

Ⓒ Chapter One

The Cosmological Method

Cosmology is the philosophical discipline that aims to articulate the basic traits of existence in this world. It has a long, distinguished history, with contributors that include such masters of thought as Plato, Confucius, Spinoza, Leibniz, Hegel, and Whitehead. Eastern and Western religions have also struggled to articulate through general ideas their understanding of the basic traits of their worlds. What these very different cultural efforts have in common is a respect for the concrete, which shows itself in a judicious use of abstractions and a wise employment of a systematic order. The importance of the ultimate success or failure of these cultural efforts fades before their enduring legacy: At their height, great civilizations have always sought abstract comprehensiveness and concrete particularity. This zeal for the individual and the universal, the abstract and the concrete marks a basic desire of the human heart.

Cosmology begins when human beings refuse to settle for dualisms. One of the best examples of this refusal to divorce the abstract and the concrete are those moments in *The Sophist* when Plato faces the deepest of differences—that of the *Gigantomachia*, the battle between the giants of permanence and change. Whom to follow, the champions of Parmenides or the followers of Heraclitus?¹

Stymied by the difference between understanding the really real as permanence or regarding it as ceaseless change, Plato refuses to fold his cards. Instead, he seeks another way around the dilemma. In so doing he suggests the attitude necessary for cosmological speculation: Like the child, we must have both. Being and Becoming are both necessary for a full account of the real world. Of course, children seek to have their cake and their ice cream and to eat both. But from the cosmological perspective it is no foolish wish. Civilizations grow through the search for a wider vision, one comprehensive enough to bypass dualisms. In the battle of the giants, theory starts by turning a weakness into a strength. It endorses the very tensions that defeat less generous philosophies and seeks to see farther by refusing simple-mindedness. "Awesome unmoving perfection" and "life and motion" must be brought together into a unity. Later, this effort to bring together that which seems to be apart will be recognized as both the heart of the category of contrast and the soul of beauty as a cosmological quality.

More formally speaking, cosmology carries out this service by constructing hypotheses about the world and then systematically seeking to show their adequacy and relevance for the issue under study. Now this is a decidedly non-post-modern endeavor and at first blush may appear altogether strange to a contemporary reader.² I ask for patience as we begin the hard work of laying out the essentials of the cosmological method.

The Speculative Matrix

In the first part of *Process and Reality*, Whitehead is at pains to define cosmology as a discipline that produces important knowledge.³ The thinking characteristic of cosmology has both internal and external traits that distinguish it from other modes of philosophy. In terms of internal traits, it is speculative and entails several qualities necessary to ground thought in the proper matrix. In terms of external traits, speculative philosophy has a job to do in the real world. It must make a pragmatic difference to human beings as they negotiate their environments.

I begin with its internal traits by speaking of the matrix of thought, or as Whitehead more formally called it: "The Categoreal

Scheme." A matrix is akin to a mother, in that the health of the child is a reflection of the health of the mother. Much of the protection of the particular by the universal, the nourishing of the factual by the formal and the enhancement of concrete experience by reason of abstract thought depends upon the proper coordination of these characteristics.

Coherence

Whitehead claims that a successful cosmological scheme must exhibit three formal internal traits. In the first place, it must be coherent in the sense that no one thought in the system can be understood as self-sufficient in its meaning and definition. That which presents itself as isolated from other ideas in the system violates the integrity of the scheme: "It is the ideal of speculative philosophy that its fundamental notions shall not seem capable of abstraction from each other."⁴ Thus, coherence signifies the web-like texture of the schema. It demands that we think of the fundamental ideas as so woven together that they require reference to each other for their complete understanding. This is not a strict Hegelian dialectic wherein opposites pass into each other. Rather the ideas are not self-sufficient in themselves for "it means that what is indefinable in one such notion cannot be abstracted from its relevance to the other notions."⁵ The quality of coherence presupposes the fact that in an environment the becoming of every being is woven into the becoming of all its members. There is no isolated fact, value, achievement, expression, or perspective. Because of the interrelatedness of concrete environments, a complete abstraction is a theoretical impossibility. Once together, always together: So it goes in any environment whatsoever.

