractions of science are entities which are truly in nature, though they have no meaning in isolation from nature.\(^1\)

Although the form of Whitehead's pluralism was obviously influenced by the quantum theory, it is very possible that there was a previous or complementary influence from Bergson, because Whitehead's theory is parallel to Bergson's at many points, although much more fully developed. Bergson's first book, TFW, started with a chapter on "The Intensity of Psychic States." There he pointed out that, contrary to common opinion, the intensity of psychic states does not change, but rather variations in intensity indicate a succession of psychic states, each one with a constant intensity. The changes do not come about gradually but by definite changes in intensity. Experience, for Bergson, is atomic.\(^2\) Bergson also suggests Whitehead's theory of events as extending over other events. He has an acute analysis of the present in MM which is discussed in terms very like Whitehead's. Bergson says there that the "present necessarily occupies a duration." It "has one foot in my past and another in my future."\(^3\) Whitehead said that the "creative process is rhythmic."\(^4\) Bergson suggested the same thing in saying that "each special evolution is a kind of circle," and in a beautiful figure of speech, "Love . . .

---

1. CN, 172-173.
2. Bergson, TFW, 64.
4. PR, 229.
shows each generation leaning over the generation that shall follow.\(^1\) Bergson objected to thinking of these atomic experiences in terms of quantity or extension, because this he thought would be "spatialization."\(^2\) By this he meant the states or events set side by side in a discrete succession. Whitehead agreed that this would falsify experience. But he avoided spatialization as Bergson thought of it by the assimilation of space and time and his doctrine of the epochs or quanta of experience as extending over one another. Space was not for Whitehead composed of points, but rather it was the physical field, as recent science had conceived of it.

Thus a duration is spatialised; and by 'spatialised' is meant that the duration is the field for the realised pattern constituting the character of the event.\(^3\)

Whitehead stated in PR that his use of "spatialized" came from Bergson,\(^4\) and when he used the term he usually put it in quotation marks. His use of it indicates that his intention was to show where Bergson was in error and thus correct a scheme of which, on the whole, he approved.

Whitehead identified his "atomized quanta of extension" with Newton's absolute place and absolute duration.

Newton's proof that motion does not apply to absolute place, which in its nature is immovable, also

---

1. Bergson, CE, 141-142.  
2. Bergson, TFW, 122.  
3. SMW, 127.  
4. PR, 336.
holds. Thus an actual entity never moves: it is where it is and what it is.\(^1\)

In this view it is possible that Whitehead had in mind Bergson's multiplicity of psychic states, which do not change.

For the notion of change Whitehead substituted the idea of passage. Events do not change, but only pass from one to another. Endurance results from the reiteration of the pattern of successive occasions. This passage, Whitehead said, is the creative advance, a Bergsonian idea.\(^2\) Later Whitehead was to say that the only change in actual entities is their becoming and perishing.

This quantum is constituted by its totality of relationships and cannot move. Also the creature cannot have any external adventures, but only the internal adventure of becoming. Its birth is its end.\(^3\)

Thus the ordinary conception of change becomes, in Whitehead's thought, "the differences between actual occasions in one event."\(^4\)

Whitehead's description of time as a "perpetual perishing" is an expression which comes from Locke. The idea was also found by Whitehead in Plato's *Timaeus*, where he said:

"But that which is conceived by opinion with the help of sensation and without reason, is always in the process of becoming and perishing and never really is." Bergson, in his protest against "spatialization," is only echoing Plato's phrase 'and never really is.'\(^5\)

---

1. PR, 113.
2. PNK, 62.
3. PR, 124.
4. PR, 124.
5. PR, 126.
Whitehead's criticism of the same notion is embodied in his denial of "simple location," the idea that things may exist solely in external relation to one another, and that they may be definitely located in space and time. Whitehead felt that this fallacy was due to the confusion between events and objects.

The chief confusion between objects and events is conveyed in the prejudice that an object can only be in one place at a time. That is a fundamental property of events.1

He maintained that "simple location" is a construct of thought, rather than a datum of experience.

How do we know that the two cargoes of material which load the two instants are identical? The answer is that we do not perceive isolated instantaneous facts, but a continuity of existence, and that it is this observed continuity of existence which guarantees the persistence of material.2

Location in space is always an ideal of thought and never a fact of perception.3

In Whitehead's thought, the concept of simple location was replaced by the ideas of "vector relations" and "fields."4

As here defined the field of an electron extends through all time and all space.5

In a certain sense, everything is everywhere at all times. For every location involves an aspect of itself in every other location. Thus every spatio-temporal standpoint mirrors the world.6

1. PNK, 65.
2. PNK, 7-8.
3. PNK, 166.
5. PNK, 96.
6. SMW, 93.
According to the theory of relativity which underlies the philosophy of Whitehead, "simple location" is the result of the "perspective" of the percipient, and the emergence into "significance" of certain elements of the given data. Lowe says that the assertion of "significance" and the denial of "simple location" mean the same in Whitehead.¹

The denial of simple location was almost certainly influenced by Bergson. It was one of his primary concepts and Whitehead frequently refers to the fact that simple location is what Bergson means by "spatialization."

This simple location of instantaneous material configurations is what Bergson has protested against, so far as it concerns time and so far as it is taken to be the fundamental fact of concrete nature. He calls it a distortion of nature due to the intellectual 'spatialisation' of things. I agree with Bergson in his protest.²

Whitehead pointed out that this fallacy was one of the most important of the uncriticized assumptions of the philosophy of the seventeenth and eighteenth centuries.³ Whitehead criticized Kant.⁴ Descartes, and Hume⁵ for stating the doctrine of the independence of occasions or sense data. Bergson criticized Kant in a similar way and maintained that the Kantian antinomies were due to the faulty supposition that matter is "wholly developed into parts absolutely external to one another."⁶ This "complete reciprocal independence,"

---

2. SMW, 52.
3. SMW, 95.
4. PR, 172.
5. PR, 207-208.
said Bergson, would result in perfect spatiality. In opposition to this he cites the views of Faraday "that all the atoms interpenetrate and that each of them fills the world." Bergson believed that, not only was this the view of recent science, but that it was the view that is given to sense when the intellect suspends its habitual forms of thought.

If we consider matter, which seems to us at first coincident with space, we find that the more our attention is fixed on it, the more the parts which we said were laid side by side enter into each other, each of them undergoing the action of the whole, which is consequently somehow present in it.

This is included in Whitehead's doctrine of solidarity which came to him from Bergson, through Carr.

Every actual entity in its relationship to other actual entities is in this sense somewhere in the continuum, and arises out of the data provided by this standpoint. But in another sense it is everywhere throughout the continuum; for its constitution includes the objectifications of the actual world and thereby includes the continuum; also the potential objectifications of itself contribute to the real potentialities whose solidarity the continuum expresses. Thus the continuum is present in each actual entity, and each actual entity pervades the continuum.

Whitehead's denial of motion to the actual entity is also an echo of Bergson.

Now, if we reflect further, we shall see that the successive positions of the moving body really do occupy space, but that the process by which it passes from one position to the other, a process which occupies duration and which has no reality except for a conscious spectator, eludes space.

1. Bergson, CE, 222.
3. PR, 104-105.
We have to do here not with an object but with a progress: motion, in so far as it is a passage from one point to another, is a mental synthesis, a psychic and therefore unextended process. . . . We are thus compelled to admit that we have here to do with a synthesis which is, so to speak, qualitative, a gradual organization of our successive sensations, a unity resembling that of a phrase in a melody.¹

Although actual entities are the only real things in the world, Whitehead, by abstraction, analyzed the actual entities in various ways. One way was into physical and mental poles: "Every occasion of experience is dipolar."²

Mental activity is one of the modes of feeling belonging to all actual entities in some degree, but only amounting to conscious intellectuality in some actual entities.³

With mentality present in every occasion, and feeling the essence of both poles, Whitehead's philosophy may be termed "panpsychism." This is also made evident by the fact that what Locke and Hume call the "mind," and Hume calls the "soul," are equated by Whitehead with his terms "actual entity" or "actual occasion."⁴ Also Whitehead said, "For Berkeley's mind, I substitute a process ofprehensivenonification."⁵

Whitehead found it necessary to analyze his occasions because it is in this way that one is able to determine what he called, after a phrase of Locke, the "real internal constitution" of things, or their "essence."⁶ Each actual

---

1. Bergson, TFW, 110-111. 4. PR, 213.
2. FOR, 25. 5. SMW, 71.
3. PR, 88. 6. PR, 37.
entity is composed of other actual entities, eternal objects, and feelings, or prehensions. The actual entities are felt in the physical pole, while the eternal objects are conceptualized or felt in the mental pole. While Bergson did not anticipate Whitehead's doctrine of actual entities, he does use terms very similar to Locke's "real internal constitution." He speaks of "the internal configuration of every real system." He also speaks of the way an artist substitutes a representation for "the real and internal organization of the thing." While Whitehead undoubtedly got his idea from Locke, it is significant that Bergson's philosophy is so similar that he, independently probably, used similar phrases.

Whitehead's panpsychism has its analogue in Bergson in that Bergson considered matter that in which the vital force had spent itself—that in which the tension of life had been relaxed. Probably Bergson would say, as Whitehead would, that matter was that in which the vital force, or the tension of life was negligible, rather than say it was nonexistent. For Bergson the creative urge manifests itself as it does in Whitehead, as mind or spirit, which in its highest phase of development is consciousness.

But Bergson does not conceive of mentality in the way that Whitehead does, as the integration of eternal objects

within the concrescence of actual entities. The two views are similar in that in Whitehead, the eternal objects are "pure potentials" and are the "forms of definiteness" which appear in occasions of novel concrescence; while in Bergson, spirit is free, creative and productive of novelty. But the concept of eternal objects is foreign to the philosophy of Bergson. In Bergson potentiality or possibility was stated as included in the principle of freedom. The concept of Platonic universals was denied, as implying determination, when the idea of freedom meant for Bergson indetermination.\(^1\) Bergson felt that the absolute reality itself was in a process of growth and that evolution was "a continual invention of forms ever new."\(^2\) By the word "forms" Bergson meant Platonic forms in the sense of potentiality for becoming. He further developed the idea in CM, and said:

> In duration, considered as a creative evolution, there is a perpetual creation of possibility and not only of reality.\(^3\)

Whitehead asserted definitely that "there are no novel eternal objects."\(^4\) But Whitehead's eternal objects were "pure potentials" and as such were completely indeterminate. That is, subject to the Categorical Obligation of Subjective Unity, eternal objects could become integrated with any other eternal objects and any actual entities in a process of ingression into any actual entities. Since each actual

---

1. Bergson, CE, 343-357.  
2. Bergson, CE, 374.  
4. PR, 33.
occasion is a novel occasion, and, by the theory of relativity, every actual entity is a potential for all becoming, then the continual creation of actual entities would mean the same thing that Bergson means by the continual creation of possibility as well as reality.

In their conclusions, Whitehead and Bergson are close together on the subject of possibility. But Whitehead noted that there was a necessary concept missing from much of philosophy, possibly he noted its absence in Bergson, the concept of eternality.

Every scheme for the analysis of nature has to face these two facts, change and endurance. There is yet a third fact to be placed by it, eternity.

Possibly Whitehead objected to Bergson's wholesale rejection of Plato, while agreeing with his general doctrine, and attempted to show that a modified concept of eternal universals was not inconsistent with a philosophy of free creativity. But Whitehead makes no explicit references to Bergson in his discussion of possibility and eternal objects.

4. Theory of Prehensions

Whitehead's theory of prehensions is a very complex doctrine and is developed in full detail in PR. No attempt will be made to give a full exposition of this doctrine. Only the broad outlines of Whitehead's theory will be given, with more detail at those points where it appears to be similar to views expressed by Bergson.

1. PR, 33. 2. SMW, 88.
In Whitehead's theory of prehensions he rejected what he termed the "sensationalistic doctrine." He found two principles involved in this doctrine, both of which he rejected. These two principles he called "The Subjectivist Principle" and "The Sensationalistic Principle." He defines them as follows.

The subjectivist principle is, that the datum in the act of experience can be adequately analysed purely in terms of universals. The sensationalist principle is, that the primary activity in the act of experience is the bare subjective entertainment of the datum, devoid of any subjective form of reception. This is the doctrine of mere sensation.1

The error involved in the subjectivist principle comes from the acceptance of the substance-quality, and subject-predicate forms of thought implicit in Aristotle's logic and the British empiricism. This manner of thinking results in the traditional distinction between universals and particulars. In the philosophy of organism, Whitehead admits two classes of entities, actual entities and eternal objects, which are "mis-described" as particulars and universals respectively. The misdescription arises from the fact that reality is a process in which both actual entities and eternal objects are integrated in the constitution of actuality. In place of this doctrine Whitehead adopts a "reformed subjectivist principle." The truth in the subjectivist principle that is retained is the doctrine that all reality is ultimately

1. PR, 238-239.
subjective experience.

The reformed subjectivist principle adopted by the philosophy of organism is merely an alternative statement of the principle of relativity (the fourth Category of Explanation). This principle states that it belongs to the nature of a 'being' that it is a potential for every 'becoming.' Thus all things are to be conceived as qualifications of actual occasions. . . . The way in which one actual entity is qualified by other actual entities is the 'experience' of the actual world enjoyed by that actual entity, as subject.\(^1\)

Whitehead considered this doctrine important and reiterated it in a dramatic manner.

The reformed subjectivist principle must be repeated: that apart from the experiences of subjects there is nothing, nothing, nothing, bare nothingness.\(^2\)

Whitehead thus states unequivocally that all reality is composed of feelings. In this doctrine he modifies neorealism, and states a kinship with Alexander, Bergson, Locke and Descartes.

