The Metaphysical System

I

The purpose of this chapter is to set forth the main ideas of Whitehead's general theory of existence under their technical names, and to show how they fit together. But something must first be said about the general character of the book, *Process and Reality*, in which Whitehead elaborated his theory.

The work is a very good illustration of one of the frequent characteristics of intellectual landmarks—that of being hard to read just because it is original. In 1948 I wrote that Whitehead's book was about as long as Immanuel Kant's *Critique of Pure Reason*, and quite as backbreaking. This statement has not, to my knowledge, been challenged. But now that a whole generation has passed since *Process and Reality* was published, the book has come to appear less frightening than it did at first. People still complain of its vocabulary, and some always will—those who make the false assumption that really new ideas in any nonmathematical discipline can always be adequately expressed in a good tight system by language that would be acceptable to the editors of the *Reader's Digest*,

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and that when this doesn't happen the author is at fault: he is obscure either on purpose or because he hasn't taken pains. As a matter of fact, if you come to Whitehead with an open mind and some acquaintance with modern philosophy, you will probably soon agree with him that the introduction of the new terms was a practical necessity, and will find the words themselves peculiarly apt.

Readers who have spent some time on *Process and Reality* now complain rather of the many misprints. One commentator recently observed that we have a better text of Plato's *Republic*. And indeed *Process and Reality* was badly put together, badly proofread, and poorly indexed. Discrepancies and minor inconsistencies abound. These things are characteristic of Whitehead's books. He was absorbed in his ideas, not in ordering them nicely for the public; and long before the publisher sent out galleys his mind had always moved on to some new investigation. All his works are the expressions of an active intellect, not of a writer who sends forth at long last one technically perfect product. In consequence, accurate understanding of many details in Whitehead's thought—and probably of some matters that are more than details—simply cannot be assured until there is a critical edition of his works. The need is greatest in the case of *Process and Reality*, since in it the defects are most pronounced. But this need is primarily a scholar's. The ordinary reader—if he is willing to devote himself to an original thinker—will easily find in this book ideas which make a forcible impact, and which he can use. That is of course what Whitehead most wanted.

*Process and Reality* is an expansion of a series of lectures—the Gifford Lectures which Whitehead delivered at the University of Edinburgh during the session 1927-28. The book accordingly begins:

This course of lectures is designed as an essay in Speculative Philosophy. Its first task must be to define 'speculative philosophy', and to defend it as a method productive of important knowledge.
Speculative Philosophy is the endeavour to frame a coherent, logical, necessary system of general ideas in terms of which every element of our experience can be interpreted. By this notion of 'interpretation' I mean that everything of which we are conscious, as enjoyed, perceived, willed, or thought, shall have the character of a particular instance of the general scheme.

Here there is no beating around the bush, no attempt to build up a solemn metaphysical mood in the reader. The style is the same style of straightforward statement which you would expect to find on the first page of a mathematical or other scientific treatise which investigates a new field, or applies a new method to an old one.

It is the element of novelty which prompts Whitehead to begin his enterprise by defending it. The opening pages of his Treatise on Universal Algebra likewise contained a defense of the claims of that subject to be considered an important branch of mathematics. Whitehead the philosopher had none of the apologetic nervousness which the writings of philosophers so often betray in this age of science.

Section I of the first chapter continues in the same plain way, by stating how the key terms in the definition of "Speculative Philosophy" are to be understood. At once succinct and comprehensive, these statements do their work well. An attempt to set down their essence here would be at best an unnecessary duplication. One warning may not be amiss. In using the word, "necessary," Whitehead is not saying that the system he is about to offer is necessarily true. He did not write, "Speculative Philosophy is a coherent, logical, necessary system . . ." He wrote that it is "the endeavour to frame a coherent, logical, necessary system . . .".

Whitehead's defense of speculative philosophy has become the classic exposition of that mode of thought, and must be read. Let us now begin our approach to the content of his speculative philosophy.

As we pointed out in the first chapter, Whitehead's amazing philosophical achievement is the construction of a system of
the world according to which the basic fact of existence is everywhere some process of self-realization, growing out of previous processes and itself adding a new pulse of individuality and a new value to the world. So far as familiar classifications of metaphysical systems are concerned, then, I should first of all classify Whitehead's as pluralistic; it denies that ultimately only one individual (God, or the Absolute) exists. But no one-sentence characterization, not even of the roughest kind, is possible for this system. Whitehead the pluralist saw the great monistic metaphysicians as endeavoring to exhibit the unity and solidarity which the universe undoubtedly has, while failing to do justice to the equally evident plurality of individual existents. He saw Spinoza the monist, equally with Leibniz the pluralist, as having made valuable depositions. It is not that their systems, however, should be reconciled (at some cost to each). It is that their insights, along with those of Plato and others, should be reconciled—or better, used—in a new system. It will have its own elements and its own structure. For reasons which will appear, Whitehead named it "the philosophy of organism."

Taken as a whole, this deposition of Whitehead's can neither be subsumed under any movement of the twentieth century nor accurately represented as the joint influence of recent thinkers on its author. It must be understood in its own terms. But it is so complex and elaborate that all but the main concepts will be omitted in the one-chapter summary which follows. These concepts will be presented sympathetically, with some fullness and a little comment, as a bald statement of them would be unintelligible.