The Logically Vague

The second formal trait of the speculative matrix is its logical character. While logical here has its ordinary meaning of self-consistency, it also has the special meaning of being logically "vague." This most important quality requires careful articulation. In the first place, "vague" here does not mean ambiguous, fuzzy or lacking in

formal definition. It is not an invitation to relativism and all the games that go with that sort of thinking. Neither is "vague" an invitation to sloppy thinking. Finally, "vague" does not mean the kind of contextualized thinking that distorts all normative measures and makes the world collapse into a heap of meaningless terms.

What "vague" does mean is best understood in contrast with the "general." A general applies to all things indifferently. Generals signify "alls" and "anys" and are characteristic of science in its quest for natural laws and those types of philosophy that seek universal formal systems applying indifferently to everything in the universe. By contrast, what is logically vague requires a reference to a concrete and experiential instantiation of its being for its full understanding. Thus application is required if the formal system is to take on a truth character and say something important about the real world.

It is the great genius of the American philosopher Charles Sanders Peirce to have recognized this logical quality and given it a place in his formal speculative matrix:

A more scientific pair of definitions would be that anything is general in so far as the principle of excluded middle does apply to it and is vague in so far as the principle of contradiction does not apply to it.⁶

Much confusion and philosophic diatribe can be avoided if at the outset we settle on this definition of the vague. It says in effect that one can create a speculative matrix that requires application for its full understanding. Thus it is neither true nor false before being used. Further, it derives its defining power from its application and is not a logocentric net thrown over the world to marginalize difference and substitute the abstract for the concrete.

So when I characterize an environment as overlapping sets of integrated events, I am not declaring all environmental situations to be identical but rather insisting that a true understanding of the environment requires viewing it from the perspective of entwined sets of spacetime experiences. The precise kind of spacetime character and its precise environmental value and influence await the specifications of a variety of other disciplines, scientific and humane. Cosmological method establishes a vague matrix out of which meaningful and specific concrete truths can be derived. Peirce termed this

logical quality “objectively” vague because its full truth depends upon its encounters with concrete, actual, historical situations and enactments. It is one thing to say that the really real are events in process of becoming; it is decidedly another matter to say precisely how a fawn in the woods or a skyscraper in a city are such events.

By means of the parameters of the vague, there is established an interpretive loop between thought and reality. Through the proper application of the matrix, the categories of the scheme provide a deeper understanding of reality and, at the same time, reality forces the categories to prove their worth. Sometimes our understanding of reality has to be adjusted; other times will see the speculative categories in need of reconstruction. Often it will be a mixture of both these outcomes. Reality is the measure of our interpretations, not the other way around. The cosmological method seeks to secure a midground between the universality of scientific laws and explanations and the apodeictic quality claimed by types of phenomenological philosophy seeking to grasp the various essences of the life world.⁷

In the place of science’s “alls” and “anys,” and over against phenomenology’s recourse to “the things themselves,” cosmology offers a heuristic hypothesis that promises to restore both continuity and specificity to our understanding of systems of reality. What a vague descriptive system has over scientific explanatory laws is that the causal and predictive power of science is empty of particular meaning. As Peirce saw, generals tend to generalize. On the other hand, phenomenological intuitions are necessarily blind to the need for systematic unity and hierarchical distinctions. They endorse the particular but lose sight of the continuity characteristic of all worlds, artificial and natural. As Whitehead maintained, pure induction leads only to the observation of the same. Difference is captured through theoretical unity. A practical appreciation of the logically vague is captured in the message of the popular bumper sticker: THINK GLOBALLY, ACT LOCALLY.

Intuitive Necessity

This brings us to the third formal internal trait of the speculative matrix. Such a scheme of thought must have the character of necessity. Whitehead expresses it this way: “...the philosophic

scheme should be 'necessary,' in the sense of bearing in itself its own warrant of universality throughout all experience, provided that we confine ourselves to that which communicates with immediate matter of fact.⁸ Of course, such a mode of communication is ideal and is never in fact fully realized. Still, necessary means that which communicates itself with a certain, intuitive necessity. If I say that the world is made of tent poles, the mind balks. If, on the other hand, I claim that the world is made of intertwined spacetime events, the mind is willing to further entertain this hypothesis.

As experienced in a cosmological scheme, necessity indicates that the mind of another has intuitively agreed to entertain in a thorough and determined manner the hypothesis in question. To sum up: Three formal internal traits must characterize the speculative matrix. It must exhibit a formal coherence that is logically vague yet semiotically evocative of our direct experience of the world.