Feelings . . . replace the 'neutral stuff' of certain realistic philosophers. . . . This use of the term 'feeling' has a close analogy to Alexander's use of the term 'enjoyment;' and has also some kinship with Bergson's use of the term 'intuition.' A near analogy is Locke's use of the term 'idea,' including 'ideas of particular things.' . . . But the word 'feeling' . . . is even more reminiscent of Descartes.\(^3\)

In SMW Whitehead quoted the statement of Francis Bacon that all bodies have perception.\(^4\) He noted that the view is also found in Leibniz.

1. PR, 252.
2. PR, 254.
3. PR, 65.
4. SMW, 42.
It is evident that I can use Leibniz's language, and say that every volume mirrors in itself every other volume in space.\(^1\)

The doctrine is here called the doctrine of "prehensile unity," with the meaning that all experience is unified by the experiencing subject: "Whatever is a datum for a feeling has a unity as felt."\(^2\) As Whitehead noted, the view is related to Bergson's use of the term intuition. Bergson stressed the fact that intuition, a sort of "intellectual sympathy," by which the individual placed himself within duration, was the only mode of experience by which true reality could be apprehended. Bergson frequently expressed himself in ways that indicated that his doctrine was very close to Whitehead.

Concrete movement, capable, like consciousness, of prolonging its past into its present, capable, by repeating itself, of engendering sensible qualities, already possesses something akin to consciousness, something akin to sensation. \(...\) Between sensible qualities, as regarded in our representation of them, and these same qualities treated as calculable changes, there is therefore only a difference in rhythm of duration, a difference of internal tension. Thus, by the idea of tension we have striven to overcome the opposition between quality and quantity.\(^3\)

Probably the origin of this doctrine for both Whitehead and Bergson was the theory of relativity, especially the doctrine of the interpenetration of the atoms. It has already been noted that both Bergson and Whitehead refer more than once

\(^1\) SMW, 66.
\(^2\) PR, 36.
\(^3\) Bergson, MM, 329-330.
to this idea.

Build up the universe with atoms: each of them is subject to the action, variable in quantity and quality according to the distance, exerted on it by all material atoms. Bring in Faraday's centres of force: the lines of force emitted in every direction from every centre bring to bear upon each the influences of the whole material world. Call up the Leibnizian monads: each is the mirror of the universe. All philosophers, then, agree on this point.1

The theory of the organic interrelatedness of the universe was thus a fairly common idea in the philosophy of science and both Bergson and Whitehead seem to have taken it from this common tradition. But the interpretation of the view as a theory of feeling was not so frequently expressed, although as Whitehead noticed, it had been hinted at by Bacon, Locke, and Descartes and stated definitely by Leibniz. But Bergson also interpreted the view as a theory of feeling and suggested that a coherent cosmology should be based upon psychology, rather than physics.2 If Whitehead had been attempting to follow Bergson's suggestion, the result would have been PR, and he proposed to write a "critique of pure feeling," as Kant had written the Critique of Pure Reason.3 In view of these facts, it seems certain that there was some influence from Bergson in Whitehead's theory of feeling.

Whitehead calls his doctrine a theory of "prehensions"

2. Bergson, CE, 228.
3. PR, 172-173.
rather than a theory of feeling, because he includes as prehensions, operations which in his view are not properly feelings. They are negative prehensions, which "eliminate from feeling." A concrescence is the integration of feelings into a subjective unity, and a negative prehension "holds its datum as inoperative in the progressive concrescence of prehensions."¹ The theory of negative prehensions is necessary for a completely coherent cosmology, but the study of prehensions is primarily the study of the feelings, or positive prehensions which are involved in the concrescence.

Prehensions are divided into two types. Physical prehensions are the prehensions of actual entities. Conceptual prehensions are prehensions of eternal objects.² Neither type necessarily involves consciousness which is a relatively high development in the scale of creation. Pure physical prehensions, however, never involve consciousness. For this reason, they have been less frequently recognized as forms of experience.

In respect to the roles of the physical and the mental prehensions, there is an interesting analogy to Bergson's doctrine of the élan vital urging its way through matter in the creation of spirit. The physical side of the concrescence, said Whitehead, was "the perishing of the past as it transforms itself into a new creation." The mental side

¹. PR, 35.          ². PR, 35.
"is the Soul entertaining ideas." In his use of the term Soul, Whitehead was referring to the doctrines of Plato.\(^1\) In Whitehead's theory, actual occasions occur and perish as soon as they are born. But each occasion becomes a datum for potential integration in the concrescence of a novel actual entity, and in this way acquires "objective immortality." Whitehead calls this doctrine the "appropriation of the dead by the living," and also refers to it as "the creative advance."\(^2\) There is thus a close resemblance of Whitehead’s view to Bergson’s doctrine of the élan vital, except that Whitehead’s view is more fully developed. Bergson had maintained that the creative impulse was expressed in the creation of spirit. Whitehead stated that the creative urge originated feeling.

In each concrescence there is a twofold aspect of the creative urge. In one aspect there is the origination of simple causal feelings; and in the other aspect there is the origination of conceptual feelings. These contrasted aspects will be called the physical and the mental poles of an actual entity.\(^3\)

Whitehead viewed simple physical feelings as acts of causation. Thus he called them causal feelings. They only acquire consciousness when they are involved in more complex "transmuted" feelings that involve eternal objects.\(^4\) The purely causal feelings represent the unconscious experiences of the organism interacting with the environment.

---

1. AI, 355.
2. PR, ix.
3. PR, 366.
4. PR, 361.
It experiences the environment as causing certain effects in the organism, and the organism in turn makes certain adaptations to the environment. This is done by positively accepting certain data and negatively eliminating other data from the concrescence. This theory has a close analogy to Bergson's view of pure perception. This mode of perception is a purely physical, organic, unconscious experience. Conscious experience, for Bergson, is the intersection of mind, or memory, and the physical, material body. But pure perception is unconscious. The living organism selects what is relevant for the good of its own functioning.

Our representation of matter is the measure of our possible action upon bodies: it results from the discarding of what has no interest for our needs, or more generally for our functions. In one sense we might say that the perception of any unconscious material point whatever, in its instantaneousness, is infinitely greater and more complete than ours, since this point gathers and transmits the influences of all the points of the material universe, whereas our consciousness only attains to certain parts and to certain aspects of those parts. Consciousness,—in regard to external perception,—lies in just this choice. But there is, in this necessary poverty of our conscious perception, something that is positive, that foretells spirit: it is, in the etymological sense of the word, discernment.¹

Whitehead makes a distinction between sense-perception and "sense-reception." Locke and others, he said, erred in considering sense-perception the most primitive form of experience. It was, he pointed out, a high form of experience

because it involved consciousness, while "sense-reception" is unconscious. It is physical feeling, or what Bergson called pure perception.

But the course of thought can be indicated by adopting Bergson's admirable phraseology, sense-reception is 'unspatialized,' and sense-perception is 'spatialized.' In sense-reception the sensa are the definiteness of emotion.¹

Bergson does not use the term "unspatialized" for pure perception, but the above quotation from MM indicates that Whitehead's distinction is true to Bergson's thought, since the organic feelings have a reference to the whole universe.

Whitehead's view of prehensions is also allied with Bergson's views in that both believed that consciousness involved recollection, "earlier phases from the dim recesses of the unconscious."² Bergson used the term consciousness to mean any capacity for experience, or what Whitehead meant by mentality. Consciousness in the ordinary sense of the term, he believed involved recognition, that is, the awareness of elements in the past as involved in the present experience. Like Whitehead, he thought that this was a function of high-grade organisms only.

Recognition is in no way effected by a mechanical awakening of memories that are asleep in the brain. It implies, on the contrary, a more or less high degree of tension in consciousness, which goes to fetch pure recollections in pure memory in order to materialize them progressively by contact with the present perception.³

In Bergson’s view pure, organic perception takes place in the physical world. Mind or memory is the accumulated experience of the individual. This is reflected in Whitehead’s philosophy by the view that while the physical pole of an actual entity partakes of extension, the conceptual pole does not.

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.1

Every prehension has a "subjective form." This is the way in which the subject prehends its datum. There are many kinds of subjective forms, such as emotions, adversions, valuations, consciousness, etc.2 The subjective form for a conceptual feeling is valuation. Since in every concrescence there occurs the prehension of eternal objects, or conceptual feelings, every concrescence is a movement toward value. When in the initial phase of the concrescence a simple physical feeling is integrated with a simple conceptual feeling, the result in a subsequent phase of the concrescence is a physical feeling known as a "physical purpose." Because physical purposes require the integration of conceptual feelings, Whitehead says that "creative purpose is the nature of mind."3 In other words, the function of mind in the becoming of actual entities is to provide

1. PR, 380.
2. PR, 35.
3. PR, 380.
the aim which will determine what form the creation will take. The higher organisms are capable of more significant purposes and thus deeper feelings.1

Whitehead notes that his concept of "physical purpose" is what Bergson calls intuition. He felt that Bergson's intuition is an element in purpose and emotion.2 Physical purposes and what Whitehead called intellectual feelings, together form "comparative feelings." Intellectual feelings are conscious, but the physical purposes are not unless integrated with intellectual feelings, that is, "conscious perceptions" or "intuitive judgments."3 In between pure physical purposes and intellectual feelings, Whitehead placed the stage of feeling in which propositional feelings are important. This stage he called the stage of "pure instinctive intuition," a concept and term which he derived from Bergson. Propositional feelings are those in which there is a nexus of actual entities together with a proposition. A proposition is an "impure" prehension consisting of the integration of the prehensions of an actual entity with an eternal object. It has an element of indetermination or potentiality in it, derived from the eternal object. For this reason the propositional feelings involve judgments of truth or falsity. In relating these feelings to Bergson's stage of instinctive intuition, however, Whitehead

1. PR, 252.
2. PR, 49.
3. PR, 406.
indicates that they are not reflective judgments. Bergson, in describing instinctive intuition, calls it "unreflecting sympathy and antipathy," or a "divining sympathy."\(^1\)

The final phase of concrescence is that of "satisfaction," which is the stage of subjective unity and so of actuality. Whitehead uses this term or the similar term "enjoyment" to indicate that the concrescence moves toward the achievement of value, and this value is achieved when the actual entity acquires significance for itself. Whitehead thus bases his conception of the world "in the aesthetic experience, rather than—as with Kant—in the cognitive and conceptive experience."\(^2\) This is close to Bergson's theory.

Regarded from without, nature appears an immense inflorescence of unforeseeable novelty. The force which animates it seems to create lovingly, for nothing, for the mere pleasure of it, the endless variety of vegetable and animal species. On each it confers the absolute value of a great work of art.\(^3\)

Bergson uses the term joy in the same sense that Whitehead uses the term "satisfaction" or "enjoyment," although less technically.

Joy always announces that life has succeeded, gained ground, conquered. . . . Wherever there is joy, there is creation; the richer the creation, the deeper joy.\(^4\)

Whitehead seems almost certainly to be referring to this passage when he says, "Joy is the normal healthy spur for

---

2. RIM, 104-105.
the \textit{\textit{\`elan vital.}}\textsuperscript{1}

Whitehead's doctrine of feeling is a complex one and its ingredients came from many different sources. One of these sources was certainly Bergson, with whom Whitehead is in agreement at many points. Some of this agreement was sympathy and appreciation; some was an indication of a common source. But it seems certain that Whitehead's development of the theory owed something, perhaps a good deal, to his study of Bergson.

5. Theory of Knowledge

Whitehead distinguished three modes in his analysis of perception. They are the pure mode of causal efficacy, the pure mode of presentational immediacy, and the mixed mode of symbolic reference. The two pure modes are modes of direct or immediate perception and as such preclude the possibility of error. Symbolic reference involves meanings and so is the source both of error and of art and the conception of novelty. Causal efficacy involves the past and the future, or memory and anticipation, but is not conscious or only vaguely so. Presentational immediacy involves the present duration only, but is vivid experience. Whitehead's theory of knowledge is close to Bergson's at many points, although Bergson's three modes of experience are not identical with Whitehead. Bergson's epistemology included pure perception, pure memory, and direct perception. Direct

\textsuperscript{1} Art. (1923) in \textit{AE}, 49.
perception, which is in Bergson a combination or intersection of memory and pure perception, corresponds to Whitehead's mode of symbolic reference. But Bergson's mode of pure perception included both Whitehead's causal efficacy and presentational immediacy, while Bergson's physical recognition is what Whitehead means by memory and is one example of causal efficacy. The total schemes of Whitehead and Bergson are at variance, but in the details of the scheme they are similar.

For Whitehead, the pure mode of causal efficacy does not involve consciousness. In OCT, Whitehead referred to "the panorama yielded by sight, sound, taste, smell, touch, and by more inchoate sensible feelings."1 By this he was referring to pure perception and the last phrase, "more inchoate sensible feelings" is a statement of causal efficacy. For this mode reveals experience in a vague manner, it being primarily a physical experience. In fact, as soon as it comes into consciousness and one makes judgments about it, it partakes of the nature of symbolic reference. Whitehead pointed out that this mode of perception is one in which there is an interplay between the organism and the environment, so that the data are actually apprehended by the senses. Whitehead referred in this idea to the view of Hume and Descartes that perception is accompanied by an

experience of the "withness of the body." ¹ This was also 
Bergson's view, for whom pure perception was an organic 
experience.

There is a vague and in some sort objective resemblance, spread over the surface of the images themselves, which might act perhaps like a physical cause of reciprocal attraction.²

The mode of perception examined by most investigators, including Hume and Descartes, Whitehead pointed out, is the mode of presentational immediacy, although they did hint at causal efficacy. But this latter mode is the more primitive. It is a mode of experience "whereby their functioning is conditioned by their environment."³ Sense-perception or presentational immediacy is mainly a characteristic of more advanced organisms. Causal efficacy refers to the past and also to the future, due to its "vector" character. Memory and anticipation are thus examples of this mode.⁴ Bergson has also suggested this in his statement that all consciousness is memory of the past and anticipation of the future.⁵ This is also found in Bergson's doctrine that "at the basis of recognition there would . . . be a phenomenon of a motor order."⁶

Whitehead's perception in the mode of presentational immediacy, like causal efficacy, is a pure mode. That is,

it is a perception which is direct and immediate. But this mode is vivid rather than vague.

