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Chapter 3: Actual Occasions: As Above, So Below

Articulating a new set of metaphysical ideas that can ground mainstream science and parapsychology is a bold undertaking. I am proposing the foundations for a new way of understanding reality itself. This is a necessary step if we are going to understand a world where we must take into account not only the data of science but the vast body of evidence—scientific and anecdotal—that reveal parapsychological phenomena in general and that point to the personality's survival after bodily death and to reincarnation. We need a new "story," a comprehensive metaphysics large enough to hold the vision of a world that is more than mere insentient matter whirling about in a blind and "dead" universe—a world rich with sentient beings who inhabit a far more complex time-space than what science and our bodily senses have so far detected. I believe that our science, our philosophy and, indeed, our civilization itself are in need of a new story like this if we are going to surmount the enormous challenges posed by the evolutionary crisis unfolding itself on our planet today.

This enormous task, however, is made easier because, to echo Newton, I stand on the shoulders of giants. Much of the essential groundwork has already been laid, and my contribution is to gather, recombine, and develop the fundamental insights of metaphysical revolutionaries such as Alfred North Whitehead, Sri Aurobindo, Jean Gebser, and Ernst Cassirer. {62}

Beyond Substance

I start with Whitehead's idea of "actual occasions." This is Whitehead's metaphysical generalization of "events," which form the building blocks of quantum mechanics. This idea is central in his attempt to develop a metaphysics that would account for science in general, and the theories of relativity and quantum mechanics in particular, as well as the rich experience of everyday life. As we will come to discover, a slight extension of Whitehead's notion will allow us also to account for my five fundamental propositions and bring our

understanding of the long trajectory of human life into harmony with today's scientific knowledge.

Before Einstein's theory of relativity and the advent of quantum mechanics, scientists took for granted the idea of "substance" as the metaphysical background for how to think about reality. Substance, they believed (following Descartes) was that which needs nothing other than itself to exist. It is stuff, things, atoms. Little bits of hard matter that endure in time and occupy space.

Relativity modified the notion of substance by interpreting matter as nothing but temporary configurations of energy or, even more radically, as twists in the curvature of space-time. In the context of relativity, energy just *is*. In special relativity, it is a tenuous, fluid-like substance that flows through time and occupies space. In general relativity, it exists as local distortions in the space-time continuum—which is itself, as the permanent basis of things, also a sort of substance. But quantum mechanics does away with the idea of substance altogether, describing reality as a system of abrupt, short-lived, discontinuous energetic *events* that, while having a spatial center, endure in time only briefly. Furthermore, as many writers have pointed out (a fact highly relevant to the ideas explored in this book), quantum mechanics cannot be understood apart from some reference to consciousness as an independent, causal factor in the actual world.[1]

Whitehead was intimately familiar with the theory of relativity[2] and early quantum theory. As a metaphysician, Whitehead was critiquing the dominant conceptual toolkit of science and suggested science could be {63} liberated from many of its current conceptual confusions by interpreting quanta as instances of a new scientific idea: "actual occasions."

The Idea of Actual Occasions

My body, and the things I interact with in the world around me, are clearly decomposable. I have the sense that somewhere at the bottom of that

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[1] Stapp, *Mindful Universe*; and Epperson, *Quantum Mechanics*.

[2] Whitehead wrote a book in which he reworked Einstein's entire theory because he felt that Einstein's definition of simultaneity was inadequate. See Whitehead's essay, "The Principle of Relativity with Applications to Physical Science" in *Alfred North Whitehead: An Anthology*.

decomposition process there must be some final level, some primitive *stuff* out of which everything else is made. What is that stuff like?