Adequacy and Applicability

This reference to the real world brings us to the remaining two formal external traits. They concern the application of the cosmology to the domain of experience. When the matrix is applied to the domain of real experience, that application must exhibit the formal traits of adequacy and applicability. In this empirical dimension of cosmological thinking, the matrix demonstrates its usefulness for enlarging and deepening our scope of understanding. An environmental cosmology should apply indifferently to all major environmental situations and realities. "Indifferently" here means that "the texture of observed experience, as illustrating the philosophic scheme, is such that all related experience must exhibit the same texture."⁹ In this cosmology, that will mean that all dimensions of environmental experience will share the character of being modes of feeling circumambient spacetime regions. When applied to environmental structures and values, feeling is an adequate category if such a perspective expresses the most important aspects of environmental being. Applicable, therefore, means that our understanding of the environment is enlarged, renewed, and made more accessible through the use of the speculative matrix. Through adequate application the abstract categories of the speculative matrix provide breadth of thought for the concrete world of environmental experience.¹⁰

The themes of adequacy and applicability recall the quality of vagueness discussed earlier. Here, by means of an adequate application the speculative matrix takes on the specificity required to render its abstractions concretely intelligible. This is primarily the work of the special sciences and the humane disciplines. The speculative matrix does indeed enlarge our understanding of environmental complexity by envisioning all beings as entwined unities of feeling. But different disciplines, for example, biology and geology, architecture and poetry, can take hold of such a vague and generic description and specify it concretely through their special research tools. What the speculative matrix prevents is narrowness of vision, the kind of specialized blindness that so readily infects research programs that deliberately confine themselves to minute areas of knowledge. Cosmology sides with common sense when it seeks to express the important unvarying features of our environmental being. But common sense is always being overthrown by the special sciences.¹¹

The Environmental Hypothesis

Cosmology begins its program of speculation by forming a well-wrought hypothesis that can be applied to real experience. The formal statement of the environmental hypothesis is as follows:

An environment is a unison of the becoming of value characterized by a fundamental unity that always issues into the creation of an inexhaustible newness.

As such an environment is a very special mode of togetherness, since it drives toward the creation of the new even as it sustains itself through the appropriation of the past. It is a multilayered system that uses the past so that the new can arrive in due space and time. It may support any number of subsystems and parallel systems. Some of these systems can be closed and repetitive, while others can be quite open to novelty. Environments are regions where many things go on simultaneously. Inhibitions, enhancements, eliminations, and causal influences are but some of the activities to be found in environmental domains. They can be stable or ephemeral, enduring or fleeting, fatal or life-giving.

Given such exceptional variety, it is important that the environmental hypothesis to be used in this study name all the essential features of any environment whatsoever. The formal statement names four factors that are essential to the functioning of all environments, natural or human: A unison of becoming, the achievement of value, fundamental unity, and creativity.

A Unison of Becoming

An environment exhibits a unison of becoming because it supports many modes of being at the same time. Its togetherness is not a simple togetherness of parts but rather a whole more than the sum of its parts that in some way or other provides for the birth, growth, and perishing of its members. Its unison is described in two ways. There is the environment itself which is a diachronic field that supports across its being any number of events in various stages of process. Following Whitehead, this environmental dimension can be given the name coordinate or morphological. It contains all those orders within which various environmental events may, can, or do appear. Diachronic is used to suggest the transverse temporal axis that operates throughout environmental domains. If spatial reality is to be emphasized this dimension can also be called the horizontal. In any environment there will be an extension of causal influence across its spatiotemporal expanse.

The second mode of the unison of becoming concerns the elements within the environment itself. These events, beings, or creatures can have their own relative independence such that they can be conceived of as individuals in their own right. Again following Whitehead's lead, this mode of the unison of becoming is termed the genetic or concrescent dimension. It contains those environmental elements that establish a dominant synchronic presence within the environmental field. These events grow together to form significant identities that focus the environmental field in one way or another. Again, if spatial reality is to be emphasized, these events can be called the vertical domain within environmental fields.¹²

In sum, environments create unisons of becoming through the weaving of vertical synchronic spacetime events onto horizontal diachronic spacetime regions. Whether emphasis is to be given to the synchronic or the diachronic, the vertical or the horizontal, is a

matter for the special sciences and disciplines to decide. What counts is that an objectively vague environmental character, awaiting appropriate empirical specification, has been identified.