Perception which merely . . . rescues from vagueness a contemporary social region . . . will be called perception in the mode of presentational immediacy.¹

This mode differs from causal efficacy in that it refers only to the present duration. It corresponds to that which is generally called "sense-perception" in the simplest sense of being mere perception without interpretation.²

Whitehead's doctrine of presentational immediacy is also included in Bergson's doctrine of pure perception, because it still is without the intervention of memory or conceptualization. Bergson stated this view when he said that the simplest type of recognition would be "an instantaneous recognition, of which the body is capable by itself, without the help of any explicit memory image."³ Whitehead stated this same view in CN.

Recognition does not merely concern the comparison of a factor of nature posited by memory with a factor posited by sense-awareness. Recognition takes place within the present without any intervention of pure memory.⁴

This recognition is not conscious recognition, but rather it is the physical awareness of elements of experience that are familiar, particularly, in Whitehead's view, the eternal objects.

¹. PR, 185.
². PR, 54.
⁴. CN, 124.
Whitehead and Bergson are agreed upon epistemological monism as fundamental to perception, and therefore necessary for veridical knowledge. For Whitehead, epistemological dualism was an error which "pervades modern philosophy." Whitehead cites Santayana's doctrine as an example of this misconception.

Now the exact point where Santayana differs from the organic philosophy in his implicit assumption that 'intuitions themselves' cannot be among the 'data of intuition,' that is to say, the data of other intuitions. . . . If Santayana's position be granted, there is a phenomenal veil, a primitive credulity associated with action and valuation, and a mysterious symbolism from the veil to the realities behind the veil.

Bergson insisted that "pure perception" is monistic.

In pure perception we are actually placed outside ourselves, we touch the reality of the object in an immediate intuition.

But both Bergson and Whitehead agreed that for knowledge there must be the epistemologically dualistic operation which Whitehead called "symbolic reference," and that practically all conscious perception was in this mode. He called this mode "mixed" because it was an interplay between the two pure modes of perception, causal efficacy and presentational immediacy. He defined "symbolic reference" as "the organic functioning whereby there is transition from the symbol to the meaning," or "the active synthetic element contributed by the nature of the percipient." By symbols

1. PR, 216.
2. PR, 216.
4. SYM, 8.
Whitehead meant concepts like consciousness, beliefs, emotions, usages, etc., as they respect "other components" of experience. These other components are the "meanings" of the symbols.

Symbolic reference has as one of its functions the selection of relevant details, and raising them from faint relevance as they occur in presentational immediacy, to important relevance or significance.¹

As a point of individual psychology, we get at the ideas by the rough and ready method of suppressing what appear to be irrelevant details.²

Another function of symbolic reference is to employ the imagination for the completion of experiences.

The world of present fact is more than a stream of sense-presentation. We find ourselves with emotions, volitions, imaginations, conception, and judgments. . . . Imagination is necessary to complete the orange, namely, the imagination of hypothetical sense-presentations.³

Symbolic reference is a late development in the history of creation and introduces a "new element of originative freedom." It is also the source of error.

Error is the mark of the higher organisms, and is the schoolmaster by whose agency there is upward evolution. For example, the evolutionary use of intelligence is that it enables the individual to profit by error without being slaughtered by it.⁴

Bergson fails to distinguish in pure perception the two

1. PR, 277. 3. COT, in AE, 196.
2. SMW, 53. 4. PR, 255-256.
modes that Whitehead calls causal efficacy and presentational immediacy. Yet he does say that most perception is "direct perception," which is the interaction of the body and memory, the mind. Bergson's "direct perception" is very much like Whitehead's doctrine of "symbolic reference" because it combines the operations of "pure perception" and memory. Bergson's pure perception is a motor experience, as Whitehead's "pure" modes of perception are largely physical feelings. To "pure perception" is added the relevant experiences from the memory. The result is recognition which is partly a comparison of presented data with memory-images, but is also to a considerable extent an imaginative reconstruction. The images which come from memory are only those that refer to bodily needs or functions. In perception an entire object is not disclosed. For this reason Bergson says there needs to be an education of the senses, that they may reconstruct the gaps in experience. Because of the indetermination thus introduced into perception, error is possible, not the error of perception, but the error of interpretation. Because the primary function of the intellect is to secure the action of the body upon the environment, the intellect views reality as though it were composed of simul-taneities.

Whitehead in his view of symbolic reference differs

from Bergson in that he assigns a greater value to this mode than does Bergson. Whitehead believed that symbolism was essential for the higher grades of life and that it was responsible for the advances which human life has been able to make, as well as for its errors. Whitehead admitted that the errors are not wholly avoidable, but he did not, on that account, turn over all knowledge to intuition. Intuition is valuable for its novel insights, but rational thought needs to precede and follow it.

Whitehead's theory of knowledge has points of similarity and points of difference with the thought of Whitehead. But while the general framework of Bergson's views is different from Whitehead's, the basic ideas are quite similar, especially in the account of pure perception which is an awareness of the physical organism rather than an awareness in consciousness. Both Whitehead and Bergson referred to this type of perception as "pure." Whitehead also said that "the current accounts of perception are the stronghold of modern metaphysical difficulties." Their chief trouble, he thought, was the ignorance displayed of modern physics. In this respect, Bergson was on the side of Whitehead, and it is very possible that Whitehead was impressed by Bergson's account of perception and that it aided him in constructing his own views.

1. PR, 278-279.  
2. PR, 179.
CHAPTER VI

BERGSON, WHITEHEAD AND MODERN PHILOSOPHY

The philosophy of organism is a synthetic philosophy in that it contains in one system characteristics which appear in widely divergent schools of thought. In order to determine the influence of Bergson on Whitehead, it will be necessary to determine their relations to modern currents of thought, and note where they agree and where they differ. The reason for this is that many of their views are simply the ideas common to a particular school of philosophy, while others of their ideas represent criticisms or original modifications of traditional thought. The purpose of the study of this chapter is to determine whether apparent influence on Whitehead by Bergson was the result of real influence or whether it represented the ideas common to a particular school of thought. Realism, pragmatism, and idealism will be discussed in order, with the different forms which these schools take.

1. Realism

Realism is a term that is applied to many different types of thought. A full discussion of realism would require a discussion of a great many men, because each important realist has developed his views in a way that is more or less divergent from the views of other realists. But this discussion will be confined to the general tenets
of realism, which may be briefly stated.

Realism, on the negative side, is a revolt against post-Kantian idealism, particularly absolute idealism. It rejects the Hegelian proposition that "the true is the whole," and in place of an organic monism whose diversity is wholly expressed by internal relations, it posits an atomistic pluralism, with the world described in terms of external relations. The primary problem of realism is epistemology and it asserts that reality exists independently of its being known and unaffected by any act of being known. The world, as studied by realists, is simply the world investigated by science. The only difference between science and philosophy is in the greater generality of the problems investigated by the latter.\(^1\) Realists, generally, believe that idealism has been unable to integrate the findings of science, especially that of recent physics, into their scheme, and that realism is making such an integration. Mathematical logic and the implications of relativity play a large part in realistic philosophy. All realists reject the idea of mind as substance and regard it either as an organization of acts of awareness, or as a relation between entities. Most realism throws no light on the problems of theology or the theory of value, although this is by no means true of all realists. There are three main types of

---

realism: English neo-realism, American neo-realism and critical realism.

The main point in English neo-realism is that there are two elements in experience: the object of awareness, and the act of awareness. The mental act is mental, while the object is non-mental. This is the argument of G. E. Moore in his celebrated article "The Refutation of Idealism."¹ Moore, like James Ward and G. F. Stout, regarded experience as having subjective and objective poles.² Alexander made the same distinction and claimed that the object is "contemplated," while the act of awareness is "enjoyed."³ Sellars points out that the English neo-realists thought of mental activity "in a substantial, cosmological way."⁴

American neo-realists differed from the English variety chiefly in that they rejected the existence of consciousness as being anything except a relation between non-mental entities. This was the position of William James's famous article, from which American neo-realism got its start, "Does Consciousness Exist?"⁵ American neo-realism denied both epistemological dualism as found in critical realism and psychophysical dualism, implicit in English neo-realism. Reality for the American neo-realists consisted of a realm of "neutral entities" which were neither mental nor physical.

1. Moore, Art. (1903) cited in Morris, STM, 152.
4. Sellars, in Robinson, ARP, 288.
5. James, Art. (1904) cited in Morris, STM, 110.
Mind in this view is only the relation of awareness of certain elements in the universe selected by the brain or nervous system. The relation of mind or consciousness is not located in the organism but wherever the content of awareness is located—"out there wherever the things specifically responded to are."¹ Holt gives a clear-cut definition of this view of consciousness.

Consciousness is not a substance but a relation—the relation between the living organism and the environment to which it specifically responds; of which its behavior is found to be this or that constant function; or, in other words, to which its purposes refer.²

Because of the externality of relations, the neo-realists in America were able to think of selections of experience as real and in no way altered by the fact of their being selected. Relations also are "just as real and just as objective as the things themselves."³

The aim of critical realism was to reject the epistemological monism of both varieties of neo-realism, and to reject the psychophysical dualism that was implied in English neo-realism. They felt that epistemological monism could not give an adequate account of error. They consequently distinguished three rather than two elements in experience. They believed that there is a knowing subject, a datum known, and an object to which this datum refers.

¹ Holt, NR, 354, cited in Morris, STM, 112.
³ Patrick, ITP, 356.
Critical realists differ widely in their opinions concerning the metaphysical status, but the essential point upon which they agree is that this "datum" or "essence" as Santayana calls it, is something other than the object referred to. As Sellars puts it, the mental act is not a simple awareness, as it is in English neo-realism, but it has a structure; it is a "complex process of interpretation rather than a simple awareness."¹

The above has been only a bare outline of the essential points in the various types of realism. The question remaining is the relation of Whitehead and Bergson to these various views. Whitehead is usually classed with English neo-realism because he started as a member of that school, but commentators usually point out that Whitehead has devised a highly original system that does not lend itself to classification.

It needs to be recognized, first of all, that there was a progress in Whitehead's thought. When writing on the philosophy of science, he considered himself a realist. He objected to idealism, because in his opinion there was not enough mind to go around.² Yet in his final view, he accepted mentality as a property of every actual entity. He did this as a result of the elaboration of his doctrine of feeling, in which feelings replaced the "neutral stuff" of

¹. Sellars, PT, in ARP, 289. ². Whitehead, Art. (1922), 131.
the American neo-realists.\(^1\) Whitehead still, however, in PR, considered himself a realist. He said in the "Preface" to PR:

> Among the contemporary schools of thought, my obligations to the English and American Realists are obvious.\(^2\)

In this reference, he cited particularly Professor T. P. Nunn, whose epistemology is representative of English neo-realism.\(^3\) In the following statement Whitehead assumed that PR is a realistic metaphysics:

> It is the basis of any realistic philosophy, that in perception there is a disclosure of objectified data, which are known as having a community with the immediate experience for which they are data.\(^4\)

In this connection Whitehead cites Locke's doctrine of "power" as suggesting the objectivity of the data. Whitehead also stated that Part V of PR, where his doctrine of God, the macroscopic interpretation of reality, was discussed, is "a transformation of some main doctrines of Absolute Idealism onto a realistic basis."\(^5\)

Whitehead agreed with English neo-realism in his belief that the world was to be conceived of as pluralistic, and in his rejection of the "Subjectivist Principle," the idea that all reality could be analyzed purely in terms of universals, or concepts.\(^6\) He agreed with Bertrand Russell that philosophy needed to make use of all the data of

\(^1\) Whitehead, PR, 65.  \(^4\) Whitehead, PR, 123.
\(^2\) Whitehead, PR, vii.  \(^5\) Whitehead, PR, viii.
science and mathematics, especially the most recent. Whitehead rejected the Kantian idea that the world as known was phenomenal; he was convinced that true knowledge was possible and that the world had a real existence. However, according to the principle of relativity, the nature of the physical world depended upon "perspective" of the observer. This was the position of objective relativism, a doctrine of critical realism.

Besides the tendency to objective relativism, Whitehead held other views in common with the critical realists. He admitted that the act of awareness was not simple, but structured. By far the greatest amount of human perception took place in the mixed mode of symbolic reference. This mode of perception meant the introduction of an interpretative element into the knowing process and thus introduced the possibility of error. In his discussion of this mode of perception, Whitehead had much in common with the critical realists. But symbolic reference did not mean for him the impossibility of immediate knowledge. In the first place, symbolic reference is an interplay between the two pure modes of perception which were modes of immediate perception and thus incapable of error. Scientific investigations therefore held presentational immediacy as the ideal by which accuracy was secured. In the second place, per-

ception in the mode of symbolic reference admits veridical knowledge because it depends upon a common ground recognized by both pure modes of perception. This common ground is first of all the "presented locus." That is, according to the perspective of the percipient, the perception takes place in a definite locus of space-time—in a volume of space and in a "spatialized" specious present of time.  

Secondly, the common ground of symbolic reference is the identity of an eternal object ingredient in both pure modes of perception. Thus Whitehead agreed with the critical realists in admitting the possibility of error as due to the interpretative character of conscious perception. This also included the possibility of creative, synthetic operations of thought. But Whitehead agreed with the American neo-realists in his account of presentational immediacy which he described as defining "a cross-section of the universe." He disagreed with them because they did not recognize any other mode of perception. Thus they did not allow for error, nor did their mode of perception give "information as to the past or the future."

