

## CHAPTER 1

*The Contingencies of Nature**Nature Defined*

The thesis of this chapter, fundamental to and presupposed in nearly all the others, is that civilized experience includes a primordial apprehension of the contingency of nature.<sup>1</sup> The expressions of this apprehension of contingency have taken many forms, from the mythic to the philosophical and theological. The expressions have different motifs in different cultures, and there is no preferred cultural starting point. The point here is to explore the truth about this apprehension of contingency, however, and so the argument is advanced for a preferable contemporary way of ontological contingency, framed in the discourse of Western intellectual traditions as informed by the East and South Asian. In particular, two dimensions to the contingency of nature will be distinguished, namely the contingency of natural things within nature, and the contingency of nature as such, and it will be argued that the apprehension of both is one of the founding definitions of human culture. The first can be called *cosmological contingency*, characteristic of cosmological processes, and the second *ontological contingency*, the contingency of being as such, from *ontos*, one of the Greek words for “being.”<sup>2</sup> These two senses of contingency are closely related. From a cross-cultural perspective, the notions of both nature and its apprehension are problematic, and some of the discussion to follow treats these problems.

Underlying the discussion is a philosophic supposition that will not be defended here but only illustrated, namely, the hypothesis that reality has characters that are variously discerned by the signs and symbols we have to interpret them.<sup>3</sup> Reality is not created by our signs, as some allege, but engaged by them. Our signs direct our engagements more or less accurately as they interpret reality in important and relevant respects, and insofar as they register and correlate

the important and relevant distinctions and features. This is true as well for the signs and symbols of contingency. We need to inquire whether they interpret reality rightly, not whether there is a reality to which they refer. The inquiry in principle might conclude that the signs and symbols of contingency are misleading because everything about nature is necessary, or that they are hopelessly confused and incoherent. But to the contrary, we can make sense of the primordial expressions of apprehended contingency and will find that they engage us perspicuously with important elements of reality.

The following discussion combines historical observations with fairly technical abstract philosophic argumentation. The latter might not be to the taste of some readers, who are invited to skim ahead quickly. The distinctions introduced here are fundamental to nearly all the subsequent chapters, and usually are summarized when they come up there. But as it becomes clear just how fundamental these distinctions are, and their very wide applicability, it might be important to return to this discussion for the detail.

“Nature” in the modern sense is a notion that has developed swiftly through the evolution of modern science. There is nothing quite like the Western history of the idea of nature in the other great civilizations of South and East Asia.<sup>4</sup> Notwithstanding the diversity of civilizations, we can consider an abstract definition of what is natural that does indeed have counterparts in all:

Let us hypothesize that a *natural thing* is anything that is conditioned or caused by something else and that itself can be a condition.

This definition resonates with the Latin roots of the word “nature,” which have to do with being born or arising from something else. The definition is abstract enough to allow for many senses of conditioning or causation, not only those arising within Western cultures but in other cultures as well.

Defining natural things skirts the problem of defining nature as a whole or nature as such. Whether nature is indeed a whole, a totality, a system, is extremely problematic and is not supposed to be so in all cultures or even consistently in Western scientific culture.<sup>5</sup> A reasonably innocent conception of nature as such, however, can be constructed from the definition of natural things, namely,

*that nature is the collection of natural things related as conditioning and conditioned things, such that any two things are connected, however indirectly, by a route of conditions.*

This little definition leaves open such questions as the tightness of conditioning relations, the uniformity or arbitrariness of orders, whether there is a principle

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summing up all nature, and whether nature is a whole or totality in contrast to something outside nature. It allows that there might be pockets of order separated by only the vaguest and most trivial connections.

This vague definition of nature holds distant promise for explicating the two dimensions of nature's contingency, because the mutual conditioning of natural things is the realm of cosmological contingency, and the question of why there are any natural things at all, why there is any cosmos with one thing causing another, addresses the ontological dimension of contingency.