The Achievement of Value

The second factor in the formal hypothesis states that the unison of becoming in environmental regions results in the achievement of value. It is value and the terms of its achievement that is at the very heart of this attempt to construct a cosmological paradigm for an adequate environmental ethics. Since its beginnings in Descartes's philosophy, the fact/value distinction and its assorted variations has for too long stalled the process of getting on with a viable environmental philosophy. Whether the distinction is rooted in Hume's categories of matters-of-fact and matters-of-thought or is, more simply, merely held as a modernist metaphysical dogma, the result is the same. An interminable debate settles over the question of whether there is intrinsic value in the world or whether all such terms are subjective reactions to objective matters of fact.¹³ We are still stuck in the era of scientific materialism and continue to inherit its unhelpful and outdated categorial bifurcations.

Through the use of the hypothetic method of speculative philosophy I propose to get beyond this impasse. There are two reasons for such a move. In the first place, modernism's epistemological distinctions carry no warrant of metaphysical ultimacy. Their aim is methodological rather than ontological; therefore, they rest on a vast set of unexamined metaphysical assumptions.¹⁴ Second, as we have seen, in cosmological speculation the final proof is in the fruitful application of the scheme. It is better to see if these categories illuminate something fundamental about urban and natural regions than to suffer one more failure of speculative nerve. Our cultural power to do something effective about environmental affairs hangs in the balance.

The hypothesis, therefore, is that whatever comes to be in environmental domains achieves a value. To be is always to be a value. What can this mean? Scientific materialism separates fact from value in the discussion of types of experience. This is largely due to its reliance on sense data as the only true form of empirically valid

knowledge. This epistemological commitment then determines an ontological dogma. It is the fallacy of vacuous actuality. This theory of reality claims that nothing happens in the universe except the transfer of matter from spacetime zone to spacetime zone. It says that what is really real is the movement of extended things between objective points of reference. In Whitehead's words: "Nature... [is]...merely the hurrying of material, endlessly, meaninglessly."¹⁵ In contrast to this dead world of facts sliding silently past each other, this environmental cosmology speculates that reality is shot through and through with emergences of value, units of experience that have a special mode of existence—one best called the achievement of value.

Further, we can specify in a vague way just how these units of value come into being. The hypothesis is that harmony is the essential structure assumed by each environmental being in its coming to be. Each event brings together into a unique perspective its relevant environmental conditions so as to express its particular and unique importance. As such, every environmental being has both essential and conditional features that it harmonizes in order to be just what it is in its special ecological niche. Its conditional features are those dimensions of its own special environmental setting that both contribute to and limit its coming to be. These conditional features provide a level of complexity to the being's achieved harmonic intensity. Its essential features are the unique ways in which it expresses its own identity in the midst of the welter of its environmental conditions. These contribute a level of simplicity to its achieved harmonic intensity. Thus, every environmental being is a contrast that holds together in a novel unity the oneness of its own being and the manyness of its environmental reality. The resultant achievement is its value.

Call each such achieved value "an environmental integrity." Then from this perspective, all actual things in the world can be seen as contrasts that emerge out of the relation established between a thing's identity and the differences in its relevant environment. Furthermore, each such value expresses a threefold perspective throughout its environmental region. It is a value for itself, a value for others in the environment and a value for the environment taken as a whole.

To recall the four basic ideas sketched in the preface: Expression,

importance, perspective, and understanding and their mutual inter-relations are the ultimate ideas binding together any adequate environmental cosmology. Therefore, in summary:

1. To be environmentally is to be an expression of value.
2. The importance of such a value is registered through its own harmonic experience as well as its environmental contributions.
3. Each environmental being is a perspective balancing simplicity and complexity of environmental presence.
4. Understanding such values requires a reference to their essential and conditional features.

Fundamental Unity

The third part of the environmental hypothesis states that a fundamental unity exists within all environmental regions. This unity is caused by the fact that relations within environmental domains are internal. They involve the real internal constitution of the entities concerned. Even though what is conditional for one entity can be essential for another, each entity is really and actually related to its environment. In fact, its obligation to fuse its being into one, final, determinate expression of value is carried out precisely by reason of its seizure of its environmental conditions. Each such grasping into a unity involves the internalization of environmental influences such that a unity funded through the mutual actions of environmental beings comes steadily into play.