Whitehead in his metaphysics also differed from contemporary realism in that he believed the world to be organically connected in a system of internal relations, as in the philosophies of Hegel and Bradley. "The universe,"

1. Whitehead, PR, 256-257.  
2. Whitehead, PR, 259.  
3. Whitehead, PR, 255.
he said, "is at once the multiplicity of res verae and the solidarity of res verae."¹ This belief opened the way for a macroscopic view of the universe including a concept of God and value and eternal development.

Because of the confusing way the term realism is used, it is difficult to determine whether or not Whitehead's metaphysics may be called realistic. In his pluralism and his insistence upon actual entities as res verae, Whitehead is realistic, but in asserting that both poles of actual entities are composed of feelings, and that mind in some degree of significance is found in every actual entity, Whitehead is even closer to an idealistic metaphysics. Whitehead is probably best characterized as a realist in his epistemology and an idealist in his metaphysics.

Finally, Whitehead differed from neo-realism in his panpsychism, in that he believed that mentality is a characteristic of all actual entities. For this reason he adopted a "reformed subjectivist principle" and asserted that "apart from the experiences of subjects there is nothing."² Panpsychism has elements in common with both idealists and realists and is sometimes considered a type of critical realism, as is the view closely associated with it, the double-aspect theory, which conceives of the world as composed of a "stuff" that may be called "mind-stuff" or matter.

¹. Whitehead, PR, 254.  
². Whitehead, PR, 254.
depending upon the aspect that is being stressed. These views are expressed particularly in the work of C. A. Strong, Durant Drake, Roy W. Sellars, and C. Lloyd Morgan.¹

Bergson, in his metaphysics, seems far from the doctrine of realism, but in certain respects, particularly in his epistemology, he appears to be very close to American neo-realism. Morris points out the similarity between the views of Bergson and Holt.

It is of interest to note the similarity between Holt and Bergson, and the point at which the divergence begins. Bergson is as realistic as any new realist in insisting that what is given in perception owes its existence to neither a perceiving mind nor a focal organism, giving one of the most radically selective, as opposed to generative, accounts of sensa that is to be found (see particularly chap. 1 of Matter and Memory). With Holt he would agree that the body is solely an instrument of action and is not a generator or storehouse of content, that the perceived world is the objective world as cut out or selected by the activity of the organism, and that quality differs from quantity in being a "fusion" of "slow" periodic processes. For both men the destruction of the body only destroys the condition by which self-existing content is brought into relation to an active organism. The difference in the views comes in the fact that Bergson introduces spirit or mind in addition to such selected content, as a means of dealing with thought and memory, while Holt, aided by the concept of subsistence, attempts to carry through the doctrine of selected content, now made equivalent to mind or consciousness, throughout the whole range of memory, knowledge, error, and illusion, involving no additional principle of mind or spirit. In the doctrine of perception, however, Bergson is quite as new realistic as is Holt.²

The first appearance of Matière et Mémoire was in 1896.

1. Drake, MPN, x-xi; Morris, STM, 237.
This was before contemporary realism had become prominent, since the discussion really started in England with Moore's "Refutation of Idealism" in 1903, and in America in 1904 with James's, "Does Consciousness Exist?" Yet Bergson anticipated many of the problems of realism and discussed them before they had become prominent. In MM, he criticizes both realism and idealism because of their views of perception.

The realist starts, in fact, from the universe, that is to say from an aggregate of images governed, as to their mutual relations, by fixed laws, in which effects are in strict proportion to their causes, and of which the character is an absence of centre, all the images unfolding on one and the same plane indefinitely prolonged.¹

But, he says, the realist is bound to recognize the existence of perceptions, which are a system of images which depend upon a single image as a center, a percipient. This center, he says, is what the idealist starts from. But the idealist is unable to acquire scientific knowledge and connect the past, present, and future, unless he again ranges images on the same plane so that they are independent of the percipient—in other words, he must adopt a realistic position.

The first system alone is given to present experience; but we believe in the second, if only because we affirm the continuity of the past, present, and future.²

The first system of images, the system of science without regard to past, present, and future, and "given in present experience," is comparable to Whitehead's presentational immediacy. The second, the idealist system of images which connects the past, present, and future, requires Whitehead's mode of causal efficacy. Also perceptions require memory, which constitute a form of causal efficacy. Bergson, like Whitehead, maintains that neither system of images can account for the facts, since neither one implies the other. He thus rejects neo-realism as it came to be developed in America, and also rejected subjective idealism. There needed, he felt, to be a view that would take account of all the facts. The system of images in one plane he called pure perception. As Morris pointed out in the quotation above, Bergson analyzed pure perception in a manner practically identical with the American neo-realists, and so like Whitehead's mode of presentational immediacy. But he felt that direct perception was due to the interplay between pure perception, the act of the body, including the brain and nervous system, and pure memory, which was mind or experience of the past held by the tension of consciousness. Direct perception was for Bergson very like Whitehead's mode of symbolic reference and in this Bergson is in the company of the critical realists. Again, in affirming that matter

is simply that in which the tension of life is of such a low grade as to be negligible, he affirms a view that is similar to that of Whitehead and the panpsychists. Thus on almost every point, Bergson's position with regard to realism is similar to Whitehead's.

Bergson's divergence from realistic views is similar also to Whitehead's. Bergson affirmed the interconnectedness of the universe, and consequently, the inadequacy of analysis. Like Whitehead, he admitted the data of recent developments in science as being of great importance to philosophy, but felt that the philosopher must accept a method which is more synthetic than that of science, a method that enables one to see the whole, both its developing order and its total significance. This method was the method of intuition, which Whitehead also accepted, although Whitehead subjected the insights of intuition to a closer rational scrutiny than Bergson did.

Having ascertained the position of Bergson and Whitehead in respect to the realistic movements, it now remains to ask in what respect the philosophy of Whitehead was affected by Bergson's position. Very probably there was some effect from Bergson's philosophy upon the development of realism in general. Morris, however, does not believe that the influence was very great.
Undoubtedly the empirical aspect of the English tradition as reflected in Mill, Spencer, and the Associationists helped prepare the ground for modern realism, as did certain phases of the thought of Brentano, Bradley, and Bergson. That twentieth-century realism and pragmatism drew its major nourishment from historical sources does not, however, seem apparent. Their basis impetus seems to have been gained from the logical, methodological, and factual results of modern science, results which furnished a convenient point of opposition to the absolutism and mentalism of the then dominant idealism.\footnote{Morris, STM, 106n.1.}

Whitehead's metaphysics and epistemology were in process of development while he was in London and associated with the Aristotelian Society. There was much discussion of epistemology and T. P. Nunn was influencing Whitehead in favor of English realism. On the other hand, there was also much discussion of Bergson, and E. Wildon Carr was influencing Whitehead in favor of Bergson. Furthermore, it has been shown that Whitehead had read Bergson with a good deal of appreciation at this time. For this reason, it appears very probable that, whatever Bergson's influence on the development of realism in general may have been, he undoubtedly influenced Whitehead. Probably this influence was in the criticisms of realism, however, rather than toward it, or toward influencing Whitehead's epistemology. Whitehead's epistemology in its final form appears to have been a fairly late development and he does not cite Bergson in support of any of his views. The influence of Bergson was toward
emphasizing the twin aspects of complexity and solidarity in the universe, and the primacy of process. Possibly Bergson also influenced Whitehead in his view of presentational immediacy, by stressing that there is in perception, a certain element of immediate knowledge.

2. Pragmatism

The term pragmatism naturally brings to mind the names of James and Dewey and the fact that Whitehead in the "Preface" to PR, mentioned them, along with Bergson, as being especially influential upon his thought. Pragmatism is not a metaphysics; it is more a philosophic method. Dewey has pointed out that James's pragmatism was really his "radical empiricism" carried out to include the future as well as the past. Pragmatism stresses action and practical consequences; it holds that the truth of an idea is verified or modified by its consequences. Since pragmatism stresses action, it has not built up a systematic metaphysics, but it assumes that the world is fundamentally pluralistic and complex. It accepts the world as it appears and as it may be acted upon and modified, as a true interpretation of the world, holding that any rationalistic attempt to present the world as otherwise is fruitless.

In the hands of Dewey and others, pragmatism became

1. Dewey, in Robinson, ARP, 441.
more metaphysical than it was in the hands of James, and became known as instrumentalism. The important idea expressed was that the mind is an instrument favoring the activity or functioning of the organism. The mind was also thought of as simply the instrumental function of non-mental entities, and as such it had no real existence. Mind was simply non-mental elements functioning in a certain way. For this reason the view also came to be known as functionalism. Pierce stressed the importance of symbolism in thinking, and Dewey included his ideas in his theory of mind as the symbolic functioning of events.¹ In other words, when in the functioning of an organism, certain events are operative in the functioning as having meaning and reference to other events, they are said to be functioning symbolically, and this activity is called thought. It is only when events function symbolically that they are considered mental. Thus mentality is a property of highly developed organisms only.

Both Bergson and Whitehead have important points in common with pragmatism, although neither of them can be classed as pragmatists without extending the term to include so much that it loses most of its definite meaning. Bergson’s views are related to pragmatism in the important aspect of stressing activity. Pragmatists, like Bergson, based their views primarily on biology and psychology.

¹. Morris, STM, 283-298.
They were influenced by the theory of evolution, and its recognition of the fact that organisms are adaptive; they adapt either themselves or their environment. Bergson is famous for pointing out how the intellect views the universe in terms of its possibility for action. In this respect he has much in common with the voluntarism of Schopenhauer. 1 But Bergson differs radically from the pragmatic way of thinking in that he feels that the intellect is not a safe guide to truth, that it falsifies the nature of reality.

The instrumentalists have inverted Bergson. They hold that the mind is simply an instrument for the activity of the body. But Bergson held that the body was an instrument for the expression of mind. In stating this view Bergson explicitly rejected the instrumentalist or functionalist view.

The doctrine which makes of memory an immediate function of the brain—a doctrine which raises insurmountable theoretical difficulties—a doctrine the complexity of which defies all imagination, and the results of which are incompatible with the data of introspection—cannot even count upon the support of cerebral pathology. All the facts and all the analogies are in favour of a theory which regards the brain as only an intermediary between sensation and movement, which sees in this aggregate of sensations and movements the pointed end of mental life—a point ever pressed forward into the tissue of events, and, attributing thus to the body the sole function of directing memory towards the real and of binding it to the present, considers memory itself as absolutely independent of matter. 2

In the above passage Bergson states the psycho-physical

---

1. Morris, STM, 278.  
dualism which he admits in the "Preface" of MM as the position of the book. This also is a divergence from most pragmatism, which in seeing mind as a function of the brain is materialistic, or more accurately, since pragmatism is closely connected to biological evolution, naturalistic. Bergson, in CE, moved away from his former dualism, but toward panpsychism, rather than naturalism. Bergson, even as a dualist, considered mind as of a higher order of reality than matter, and his movement through the years was toward the enhancement of the importance of mind.

At one other point, however, Bergson is in sympathy with pragmatism. Although holding a more organic view than that held by pragmatists, he emphasized the contingency of the world and its continual advance into absolute novelty. Dewey, in commenting on the views of James, makes a statement that is very close to Bergson in CE.

Monism is equivalent to a rigid universe where everything is fixed and immutably united to others, where indetermination, free choice, novelty, and the unforeseen in experience have no place; a universe which demands the sacrifice of the concrete and complex diversity of things to the simplicity and nobility of an architectural structure. In what concerns our beliefs, Monism demands a rationalistic temperament leading to a fixed and dogmatic attitude. Pluralism, on the other hand, leaves room for contingency, liberty, novelty, and gives complete liberty of action to the empirical method, which can be greatly extended.¹

It is interesting to note that, despite Bergson's

¹. Dewey, in Robinson, ARP, 437.
divergences from pragmatic doctrines, James, according to
Schiller, once admitted that he got many of his early in-
sights from Bergson. Bergson and the pragmatists apparent-
ly started from closely similar positions, but developed
them in opposite directions. The pragmatists followed the
lead of the intellect (in Bergson's sense), while Bergson
followed the lead of intuition.

Whitehead differs from the pragmatists at about the
same points that Bergson does. Whitehead considered the
world to be pluralistic, but he also considered it to be
organic. Whitehead did not accept the pragmatic theory of
truth, which he felt was really a skepticism about the pos-
sibility of finding real truth, and so the willingness to
adopt the method of practical consequences as a guide.
Whitehead criticized the merely practical because it too
frequently was an abstraction. Frequently abstractions
work better than reality, because they are simpler.

The world of science has always remained perfectly
satisfied with its peculiar abstractions. They
work, and that is sufficient for it.2

Whitehead did reject what he called the "dogmatic fal-
lacy," which is the belief that the methods of investigation
used must necessarily yield truth. But he believed that the
pragmatists had gone too far.3 He also included Bergson in

2. Whitehead, SMW, 67.
3. Whitehead, AI, 287.
this criticism, however, for he felt that Bergson also was skeptical of finding the truth. Whitehead had more trust in reason. He said that "The function of Reason is to promote the art of life." While at first this sounds like a pragmatic position, what Whitehead meant by "art" was enjoyment of life and enhancement of significance, contrasting it with the merely practical. Whitehead recognized two types of Reason, the Practical and the Speculative. In general, the pragmatists emphasized the practical at the expense of the speculative. The same distinction in the function of reason appears in Whitehead's educational essays, where he is at variance with the more practical views of Dewey.

Very likely Whitehead owed much to the pragmatists, especially Dewey, in the development of his epistemology, but not so much that Whitehead's views can be claimed as those of the pragmatists. Lowe points out that Whitehead's view of the direct experience of causality in perception in the mode of causal efficacy was probably influenced by Dewey. Also the doctrine of symbolic reference may have come from Dewey. Whitehead stated in PR that

The failure to lay due emphasis on symbolic reference is one of the reasons for metaphysical difficulties; it has reduced the notion of 'meaning' to a mystery.