The answer we get from materialists, the guardians of scientific orthodoxy, dominates the imagination of modern civilization. As we saw in the last chapter, the basic explanatory concepts of materialism have evolved considerably over the past few centuries. They began with the idea of "atoms" as finite, self-existent, fully actual, endlessly enduring, ontologically independent *things* existing in a Euclidean space and enduring in an independent, uniformly flowing time. Later, the concept of simple enduring atoms was expanded to include new metaphysical categories (for instance, energetic fields, probability fields, variable interactions between space, time and mass, complementary sets of properties for physical entities, and even non-local interactions among such entities). The original metaphysical simplicity of the Newtonian vision had subsequently elaborated itself into a vast and baroque complexity. But no matter how elaborate their notions became, scientific materialists were and still are unified in their conviction that the ultimate stuff is "dead," or insentient.

The five propositions I outlined in the previous chapters are alternatives to a set of propositions that underlie the metaphysics of scientific materialism—namely, that the ultimate stuff

- Is *not* conscious or aware
- Is governed by laws that are automatically administered and can be mathematically expressed
- May act randomly but never purposefully
- Is not aware of itself or of others and thus has no value for itself

For some of us at least, this is a stark and terrifying view of reality. It leaves us with the sense that we are epiphenomenal, accidental, and {64} unimportant byproducts of vast, indifferent processes. Others, however, find in this view a kind of austere beauty. It brings a sense of freedom from the meddling of a parental God. It confers on its adherents a hugely pragmatic view of life and an awesome power over local configurations of physical events. Whatever the aesthetic merits of this view, however, and in spite of its practical power, it does not do a good job of explaining the ultimate nature of reality.

No materialist has ever explained just how it is that dead stuff could manage to configure itself to become aware, to feel—to be alive, imaginative, and

conscious. More to the point, since materialists must interpret personality as somehow a function of the physical operations of the biological body, they can provide no coherent explanation for the facts of personality survival and reincarnation.

The failure of materialism makes room for philosophical idealism, in which both things, and questions about those things, are always experiences *in consciousness*. Philosophical idealists approach the question "what are things made of" *through* the question "how are things experienced." Every truth to which you or I have access is a truth that we experience. The sensual, the vital, the emotional, and the cognitive are so many ranges in the spectrum of experience. Experience is, by definition, conscious.[3] All knowledge is knowledge of the contents of consciousness. Philosophical idealists, then, see consciousness, or perhaps mind, as the basic "*stuff*" out of which things arise.

The problem with idealism, though, is that it has a tendency to degenerate into solipsism; it leaves us with a sense that the world around us ought to be dreamlike and unsubstantial. Idealists have a hard time {65} accounting for the stubborn, indifferent, alien facticity of the material world.

Idealism also fails us in our quest for an understanding of personality survival and reincarnation in another way. If we posit that all manifestation is the expression of one featureless, undifferentiated consciousness (as, for example, in Advaita Vedanta), it becomes difficult to account for the multiplicity of *individual* consciousnesses that are prominent in our experience. Indeed, Advaita Vedanta itself relegates the individualization of consciousness (along with all of the other specific and changing characteristics of differing personalities and of the worlds they experience) to the status of an illusion. A framework that provides no way of intelligibly accounting for the individualization of consciousness is unlikely to

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[3] Whitehead uses the word "conscious" in a technical sense to mean *intellectually* conscious—i.e., conscious of perceiving actualities against a background of possibility. He thus distinguishes between "experience," which is a kind of bare awareness, and "consciousness," which is a more complex operation. In this book, I will use the word "consciousness" to mean what Whitehead means by "experience"—the intrinsic subjectivity of all actual occasions. This use of "consciousness" is closer to the way that word is currently employed in discussions of the philosophy of mind. Note, however, that in the philosophy of mind, consciousness is usually understood as something "extra" that is somehow added on to the dead and automatic functioning of the physical world. In transphysical process metaphysics, consciousness is understood as, among other things, the capacity to feel (to be causally affected), and to decide (to generate causal conditions for the future).

be a fruitful context in which to discuss the survival and reincarnation of the individual personality.[4]

When we see that neither a monism of matter nor a monism of mind or consciousness is entirely satisfying, we may then be tempted to posit some kind of dualism—for example, in the modern era, we may assume that the results of the hard sciences are valid within the domain of physical matter, but that there is also another kind of reality, a kind of conscious substance, that is ontologically distinct and separable from physical substance. On the face of it, this approach seems appealing because it allows us to imagine that consciousness, rather than the body, survives death and ultimately reincarnates in a new physical body.