Therefore, the unity of an environment is not an artificial one, consisting only of empty spatial and temporal relations. Rather it is fundamental in the sense that the bonds holding environmental beings together are fully part of their reality. Now, within particular environmental domains, unity can be tight or loose, narrow or broad. The unity is never the same in the sense of an abstract homogenized or "empty" container. Nor is the Aristotelian distinction between substantial and accidental form of any help. Rather, unity here means the way in which each entity actually uses the environment to form a unique, indissoluble presence. In their turn

these integral fusions establish the bonds—weak or strong—that hold environments together.

This is not a theory that totalizes environments into types of unchanging geographies. The unity that is fundamental to an environment is a constantly shifting process that moves now this way, now that, in concert with the vagaries of its members. Thus it is better to understand an environment, in Whitehead's phrase, as a "Unison of Becoming," for it emphasizes the essential flexibility of environmental unity. A unison is a process and not a state of being. Accordingly, fundamental unity points toward the real presence of internal relations in the coming to be and fading away of environmental beings. Values shift and change as the internal relations between entities increase or decrease, simplify or become more complex.

The logically vague unity of an environment is specified by the actual values attained in the specific environments in question. Within its shifting borders, any environment plays host to and witnesses the ceaseless arrival and departure of competing, conflicting, and contrasting modalities of value. It is this quality of fundamental unity that makes ecology so close a relative to speculative cosmology. The environmental hypothesis provides a vague but real sketch of the important traits of environments which specific ecological domains then express in achieved values.

Creativity

The last part of the environmental hypothesis is in some ways the most important to remember and the most easy to forget. It says that all environments are governed by an ultimate category: Creativity. Now creativity does not here signify genius or artistic talent or any of the other "aesthetic" terms we customarily associate with it. Its real meaning involves the notion of newness, freshness, and originality. Creativity means that everything that comes to be is a unique, never-to-be-repeated instance of value. Creativity, therefore, signifies novelty. In Whitehead's famous phrase, it is "how the many become one and are increased by one."¹⁶

The one is the unique value formed out of the environmental many. This perspectival expression of importance holds together the environmental universe that marks the boundaries of its birth. It

will never be present in exactly the same way again. It is a first and a last, an alpha and an omega. It is the real presence of creativity in the universe. It is what Heraclitus meant by "*panta rei*," the endless flux of things. It is the source of the never-ending freshness of the world. It is the origin of its own being in that it creates itself out of the materials of its surroundings. It transcends its environment and therefore contributes a new expression to that same environment. It is immanent in its environment and therefore lets its own importance sink back into that same environment.

It is the most important dimension to remember about this environmental cosmology. For it announces the meaning of the universe: The creative advance into novelty. It is at the same time the easiest dimension to forget. For this creativity works silently and secretly. It is around us and within us. It does not necessarily show itself in big surprises. It is the astounding fact that the world is never the same once. It is the obvious fact that we cannot stop the world. It is a direct affront to our love of control. It is a reminder that we live in a universe larger than our own interests. It is a sign that we, too, shall pass. It cancels all notions of a perfection beyond all perfections. It gives the lie to all our dreams of progress even as it makes necessary the realization of at least some of those very same dreams.

It is what the Chinese call *Tao*. It is the source of the endless novelty that marks our natural and urban regions. It is the freshness of the flower in the morning and the spontaneity of children at an urban playground. In the words of Lao-Tzu: "Nameless, it is the source of the thousands of things" and "(named it is the 'Mother' of the thousands of things)."¹⁷ As both nameless and named, creativity marks the beginning and the end of this study. For it invites us to explore the many names of *Tao* and at the very same time cautions us to respect its silent workings in city and nature. Such a vision of eagerness and restraint informs the environmental hypothesis which has now been articulated.

Building a Scheme of Environmental Categories

The complexity of the environmental hypothesis demands that its use be made workable through an adequate environmental categorical scheme. In building such a scheme we must ask the question,

Environmental Categories

Inscape

Contrast

Pattern

Transmission: Physical
 Conceptual
 Propositional
 Stillness

Figure 1.

what are the most vague but important characteristics of environments? The scheme should also point up the general traits of environments and show how these dimensions interrelate with each other across many different regions of experience and value (See figure 1). The scheme should exemplify precisely those qualities of coherence, necessity, and adequate applicability sketched earlier.