Dewey also recognized the need to understand the meaning of

symbolism and even interpreted mind as symbolic functioning. Whitehead would not go as far as that. For him symbolism represented the mode of perception most common among conscious, thinking beings, but he did not equate this mode with mind or even consciousness. Mind for Whitehead was the prehension of eternal objects, the conceptual pole of actuality. In any experience both physical and mental prehensions are involved.¹

In their mutual relations to pragmatism, Whitehead may have been impressed in reading Bergson, as James probably was, by his account of life as active and purposive, pushing forward into novelty. Aside from this there is little that pragmatism offered Whitehead that he might just as well have received from other sources than from Bergson.

3. Idealism

During the nineteenth century, the prevailing philosophy was idealism. But according to Sellars, idealism failed to keep pace with the scientific advance with the result that a reaction set in, producing the distinctive philosophies of the twentieth century.

The plain fact seems that idealism was not equal to its task. It did not face up to the facts discovered by the sciences, and seemed to consider itself an escape from their pressure. Dissatisfaction was certain to manifest itself.

This dissatisfaction expressed itself at almost

¹. Whitehead, PR, 272-273.
the same moment in personal idealism of a pluralistic type, in pragmatism, and in realism.\(^1\)

The reaction, as it appeared in the forms of realism and pragmatism, has already been discussed, in so far as Bergson and Whitehead were involved in it. In this section their relation to idealism will be investigated.

Idealism is even more difficult to define than realism or pragmatism. It has taken numerous forms, and Brightman points out that "mere idealism" is almost impossible to define. For intelligibility, he says, it is necessary to qualify the term with an adjective in order to define which type of idealism is being referred to. Nevertheless, Brightman does attempt a vague working definition of idealism.

All idealism is characterized by belief in the ultimate reality or cosmic significance either of mind (using the term in the broadest sense) or of the ideals and values revealed to and prized by mind.\(^2\)

Brightman distinguishes four general types of idealism.\(^3\) Platonic idealism asserts the objectivity of values. Berkeleian, sometimes called subjective idealism, asserts that all reality is of the nature of mind or consciousness. Reality is constituted by the act of perception. Permanence and the order in nature is the result of the ubiquity of God's perception. Hegelian, or absolute idealism, is the theory that reality consists of a coherent system, and that

---

2. Brightman, POI, 172.
only the whole is true in an absolute sense. Parts of the whole are partial truths, and may be understood adequately only in their relation to the Absolute. This Absolute, according to Hegel, is spiritual, as the most adequate description for fully developed reality. This form of idealism is also termed logical, or organic idealism.

Bosanquet, a member of this philosophic school, suggested that this type of idealism might well be termed "speculative philosophy." The fourth type of idealism, to which he himself subscribes, Brightman calls the Lotzean. It finds selfhood or personality the ultimate principle for the understanding of reality.

The relation of Bergson and Whitehead to each of these four types of idealism will now be considered. In support of the contention that Whitehead's philosophy is synthetic, it will appear that his thought embraces elements of each of these types, as well as realistic and pragmatic insights.

There is much in Whitehead that is Platonic. He drew heavily in constructing his cosmology, on Plato's *Timaeus*, especially as interpreted by A. E. Taylor. But he came closest to Plato's idealism in his theory of eternal objects. These are closely analogous to Plato's Ideas. He pointed out that while every scheme of nature must deal with both change and endurance, it must also deal with a third fact, that of eternality. There are, however, two

---

1. Brightman, PCI, 169.  
2. Whitehead, SMW, 88.
points at which Whitehead modified Plato's theory. While eternal objects are objective in that they are given eternally and do not perish with perishing occasions, yet they are not actual in abstraction from such occasions. They are "pure potentials."¹ For Plato the Ideas are real, of which the things of earth are only copies in the realm of phenomena. Furthermore, for Whitehead the eternal objects subsist in the primordial nature of God. In this he is more Aristotelian than Platonic; for Plato the Ideas were completely objective. In the second place, the Ideas of Plato are forms of value, so that in his view values are objective. But in Whitehead, value is "the word of use for the intrinsic reality of an event. ... There is no such thing as mere value."² Thus the eternal objects are potentials for the production of value, but are not values in themselves. Here again, Whitehead follows Aristotle's distinction between potentiality and actuality, which is one of Aristotle's constructive improvements upon the views of Plato.

In the philosophy of Bergson, Platonic Idealism has no place. Bergson specifically criticized Plato's theory of ideas because, as he put it, the Forms were "simply snapshots taken by the mind of the continuity of becoming."³ Bergson also criticized Aristotle's treatment of the Ideas, because

¹ Whitehead, PR, 32.  ³ Bergson, CE, 349.
² Whitehead, SMW, 95.
Aristotle, in giving the Ideas a subsistence in the mind of God, made the "active intellect" to be "Science entire, posited all at once." But for Bergson, reality was in process of constant evolution, producing "forms ever new." Bergson apparently did not see the importance of the principle of "eternity" as necessary to a coherent explanation of nature. Whitehead was very possibly following Bergson in his doctrine of novelty in each actual occasion, but he did not find this idea inconsistent with the empirical fact that there are eternal elements ingredient in every such occasion.

Whitehead's metaphysics cannot be classed as subjective idealism, but there are certain insights of Berkeley's which he retained. Whitehead rejected the "Subjectivist Principle," in the sense that all reality may be expressed as ideas, in the sense of ideas as concepts or universals. On the other hand, he accepted the Berkeleian notion that all reality consists of the experiences of subjects. Reality is a process of concrescence which is the bringing into unity in a subject, experiences of that subject. This process Whitehead called a "process of prehensive unification," and substituted the term for Berkeley's mind. Whitehead also agreed with Berkeley in that the permanence and order of the universe is due to the "prehensive unification" of all experience in the mind of God.

2. Bergson, CE, 374. 5. Whitehead, SMW, 71.
3. Whitehead, PR, 239.
Bergson agreed with subjective idealism in that the content of perceptual knowledge is composed of "images," that is, mental unifications of experience. But Bergson could not accept subjective idealism, because he was convinced that "images outrun perception on every side."\(^1\) By this he meant that there is much more to reality than is ever perceived. On the other hand, Bergson could not accept the Kantian position that perceptual knowledge is phenomenal.\(^2\) Whitehead was able to go further with Berkeley than Bergson was, because Whitehead was willing to accept Berkeley's view that experience was organized ultimately in God. Bergson was afraid, perhaps, that this view would compromise his view of novelty, because the only view of God he recognized was that of God as a being in whom the future lies completed. He was able later to accept a view of God more consistent with the principle of novelty and freedom. Whitehead was able to overcome the hesitation in Bergson by the distinction between the primordial and the consequent natures of God. It is possible that Whitehead, having been impressed by Bergson's account of the creativity evident in the world, developed his views of God with the necessity in his mind of developing a view that would account for both eternality and novelty. Very probably, he was also influenced by Alexander's doctrine of developing Deity.

1. Bergson, MM, 305.  
The Hegelian philosophy, absolute idealism, was the prevailing philosophy during the latter part of the nineteenth century, and much twentieth century philosophy was a reaction from it. The philosophy of Whitehead was in part a reaction away from absolute idealism, but on the other hand, as has been indicated earlier in this dissertation, Whitehead agreed in many respects with the Hegelian school.

In England the Hegelian with whom Whitehead came most in contact was Bradley. Whitehead admitted that most of PR was in "sharp disagreement with Bradley," but also admitted that the final result was "not so greatly different." In common with the majority of twentieth century philosophers, Whitehead was of the opinion that the Hegelian approach was too rationalistic and lacked empiricism. They felt that absolute idealism did not take adequate account of modern science. They objected to the concept of the Absolute as the ultimate reality. William James called this cosmological scheme a "block universe." The pragmatists and realists insisted upon a pluralistic universe and the externality of relations.

Whitehead did not, however, go all the way with the critics of Hegelianism. The first chapter of PR contains a defense of "speculative" philosophy. Whitehead agreed with the Hegelians that the universe was organic and with their contention that relations were internal, and that reality

is a process of development. By making a distinction between potentiality and actuality, however, Whitehead remained, with the realists, a pluralist. The universe, in the philosophy of organism, is both a unity and a multiplicity. In Whitehead's address on The Rhythm of Education he admitted the validity of the Hegelian dialectic, at least in its application to human progress.

I think that Hegel was right when he analysed progress into three stages, which he called Thesis, Antithesis, and Synthesis.

The Hegelian dialectic is evident in Whitehead's conception of God's "infinite patience." In Hegel's thought, the stage of Synthesis is that stage in which the negations of the Antithesis are transformed into a new unity; previous stages are preserved with contradictions eradicated by their inclusion in a more inclusive whole. Similar thought occurs in the concluding part of PR. The reader, who persists in reading PR through much that is exceedingly difficult, is rewarded at the end of the journey with words of great beauty and insight:

The wisdom of subjective aimprehends every actuality for what it can be in such a perfected system--its sufferings, its sorrows, its failures, its triumphs, its immediacies of joy--woven by rightness of feeling into the harmony of the universal feeling, which is always immediate, always

1. Whitehead, PR, 254. This reference to the Hegelian school, quoted in full on page 12 of this dissertation, describes precisely where Whitehead believes he is in agreement and disagreement with this type of thought.

many, always one, always with novel advance, moving onward and never perishing. The revolts of destructive evil, purely self-regarding, are dismissed into their triviality of merely 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 complete whole. The image—and it is but an image—the image under which this operative growth of God's nature is best conceived, is that of a tender care that nothing be lost.¹

Bergson makes no mention of Hegel nor of absolute idealism, with the exception of a single reference to an article by Bradley on the psychology of attention.² Yet, in the light of what Bergson says about the absolute in CE, it is difficult to imagine that he was not influenced by this school, especially since it was the dominant philosophy of the nineteenth century. The theory of evolution had a strong impact on the nineteenth century, and Hegel's philosophy of dialectical development reflected the interest in evolution. Any evolutionary philosophy has at least this much in common with Hegel. Bergson did react strongly to the rationalism of absolute idealism and, like other twentieth century philosophers, attempted to be more empirical and relate his philosophy with the fact of science. It is probably true that most of those who reacted against absolute idealism failed to note how empirical Hegel himself was, and how carefully he considered the data of science. Yet the actual fact is that most realists and pragmatists

¹. Whitehead, PR, 525. ². Bergson, MM, 120n.
felt that Hegel and the Hegelians were unempirical and therefore untrustworthy.

Bergson believed in a concept of the absolute, but he insisted that it was in process of continual development, not even completed in potentiality.

If the time taken up by this succession is something other than a number . . . it is because there is unceasingly being created in it, not indeed in any such artificially isolated system as a glass of sugared water, but in the concrete whole of which every such system forms part, something unforeseeable and new.¹

Later Bergson noted that by intuition one might "see in time a progressive growth of the absolute."² The Absolute for Hegel was the stage of the spiritual life. For Bergson, as also for Whitehead, spirit is a higher form of reality than matter. Bergson also refers to "the unity of the spiritual life."³ In these modifications of absolute idealism, Bergson was undoubtedly influenced by the French spiritualists, especially Maine de Biran.⁴

In conclusion, it appears that, while Bergson and Whitehead were both influenced by Hegelianism and accepted and rejected absolute idealism at approximately the same points, Whitehead arrived at his views from his study of absolute idealism, particularly Bradley, rather than by a secondary influence from Bergson.

The fourth type of idealism noted by Brightman, the

¹ Bergson, CE, 369.
² Bergson, CE, 374.
³ Bergson, CE, 292.
⁴ Cf. Chevalier, HB, 16ff.
school in which he belongs, is personal idealism, or personalism. As Sellars noted, this school was the idealistic answer to the criticism raised against absolute idealism by the realists and pragmatists. Personalism rejects the quantitative monism of absolute idealism, while agreeing to its qualitative monism. Personalism asserts that reality is spiritual, but affirms the plurality of persons. Reality consists of a community of persons, with God, the supreme person. Nothing exists except persons and their experience. Brightman points out that there are two roots in personalism, both of them in Kant, although personalism cannot be termed a Kantian philosophy. One root is epistemological, stressing Kant's doctrine of the constitutive activity of the mind in knowledge. The other root is moral, derived from Kant's doctrine of the primacy of the practical reason. In this doctrine Kant asserted the objectivity of moral values, and personalists point out that only persons can be moral.¹ A person, as defined by Brightman, is "a self that is potentially self-conscious, rational, and ideal."² He contrasts a person with a self, which is a generic term for "any and every consciousness, however simple or complex it may be."³

---

¹. Brightman, PCI, 170-171.
². Brightman, POR, 350.
³. Brightman, POR, 350.
Much of Bergson’s philosophy is close to personalism.¹ Flewelling says that Carr’s reading of Bergson was “the beginning of Carr’s trend toward Personalism.”² Bergson’s personalistic tendency came, probably, from the French philosophy contemporary with him. Lachêlier emphasized the constitutive activity of mind, while Renouvier constructed a personalistic metaphysics.³ Both of these men influenced Bergson, but he was influenced even more by Maine de Biran, from whom his doctrine of intuition apparently came. The doctrine of intuition is not stressed in personalism, because it is a doctrine of immediate knowledge, while personalism asserts that the only immediate knowledge is knowledge of one’s own consciousness. All other knowledge is by "objective reference" of the knowing mind to the experience known. Personalists are thus epistemological dualists. However, an element of religious mysticism in many personalists, admitting the validity of prayer, both personal and intercessory, suggests that for them intuition is at times operative. The synthetic activity of the mind is also in-

1. In Bergson’s TSMR, written too late, however, to have influenced Whitehead’s philosophy of religion, Bergson arrived at the position that God is a person, and that the creative energy is love. (TSMR, 241.) He also held that God needs his creation, just as the creation needs him. (TSMR, 243.) Whitehead also in PR speaks of God in personal terms. He speaks of the creative action as it is completed in the consequent nature of God as the “love of God for the world.” (PR, 532.) Also Whitehead conceives of God as requiring the world and completed by the world. (PR, 527.)
tuitive in personalism, although it is a rational intuition, as in Kant, rather than immediate awareness of reality, as in Bergson.