This dualistic approach was most famously pioneered in the early modern period by René Descartes, who proposed that there were two kinds of substance: *res extensa* (extended things) and *res cogitans* (thinking things). The difficulty with this idea and, indeed, with all forms of ontological substance dualism, is that they provide no necessary or intelligible relationship between the two kinds of substance. In the context of Cartesian dualism, all of the causal interactions we can measure and that, therefore, we credit as real, take place within the closed domain of the *res extensa*. Thus, while a dualistic perspective {66} allows us to imagine that a consciousness, as an independent substance, survives the death of its body, we are hard-pressed to understand the relevance of that consciousness to the body that it inhabits in the first place. After all, there is nothing about the body—a substantial entity that needs nothing other than itself to exist—that requires it to be conscious, and nothing about consciousness, another independent substance that also needs nothing other than itself to exist, that requires it to have a body.

The doctrine of metaphysical dualism is unstable. It may, as we can see in our modern intellectual tradition, quickly reduce the *res cogitans* to the status of an epiphenomenon, thus rendering it essentially irrelevant and banishing it from respectable discourse. Or, as we can see in some significant strands of Western idealism and in some significant strands of Vedic thought, it may fall back into a

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[4] In fairness to idealism, there are other versions that do find ways of accounting for the existence of separate individuals. The "absolute idealism" of Hegel comes to mind. I would argue, however, that once there are separate individuals in any kind of causal interaction, we are dealing not with idealism but with a form of panpsychism. I have chosen Advaita Vedanta as the example to critique because of its popularity in popular new age culture.

monism of consciousness by relegating matter, and all other differentiations, to the status of an illusion. In either case, like materialism and idealism, dualism does not provide a satisfactory resolution to the hard problem of explaining how mind and body, or consciousness and the physical world, are related.

Materialism claims that mind emerges from brain. Idealism claims that either the material world emanates from pure consciousness or that it's illusory. Dualism claims that both mind and matter are real but exist in separate ontological domains. The hard problem for materialists is to explain the *emergence* of consciousness from dead matter; for idealists, it is to explain the *emanation* of a world of discrete individuals from an undifferentiated unity; and for dualists, it is to explain *interaction* between two radically different and separate substances. The stubborn persistence of this hard problem, or "world knot" as Schopenhauer called it, indicates that something is profoundly mistaken about the basic metaphysical terms used to figure out the mind-body relation. Whitehead's great contribution to this issue was to identify the notion of "substance" as a prime source of the error. Instead of substance, Whitehead famously reconceived the mind-matter relationship in terms of "conscious process."

Philosophical debate over the past few centuries in the West has constellated into arguments between idealists, materialists, and dualists.[5] {67} Either the basic stuff out of which things are made is dead matter, or it is the conscious mind, or it is some awkward combination of two kinds of ontological ultimate. Each of these positions is compelling and represents some important element of the truth of things. But none is entirely satisfactory.

Recognizing this impasse, Whitehead opened up a new and useful way of re-conceptualizing the basic nature of reality. First, he pointed out—in perfect accord with our experience of the world and with scientific understanding—that the actual world is made up not of self-existent things that endure unchanging through time but of *happenings* or *events.*

When we look to science, we find that the early modern atomists had a difficult time accounting for the richness of the world and, in particular, for the richness of interactions among atoms, in terms of the simple "billiard ball" idea

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[5] For a deeper and more elaborate consideration of these basic ontological issues, see de Quincey's *Radical Nature.*

of atoms. In attempts to account for chemical and electrical interactions among atoms, scientists first resolved them into moving systems of particles, each of which carries an electrical and a gravitational field. Later, quantum mechanics, further resolved these smaller particles into dynamic fields of probability that occasionally collapse and manifest themselves as short-lived, causally efficacious, energetic blips. Scientists have now discovered that describing ultimate reality in terms of enduring, self-existent, independent things is not tenable. Instead, they have been forced to describe objective reality as a field of causally interacting, temporally extended events.