II

By way of initial orientation, let us say that Whitehead's universe is a connected pluralistic universe. No monist ever insisted more strongly than he that nothing in the world exists
in independence of other things. In fact, he repeatedly criticizes traditional monisms for not carrying this principle far enough; they exempted eternal being from dependence on temporal beings. Independent existence is a myth, whether you ascribe it to God or to a particle of matter in Newtonian physics, to persons, to nations, to things, or to meanings. To understand is to see things together, and to see them as, in Whitehead’s favorite phrase, “requiring each other.” A system which enables us to do this is “coherent.”

Each pulse of existence—Whitehead calls them “actual entities”—requires the antecedent others as its constituents, yet achieves individuality as a unique, finite synthesis; and when its growth is completed, stays in the universe as one of the infinite number of settled facts from which the individuals of the future will arise. “The many become one, and are increased by one.” The ultimate character pervading the universe is a drive toward the endless production of new syntheses. Whitehead calls this drive “creativity.” It is “the eternal activity,” “the underlying energy of realisation.” Nothing escapes it; the universe consists entirely of its creatures, its individualized embodiments. Accordingly, Whitehead’s Categorial Scheme begins with the three notions, “creativity,” “many,” and “one,” which comprise the “Category of the Ultimate.” This category is presupposed by all his other metaphysical categories.

Creativity is not to be thought of as a thing or an agency external to its actual embodiments, but as “that ultimate notion of the highest generality” which actuality exhibits. Apart from that exhibition it does not exist. Like Aristotle’s “matter,” creativity has no character of its own, but is perfectly protean: “It cannot be characterized, because all characters are more special than itself.” Nor can its universal presence be explained in terms of anything else; it must be seen by direct, intuitive experience.

The doctrine that all actualities alike are in the grip of creativity suggests a general principle which Whitehead thinks every metaphysical scheme, so far as it is coherent, must follow.
The principle is that there is ultimately but one kind of actuality.

‘Actual entities’—also termed ‘actual occasions’—are the final real things of which the world is made up. There is no going behind actual entities to find anything more real. They differ among themselves: God is an actual entity, and so is the most trivial puff of existence in far-off empty space. But, though there are gradations of importance, and diversities of function, yet in the principles which actuality exemplifies all are on the same level.—PR I 11 i.

This statement represents an ideal which Whitehead, so far as the concept of God is concerned, does not entirely achieve. But he is distinguished by his conscious adoption and pursuit of it, in place of the more traditional, dualistic doctrine of inferior and superior realities.

Our experience of the universe does not, at first glance, present any obvious prototype of actual entities. Selves, monads, material atoms, and Aristotelian substances have been tried out in the history of philosophy. Whitehead develops a theory of a different entity—an experience. The doctrine that experience comes in drops or pulses, each of which has a unique character and an indivisible unity, is to be found in the writings of William James; but James never outlined a metaphysics on this basis. In any case, Whitehead had motives of his own for adopting the working hypothesis that “all final individual actualities have the metaphysical character of occasions of experience.”

There was the antidualistic motive: belief that some such actualities are without any experience of their own, when joined to the fact that the human existence with which philosophic thought must begin is just a series of experiences, makes it impossible to think of these extremes as contrasting but connected instances of one basic kind of actuality. But on Whitehead’s hypothesis, “the direct evidence as to the connectedness of one’s immediate present occasion of experience with one’s immediately past occasions, can be validly used to suggest
categories applying to the connectedness of all occasions in nature” (AI xv i).

Secondly, we instinctively feel that we live in a world of “throbbing actualities”; and such “direct persuasions” are the ultimate touchstones of philosophic theory.

Thirdly, Whitehead does not wish to think that intrinsic value is an exclusive property of superior beings; rather it belongs to even “the most trivial puff of existence.” In human life, he finds value not far off, but at hand as the living essence of present experience. If every puff of existence is a pulse of some kind of immediate experience, there can be no final dualism of value and fact in the universe.

A fourth reason why Whitehead chose occasions of experience for his “actual entities” emerges as a reader becomes familiar with his thought. It is his love of concrete immediacy. An immediate experience, in its living occurrence at this moment—that, to this rationalist’s way of thinking, is a full fact, in comparison with which all other things are pale abstractions. It is a mistake for philosophers to begin with substances which appear solid or obvious to them, like the material body or the soul, and then, almost as if it were an afterthought, bring in transient experiences to provide these with an adventitious historical filling. The transient experiences are the ultimate realities.

But experience is not restricted to consciousness. “We experience the universe, and we analyze in our consciousness a minute selection of its details.” Like most psychologists today, Whitehead thinks of consciousness as a variable factor which heightens an organism’s discrimination of some part of its world. Consciousness is no basic category for him, because it is so far from being essential to every drop of experience in the cosmos, that it is not even present in every human experience. The same remark applies—the tradition of modern philosophy to the contrary notwithstanding—to thought and sense-perception.

The chief meaning intended by calling every actual entity a pulse of experience is that the entity is conceived as having
an immediate existence in and for itself. "Experience" is "the self-enjoyment of being one among many, and of being one arising out of the composition of many." Each appropriation of an item of the many into the arising unity of enjoyment is a "feeling" or "prehension" (literally, a grasping) of that item, and the process of composition is a "concrecence" (growing together) ofprehensions. The appropriated "many" are "objects," existing before the process begins; the "one" is the privately experiencing "subject." Thus "the subject-object relation is the fundamental structural pattern of experience."