Bergson's relation to personalism is closest in his doctrine of spirit which reaches its highest development in human beings. For Bergson, memory is mind or the unification of all past experience. Personalists stress the fact that only in the unity of consciousness is memory possible. Bergson's doctrine of "the unity of the spiritual life" is also a personalistic idea.

Personalists stress the reality of freedom and the fact that it necessitates a certain amount of contingency in the world. Brightman has gone to the extent of positing a theory of a "finite God," who wrestles continually with the "non-rational Given" in His experience. Included in Brightman's view is the contention that God's omniscience cannot be construed to mean absolute knowledge of the future, for this would compromise the freedom of persons.¹ Both Bergson and Brightman hold that if time and freedom are real, then God cannot know what choices free persons will make, although God may, by His attractive power draw the creation toward a greater realization of spirit. Implicit also in their views is the theory of a "growing universe."² The close connection of Brightman's views with those of Bergson is obvious. Bergson held that the élan vital struggled con-

tinually, in its creative advance, with the obtuseness of matter. He held that conscious persons are free and that the universe is unfinished. In his earlier books, his religious view were those of religious naturalism, but in his later book, *TSMR*, Bergson arrived at a theistic position. Brightman's theories appeared later than Bergson's and probably owed much to the influence of Bergson, but Bergson's views certainly had personalistic elements implicit in them.

Neither Whitehead, nor Bergson in his earlier books can clearly be said to be personalists, but both included in their views personalistic insights. Whitehead's pluralism of actual entities, with God the supreme actual entity, is like personalistic pluralism except that in personalism each self is distinct, while in Whitehead, God is the whole of which the subordinate actual occasions are the parts, analogous to the relation of cells to a complete organism. In this respect Whitehead is closer to absolute idealism than personalism. But Whitehead did recognize the reality of spirit and the supreme importance of persons. Every actual entity contains conceptual prehensions of eternal objects.

It is the foundation of *The* metaphysical position which I am maintaining that the understanding of actuality requires a reference to ideality.¹

¹. Whitehead, *SMW*, 158.
Thus all actual entities have mentality. In this respect actual entities correspond to Brightman's definition of a datum self.

Whitehead recognized three grades of order in the universe. A multiplicity is a mere togetherness. Social order is an organic togetherness, while personal order is organic togetherness with serial order. For Whitehead personal order is the highest type of order, although a personal society need not be conscious or even living, in the ordinary sense of the term. But the highest type of personal order is a conscious person, what Plato called the soul. Whitehead does not carry on this analysis of "The Grouping of Occasions" to decide what type of order God exemplifies, but it is evident that He is a person, since He fulfills all the requirements of personal order. Thus Whitehead agrees with personalists that personality is the highest type of the organization of experience that can be attained. Yet Whitehead does not make God ultimate, but rather creativity. But God is the most ultimate form of actuality. Creativity is not actual, because actuality consists to a certain extent in determination. Whitehead's philosophy at this point is closer to Indian or Chinese philosophy than it is to Western thought, as he himself noted.

1. Whitehead, AI, 264.  
2. Whitehead, AI, 267.  
3. Whitehead, PR, 11.
sense as absolutely unlimited, and therefore indescribable and unknowable. The only God that can be worshipped for them is a lesser, determinate approximation to the ultimate Deity.

In Whitehead's epistemology he is close to personalism, but differs in some respects. He admits with personalists that "the only strictly personal society of which we have direct discriminative intuition is the society of our own personal experiences." By "direct discriminative intuition," Whitehead means conscious perception in the mode of presentational immediacy. All other conscious knowledge is by the epistemologically dualistic method of symbolic reference. So far he is in complete agreement with personalists. But he goes further to assert that there is also perception in the mode of causal efficacy, which means vague, though direct knowledge of the antecedent functioning of the body and the "still vaguer intuition" of the bodily awareness of external nature.

Whitehead also is in agreement with both personalists and Bergson in affirming the reality of freedom and novelty in a growing universe. In these latter respects Whitehead may have been influenced, in part, by Bergson. Whitehead's doctrine of personal order, however, has little that is Bergsonian about it except that both Bergson and Whitehead

1. Whitehead, AI, 265.
expressed the supremacy of the spiritual life, and Whitehead may have got this from Bergson, but he also could have received the idea from many others.

There is one other form of idealism that needs to be mentioned, and that is panpsychism. A brief mention of it has been made in connection with critical realism, with which it is sometimes classed. But since panpsychism seeks to show that all reality is ultimately mental, the philosophy needs to be classed with idealism. It is very close to personalism and Mary Whiton Calkins, one of the chief exponents of panpsychism, is usually classed as a personalist. On the other hand, the panpsychists Durant Drake and C. A. Strong are usually classed as critical realists. Still another panpsychist, Hartshorne, is a disciple of Whitehead. Panpsychism differs from the personalism of Bowne and Brightman in that the latter thinkers confine the term "self" to conscious experience, although it need not be self-conscious. Brightman says, "There is good reason to believe that every living being experiences itself as a self." But Brightman denies selfhood to inorganic objects, believing that they may be completely explained in terms of the conscious experience of persons, deriving their permanence from their eternal envisagement in the mind of God. The panpsychist, however, would grant that selfhood extends even to the

inorganic world.¹ Brightman criticizes this view, in particular that of Drake and Strong, because in his opinion a self that lacks "thought, sensation, emotion, and will" is so devoid of consciousness that to assert that it has consciousness is to divest the term of meaning.

In view of the foregoing discussion, Whitehead must be classed as a panpsychist, because in his view every actual entity has a mental pole, while both poles consist of feeling, and the nature of an actual entity is to be a complex of prehensions--an experience of prehensive unification. But Whitehead did not admit of grades of varying complexity of actual entities, except to a very limited degree. Some entities have deeper or more intense feelings, so that they have more significant mental poles and are more clearly mental in character, while other occasions emphasize the physical pole and their mentality is practically irrelevant. But all actual entities are the simplest kind of entity imaginable with the exception of God. Complexes of occasions are called nexus, and they are organized as noted above into multiplicities, societies, and persons. A man, in Whitehead's thought, is not, strictly speaking, a person. He is a living body composed of "living societies of low-grade occasions." But these are so coordinated "as to support a personal living society of high-grade occasions."²

---

¹ Calkins, Art. (1919), in Robinson, ARP, 228.
² Whitehead, AI, 267.
It has been noted previously that Bergson's view is similar to Whitehead's in that all reality is mental, but that matter is that in which the mentality is of such a low grade as to be practically negligible. This is the view of GE. In MM Bergson asserted a definite dualism but later seemed to abandon the strict division between mind and matter, because the distinction seemed to be accounted for in the view of low grade mentality. However, Bergson cannot be classed as a panpsychist because he did not make the clear distinctions among entities that are made by panpsychists, who generally hold an atomistic pluralism, although generally held in unity by a supreme self. Bergson, however, emphasized the flux of reality and felt that discrete divisions amounted to spatialization and were thus falsifications of reality by the intellect. Whitehead may well have been influenced in his panpsychism by the French spiritualism coming through Bergson, but in his pluralism he was influenced partly by Leibniz and partly by the contemporary realism.

The final result of this study of Whitehead's and Bergson's relation to modern philosophy bears out the oft-repeated contention that Whitehead's philosophy is a synthetic philosophy which in a remarkably coherent fashion seeks to bring together the insights of both realists and idealists. A final quotation from SMW indicates that Whitehead conceived
of his metaphysical task in just this manner, although he considered his system in the last analysis to be an organic realism.

I am speaking of the philosophic idealism which finds the ultimate meaning of reality in mentality that is fully cognitive. This idealistic school ... has been too much divorced from the scientific outlook. It has swallowed the scientific scheme in its entirety as being the only rendering of the facts of nature, and has then explained it as being an idea in the ultimate mentality. ... But, however you take it, these idealistic schools have conspicuously failed to connect, in any organic fashion, the fact of nature with their idealistic philosophies. So far as concerns what will be said in these lectures, your ultimate outlook may be realistic or idealistic. My point is that a further stage of provisional realism is required in which the scientific scheme is recast, and founded upon the ultimate concept of organism. 1

1. Whitehead, SMW, 64-65.
CHAPTER VII

CONCLUSION: TOTAL INFLUENCE OF BERGSON ON WHITEHEAD

1. The Originality of Bergson

When Bergson's books first made their appearance, especially as they first appeared in English translation, they seemed to sound an utterly new note in philosophy, and Bergson was hailed as a great original thinker. Bergson's commentators point out, however, that his originality has been exaggerated and that he was very much the product of the French thinking of his era. The apparent originality of Bergson was due to the fact that the nineteenth century was dominated by German and British philosophy. In England Mill's empiricism and Spencer's evolutionism tended to minimize the freedom of man and reduce the universe to a mechanism in which man was a mere automaton. In Germany, the metaphysics of Kant and Hegel reigned supreme. In Fichte, Schelling, and Hegel, metaphysics turned toward a pantheistic monism. The German philosophy thus tended to subordinate the individual to the whole. Both the English and the German types of thought thus tended to a form of determinism in which man was almost lost in the movements of great impersonal forces over which he had no control. Man reacted against this type of thought, not by supplanting it with something more adequate, but by the development of a

metaphysical skepticism and a reliance upon a materialistic science, which marked the limits of human knowledge, and by means of which he could gain a measure of control over his impersonalistic environment. In France this tendency resulted in the positivism of Auguste Comte. This scientific determinism Bergson called the "new scholasticism."¹

Against the impersonalism and determinism certain thinkers, especially in France, set themselves resolutely, and Bergson sat at their feet, assimilated their teachings, and combined them into his own distinctive philosophy which was to act as a powerful corrective to the prevalent modes of thought. In this respect Bergson's influence paralleled that of Meinong and Husserl in Germany, preceded by Brentano, as Bergson was preceded in France by the French spiritualists. The reaction in Germany, from which modern realism and phenomenology sprang, is a fascinating chapter in the history of philosophy but beyond the scope of this investigation. It was the reaction in France that was responsible for the work of Bergson.

Bergson's starting point was the study of the prevailing philosophy. He studied Mill, Spencer and Kant. Very soon, however, he became dissatisfied with their form of thought and turned his thought toward the genius of his own country. Bergson was a pupil of Émile Boutroux,² and from him came the insight that the laws of science have no

2. Chevalier, HB, 35.
absolute validity, as expressed in his article "De la Contingence des lois de la nature." Similar conclusions were drawn in the field of mathematics by Henri Poincaré. Of considerable influence on Bergson and on French philosophy was Claude Bernard. Bergson claimed that he did for the concrete science of the laboratory what Descartes had done for abstract science. He introduced the experimental method into physiological science and was the forerunner of modern pragmatism. These thinkers along with others were responsible for Bergson's critique of science.

In the field of metaphysics four men, among many who influenced Bergson, stand out with particular prominence. They are Ravaission, Lachelier, Renouvier, and Maine de Biran. Much of the thought of these men sprang from Pascal who, more than any other philosopher of the seventeenth century, anticipated the modern French philosophy. In his thought Bergson found the ideas of immediate knowledge, intuition, and the inner life.

It was from Ravaission that Bergson may have received his conviction that none of the prevailing schools of philosophy were adequate. Ravaission had the conviction that the determinism prevalent in both mechanism and idealism of the nineteenth century caused them both to be considered as

1. Bergson, LP, 17.  
2. Ibid.  
3. Bergson, LP, 12.  
materialistic, along with the positivism of Comte. In the place of these discarded views Ravaission placed his doctrine of spiritualism, by which philosophy would be a synthetic, rather than an analytic activity, by which the mind could rise to a vision of the perfect personality, God. Ravaission's particular contribution was in the psychological study of habit, in which he found a mechanism which was the "fossilized residuum of a spiritual activity." This spiritual activity was described by Bergson in terms so like his own doctrine of the élan vital that there can be little doubt that he found the germ of his doctrine in Ravaission.

Closely associated with the thought of Ravaission is that of Lachelier, who was especially distinguished by his work in logic. He developed the side of Kant that stressed the activity of the mind in knowing and founded his "spiritual realism" on the basic principle of the freedom of the will.

Renouvier, whom Bergson called a thinker "de premier ordre," arrived gradually at a personalistic metaphysics and replaced freedom in the world.

Of all the nineteenth century thinkers, probably none was more important than Maine de Biran. Bergson speaks of him in terms of highest praise, calling him France's greatest metaphysician since the time of Descartes and Malebranche.

1. Chevalier, HB, 22.
2. Chevalier, HB, 21-22.
4. Chevalier, HB, 24-27; Bergson, LP, 16-17.
5. Bergson, LP, 18-19.
From him Bergson received the doctrine of intuition and learned that by it one might view the absolute and even make it the object of metaphysical enquiry. By intuition as Maine de Biran described it one might go beyond the phenomena and know the thing-in-itself.