Because we are familiar with scientific reasoning, it is not too surprising for us to follow this line of thought, and to see, with Whitehead, that we can conceptualize outer, objective reality in terms of interacting events rather than in terms of substantial, self-existent things.

But what happens if we turn around and look at the texture of our own everyday experience? Suppose we ask, "What unit of analysis best serves for producing an interesting and useful description of our own experience?" Whitehead suggests that the most interesting way to describe the fine grain of our own existence is in terms of "drops of experience."[6]

If I ask myself what I am experiencing, I begin to notice meaningful {68} "chunks," such as "I am experiencing this room," or "I am experiencing that table." These chunks are not, of course, entirely separate from one another. They are causally interconnected, and they do run into one another in our experience. Nonetheless, if we play back our experience in memory, we can notice that we are not consciously aware of any process in the formation of the objects that we perceive. For example, I see the lamp on my desk. The "lamp experience" comes to me all at once, without any awareness that I am composing that experience out of smaller parts. I may, under certain circumstances, be confused and not know just what it is I am perceiving. Perhaps, for example, I am looking into a room through a narrow crack, and am not quite able to make out the lines and shapes that I am inspecting. In that case, I am experiencing, let us say, a grey blob and a black line. The experience of the grey blob comes to me all at once, as does the experience of the black line. And, if and when I do recognize those

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[6] Whitehead borrowed this phrase from William James.

shapes as belonging to a chair, that recognition comes to me all at once, as a discrete drop of experience.

I want to be clear that neither Whitehead nor I are denying the obvious continuity of our experience. But I am pointing out that there is a certain grain, or texture, to experience that allows it to be analyzed into distinct (though not separate) drops or “occasions” of experience.

The point here is that the actual drops of experience I find when I inspect my own consciousness are full, complex, internally structured events that exhibit, in spite of their particularity, intrinsic relations with other events in the larger field in which they are situated.

If we look more closely at these drops of experience, we see that they are always composed of other, simpler, drops of experience. If I look at my experience of that chair, across from me in my office, and I try, retroactively, to further decompose it, I notice smaller drops such as the experience of an arm rest, the experience of the back, and so on. Each of these elements is itself encapsulated in a whole drop of experience. Each is intrinsically interrelated with other drops in my field of experience. Each may be further decomposable. Whitehead calls the drops of experience, out of which more complex drops of experience are composed, “prehensions.”

We can leave for later the question of whether or not this decomposition has a unique bottom. We are not entirely certain that {69} sub-atomic particles (such as quanta, quarks, or superstrings) are the ultimate constituents of physical reality. Similarly, we need not know, for our current purposes, whether the process of analytically decomposing our experience has a unique bottom. The point is that no matter how far we take the analysis, we find not independent, self-existent, enduring things, but rather dynamically interacting, whole, temporally extended, distinct drops of experience. We notice, in fact, a striking resemblance between the wholeness, discreteness, and interrelatedness of quanta and the wholeness, discreteness, and interrelatedness of our drops of experience. It seems that the physical world and the world of experience both take place one drop at a time and are, thus, “quantized.”

We see, then, that we can describe outer objective reality in terms of causally interacting events and inner subjective experience in terms of dynamically interconnected drops of experience.

We are now in a position to dissolve the bewildering gap between mind and matter played out in debates between materialists, idealists, and dualists. Whitehead invites us to consider the possibility that all of actuality, whether objective or subjective, is composed of just one kind of entity: “actual occasions.” Experienced from the outside, actual occasions are objective events; experienced from the inside, they are drops of experience. Each moment of my experience is an actual occasion in the outer world. Everything I experience outside me is some configuration of other actual occasions. The process of manifesting as an energetic event on one hand, and of coming into consciousness as a drop of experience on the other, are the same process seen from two points of view.