A good way to continue our exposition now is to connect it with the challenge which William James, who had championed "psychology without a soul," issued to philosophers in his famous essay of 1904, "Does 'Consciousness' Exist?." He there attacked the notion, then current in various forms, that the existence of a conscious subject, if not of a soul, must be assumed in the discussion of experience. Is Whitehead trying to resuscitate the notion which James led many twentieth-century philosophers to reject? No. He does think it obvious that experience is a relation between private centers of experience and public objects experienced. But there are three big differences between his theory of this relation and the views which James attacked.

1) In the earlier views this was a cognitive relation of a conscious mind to objects known. Whitehead's fundamental relation of prehension is something broader and more elemental, the generally unconscious emotional feeling by which one bit of life responds to other realities. An essential factor in every prehension is its "subjective form"—the affective tone with which that subject now experiences that object. An example is the unconscious annoyance with which you experienced this page when you turned to it and saw another solid mass of print. Everything in your environment contributes something both to the tone of your experience and to its content.

2) A prehension is not so much a relation as a relating, or
transition, which carries the object into the make-up of the subject.\footnote{Thus there is some analogy between “prehension” and the “felt transition” of which James wrote. This is elaborated in Chap. 15, below.} Whitehead’s “feelings” are not states, but “‘vectors’; for they feel what is \textit{there} and transform it into what is \textit{here}” (PR II \textit{iii} 15).\footnote{Vectors, in physical theory, are quantities which have direction as well as magnitude: e.g., forces or velocities. Although it is evident from Whitehead’s language, here and in the several other passages where he refers to prehensions as “vectors,” that this is the analogy he intends, the meaning of “vector” in biology (the carrier of a microorganism) also provides an appropriate analogy. I owe this observation to Prof. Nathaniel Lawrence.} He was writing a theoretical transcript of the fact that you feel this moment of experience to be your very own, yet derived from a world without. By taking that elemental assurance at its face value, he was able to accept a primary rule of modern philosophy—that the evidence for an external world can be found only within occasions of experience—without being drawn into solipsism.

Prehensions, like vectors, should be symbolized by arrows. The arrows run from the past\footnote{Except in the case of “conceptual prehension,” which will be explained shortly.} to the present—for the “\textit{there}” is antecedent, however slightly, in time as well as external in space to the “\textit{here}”—and from objects to a subject. The method is realistic, not idealistic: Whitehead remarks that instead of describing, in Kantian fashion, how subjective data pass into the appearance of an objective world, he describes how subjective experience emerges from an objective world.

3) For Whitehead the subject which enjoys an experience does not exist beforehand, neither is it created from the outside; it creates itself in that very process of experiencing. The process starts with the multitude of environmental objects awaiting unification in a fresh perspective, moves through stages of partial integration, and concludes as a fully determinate synthesis, effected by a concrescence of feelings. “The point to be noticed is that the actual entity, in a state of process during which it is not fully definite, determines its own ultimate definiteness. This is the whole point of moral...
responsibility” (PR III iii v). It is also the point of the
descriptive term, “organism,” which Whitehead applies to
actual entities, and which supplies the very name of his phi­
losophy. He means that an organism determines the eventual
colorature and integration of its own parts. Its growth is moti­
vated by a living—if generally unconscious—aim at that out­
come. So the brief course of each pulse of experience is guided
by an internal teleology.

Many philosophers consider Whitehead’s doctrine of a self-
creating experiencer unintelligible. It certainly contradicts
the mode of thought to which we are accustomed—first a
permanent subject, then an experience for it. But how did the
subject originally come into being? Whitehead looks upon
process as not only the appearance of new patterns among
things, but the becoming of new subjects, which are completely
individual, self-contained units of feeling. “The ancient doc­
trine that ’no one crosses the same river twice’ is extended.
No thinker thinks twice; and, to put the matter more generally,
no subject experiences twice.” “The universe is thus a creative
advance into novelty. The alternative to this doctrine is a
static morphological universe” (PR I i iv; III i iii).

Whitehead pictures reality as cumulative. When, upon the
completion of an actual occasion, the creativity of the universe
moves on to the next birth, it carries that occasion with it
as an “object” which all future occasions are obliged to
prehend. They will feel it as an efficient cause—as the im­
manence of the past in their immediacies of becoming. The
end of an occasion’s private life—its “perishing”—is the
beginning of its public career. As Whitehead once explained:

If you get a general notion of what is meant by perishing,
you will have accomplished an apprehension of what you mean
by memory and causality, what you mean when you feel that
what we are is of infinite importance, because as we perish we
are immortal—ESP p. 117.

Part of the appeal of Whitehead’s metaphysics lies in this,
that through his conception of pulses of experience as the
ultimate facts, he invests the passage of time with life and motion, with pathos, and with a majesty rivaled in no other philosophy of change, and in few eternalistic ones.

Our experience does not usually discriminate a single actual entity as its object, but rather a whole nexus of them united by their prehensions. That is how you experience your body or your past personal history. "The ultimate facts of immediate actual experience," then, "are actual entities, prehensions, and nexüs." All else is, for our experience, derivative abstraction." In Whitehead's cosmology, however, some types of derivative abstractions are constituents in every actual entity. Propositions are such; in every experience, conscious or unconscious, they function as "lures proposed for feeling." (Whitehead cites "There is beef for dinner today" as an example of a "quite ordinary proposition.") Because human beings think it important to consciously judge some propositions true or false, all propositions have traditionally been treated as units of thought or discourse, and supposed to be the concern of logicians alone. But we have no space for Whitehead's highly original theory of propositions as factors in natural processes.