I suggest that there are four fundamental environmental categories: Inscape, Contrast, Pattern, and Transmission. Each category in its own way exhibits an important and irreducible dimension of environmental processes. Further, each category can only be fully understood when put into relation with the others. The extreme abstractness of the categories will diminish as their actual usefulness for environmental understanding becomes more and more apparent.

Category One: Inscape

This category states that the essential being of each and every environmental event or process is absolutely unique in its concreteness.

Its particularity springs from the way in which it houses its environmental universe. No two beings are exactly the same. This category expresses a radical environmental pluralism. It raises the individuality of beings to a preeminence that must be respected. The term itself is derived from the poetics of Gerard Manley Hopkins, himself a radical pluralist when it came to expressing the diversity of value inherent in nature.¹⁸

Further, this category of inscape makes clear the fact that value is the best term for the reality achieved by environmental events in their respective processes of coming to be. Inscap describes the special way in which beings carve their existence out of the background conditions provided by special environments. In terms of our earlier discussions, inscape is the impression made by environmental beings as they express their particular perspectives of importance.

In sum, inscape names that special way in which value emerges out of the welter of experience whenever a real concrete being comes into existence. It could be a mountain lion or a protozoa, a skyscraper or a bridge. Every concrete being sculpts out for itself a place in the universe wherein its own unique and irreplaceable value is expressed. Inscap is the category used to describe the many ways in which this radical plurality of environmental values comes into being.

Category Two: Contrast

This category follows from the first. In its achievement of inscape each concrete being is compelled to take account of all the features of its environment. It does so by positively incorporating dimensions of its environment into its own inscape. But it cannot take on all the characteristics of its environment, for then it would not be itself but simply the environment as a whole. Therefore, it must be selective in what it allows in and what it rejects. It also must negate certain environmental dimensions in order to secure its special individual presence.

This obligation to take account of the environment in positive and negative ways lays a heavy burden on the creative potential of environmental beings. Obviously, one way to secure existence would be to reject in a massively uniform way the vast majority of environmental influences. Densely packed material objects like stones and

planets tend to express their inscape in this manner (though on a microscopic level, they are maelstroms of activity). The other extreme would be to let in an almost limitless set of environmental influences. The ephemera of existence are characterized by such a shifting and uncertain character. Fogs lift and mental events come and go with surprising swiftness.

The category of contrast is the special way in which concrete beings expand their environmental limits and thereby make possible greater and greater degrees of reality. Contrast has a very special meaning. It does not mean to compare. It also does not mean to highlight one thing at the expense of another. Rather to contrast means: *To put into a unity with*. A contrast holds together parts of the environment that would more normally fly apart.

Perhaps the greatest example of a contrast is the unity maintained between the mental and physical sides of human beings. Normally, we expect them to pull apart. Where there is matter, there is no mind. Where there is mind, matter takes a back seat. In fact, entire philosophies and philosophical careers have been given over to explicating the incompatibility of these rival dimensions of being. Contrast is the way in which all such dualisms are naturally overcome.

Most environmental beings display some measure of contrast in their creative activities. But it is at the human level that contrast takes on a stable and enduring presence. Human civilization is itself one vast panorama of contrasts. As we study natural and urban environmental configurations, we shall see just how concretely contrast comes to play a crucial role in enlarging the borders of experience.

In organizing this environmental cosmology, great stress has been laid on the radical creativity inherent in its depths. The category of contrast allows us to see more specifically just how the environment organizes itself to procure greater and greater levels of creative activity. In speculating about the ultimate creative character of the universe, we came to the conclusion that it exhibited a never-ending plunge into novelty.

To account for this creativity, we must assume that there are two radically different dimensions in reality. We shall call one "Actuality" and the other "Possibility." The actual is the realm of the creative. It is what concretely takes place as creative environments

evolve, take shape and pass away. On the other hand, the possible is what can be, what might be, what could be. Taken together, these phrases denote the essential reality of the possible. It is a realm that awaits actual concrete instantiation. It exists as a continuum having degrees of possibility ranging from the very likely to the almost impossible. In this sense possibility is the mirror opposite of actuality. For actuality always comes in individual packages whose determinate reality is incurably atomic. The actual dimension is limited to the inscape achieved by its members. To be a "this" is always at the same time not to be a "that."