This way of conceptualizing reality frees us at a stroke from the ontological divide between mind and matter that has haunted the modern psyche for centuries.

The ontological notion of actual occasions carries with it an interesting epistemological implication; it provides a compelling philosophical justification for the old Hermetic principle of correspondence: “As above, so below” can be reformulated now to read “As without, so within.” This principle, supported by an analysis of reality into “actual occasions,” is radically at odds with a fundamental assumption of modernity. Since the beginning of the scientific revolution, the split between the outer reality of matter and the inner reality of mind has been thorough {70} and complete. It has been a given that any attempt to reason about outer reality by reference to inner experience is both inadmissible and erroneous, and can be dismissed as projection or anthropomorphism.

However, this rejection of the Hermetic principle involves a performative contradiction. No matter what our epistemological claims, we reason from inner experience. Our fundamental notions of space, time, energy, and causality are drawn from experience, as idealists, at least, have recognized. As long as we imagine consciousness and physical stuff to be entirely different orders of being, however, our reasoning from inner experience has to be, at least in scientific discussions, bracketed out and ignored. As a result, the explicit use of the Hermetic principle has been relegated to the philosophical hinterlands of psychology and occultism.

By contrast, in a world of actual occasions, the Hermetic principle is rehabilitated. For example, my ongoing experience is an ordered sequence of actual occasions occurring from moment to moment. Each occasion is partially constituted by its experience of past events. And each of those past events was itself an actual occasion. In turn, the actual occasion constituting this moment of my experience will be an event for all future occasions.

If I am brought into being by the same kind of process that brings all other events that I experience into being, then I am entirely justified in reasoning about the nature of those events by reference to my own experience.

Now let us see what happens if we apply the Hermetic principle to an analysis of events. First, we know that every drop of experience that constitutes *us* has a dipolar structure. That is, our experiences are experiences *of* and experiences *by*. Every drop of experience is, thus, a relationship between a subject and a field of objects. The subject of an experience—Whitehead calls this the "mental pole" of the actual occasion—is an *active, purposeful, deciding awareness.*

In every conscious moment, I am (however dimly) aware. I notice that my awareness is the centralizing pole around which the experience of diverse objects is organized into some kind of unity. I notice that my awareness is my capacity to be affected by external events and that what I am aware of is precisely those external events that are affecting me.

Whitehead invites us to generalize this characteristic of our own {71} experience to all events constituting the universe. In other words, he suggests that every experience I have of some entity in the objective world—whether human being or a billiard ball—is the experience of the outside of drops of experience that occurred in my past. And, he suggests, every drop of experience—including, for example, the one I am having right now as I write this word—is an event that can and will be experienced by actual occasions in the future.

To those of us educated in modern times, this is a shocking assertion. In general, we are willing to grant awareness to humans. We are usually willing to grant awareness even to domestic animals. But many of us think it's going too far to suggest that there might be awareness in jellyfish, plants, cells, atoms, or in subatomic events.

It is important to realize, however, that Whitehead is not suggesting that atoms are self-aware, thinking beings. He is also not suggesting that a billiard ball is conscious of itself as such. (I will return shortly to the important subject of differences among events and between events and the systems they form.) What Whitehead *is* suggesting is that all events—from those constituting human awareness to those that make up subatomic particles—have the same general structure involving some degree of matter and mind. He is suggesting that each and every event is ordered around a pole of awareness and that the capacity *to be causally affected and to respond* on one hand, and the capacity *to experience and to respond* on the other are two sides of the same coin.