We shall confine attention in this chapter to the simplest type of abstract entity. The entertainment of propositions is but one of the ways in which "eternal objects" are ingredients in experience. These entities, uncreated and undated, are his version of Plato's timeless ideal Forms. They are patterns and qualities like roundness or squareness, greenness or redness, courage or cowardice. The fact that every actual occasion in its process of becoming acquires a definite character to the exclusion of other possible characters is explained as its selection of these eternal objects for feeling and its rejection ("negative prehension") of those. (This is not as fantastic as it sounds; actualities inherit habits of selection, and these habits are so strong that scientists call them laws of nature.)

For Whitehead as for Aristotle, process is the realizing of selected antecedent potentialities, or it is unexplainable: "Pure potentials for the specific determination of fact"—that is what

4 Plural of "nexus." The quotation is from PR I \textit{i}. 
eternal objects are. And that is all they are. The ideal is nothing more than a possibility (good or bad) for the actual. Whitehead so emphatically repudiates the Platonic tendency to think of the realm of forms as constituting a superior, self-sufficient type of existence, that he interprets even the propositions of mathematics as statements about certain possible forms of process.

As an antidualist, Whitehead rejects the doctrine that mind and body are distinct, disparate entities. He generalizes the mind-body problem, and suggests that a certain contrast between two modes of activity exists within every actual occasion. An occasion is a throb of experience, so of course its "physical pole" cannot consist of matter, in the sense of a permanent unfeeling substance; and consciousness is too slight and occasional to define the "mental pole." The physical activity of each occasion is rather its absorption of the actual occasions of the past, its direct rapport with the environment from which it sprang; and its mental side is its own creativity, its desire for and realization of ideal forms (including its own terminal pattern) by means of which it makes a novel, unified reaction to its inheritance. (So there are two species of prehensions in Whitehead's system: "physical prehensions" of actual occasions or nexūs, and "conceptual prehensions" of eternal objects.) Each occasion is a fusion of the already actual and the ideal.

The subjective forms of conceptual prehensions are "valuations," up or down; this or that possibility is felt to be important or trivial or irrelevant, or not wanted. We see again how, in trying to make theory correspond to the character of immediate experience, Whitehead insists that emotional feeling, not pure cognition of a neutral datum, is basic. Except for mathematical patterns, the data are not neutral either: red is a possibility of warmth, blue of coolness.

An eternal object, as a form of definiteness, may be realized

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5 These terms are prominent in *Process and Reality*. Whitehead privately regretted that he had used them; too many readers thought they referred to substantially separate parts of each actual occasion.
in one actual occasion after another, through each prehending that form in its predecessor. A nexus composed of one, or simultaneously of many, such strands, Whitehead aptly calls a "society of occasions," which has that eternal object for its "defining characteristic." Such a process of inheritance seems to be the essence of every human "society," in the usual meaning of the word. But the general principle has a much wider application; through it, a metaphysics of drops of experience can define personal identity, and a philosophy of process can account for things—for frogs and mountains, electrons and planets—which are certainly neither becomings nor forms. They are societies of becomings—of "atoms of process," as they were called in Chapter 1. Thus personal minds (each with its history of experiences) and enduring bodies finally appear in the philosophy of organism, but as variable complexes rather than metaphysical absolutes.

Though Whitehead's philosophy is very much a philosophy of change, we must notice that according to it the ultimate members of the universe do not, strictly speaking, change—i.e., alter some of their properties while retaining their identities. Because it is a process of self-realization, an actual occasion can only become itself, and then "perish." Whatever changes is a serial "society" of such occasions, and its persistence during the change is not due to any underlying substance—Whitehead eliminates that notion—but to retention of one form (the defining characteristic) while others vary.

The differences between the kinds of things in nature then go back to the different contrasts, repetitions, divisions, or modes of integration involved in the chains of prehensions by which actual occasions make up societies with different defining characteristics. Whitehead sketched the main principles involved. His universe exhibits societies arising and decaying, societies within other societies which sustain them (consider the animal body), societies on all scales of magnitude. The

\* It is not only readers interested in natural science who should find the chapters in *Process and Reality* on "The Order of Nature" and "Organisms and Environment" fascinating.
structure of Nature comes out well—in fact beautifully—in this philosophy of the flux.

The bare statement of Whitehead’s theory of actual entities, apart from its elaboration, takes the form in *Process and Reality* (I 11) of thirty-six principles—twenty-seven “Categories of Explanation” and nine “Categoreal Obligations.” Many of his Categories of Explanation have appeared, unnamed, in our exposition. Before we go farther, we must draw attention to three others. The nature of the Categoreal Obligations will be explained in the next section.

The principle that “no two actual entities originate from an identical universe” is one that we should expect in a philosophy of process. An actual occasion’s “universe”—also called its “actual world”—is the nexus of all those occasions which have already become and are available for feeling. This nexus is its past, and is not quite the same as the past of any other occasion. The part that is the same for both, each will absorb into its unique perspective from its unique standpoint in the cosmos.