The relation between the actual and the possible is at the heart of this environmental cosmology. Without the possible, there could be no novelty. Without the actual there could be no effective creativity. The two concepts require each other. The category of contrast involves the myriad ways in which the actual and the possible are brought together into specific environmental unities. Every mode of contrast involves the establishment of some level of nexus between the actual and the possible. In addition, contrast plays a special role in the structural functioning of modes of consciousness, both animal and human. Finally, the felt experience of contrast is the foundation of all modes of ethical judgment including that of assessing environmental value. As a category, therefore, contrast is critical for the development of this environmental cosmology.

Category Three: Pattern

Environmental beings are not only solitary creatures. Rather they interlock with each other and often transmute themselves by reason of the patterned interactions they form with others in their neighborhood of being. Thus, emergent patterns can come into being that are far more powerful than the individual members that make them up. For example, nation states and biotic communities are examples of how patterns can serve to enlarge and radically alter the functioning of specific environmental realms.

The category of pattern is especially important for this cosmology since it designates those transformations in scale that occur in the environmentally significant region we have called the mesocosm—that midrange of activity within which city and nature work out

their respective destinies. The category of pattern alerts us to look for those changes in perception, causal influence, and symbolic weight that occur when shifts to different levels of environmental interaction occur.

In particular, a pattern is a unique type of order. Its defining feature concerns the way in which it uses scale and proportion to achieve its end. Thus, a pattern always designates the way in which an order is brought to appropriate scale such that it weaves its members and environment together in a special way. Patterns are noticed by human beings because they evoke significant perceptual responses and emotional reactions. When pattern is used in this cosmology, it means precisely that form of order that evokes significant reaction.

Patterns grab attention and thereby demand that a certain level of respect be accorded them. For the most part, this power to gain respectful attention is the product of emphasizing the aesthetic order over the logical order. As we have discussed, there are many different kinds of order possible but among them two types stand out with a peculiar force.¹⁹ The first type of pattern is "logical" pattern. This way of arranging the world dominates our reasoning powers and through it we seek to structure the world according to orders of importance. Logical order tends to push individuality and particularity into the background. It often neglects the first category of inscape. This is the reason why this environmental cosmology seeks to emphasize the second type of patterning—that which is based on the aesthetic pull of entities. By that I mean their power to call attention to themselves by reason of the strong patterns that make up their way of occupying a particular environmental niche.

The aesthetic order allows unique individuality to occupy a prominent foreground place in the gestalt of environmental processes. It structures its order so as to gain an openness for difference and uniqueness. It prefers the jagged edge of creativity to the smooth face of logical order. Most interesting urban and natural patterns feature this form of ordering through aesthetic sensibility. This notion of gaining attention and being respected introduces the final category of the environmental scheme. I term it transmission. It deals directly with the subject matter of aesthetic types of ordering—the content and impact of feelings.

Category Four: Transmission

The building of this categorial scheme has now brought us to the point where we can name the fundamental and dynamic character of every environment whatsoever. It is our hypothesis that an environment is best understood as a region of feelings. These feelings come in various forms, shapes, and structures. Later on, the application of this categorial scheme will show how these various structures and systems of feelings create different regions of environmental value.

For now, it is important that we discuss four fundamental types of feeling and how they transmit their influence along the lines of environmental regions. Given the process structure of every environment, all feelings reveal four fundamental spatiotemporal moods:

(i) Physical Feelings. These are feelings dominated by the past. These will be termed “physical feelings,” because they represent the reenactment of the past in the present. Spatially, these feelings display a heaviness and density that mark the constraints of the past upon the present.

(ii) Conceptual Feelings. These are feelings dominated by the future. These will be termed “conceptual feelings,” for they represent the presence of possibility as felt in the present. They stress the real immanence of the future in the present. They are therefore chiefly the outcome of thinking about one’s environmental being and place. Spatially, these feelings have a certain glassy tone that marks the nearness of the future to the present.

(iii) Propositional Feelings. These are feelings that are a contrast of physical and conceptual feelings. These will be called “propositional feelings,” because they can lure environmental beings into future choices. In spatiotemporal terms these feelings provide a sense of intriguing possibility such that real chances for novel experience begin to loom large as relevant and important possibilities.

(iv) Feelings of Stillness. These feelings are present when a cer-

tain fullness of achieved value is prolonged so that its duration can be felt. They are most especially the gift of environmental wholeness. These will be called feelings of "stillness." Spatially and temporally, these feelings transmit themselves as a sense of ambient surrounding such that an all-at-once tone attaches itself to their locus of engagement. The relationship between stillness and the experience of certain ideal environmental values is a matter of importance throughout this study.