Let's pause for a moment to admire the formal elegance of this suggestion. In our modern, materialistic way of thinking, we imagine a closed domain of non-conscious things—we call it the physical world—among which causal interactions take place. Causal interactions are thus imagined as entirely automatic. Consciousness, if there is such a thing, is a transparent, ineffective double, a ghost in the machine. Once we have banished consciousness from the workings of nature, we are hard-pressed to see how it could have any actual effect on the world in which it appears. And yet, in all of our practical dealings, and especially in our ethical dealings, we have no option but to act as if conscious choice (at least in human beings) *is* of decisive importance.

Whitehead's notion of actual occasions structured around a core of awareness resituates consciousness *within* the natural world. Every event, as we know from our study of physics, arises out of a field of possibility. {72} It emerges into manifestation as it resolves the partial indeterminacy inherent in that field. Whitehead suggests that the factor in every event that allows it to register possibilities and to resolve their indeterminacy is consciousness or awareness.

The awareness of a subatomic particle and the awareness of a human being are evidently very different in *degree*, but we need not imagine that they are entirely different in *kind*. Once we realize that "to be aware of something and to respond" and "'to be causally affected by something and to respond" are, in a deep sense synonymous and complementary phrases, many of the philosophical conundrums of modernity disappear. Consciousness presents itself no longer as an extra-cosmic mystery but as the crucial factor that, by making choices, resolves possibility into actuality and gives to the universe its discrete determinations. I am conscious *not* because I am miraculously different from all

other material entities; rather, I am conscious precisely *because* I am, in my process of coming into being, structurally similar to all other material entities. *Sentience goes all the way down.*

The first result, then, of applying the Hermetic principle to the analysis of events is the realization that *all* discrete events are structured around a mental pole, a "drop" or "quantum" of conscious, deciding awareness.

Let us continue the investigation and see what other results we might derive.

The Internal Structure of Every Actual Occasion

We will now see that the arising of every actual occasion, or "drop of experience," involves the same dynamic structure that includes *experience, imaginative interpretation,* and *choice.*

For example, when I deconstruct a moment of my own waking life, I perceive that it grows out of an experience of the past. As I begin each new moment of my existence, I *feel* the last moment of my existence, and I *feel* the immediate past of the present situation around me. But my experience is more than that original rush of feeling.

Not only do I feel the immediate past—in each moment I *interpret* the immediate past. This process of generating a coherent interpretation is quite complex. Whitehead has analyzed this in great detail, particularly {73} in *Process and Reality*.[7] For our purposes, we can be satisfied with a general description: the process of interpretation arranges all of the diverse data of the past into a coherent pattern, ordered around the mental pole of the "concrescence" occasion. ("Concrescence" is Whitehead's technical term for the process whereby a new actual occasion arises out of the diverse occasions of the past and then becomes one of those diverse occasions for future occasions.) The process of interpretation is not uniquely determined by the past. It sometimes happens that in the process of interpreting the data of my experience, I have a new idea, a new way of organizing my perceptions. This capacity to introduce

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[7] See Whitehead's *Process and Reality*, Part 3, Chapter 2. For a less technical presentation of these ideas, see Thomas Hosinski, *Stubborn Fact and Creative Advance: An Introduction to the Metaphysics of Alfred North Whitehead*, Chapters 3, 4, and 5.

novelty into the interpretation of the past is part of what we mean by "imagination."

Finally, in order to close out, as it were, the interpretive process in any given moment, I must make a *decision*, a choice among many incompatible possibilities that my imaginative interpretations present. Say I am walking down a path that splits in two. I have a moment of awareness, an actual occasion, in which I must decide which of the two paths to take. I draw the situation into my awareness by a process of feeling the sensory inputs; I interpret the situation (possibly in some novel way); then I make a decision.

Thus, we see that, in ourselves at least, every actual occasion of experience involves *feeling*, *imaginative interpretation*, and *decision*. First, an *experience* of the past out of which we are arising; then an *interpretation* of that past; sometimes followed by an *imaginative* grasp of new *possibilities;* and finally, a *choice* that selects from the field of possibilities. This whole process of feeling, interpreting, and deciding is what Whitehead calls the concrescence of an actual occasion.