That distant promise must be approached step by step, and the first step is to ask whether there are any boundaries to nature. That question sounds peculiar because we assume that any boundaries are natural boundaries and what lies on the other side must be more nature.<sup>6</sup> The question of boundaries made much sense in the ancient world, however, when there was deep concern to distinguish nature from the supernatural on the one hand and the unnatural on the other.<sup>7</sup> The supernatural was conceived by the mythopoeic imagination as impacting otherwise ordinary events of nature and human society but also as being expressive of powers and kinds of action that had no imaginable limits. When the supernatural was personified in gods, the gods were imagined on the surface as superintense people or animals but were imagined on the inside as not bound by the kinds of things that limit human or animal behavior. Marduk, for instance, could be depicted graphically as a matricidal warrior but one whose action creates the entire space for life and action in the natural senses. The unnatural, on the other hand, was conceived as not the intensification of the natural but the evisceration of it, the realm of the dead, of the shades, of those things impacting ordinary life through witchcraft and demonry. Because both the supernatural and the unnatural condition ordinary affairs, they seem to fit within the preliminary definition of the natural.

Does nature have closure, however, against the supernatural and the unnatural? Is there a characteristic or trait that distinguishes all things in nature from the unnatural or supernatural? This is like closure in the mathematical sense in which it is said, for instance, that the set of even numbers is infinite but has closure over against all the odd numbers. In mythopoeic thought, the natural, the supernatural, and the unnatural had permeable borders, with intrusions and overflows. When the Israelites left Egypt their magicians, Moses and Aaron, proved more able than the Egyptians at calling down the supernatural, and Israel's God triumphed over the other gods in Egypt and Canaan. As the Israelites' religion developed toward monotheism, however, God became more distant from affairs and real kings took over the management of the realm from the judges who acted as God's surrogates.<sup>8</sup> By the time of Saul and David, witchcraft for contacting the dead was dangerous and forbidden, though practised.<sup>9</sup>

By the time of the prophets of the exilic period, in the sixth century B.C.E., the world was sharply distinguished from the creator by being wholly dependent and created.<sup>10</sup> Any fudging of createdness as the definition of closure is idolatry, they thought, leading to witchcraft and magic, which were condemned.<sup>11</sup> In that same century, the pre-Socratic philosophers and the playwrights broke the hold of mythopoeic thought in Greece. Gautama the Buddha and Mahavira did the same in India. So did Confucius and Laozi in China. This was the pivot of the “Axial Age,” as Jaspers (1954) called it, and one of the main features of Axial Age religions was the placing of closure on the natural world over against the supernatural and unnatural. Instead of the mythopoeic commerce and mingling among the three realms, the natural world became the human home and relations to the others, particularly to the supernatural, were transformed into issues of transcendence.

Without a clearer and popularly accepted definition of what createdness consists in, however, it was difficult for those traditions to maintain sharply the separation of the natural and supernatural. Nature in Jewish, Christian, and Muslim popular cultures, as well as popular East Asian and South Asian cultures, continued to be filled with gods, angels, and devils. Religion and magic were continually tempted to treat the divine as manipulable. Because the supernatural or divine had come to be defined in such sharp contrast with the natural world, and yet people had no clear definition of the closure of nature, the popular reality became thick with intermediaries to the supernatural: angels, posthumously effective saints and ancestors, djinns, incarnations of the divine, avatars, bodhisattvas, shamanistic totems, Daoist gods and immortals.

With the rise of mathematical science in the West, however, those intermediaries were relegated to superstition by people shaped by the new culture. This was because it became possible to give a new definition of the closure of nature, namely, that it consists in whatever is measurable.<sup>12</sup> Put crudely, if something could not be found and measured, at least in principle, it was conceived to be a fiction. And if it could be found and measured, at least in principle, it was fitted into the system of nature, sparking a vast expansion of nature’s image. The mind-blowing expansion of nature’s bounds occurred early in modernity with the naturalization of the starry heavens and the explanation of previously occult biological processes by microscopically revealed mechanisms. Cosmic big bangs and dancing quarks express the continuing naturalization of the supernatural into our own time.