The category of transmission marks out the ways in which changes come about in environmental regions. Physical feelings establish solid, dense material presences that maintain their felt presence in a massive and energetic manner throughout an environment. The looming presence of a mountain is an obvious example. When dominant, conceptual feelings provoke a mood of expectancy. The cheetah's chase of a gazelle displays in dramatic form the fluid presence of the future as it slips into an ever-narrowing present. The future rushes into the space of the present with an overwhelming force. Propositional feelings take over environments whenever plans are set afoot by reason of need, attraction, or desire. And so the herd sets out on the long trek toward better grazing lands. Lures for feeling hang over the spatiotemporal environment. Stillness pervades an environment when the fullness of a moment is sufficient for the coming to be of creatures. Animal satisfaction and human meditational repose exemplify this rare but fundamental mode of environmental feeling. A sense of circumambient spatiotemporal presence fills in the environmental field.

What is important to note in this final category of transmission is the shift away from an extreme materialist sketch of physical causation. In place of matter-in-motion we emphasize the felt reenactment of the past. Instead of reserving the mental solely to the human realm, we extend it (with appropriate reservations) across any number of environmental regions and let it signify the felt presence of the future as an effective force in environmental systems. Deliberation, choice, and the pressure of felt possible values are also given their niche in the environmental setting. Nature proposes many courses of action to its creatures. Finally, the feeling of fullness and satisfaction is not forgotten. For all creatures deserve their feelings of worth.

A Process Ever in Formation

This chapter has tried to set out in systematic fashion an elementary environmental cosmology. A speculative matrix, an environmental hypothesis, and a basic scheme of environmental categories have been put forth. Basically, I have been trying to bring together two opposed philosophical positions. I agree with Heraclitus that "all things are in flux." But I also agree with the philosophic tradition that says, when carefully examined this world of flux yields up a picture that makes some kind of sense. On the one hand, the world is ever changing. It is never the same once, let alone twice. On the other hand, there are enduring structures, categories, and forms of being pervading the environmental flux. It is not appropriate to respond to the ineluctable presence of change with irrational despair or a pose of benevolent intellectual indifference toward "A World Well Lost."²⁰ On the contrary, a process ever in formation invites us to weigh, appreciate, number, and remember its merits. That is the whole purpose of this axiological environmental cosmology.

My aim in this work is to enable us to prize environments—be they natural or human. To do so, one must know how they work, what makes them up, and what they do. This first chapter has taken several important steps toward providing an answer to these questions. In terms of how things work, I set forth the doctrine that the environment is a set of events that interlock, overlap, and transmit influences across a broad range of activities. A sophisticated theory of event metaphysics is therefore indispensable for environmental understanding. As regards the makeup of environmental regions, I offered the hypothesis that environmental beings are spatiotemporal events whose fundamental structure is that of a harmony of essential and conditional features. What these harmonies do is to achieve value in the sense of expressing their own unique perspective within the constraints of environmental obligations. Finally, I introduced the concept of feeling as the primary level of environmental structure and function. Events feel each other and thereby establish modes of intensity that span environmental regions granting them their special value and significance.

In particular, this cosmology has derived four fundamental categories that describe the essential traits characterizing environ-

mental activities. The categories of inscape, contrast, pattern, and transmission mark out the vague but important ways in which environmental events carry out their functions. These categories also suggest the feeling tones infecting environmental regions dominated by one or all of these ways of environmental being. Each category asserts a modality of creativity—the ultimate character qualifying all environmental activities. Through this metaphysics of the actual and the possible we are able to gain a speculative grasp of the important traits that underlie the maelstrom of events making up environmental regions.

This cosmology offers a picture of natural and human environments as sharing a common mode of activity: Every environment is always a process ever in formation. So far, we have concentrated on the question of environmental activities. Another dimension now requires attention: The structures of environmental activity. When events harmonize environmentally, they put forth patterns that come to stabilize environments at certain levels and in particular directions. These tend to assume the role of markers or environmental anchors around which the events in a region tend to cluster. These structures provide the general character of environmental regions and are all-important for a correct understanding of the relation between broadly different environmental regions. We now move to an examination of these axiological formations.