Can we fruitfully generalize this internal observation to the understanding of events in the outer world? Are all events the outcome of a process of concrescence?

Certainly other human beings seem to operate in this way. Again, it is plausible that domestic animals do so as well. But with domestic animals, the function of *decision* seems to be less developed. Other animals make {74} decisions—when confronted with a split in the road they do go left or right—but the range of options they consider seems to be smaller, and their process of decision-making seems less elaborate than it is in humans. But clearly other animals *feel* their own past and the immediate past of the surrounding world; they *interpret* that world into an ordered and sometimes novel whole; and they make *decisions*. As we examine less and less complex forms of life, we see that all exhibit this same trio of functions: *feeling, interpretation,* and *decision*. However, the simpler the form, the more simplified and abstract its feeling of the past is, the less elaborate its imaginative interpretation of that past, and the fewer the number of possibilities it considers in its decision-making process.

There is nothing to prevent us from applying this same analysis even to atoms of hydrogen. Every hydrogen event elaborates its past into a probability

matrix and responds with some decision that collapses the wave function to bring about a new hydrogen event. Thus it feels, interprets, and decides.

This use of the term "imagination" needs some elaboration. As a quantum event, the behavior of a hydrogen atom in any given moment is not entirely predictable. In fact, given a particular hydrogen atom at a certain time, there is some uncertainty regarding the position and momentum of its next appearance. The way in which the hydrogen atom interprets its world presents it with a field of possibilities among which it must choose as it comes into actuality. Generally speaking, a hydrogen atom considers only those possibilities that will lead to its reappearance as hydrogen. However, for example, under the extreme pressure and temperature obtaining in a star, two different hydrogen atoms might each interpret the world in a new way—a way that registers (or prehends) the possibility of becoming helium. This registering of a new possibility is what I am calling "imagination."

Finally, subatomic particles, which emerge out of the collapse of a field of probability, are particularly easy to understand in terms of actual occasions.[8] It is important to note that none of these ideas contradict any of the findings of physics. If subatomic particles were, as I am suggesting, actual occasions structured around a pole of deciding and {75} appreciating awareness, they would still behave the same way physicists say they do. The range of options surveyed by these occasions is very small. Nonetheless, the indeterminacy attending their behaviors could not, by the methods of physics, be distinguished from the results of a limited free choice.

The second result of our use of the Hermetic principle is the idea that the occasions making up our stream of conscious thought differ from the other occasions in nature not in fundamental kind, but only in emphasis on one or another of their constituting processes. By drawing analogies to our own ongoing experience, we can validly extrapolate to the experiences of animals, vegetables, minerals, and subatomic particles. We are all alike—either actual occasions or complex groupings of actual occasions. And every occasion making up all of these groupings is constellated around a pole of awareness.

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[8] See Abner Shimony's chapter "Quantum Physics and the Philosophy of Whitehead," in *Philosophy in America*; also Shimon Malin's *Nature Loves to Hide: Quantum Physics and the Nature of Reality, a Western Perspective.*

To express the continuum of differentiations among occasions, Whitehead suggests we group occasions into "grades":

- *Low-grade* actual occasions, which correspond to inorganic events, experience the initial rush of feeling (by means of which they are causally affected by the past) in a simplified and abstract way. An electron, for example, interprets the entirety of its past as an electrical field. It interprets the initial rush of feeling with a bare minimum of imaginative variation. By and large, it simply decides to perpetuate the past it has experienced without considering other possibilities.
- *Medium-grade* occasions, which correspond to living events, experience the initial rush of feeling in a full and complex way. In their process of interpreting the past, they regularly introduce novelty. As often as not they decide to perpetuate what they have imagined rather than what they have received. In other words, they respond to circumstances with novel adaptations. In fact, medium-grade occasions regularly introduce novelty into the creative advance of occasions. Change is built into their nature and manifests as growth, decay, and adaptation. {76}
- *High-grade* occasions, which correspond to thinking events, not only have a rich feeling of the past they interpret it with imaginative freedom and they apprehend a variety of alternatives for the future and then consciously choose among them.