Spurred by the cultural ideal of quantifiable measurability, the unnatural in modern culture was conceived not as evisceration, diminishment, or deviance but as absolute nothingness. The supernatural was conceived not as the realm

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of especially powerful beings but as the Infinite or the Immense, “immense” meaning literally “unmeasurable.”

Subsequent developments of Western modernity have damped the initial enthusiasm for universal quantifiable measurability. Too many important things, such as mind and value, are not measurable in that sense. But that definition of closure itself can be generalized to include the mental and valuational things that have resisted objective quantification. We can say that nature consists of all things that are *determinate*.<sup>13</sup> Determinateness is the universal trait of nature and the natural world. If something cannot be measured in a quantifiable way, that must be because it has some determinate character that makes it so unmeasurable. To be determinate is to have an identity different from, and therefore relative to, other identities. Determinateness is what makes things related to each other and also different, and so measurable relative to one another in that larger sense.

***Cosmological Contingency: Determinateness and Time's Flow***

The hypothesis now has been developed to be that nature consists of all the things that are determinate, and that determinateness is to be understood in part in terms of things being conditioned by and conditioning each other. This section shall begin to explicate and defend this hypothesis and finally return at the end to consider how it makes sense of the pervasive senses of cosmological and ontological contingency expressed in many cultures.

Determinateness needs first to be explicated on an abstract metaphysical level. To be determinate is to be determined with respect to something else, to be *this* rather than *that*. A determinate thing thus needs to have features serving two kinds of function. On the one hand it needs conditional features coming from the other things that condition it and with respect to which it is determinate. These features express the senses in which a thing is caused, or environed, or shaped by other things, according to any conception of conditioning whatsoever. On the other hand it needs essential features that integrate the influences of other things into the determinate identity of the thing itself. The essential features give the thing its position, or substantiality. Without them there could not be any conditional features because there would be nothing to condition; there would be only the other things as potential conditions. Yet the essential features do not constitute anything determinate or substantial by themselves: their nature is to bring the conditional features to determinateness as a thing in relation to the conditioning things. The essential features need

the conditional features just as much as the conditional features need the essential ones. Their harmony is the determinate thing, and without their harmony, neither is determinate over against the other.

Atomistic philosophies attempt to get along with only essential features, suppressing the conditional ones. They assume that a thing can have an internal determinate nature and enter into relations with other things in wholly external ways like atoms in the void. Atomisms have great difficulty accounting for why any relations are important to the internal natures of things. They have to assume that things are unaffected internally by their environment, and this usually collapses to the assumption that atomic things are internally homogeneous and, in the end, not different from one another in character. But if things are wholly homogeneous internally, and not determinate with respect to one another, they are indistinguishable from nothing and have no internal determinateness at all. Things thus can be defined not internally but only in terms of their external relations, such as position, direction, velocity, and mass for moving other things. The problem for atomisms then becomes that of giving an account of external relations where things function as mere markers on an extensional field. Either the field is a special thing, internally determinate with places and geometries of movement, contradicting the atomistic hypothesis, or it is a fiction. If it is a fiction, atomism loses all determinateness, both internal and external. Atomism ought to recognize that external conditions must be harmonized internally to make things determinate with regard to one another in whatever field they might be together, which is to say that things have conditional features.

Idealisms by contrast suppress essential features in favor of conditional features, defining determinateness in terms of relations. Determinate things are treated as terms of relations, and their internal natures are analyzed as relations with subordinate terms. But idealisms fail to account for the difference between a possible relation that in fact relates no real things, and an actual relation among real things. An actual thing cannot be a mere term in a relation without some essential features to determine it over against the functional character of being a term in the relation. The functional character by itself is only a possibility. Without standing of its own, a thing is reduced to its relations and hence cannot actually function as a term over against other terms. Moreover, the relations themselves are determinate only as terms in higher relations, which themselves suppose higher relations to the point of an absolute relation, which is itself indeterminate and hence incapable of relating any subordinate relations. As F. H. Bradley (1897) argued, the idealism of relations supposes a mystical absolute with no determinateness whatsoever. If idealism is to “save the appearance” of really different related things in the world, it needs to appeal to something essential in things.