The “principle of relativity” applies the doctrine of the relativity of all things to the very definition of “being.” The being of any kind of entity is its potentiality for being an element in a becoming. That means: for being felt in an occasion of experience. So, according to Whitehead’s cosmology, “There is nothing in the real world which is merely an inert fact. Every reality is there for feeling; it promotes feeling; and it is felt” (PR IV iv i). In this consists the reality even of spatio-temporal relations (see p. 54, below). But there is danger of reading too much into the term, “feeling.” Its technical definition is “positive prehension”; thus to be “felt” means to be included as a prehended datum in an integrative, partly self-creative atom of process.

It should now be evident that Whitehead’s metaphysical concepts are intended to show the interpenetration of “being,” “becoming,” and “perishing.” Becoming draws on being (or

*Contemporary occasions are precisely those, neither of which can feel the other as a cause.
“process” on “reality”); and what becomes, perishes. Becoming is the central notion; for the universe, at every moment, consists solely of becomings. Only actual entities act. Hence the “ontological principle”:

Every condition to which the process of becoming conforms in any particular instance, has its reason either in the character of some actual entity in the actual world of that concrescence, or in the character of the subject which is in process of concrescence. . . . This ontological principle means that actual entities are the only reasons; so that to search for a reason is to search for one or more actual entities.—PR II Category xviii.

The effect of this fundamental doctrine is to put all thought into an ontological context. In the last analysis, there is no such thing as a disembodied reason; no principles of order—in logic, science, epistemology, even in ethics or aesthetics—have any reality except what they derive from one or more actualities whose active characters they express.

Then what of the realm of eternal objects in Whitehead’s system? By the ontological principle, there must be an eternal actual entity whose active character that realm expresses. Whitehead naturally calls this entity “God”; more exactly, this consideration defines the “primordial” side of God’s nature, which is “the unconditioned actuality of conceptual feeling at the base of things.” Thus “the universe has a side which is mental and permanent.” Whitehead’s God is not a creator God, and is “not before all creation, but with all creation”—i.e., immanent in every concrescence at its very beginning. His envisagement of the infinite multiplicity of eternal objects—he does not create them either—bestows a certain character upon the creativity of the universe. Here is how Whitehead asks us to conceive this character:

Enlarge your view of the final fact which is permanent amid change. . . . This ultimate fact includes in its appetitive vision all possibilities of order, possibilities at once incompatible and unlimited with a fecundity beyond imagination. Finite tran-
sience stages this welter of incompatibles in their ordered relevance to the flux of epochs. . . . The notion of the one perfection of order, which is (I believe) Plato's doctrine, must go the way of the one possible geometry. The universe is more various, more Hegelian.—ESP p. 118; IS p. 219.  

Whitehead seems never to have considered atheism as a serious alternative in metaphysics. An atheist would naturally suggest that all the potentialities for any occasion are derived from its historic environment. A "society," in Whitehead's cosmology, is built on this sort of derivation. Why then need the occasion also draw upon a God? The answer is that if the past provided everything for the present, nothing new could appear. Novelty and adventure were too real to Whitehead to permit him to say, like the materialists, that the apparently new is a reconfiguration of the old. Yet his thoroughgoing rationalism did not permit him to say that novelty just happens. His religious humility told him whence it came.

Throughout his philosophy, Whitehead contrasts the compulsion of what is with the persuasive lure of what might be. God's action on the world is primarily persuasive: he offers to each occasion its possibilities of value. The theory that each occasion creates itself by realizing an aim internal to it, however, requires that the germ of this aim be initially established at that spot in the temporal world by God; otherwise the occasion's self-creation could never commence, since nothing can come from nowhere. Whitehead's position is that the initial aim partially defines the goal which is best in the given situation, and that the temporal occasion itself does the rest. God thus functions as the "Principle of Concretion," in that he initiates the move toward a definite outcome from an indeterminate situation.

On the meaning of "flux of epochs," see the end of Sect. III, below.
Whitehead calls actual occasions the "cells" of the universe. As in biology, the "cells" are organic wholes which can be analyzed both genetically and morphologically. These two analyses make up the detailed theory of actual occasions in *Process and Reality*.

The genetic analysis is the analysis of the self-creation of an experiencing "subject." In the first phase of its self-genesis an actual occasion merely receives the antecedent universe of occasions as data for integration. None of these can be absorbed in its entirety, but only so far as is consistent with present prehension of the others. In a continuing chain of occasions the past progressively fades, but, like energy radiated from afar, never disappears. Thus the datum for physical feeling by a new occasion consists of some of the constituent feelings of every occasion in its "actual world." The first phase of the new occasion's life is an unconscious "sympathy" with its ancestors. The occasion then begins to put the stamp of its developing individuality on this material: the intermediate phase is "a ferment of qualitative valuation" effected by conceptual feelings, some of them automatically derived from the physical feelings of the first phase, others introduced because of their contribution toward a novel unification. All these are integrated and reintegrated with each other until at the end of the concrescence we have but one complex, integral feeling—"the 'satisfaction' of the creative

*As we would say "in the language appropriate to the higher stages of experience" (PR II vii iii). But the word fits Whitehead's technical meaning, namely, feeling another's feeling with a similar "subjective form." This is prominently illustrated in the relation between your present drop of experience and that which you enjoyed a second earlier.