As we proceed, we will consider in some detail the modes of interaction among actual occasions of various grades. In fact, I will define the human personality as "a society of high-grade occasions embodied in a society of medium-grade occasions, that are, in turn, embodied in a society of low-grade, inorganic occasions."

In the third application of the Hermetic principle, we arrive at the insight that all causal transmission between events may, in fact, be understood as a transmission of feeling, or a kind of impersonal memory.

Whenever any event is causally affected by another event, the affected event *feels* the determinate qualities of the affecting event. Say, for example, at this moment I prehend a past actual occasion (or some group of such occasions) that was characterized by the property of redness. I see a red flash. I receive it into myself as a felt experience. How did a past actual occasion come to express itself (to "objectify itself" in Whitehead's language) as red? Only by receiving redness

into itself from some actual occasion in *its* past and passing that redness on unchanged; or by receiving the objectification of some non-red past, imagining red as a response to that experience, and then *deciding* to pass on redness into the future.

Now, if we define memory as an experience of past experience, then we realize that any causal transmission is an experience of a past experience, and so it is a kind of memory.[9] This identification of causal transmission with memory will be a useful component of our understanding of personality survival and reincarnation.

Whitehead suggests that all entities in the universe, including us, are composed of actual occasions. If so, and we apply the Hermetic principle one final time, then it follows that *all discrete events in the universe are, on the inside, drops of experience.* {77}

To summarize:

- When we, as observers, see an event being causally affected, it feels those effects in its own subjective immediacy: To be causally affected is to feel.
- When we, as observers, see the emergence of an event with novel qualities, then some actual occasion has, in its own subjective immediacy, engaged in an act of imagination: To improvise is to bring new feelings into being through imagination.
- When we, on the outside, see the indeterminacy of a situation resolved by a particular event, on the inside of that event a decision has been made: to become definite is to decide among possibilities.
- All actual occasions come to have their determinate characteristics by a process of feeling, imagining, and deciding. All occasions in the future will experience past actualities by feeling some portion of the experiences that constituted those actualities. *All transmission of causes through time is a transmission of experiences, or a flow of memory*.

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[9] What we usually mean by "my memory" is just a particularly rich transmission of causes that takes place through what I will define as a "personally ordered society."

- Actual occasions differ among themselves to the extent that they emphasize one or another of their three primary stages of functioning, and thus fall roughly into three grades—inorganic, living, and thinking.

In this chapter, we saw that one of the key stumbling blocks to an adequate metaphysics is the notion of substance. Reality cannot be merely a collection of atoms in space because that could never produce sentient, experiencing beings like us. We saw, too, that Alfred North Whitehead has provided an opening to a radically new way of understanding the world by substituting "events" and "process" for the old ideas of substance and quality. Instead of atoms in the void, Whitehead tells us, reality is fundamentally constituted by causally interacting drops of experience, or actual occasions.

With this idea, we can now define reality in a way that includes not only everything we know about the world through the lens of science {78} but also what we know from our own direct experience. Nothing need be left out.

In the next chapter, as I push deeper into an exploration of what it means to be "real," I will focus on an important distinction between *the abstract* and the *concrete*—between those aspects of reality that are *possible* and those that *actually exist*.

This may seem an unexpected place to focus our inquiry into reality. However, I am suggesting that the distinction between the abstract and concrete—the possible and the actual—is at the root of all philosophy and science—and, in fact, ultimately of all human endeavor. Confusion about what is actual and what is possible is a kind of psoriasis of the mind. It leaves us scratching our heads trying to figure out how we could ever have gotten our civilization mired in so many serious problems that, together, leave our very future in question.

Let's now turn attention to this very basic and crucial distinction between the *abstract* and the *concrete.*