Maine de Biran a jugé que l'esprit humain était capable, au moins sur un point, d'atteindre l'absolu et d'en faire l'objet de ses spéculations. Il a montré que la connaissance que nous avons de nous-mêmes, en particulier dans le sentiment de l'effort, est une connaissance privilégiée, qui dépasse le pur "phénomène" et qui atteint la réalité "en soi", cette réalité que Kant déclarait inaccessible à nos spéculations.¹

Bergson claimed no originality for his views. He considered himself the product of his French masters. Taking his inspiration from Maine de Biran and Ravaisson, he wished to study, by the method of intuition, all science, not only in a general way but extending the method to the study of specific details. He wished his own contribution to be the demonstration that this method might yield results as precise as those of positive science.²

It has been shown that Bergson's philosophy was a product of the French philosophy of his day, particularly of the French spiritualism. The claim to originality which heralded the Bergsonian philosophy was due in a large measure to the general ignorance among English-speaking people of this French idealistic movement. The ignorance

was not absolute, of course, but the philosophic world was dominated by German and British thinkers and did not appear to find French thought particularly significant until Bergson's work appeared. The interest with which Bergson's work was received was in part due to his thoroughness, his beautifully lucid style, and the power of clearly stated and adequately defended ideas. It was also due, in part, to the fact that a reaction had already appeared in the world of philosophy, and realism and pragmatism were preparing people's minds for new ideas based on empirical observation rather than rationalistic construction. Bergson's philosophy was particularly well suited to this intellectual climate.

Whitehead, early in the century, was busy with mathematics, and there is no indication that he was familiar with contemporary French thought, except in the field of mathematics. In this field, however, he did become interested in French thought through Poincaré and Coutourat. Whitehead's basic interest in metaphysics was apparently stirred at a very early date, so that even while working with mathematics he was thinking of a reconstruction of the physical world in keeping with advancing science and mathematics. Very probably, as this dissertation has shown, it was during his stay in London that he discovered through reading and discussing Bergson that the ideas which he had come to admire in the French mathematicians were also being expressed
in metaphysics. Bergson himself may not have been particularly original, but nineteenth century French thought was. Bergson drew together the leading insights of his countrymen into a unique philosophical structure. What was original in the French thought appeared in Bergson and constituted a new line of thought for those like Whitehead who were unfamiliar with Bergson's French predecessors and contemporaries.

2. Summary of the Bergsonian Influence on Whitehead

In summarizing the Bergsonian influence upon Whitehead, it needs to be said first of all that Whitehead, although he acknowledged a considerable debt to Bergson and referred to his views frequently, at no point acknowledges that any specific doctrine of his was influenced by any specific doctrine of Bergson's. When he refers to a specific doctrine it is always with appreciation, but not the acknowledgement of influence, so that in each case the possibility remains that he recognized a parallel but arrived at his ideas independently. Yet the frequent references and more frequent similarities between the thought of Bergson and Whitehead, coupled with Whitehead's admission that there was an influence, leaves the way open to apply the method of circumstantial evidence to ascertain influence or lack of it. While in some cases the evidence is convincing and in others only indicative of a probable or a possible influence, all
conclusions are provisional, and categorical statements made must be construed as merely probable. Furthermore, the evidence points to the fact that Whitehead was particularly influenced by CE. The evidence is less certain that he read other books by Bergson, although it is probable that he did. However, evidence of Bergsonian influence from ideas expressed in books by Bergson other than CE, and not expressed at all or only vaguely in CE, must be considered evidence of a lower order from that of ideas clearly expressed in CE.

The book of Whitehead's that shows the most influence by Bergson is PNK. Most of Whitehead's other books show marked influence as well, however. Since PNK is Whitehead's first book in which he discussed philosophy, the Bergsonian influence was prior to it and thus runs through his entire philosophic output.

Whitehead felt strongly Bergson's criticism of science and agreed that it was justified. He did not, however, agree that the intellect was necessarily guilty of falsifying reality, or that scientific truth could not be valid. He wrote PNK to indicate the way in which science and mathematics might be reformed to meet Bergson's criticism. Whitehead may have been influenced by Bergson's mistrust of language as adequate to express truth, especially in the doctrine that language grew up in response to practical needs and was therefore inadequate to express speculative insights,
or the truth revealed in intuition.

Whitehead was influenced by Bergson in his emphasis upon the primacy of process, the view that reality is not static but a dynamic process, or a universal becoming. Whitehead was influenced by Bergson in his doctrine that the universe, that is, the process of nature, was a creative process which was eternally growing and unfinished and eternally producing novelty.

Whitehead was influenced by Bergson's *élan vital* in developing his theory of "creativity," and also in the doctrine of perishing occasions which could be compared to the relapse into matter of the *élan vital*.

Bergson's introduction of the data of biology and psychology into philosophic discussion influenced Whitehead. In particular the doctrine of evolution was especially influential.

Bergson's doctrine of pure duration was influential in Whitehead's revision of his doctrine of time as composed of instants, to time as composed of epochs or durations.

Whitehead's doctrine of feeling owed something to Bergson's doctrine of intuition, including the idea that intuition is necessary for intellectual advance, and the doctrine that the concrescence in the formation of actual entities includes feelings, certain of which, the physical purposes, are comparable to Bergson's intuitions.
Bergson's doctrine that the intellect "spatializes" real duration was influential in the formation of Whitehead's "Fallacy of Simple Location."

Whitehead's doctrine of perception as including both immediate or direct perception and symbolic reference was influenced by Bergson's emphasis upon pure perception and memory as both involved in experience. Whitehead's doctrine of causal efficacy is closely related to Bergson's doctrine of pure perception.

Whitehead's inclusion of both mental and physical poles in the constitution of all actual entities was possibly influenced by Bergson's insistence that matter is simply life in which the tension of duration has relaxed until it is negligible.

Whitehead's assertion that conscious mentality having personal order is the highest form of actuality was possibly influenced by Bergson's doctrine that spirit was the highest development of the evolutionary advance.

3. Whitehead's Advance over Bergson

This survey of Bergson's relationship to the thought of Whitehead will be concluded with a brief account of the way in which Whitehead used the ideas of Bergson to produce an advance in thought. In general, it appears that Whitehead modified practically every idea that he got from Bergson. This modification was to bring Bergson's ideas into greater
coherence with one another, with the total data of experience and with the metaphysical system which Whitehead created. Bergson's philosophy was not nearly so systematic as Whitehead's, and many of his ideas that Whitehead used were only suggestions which Whitehead developed more fully.

Whitehead developed Bergson's doctrine of the "vital" and incorporated it into his view of creativity. He gave a reason for the direction of the creative urge in the subjective aim of God. Whitehead also expanded Bergson's theory of intuition and included the germ of the idea into his doctrine of feelings, or prehensions, although intuition as Bergson considered it, Whitehead made only one type of feeling, that known as "subjective purpose." Whitehead admitted with Bergson that intuition was necessary for intellectual advance but guarded it more closely than Bergson did, with a greater insistence that the insights of intuition be tested and examined by the criterion of logical coherence.

Whitehead admitted with Bergson that the intellect is apt to falsify the conception of reality and based his "Fallacy of Simple Location" on this view. But Whitehead would not admit that it is necessary that the intellect falsify reality. He held that the data of science could be valid if proper care was taken to distinguish between that which is abstract and that which is concrete, and between
potentiality and actuality. The failure to understand that one is dealing with abstractions Whitehead referred to the "Fallacy of Misplaced Concreteness."

Whitehead, by applying the theory of relativity to Bergson's views of space and time, improved upon Bergson's views by the assimilation of space and time into a single manifold, the space-time continuum. Whitehead also asserted that there was a multiplicity of durations in actuality, although potentiality is continuous. This idea was only vaguely hinted at in Bergson. Bergson's doctrine of continuous advancing creative duration Whitehead developed into his view of "the passage of nature," or "the creative advance of nature." This passage, according to the view that extension includes space and time in a single continuum, proceeded by both spatial and temporal epochs. For this reason Whitehead felt that the "spatialization" which the intellect performed was not falsification but true aspect of the process of creative advance.

Whitehead took hints of pluralism in Bergson and developed a systematic pluralistic philosophy in which reality has the unity and multiplicity of an organism. The actual entities are complexes ofprehensions and each one has a mental pole, thus including the idea found in Bergson that all reality is spiritual. Whitehead also developed a completely
worked out doctrine of perception in which he included many elements found in Bergson.

Finally, Whitehead extended the theories of Bergson in the direction that Bergson himself later extended them, that is, toward the doctrine that the goal in creation is the self-realization of God, just as the goal of the concrescence of each actual entity is its self-realization or satisfaction.
BIBLIOGRAPHY

A. WORKS BY HENRI BERGSON

FRENCH EDITIONS

Henri Bergson.—DIC
Essai sur les Données Immédiates de la Conscience.
Paris: F. Alcan, 1889.

-----MEM
Matière et Mémoire.
Essai sur la relation du corps avec l'esprit.

-----LR
Le Rire.
Revue de Paris, 1(1900), 512-545, 759-791.
Essai sur la signification du comique.

-----IM
Introduction à la Métaphysique.
Revue de Métaphysique et de Morale, January, 1903.

-----EC
L’Evolution Créatrice.
Paris: F. Alcan, 1907.

-----PDC
Le Perception du Changement.
Conference faite à l'Université d'Oxford les 26 et 27 mai, 1911.

-----Art.(1911)
Conference Huxley, faite à l'Universitaire de Birmingham, 13 29 mai, 1911.

-----Art.(1912)
"L'Ame et le Corps," in ES, 31-63.
Conference faite à Foi et Vie, le 28 avril, 1912.

-----Art.(1913)
"'Fantômes de vivants' et 'recherche psychique'," in ES, 65-89.
Conference faite à la Society for Psychical Research de Londres le 28 mai, 1913.
Henri Bergson.--LP
La Philosophie.

-----ES
L'Energie Spirituelle.

-----DS
Durée et Simultanéité.
Paris: Libraire Felix Alcan, 1922.

-----DSMR
Les Deux Sources de la Morale et de la Religion.

-----PEM
La Pensée et le Mouvant.

TRANSLATIONS

Henri Bergson.--TFW
Time and Free Will. (trans. of DIC; tr. F. L. Pogson)

-----MM
Matter and Memory (trans. of MEM; tr. Nancy M. Paul and W. Scott Palmer).

-----LAU

-----ITM
Introduction to Metaphysics (trans. of IM; tr. T. E. Hulme, rev. ed.).

-----CE
Henri Bergson.--Art.(1911)
"Life and Consciousness" in ME, 3-36.

-----Art.(1912)

-----Art.(1913)
"'Phantasms of the Living' and 'Psychical Research'," in ME, 75-103.

-----ME

-----TSMR
The Two Sources of Morality and Religion (trans. of DSMR; tr. R. Ashley Audra and Cloudsley Brereton).

-----CM
The Creative Mind (trans. of PEM; tr. Mabelle L. Audison).
New York: Philosophical Library, 1946.

B. WORKS BY ALFRED NORTH WHITEHEAD

Alfred North Whitehead.--UA
A Treatise on Universal Algebra, I.
Cambridge: Cambridge University Press, 1898.

-----Art.(1906)
"On Mathematical Concepts of the Material World."
Philos. Trans., Royal Soc. London, s.4, 205(1906), 485-525.

-----Art.(1911)
"Mathematics."

-----ITM
Introduction to Mathematics.
New York: Henry Holt and Company (Home University Library), 1911.

-----OCT
The Organization of Thought, Educational and Scientific.
Alfred North Whitehead.—PNK
An Enquiry Concerning the Principles of Natural Knowledge.
Cambridge: Cambridge University Press, 1919.

-----CN
The Concept of Nature.

-----PR
The Principle of Relativity.
Cambridge: Cambridge University Press, 1922.

-----Art.,(1922)
"Discussion: The Idealistic Interpretation of Einstein's Theory" (with H. W. Carr, T. P. Nunn, and Dorothy Wrinch).

-----RE
The Rhythm of Education.
London: Christophers, 1922.

-----Art.,(1923)¹
"The Place of Classics in Education."
Hibbert Jour., 21(1923), 248-261.

-----Art.,(1923)²
"Rhythmic Claims of Freedom and Discipline."
Hibbert Jour., 21(1923), 657-668.

-----SMW
Science and the Modern World.
(New York: The Macmillan Company, 1925) New York:

-----RTM
Religion in the Making.

-----SYM
Symbolism: Its Meaning and Effect.

-----AE
Aims of Education and Other Essays.

-----PR
Process and Reality.
Alfred North Whitehead.--FOR
The Function of Reason.

-----Art. (1932)
Cambridge, 1932.

-----AI
Adventures of Ideas.

-----Art. (1936)
"Harvard: the Future."
Atlantic, 158 (1936), 260-270.

-----MT
Modes of Thought.

-----Art. (1939)

-----ESP
Essays in Science and Philosophy.

C. SECONDARY SOURCES

Alexander, Samuel.--STD
Space, Time and Deity (2 vols.).

Aristotle.--Met.
Metaphysics, in McKeon, BWA.

Birkhoff, George David.--ONIR

Brightman, Edgar S.--POI
A Philosophy of Ideals.

-----POR
A Philosophy of Religion.
Bradley, F. H.--ETR

*Essays on Truth and Reality.*


Calkins, Mary Whiton.--Art.(1919)

"The Personalistic Conception of Nature."

*Philos. Rev.,* 28(1919), 115-146.

Carr, H. Wildon.--PC

_The Philosophy of Change._

_London: Macmillan and Company, 1914._

-----Art.(1918)

"The Interaction of Mind and Body."


Chevalier, Jacques.--HB

_Henri Bergson (tr. Lilian A. Clare)._  
_New York: The Macmillan Company, 1928._

Cornford, Francis Macdonald.--PTK

_Plato's Theory of Knowledge._


De Laguna, T.--Rev.(1920)

_Review of Whitehead, PNK._

*Philos. Rev.,* 29(1920), 269.

Demos, Raphael.--Art.(1936)

"The One and the Many in Plato," in Northrop and others, _PEW,* 41-66.