The concept of sympathy is emphasized in Prof. Charles Hartshorne's reading of Whitehead, and in his own metaphysical work. It is more severely treated in Prof. William A. Christian's interpretation of Whitehead (see Chap. 4, n. 14, below).

Among books in print, attention should also be called to Prof. Ivor Leclerc's and Prof. A. H. Johnson's accurate expositions of Whitehead's philosophy.
urge.” This final phase includes the occasion’s anticipatory feeling of the future as necessarily embodying this present existence.

The difference between the universe as felt in the first phase and as felt in the last is the difference, for that occasion, between the plural public “reality” which it found and the integral, privately experienced “appearance” into which it transformed that reality. Since the difference is the work of the “mental pole,” we may say that Whitehead has generalized the modern doctrine that mentality is a unifying, transforming agency. He also makes it a simplifying agency. By an actual entity with a strong intensity of conceptual feeling, the qualities common to many individual occasions in its immediate environment can be “fused into one dominating impression” which masks the differences between those occasions. That is why a world which is really a multitude of atoms of process appears to us as composed of grosser qualitative objects.

In the language of physics, the simplest “physical feelings” are units of energy transference; or, rather, the physicist’s idea that energy is transmitted according to quantum conditions is an abstraction from the concrete facts of the universe, which are individual occasions of experience connected by their “physical feelings.” Whitehead’s principles governing the integration of physical and conceptual feelings, and the way in which an actual occasion’s conceptual feelings are physically felt by that occasion’s successors in a “society” (so that appearance merges into reality), constitute an original treatment of the interaction of the physical and the mental, which has been such a problem for modern philosophy.

Taken as a whole, this theory of the internal course of process is remarkable in three respects. Efficient causation and teleology are nicely linked in Whitehead’s cosmology: the former expresses the transition from completed to nascent becomings, while the latter is the urge toward self-completion, and toward a future career, within each becoming. Nevertheless the system is first and foremost a new teleology, for it makes every activity, in its immediate occurrence, purposive.
The main postulates of the genetic theory—the "Categorial Obligations"—are the conditions to which every concrescence must conform to achieve a fully determinate end as a unity of feeling. These conditions are very general and do not specify the content of this unity. Each occasion has its own aim, and that is what renders it an individual in a pluralistic universe.

In this concept of existences as teleological processes, Whitehead thought, we find the proper way for the philosopher to perform his task, now that the basic idea of physics has become the flux of energy rather than the particle of Newtonian matter. It is obvious that "physical science is an abstraction"; but to say this and nothing more would be "a confession of philosophic failure." Whitehead conceives physical energy as "an abstraction from the complex energy, emotional and purposeful, inherent in the subjective form of the final synthesis in which each occasion completes itself" (AI xi 17).

Second, this teleology is evidently a universal quantum-theory of growth. Whitehead, though sympathetic with Bergson's reaction against materialism, was teaching by example that it is possible for theoretical concepts to express the inner growth of things. His conception of growth has points of similarity with Hegel's, but differs in having no use for "contradiction," and in presenting a hierarchy of categories of feeling rather than a hierarchy of categories of thought.

Third, the principles of this teleology are, broadly speaking, aesthetic principles. The culmination of each concrescence, being an integrated pattern of feeling, is an aesthetic achievement. "The ultimate creative purpose" is "that each unifica-

10 E.g., that the feelings which arise in various phases of a concrescence be compatible for integration; that no element in a concrescence can finally (in the "satisfaction") have two disjoined roles; that no two elements can finally have the same role; that every physical feeling gives rise to a corresponding conceptual feeling; that there is secondary origination of variant conceptual feeling; and that the subjective forms (valuations) of the conceptual feelings are mutually determined by their aptness for being joint elements in the satisfaction aimed at. For the sake of brevity, no attempt at accuracy is made in this list, and three principles are omitted because their gist has been already given.
tion shall achieve some maximum depth of intensity of feeling, subject to the conditions of its concrescence” (PR III iii). God’s immanence in the world provides novel possibilities of contrast to this end. The conditions of synthesis are not the dialectical antagonism of opposites, but aesthetic contrast among ideal forms, and between these forms and the occasion’s inheritance. The latter contrast is exhibited at its simplest in the wave-vibration which is so prominent in nature. The superiority of a living over an inanimate nexus of occasions is that it does not refuse so much of the novelty in its environment, but adapts it to itself by a massive imposition of new conceptual feeling, thus transforming threatened incompatibilities into contrasts. The very notion of “order” in an occasion’s environment is relative to the syntheses which that environment permits; adaptability to an end is what makes the difference between order and disorder. (Regularity is a secondary meaning of order, definable by reference to “societies.”)

The distinctive character of occasions of human experience, to which we now turn, is the great difference between “appearance” and “reality.” The genetic process is based on feelings of the causal efficacy of the antecedent environment, and more especially of the body; it generates the appearance called “sense-perception.” Of sense-data Whitehead says:

Unfortunately the learned tradition of philosophy has missed their main characteristic, which is their enormous emotional significance. The vicious notion has been introduced of mere receptive entertainment, which for no obvious reason by reflection acquires an affective tone. The very opposite is the true explanation. The true doctrine of sense-perception is that the qualitative characters of affective tones inherent in the bodily functionings are transmuted into the characters of [external] regions.—AI xiv vii.

Our developed consciousness fastens on the sensum as datum: our basic animal experience entertains it as a type of subjective feeling. The experience starts as that smelly feeling, and is developed by mentality into the feeling of that smell.—AI xvi v.
According to this fresh treatment of an ancient philosophic problem, the data of sense are indeed received from the external world, but only in the form of innumerable faint pulses of emotion. The actual occasions in the various organs of the animal body, acting as selective amplifiers, gather these pulses together and get from them sizeable feelings; and these—e.g., the eye’s enjoyment of a reddish feeling—are intensified and transmuted by the complex occasions of the brain into definite colors, smells, and other instances of qualitative eternal objects, definitely arranged in a space defined by prolongation of the spatial relations experienced inside the brain. In this process the original physical feelings of causal efficacy are submerged (not eliminated) by an inrush of conceptual feelings, so that the throbbing causal world of the immediate past now appears as a passive display of qualities “presented” to our senses. Whitehead calls this new kind of experience “perception in the mode of presentational immediacy.”

The higher animals have learned to interpret these sense-qualities, thus perceived, as symbols of the actualities in the external world—actualities which are themselves perceived only by vague feelings of their causal agency. The epistemology of sense-perception is the theory of this “symbolic reference.” The recognition of these two levels of perception distinguishes Whitehead’s epistemology from other realistic ones.

The practical advantage of sense-perception over causal feeling lies in its superior clarity and definiteness. And of course natural science would be impossible without it. For Whitehead scientific theory refers to causal processes, not, as the positivists think, to correlations of sense-data; but science is accurate for the same reason that it is no substitute for metaphysics—its observations are limited to experience in the mode of presentational immediacy; and science is important because it systematically interprets sense-data as indicators of causal processes.

Presentational immediacy, in addition to its practical value, has the aesthetic value of a vivid qualitative display. Although unconscious feeling is the stuff of nature for Whitehead, his
theory of "appearance" is one of the things which brings home the splendor of his philosophy—and that even as this theory emphasizes the fusion of conceptual feeling with physical nature. We cannot go into his discussion of the aesthetics of appearance. This passage will suggest what is meant:

The lesson of the transmutation of causal efficacy into presentational immediacy is that great ends are reached by life in the present; life novel and immediate, but deriving its richness by its full inheritance from the rightly organized animal body. It is by reason of the body, with its miracle of order, that the treasures of the past environment are poured into the living occasion. The final percipient route of occasions is perhaps some thread of happenings wandering in "empty" space amid the interstices of the brain. It toils not, neither does it spin. It receives from the past; it lives in the present. It is shaken by its intensities of private feeling, adersion or aversion. In its turn, this culmination of bodily life transmits itself as an element of novelty throughout the avenues of the body. Its sole use to the body is its vivid originality: it is the organ of novelty.—PR V i iii.

In his theory of appearance Whitehead also shows how truth-relations, types of judgment, and beauty are definable within the matrix provided by his general conception of apprehensions and their integrations. And he advances a striking thesis about consciousness: it is that indefinable quality which emerges when a positive but unconscious feeling of a nexus as given fact is integrated with a propositional feeling about the nexus, originated by the mental pole. Consciousness is how we feel this contrast between "in fact" and "might be." It is well-developed so far as the contrast is well-defined and prominent; this is bound to be the case in negative perception, e. g., in perceiving a stone as not gray, whereas perception of a stone as gray can occur with very little conscious notice. The difference between these two cases supports Whitehead's conjecture about consciousness, and leads him to say: "Thus the negative perception is the triumph of consciousness. It
finally rises to the peak of free imagination, in which the con-
ceptual novelties search through a universe in which they are
not datively exemplified” (PR III vii ii).

The morphological analysis of an actual occasion is the
analysis of the occasion as completed, no longer having any
process of its own; it is only an “object”—a complex, perma-
nent potentiality for being an ingredient in future becomings.
Each concrescence is an indivisible creative act; and so the
temporal advance of the universe is not continuous, but dis-
crete. But in retrospect and as a potentiality for the future,
the physical side (though not the mental) of each atom of
process is infinitely divisible. The theory of this divisibility is
the theory of space-time—a subject on which Whitehead was
expert, original, and involved.

Space-time, he holds, is not a fact prior to process, but a
feature of process, an abstract system of perspectives (feeling
is always perspectival). It is no actuality, but a continuum
of potentialities—of potential routes for the transmission of
physical feeling. (The transmission of purely mental feeling
is not bound by it.) “Actuality is incurably atomic”; but
potentialities can form a continuum.

Each actual occasion prehends the space-time continuum
in its infinite entirety; that, says Whitehead, is nothing but an
example of the general principle (also illustrated by prehen-
sion of qualitative eternal objects) that “actual fact includes
in its own constitution real potentiality which is referent
beyond itself.” There is a similarity to and a difference from
Kant’s doctrine of space and time as forms of intuition; each
occasion inherits this network of potential relatedness from
its past, actualizes a portion of it as its own “region,” and
(if it has any substantial experience in the mode of presenta-
tional immediacy) redefines the network and projects it upon
the contemporary world.

We often say that space and time are composed of points
and instants; these should be defined as systematic abstractions
from empirical facts instead of being accepted as volumeless
or durationless entities. Well before he turned to metaphysics,
Whitehead had devised a "method of extensive abstraction" for doing this.\footnote{11} *Process and Reality* includes his final application of the method (IV II and III), in which he begins with a general relation of "extensive connection" among regions.