Descartes, René.--OEuvres

_Oeuvres de Descartes (publiées par G. Adam and P. Tannery) (3 vols.)._  
_Paris: Leopold Cerf: Imprimeur-Editeur, 1897-1910._

Dodson, George Rowland.--EMS

_Bergson and the Modern Spirit._

_Boston: American Unitarian Association, 1913._

Drake, Durant.--MPN

_Mind and its Place in Nature._

_New York: The Macmillan Company, 1925._

Edman, Irwin.--Art.(1943)

"Foreword" to Bergson, CE, ix-xviii. (Mod. Lib. Ed.).
Einstein, Albert and Leopold Infeld.--EOP
The Evolution of Physics.

Elwes, R. H. M. (tr.).--SW
Spinoza's Works (2 vols.).
London: George Bell and Sons, 1906.

Emmet, Dorothy M.--WPO
Whitehead's Philosophy of Organism.

Flewelling, Ralph Tyler.--BPR
Bergson and Personal Realism.

Art. (1948)
"Dissymmetry, Development and Democracy."
Personalist, 29 (1948), 5-16.

Freeman, Kathleen.--APSP
Ancilla to The Pre-Socratic Philosophers.
A complete translation of the Fragments in Diels, Fragmente der Vorsokratiker.

Fuller, B. A. C.--HOP
A History of Ancient and Medieval Philosophy.

Hazelton, Roger.--Art. (1950)
"Time, Eternity, and History."
Jour. Rel. 30 (1950), 1-12.

Rocking, William Ernest.--MGHE
The Meaning of God in Human Experience.
New Haven: Yale University Press, 1912.

Holt, Edwin B., and others.--NR
The New Realism.

James, William.--PU
A Pluralistic Universe.

Loewen, J. (ed.).--HS
Hegel Selections.
New York: Charles Scribner's Sons, 1929.

Long, Wilbur.--Art. (1948)
"The Heterodoxy of Henri Bergson."
Personalist, 29 (1948), 60-72.
Lowe, Victor. -- Art. (1941)

--- Art. (1949)
"The Influence of Bergson, James and Alexander on Whitehead."

McKeon, Richard (ed.). -- BHA
The Basic Works of Aristotle.
New York: Random House, 1941.

Maritain, Jacques. -- PB
La Philosophie Bergsonienne (2nd ed.)
Paris: Marcel Riviere, 1930.

Metz, Rudolph. -- HYBP
A Hundred Years of British Philosophy. (tr. Harvey, Jessop, and Stuart)

Milligan, Charles S. -- Art. (1949)
"The Relevance of Bergson's Philosophy."

Morris, Charles W. -- STM
Six Theories of Mind.

Murphy, A. E. -- Art. (1929).
"The Anti-Copernican Revolution."
Jour. Philos., 26(1929), 281-299.

Northrop, F. C. S. and others. -- PEW
Philosophical Essays for Alfred North Whitehead.

Northrop, F. C. S. -- Art. (1941)

Nunn, T. P. -- Art. (1916)
"Sens-Data and Physical Objects."

Patrick, George T. W. -- ITP
Introduction to Philosophy.
Plato.--Sophist.
The Sophist (tr. and com. Cornford), in Cornford, PTK, 183-332.

------Phileb.

Robinson, Daniel Sommer (comp.).--ARP
An Anthology of Recent Philosophy.

------Art. (1921)
"Dr. Whitehead's Theory of Events."
Philos. Rev., 30 (1921), 41-56.

Scharfstein, Ben-Ami.--RBP
Roots of Bergson's Philosophy.

Schiller, F. C. S.--Art. (1927)
"William James and the Making of Pragmatism."
Personalist, 8 (1927), 81-93.

Schilpp, Paul Arthur (ed.).--PAW
The Philosophy of Alfred North Whitehead.
Evanston: Northwestern University, 1941.

Schlick, Moritz.--ST
Space and Time in Contemporary Physics. (tr. Henry L. Brose.)
New York: Oxford University Press (American Branch),
1920.

Sellars, Roy Wood.--PT
Philosophy Today, selection in Robinson, ARP, 280-290.

Spinoza, Baruch.--Ethics
Ethics in Elwes, SW, II.

Stokes, Marion Boyd.--CVK
Clarity, Vagueness, and Knowledge.
Boston: (Typescript) Boston University, 1940.

Taylor, A. E.--Art. (1927)
"Dr. Whitehead's Philosophy of Religion."
The Dublin Review, 180 (1927), 17-41.
Turner, J. E.--Art. (1922)
"Dr. Whitehead's Scientific Realism."
Jour. Phil., 19(1922), 146-157.

Urban, Wilbur M.--Art. (1941)
"Whitehead's Philosophy of Language and Its Relation to His Metaphysics," in Schilpp, PAW, 303-327.

Wahl, Jean.--PA
Le Philosophies Pluralistes D'Angleterre et D'Amerique.

---VC
Vers le Concret.

Wallace, William.--LOH
The Logic of Hegel (tr. from Hegel, Encyclopädie der philosophischen Wissenschaften, EPW, Part I).

Weber, Alfred and Ralph Barton Perry.--HOP
History of Philosophy.
New York: Charles Scribner's Sons (1896) 1925.
ABSTRACT OF DISSERTATION

THE INFLUENCE OF BERGSON ON WHITEHEAD

by Roland Stahl, Jr.

(A.B., Baldwin-Wallace College, 1939; S.T.B., Boston University School of Theology, 1944)

submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, 1950.

Although an influence upon the thought of Whitehead by the Bergsonian philosophy has frequently been noted, only Victor Lowe in one article has made any attempt to discover the extent of this influence. Because of the importance of Bergson and Whitehead it has seemed wise to make a study of the writings of both men in order to determine as nearly as possible just how extensive this influence was.

The first chapter is an historical orientation to the subject based on consideration of Whitehead's basic principle, the concept of organism, or the doctrine that reality is basically dynamic process. The origin of the principle is in Heraclitus. It received full expression in Plato, whose influence on Whitehead was considerable. Aristotle's philosophy also exemplified the principle. In modern philosophy the organic principle was anticipated in the thought of Spinoza, Locke and Hume. Later Hegel came very close to certain phases of Whitehead's thought. Of Whitehead's contemporaries, Alexander and Bergson most
closely approximated his philosophy, which was of a synthetic nature combining the insights of both realists and idealists. Whitehead's reconstruction of philosophy was, in part, also occasioned by and followed the insights of the theory of relativity and other recent advances in science and mathematics.

Chapter II is a preliminary survey of the philosophies of Whitehead and Bergson. Their views on science, metaphysics, epistemology, philosophy of value, and philosophy of religion, are briefly compared.

Chapter III is an investigation into the roots of Whitehead's philosophy. His formal education, the classical education of the English schools of the late nineteenth century, is first traced. Then follows a study of the genesis of Whitehead's ideas. His earliest work was in mathematics and mathematical logic while he was at the University of Cambridge. While at the University of London his work was in the philosophy of science, and when he came to America as Professor of Philosophy at Harvard University his metaphysical writings appeared. During his whole career he maintained a love of beauty and culture. Also his work reveals an interest in metaphysics from an early date. While in London Whitehead participated in the London Aristotelian Society, and it was through this experience, and his contacts with leaders in the academic world, that his interest in
philosophy was quickened. Whitehead also read widely in philosophy with particular emphasis upon ancient Greek thought and British empiricism. The common influences on both Bergson and Whitehead are noted.

Chapter IV is an analysis of important Bergsonian ideas and their influence on Whitehead. Bergson's doctrine of creative evolution as the progress of the *élan vital* influenced Whitehead's doctrine of creativity as the category of the ultimate and his broad doctrine of creative change. His doctrine of perishing occasions was influenced by Bergson's doctrine of the relapse of the *élan vital* into matter. Whitehead's doctrine of time was modified partly because of Bergson's doctrine of duration, the basic idea of which Whitehead adopted, although in his own views he modified it considerably, bringing it closer to the doctrine of relativity. Bergson's emphasis upon intuition as contrasted with the intellect was influential upon Whitehead. He used the doctrine of intuition in his own doctrine of prehensions, while the spatializing activity of the intellect was an idea of Bergson's that Whitehead used in the formulation of his "Fallacy of Simple Location." Bergson's doctrine of freedom as necessitated by the experience of novelty also found acceptance in Whitehead, along with the idea of a growing and eternally developing universe. Whitehead's solution of the relation of body and mind bears a striking resemblance to Bergson's
view because they both assert the primacy of spirit, and the fact that lesser grades of matter are merely examples of a spiritual activity in whom mentality is almost negligible, although never wholly absent.

Chapter V is an analysis of certain leading ideas of Whitehead which appear to have roots in Bergson. It is noticed that both Bergson and Whitehead consider language inadequate for the statement of philosophic truth. Whitehead's doctrine of the primacy of process is traced to its emphasis in Bergson upon duration as universal becoming. Both men sought to arrive at a synthetic view of nature that would combine realism and idealism. In Whitehead's concept of nature he was influenced by the theory of relativity, the quantum theory and other scientific views, by which he arrived at different views from those of Bergson, but he accepted in general Bergson's view of time. He also agreed with Bergson that nature was dynamic rather than static, and that the universe is both a unity and a multiplicity. In Whitehead's theory of prehensions he approaches the theory of Bergson at the doctrine of intuition, although at most places the view is foreign to most of Bergson's work. In Whitehead's theory of knowledge he brings insights in Bergson that are similar to his own into greater coherence. He is influenced by Bergson in his doctrine of immediate experience and causal efficacy.
Chapter VI is a study of the relations of Bergson and Whitehead to modern philosophy. Their relations to English and American neo-realism and to critical realism are considered, and then their relations to pragmatism and instrumentalism. Finally, their relations to the various forms of idealism, Platonic, Berkeleian, Hegelian and Lotzean are treated. Panpsychism, a variant of the Lotzean or personalistic form of idealism, is a main strand of Whitehead's thought. Both Bergson and Whitehead, but especially the latter, take important insights from all schools of modern thought, and Whitehead draws them together in his synthetic philosophy of organism.

In the final chapter, Bergson's originality is discussed first. His thought was based primarily upon French spiritualism, as related to modern biology. A brief summary of the conclusions of the dissertation follows this section, and the dissertation concludes with a note concerning the way in which Whitehead has advanced in the philosophy of organism, over the insights which he gained from Bergson.

The conclusions of this dissertation are as follows:

1. Whitehead's interest in metaphysics dated from his mathematical period, but this interest was greatly enhanced while he was in London participating in the meetings of the London Aristotelian Society. At this society he met H. Wildon Carr, from whom came much of Whitehead's Bergsonian influence.

2. Whitehead's Principles of Natural Knowledge reveals a considerable Bergsonian influence, as do most of Whitehead's later books.

3. Whitehead agreed with Bergson's criticism of science, although he disagreed that the intellect necessarily falsifies reality. He argued that it was not true...
influence.

2. Whitehead's *Principles of Natural Knowledge* reveals a considerable Bergsonian influence, as do most of Whitehead's later books.

3. Whitehead agreed with Bergson's criticism of science, although he disagreed that the intellect necessarily falsifies reality. He agreed that it was apt to do so because it tends to fall into the "Fallacy of Simple Location." Confusion between the abstract and concrete results from the "Fallacy of Misplaced Concreteness."

4. Whitehead was influenced by Bergson in his emphasis upon the primacy of process, the view that reality is not static but dynamic—universal becoming. He also agreed with Bergson that the universe was eternally growing and producing novelty. The process in Whitehead was rooted in an ultimate creativity as in Bergson it was rooted in the *élan vital*.

5. Bergson's doctrine of pure duration influenced Whitehead's change from a doctrine of time as composed of instants, to one of time as composed of epochs or durations.

6. Whitehead's doctrine of feeling was rooted in part in Bergson's doctrine of intuition. Whitehead believed with Bergson that intuition was essential for intellectual advance. The types of prehensions, known as "physical purposes" are comparable to Bergson's intuitions.
7. Whitehead's doctrine of perceptions as including both immediate or direct perception and symbolic reference was probably influenced by Bergson's emphasis upon pure perception and memory as both involved in experience. Whitehead's doctrine of causal efficacy and presentational immediacy are together comparable to Bergson's pure perception.

8. Whitehead's assertion that conscious mentality having personal order is the highest form of actuality was possibly influenced by Bergson's doctrine that spirit is the highest development of the evolutionary advance.

9. Whitehead, in his use of Bergson's ideas, modified them in the direction of greater coherence and fuller development.
Roland Stahl, Jr., was born November 20, 1917, in Highgate, Vermont, the son of a Methodist minister, Roland C. Stahl, and Eva Chayer Stahl. He moved with his family to California in 1924, where he attended the public schools, and was graduated from Lowell High School in San Francisco in 1934. In 1935 he enrolled in the University of California, College of Agriculture in Davis, California. The following year he transferred to Baldwin-Wallace College, Berea, Ohio, from which he was graduated in 1939 with the degree of Bachelor of Arts, with a major in psychology, and Special Honors in psychology and philosophy.

After two years of social work in California, he enrolled in Boston University School of Theology, from which
he received the degree of Bachelor of Sacred Theology, *cum laude*, in 1944. He was elected Lucinda Bidwell Beebe Fellow for 1945. He enrolled in 1945 in Boston University School of Theology as a candidate for the degree of Doctor of Theology. In 1947 he transferred to Boston University Graduate School as a candidate for the degree of Doctor of Philosophy. He expects to receive this degree in June, 1950.

Mr. Stahl was ordained Elder in the Methodist Church in 1947, and was received in full connection as a member of the New Hampshire Annual Conference of the Methodist Church in 1948. He has served Methodist Churches in Cherry Valley, Massachusetts; Lisbon, New Hampshire; Suncook, New Hampshire; and at present he is serving the Tenney Memorial Methodist Church in Salem, New Hampshire, and the Methodist Church in Ayer's Village, Massachusetts.

He was married in 1943 to Miss Elizabeth Boyajian of Somerville, Massachusetts. They are the parents of two sons: Mark Chayer, born in 1944, and John Roland, born in 1947.