There is one "extensive continuum" of potential regions; it is differentiable into space and time according to relativistic principles. When we consider the vastness of the universe, it would be rash to ascribe to the entire continuum anything more than very general properties of extensiveness and divisibility. The dimensional and metric relationships to which we are accustomed (laymen and physicists alike) are only local, characteristic of the particular "cosmic epoch" in which we live—i.e., of "that widest society of actual entities whose immediate relevance to ourselves is traceable" (PR II III ii). Whitehead also suggests that the "laws of nature" in this epoch are not precisely and universally obeyed; he adopts a broad statistical view of natural law. The "running down" of the physical universe is interpreted as a general decay of the patterns of prehensions now dominant; new societies defined by new types of order, now perhaps sporadically foreshadowed, will arise in another cosmic epoch. —And so on, forever.\footnote{12} "This is the only possible doctrine of a universe always driving on to novelty" (ESP p. 119; IS p. 220).

Whitehead does not say what the time-span of an actual occasion is, even in the cosmic epoch in which we live. The theory of actual occasions is a *general way* of thinking about

\footnote{11} It is the topic of Sect. II-IV of the next chapter.

\footnote{12} If we are tempted to call this view impossible in the light of scientific cosmology, we should notice that "the expanding universe" gets older in every fresh estimate of its age, and that enigmas seem to be multiplied by recent galactic studies. Dr. Jon H. Oort, president of the International Astronomical Union, has been quoted as saying at its 1961 meeting that some galaxies apparently were created "in past and quite different phases of the universe." My point is not that this suggests the possibility of positive support for Whitehead's notion of a variety of cosmic epochs (on his own theory of perception, it must be impossible for us to make observations of another epoch); my point is the negative one that generalizations from available astronomical data to uniformity throughout the universe may be precarious.
the pluralistic process of the universe; it suggests basic concepts, but does not automatically apply them. The "specious present" of human experience and the quantum events of physics are perhaps the best samples of actual occasions now discernible.

IV

The philosophy of organism culminates in a new metaphysical theology. In Whitehead's view, "The most general formulation of the religious problem is the question whether the process of the temporal world passes into the formation of other actualities, bound together in an order in which novelty does not mean loss" (PR vi iv)—as it does in the temporal world. Whitehead thought anything like proof was impossible here; with great diffidence he sketched the sort of other "order" which his metaphysics suggests.

Evidently the question is one of permanence; but it is not merely that, for permanence without freshness is deadening. And to oppose a permanent Reality to transient realities is to brand the latter as inexplicable illusions. The problem is the double one of conceiving "actuality with permanence, requiring fluency as its completion; and actuality with fluency, requiring permanence as its completion." Whitehead's solution is his doctrine of "the consequent nature of God." God's primordial nature is but one half of his being—the permanent side, which embraces the infinity of eternal forms and seeks fluency. The temporal world is a pluralistic world of activities, creatively arising, then fading away. But "by reason of the relativity of all things," every new actual occasion in that world reacts on God—is felt by him. The content of a temporal occasion is its antecedent world synthesized and somewhat

13 PR V. This short Part, though often technical, is a fine expression of wisdom and of religious feeling. (The quotation which follows is from i iv.) The interaction of God and the World was also the subject of the last philosophical paper Whitehead wrote, "Immortality."
transformed by a new mode of feeling; the consequent nature of God consists of the temporal occasions transformed by an inclusive mode of feeling derived from his all-embracing primordial nature, so as to be united in a conscious, infinitely wide harmony of feeling which grows without any fading of its members. It is a creative advance devoid of "perishing."

The theme of Cosmology, which is the basis of all religions, is the story of the dynamic effort of the World passing into everlasting unity, and of the static majesty of God's vision, accomplishing its purpose of completion by absorption of the World's multiplicity of effort.—PR V ii v.14

It is essential to note the interdependence of God and the world, and the final emphasis on creativity:

Neither God, nor the World, reaches static completion. Both are in the grip of the ultimate metaphysical ground, the creative advance into novelty. Either of them, God and the World, is the instrument of novelty for the other.

The story requires a final chapter:

... the principle of universal relativity [or interdependence] is not to be stopped at the consequent nature of God.... For the perfected actuality passes back into the temporal world ["according to its gradation of relevance to the various crescent occasions"], and qualifies this world so that each temporal actuality includes it as an immediate fact of relevant experience.—PR V ii vii.

Whitehead has evidently been concerned to embody the finer intuitions of religion in his cosmology. From these he emphatically excludes the notion of omnipotence. God in his

14 Whitehead thought his conception of the consequent nature of God was close to F. H. Bradley's conception of Reality (PR Preface). Referring to God's primordial nature as "the lure for feeling, the eternal urge of desire" (PR V ii ii), Whitehead noticed a similarity there to Aristotle's conception of the Prime Mover.
primordial nature is rather “the divine persuasion, by reason of which ideals are effective in the world and forms of order evolve” (AI x iv). His consequent nature perfects and saves the world. And its passing into the world is God’s love, whereby “the kingdom of heaven is with us today.”

Any doctrine of an omnipotent God, Whitehead held, would also undermine the assertion of freedom and novelty in the temporal world. And it would be contrary to his basic metaphysical orientation, which is directed toward showing how God and the World, and the poles of every other perennial antithesis, can be reconceived so as to require each other.