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This brief survey of the superiority of the hypothesis of conditional and essential features to atomism and idealism is schematic and not exhaustive, but it can be made more plausible by the use to which it is put in the following discussion.

The hypothesis is that to be determinate is to be a harmony of conditional and essential features, and thus in connection with other determinate things. A thing must be determinate in some respects to have any identity whatsoever. Otherwise it is the same as nothing. But a thing need not be determinate in all respects.<sup>14</sup>

The next step in the argument is to make that metaphysical hypothesis cosmologically specific with regard to the flow of time. Cosmological contingency has to do with the conditioning of things within time. The hypothesis about temporality is that time has three determinately different modes, past, present, and future, and that all three must be acknowledged in interconnection in order to account for the causal passage of time.

As determinate, the modes of time have essential and conditional features.<sup>15</sup> The essential features of the past give it actual fixity and complete determinateness. The past is what it is and does not change in actual structure or value except insofar as more things become past with the passage of time. The essential features of the future have to do with formal possibility. Relative to the processes ongoing in the present, certain outcomes are possible and others not, and these are formally connected, providing a field for all things in process. The essential features of the present have to do with the spontaneity and decisiveness involved in actualizing possibilities. The present is when actual states of affairs emerge from mere possibilities. The essential features of the three modes of time cannot be expressed without reference to the conditional features, and in fact this exposition just now cheated.

The conditional features the past receives from the future are the determinate forms that get actualized and the values these structures bear. The conditional features the past receives from the present are the accretions of new actual states of affairs; the actuality itself is the product of present actualization. The conditional features the future receives from the past are the actual structures and lines of causal force that give definiteness to pure form. Without the actual diversity of things to integrate, the future as pure form would not be determinate. The future consists of formed patterns because of the determinate character of the past. The conditional features the future receives from the date-by-date movement of the present are the continual kaleidoscopic shifting of those patterns as different actual decisions are made. With each present set of actualizations, the future's formal structure changes. The conditional features the present receives from the past are the actual things that function in the present as potentials for integration in emerging actualities. This is causation in

the most ordinary sense: the past provides the actual stuff for new actualization, and that stuff has structures that must be taken into account in any new emergence. In certain respects the past might not allow alternatives for subsequent actualizations, and in these respects, deterministic laws prevail; in other respects, the past might allow of several alternatives for emerging things. The conditional features the present receives from the future are the formal possibilities for integrating actual structures that are potentials for new actualization. The present is peculiarly creative in that its essential features integrate both given actual conditions and formal possibilities for combination into new determinate actualities. As soon as the present actualizes something, that actual something is past and thus fixed.

Each of the temporal modes has exercised a powerful and often exclusive effect on the imagination of temporality itself. Modern deterministic physics, for instance, imagines all time as if it were modeled on the fixed past, with determinate structures stretched out on a time line. On this image, the place of the present is arbitrary, and one can imagine the direction of time to be reversed. As Bergson complained, this is a spatialization of time. Existentialists, on the other hand, take their image of time from the present, emphasizing decisiveness and the intentionality of consciousness. Process philosophy also emphasizes the present alone as real, with the past significant only as entering into present actualization and the future as real only as anticipation; process philosophy rightly expresses the creativity in the present, pointing out that the action of actualization is not from the past, which cannot change, but an essential constituent of the present as the emerging of actuality. The future is the paradigm of time itself for those who see it only as a changing pattern of forms, one thing after another. Perhaps this is the dominant popular image of time in our day when things seem not to add up, only to pass, and when we look to the future for things to be different far more than we look to the past for the values that have been actualized or to the present for the sites of our responsibilities. But none of these images of time adequately represents the experienced flow of time in which possibilities are selected from among alternatives, locating present action and building an actual world where decisions count.

The real flow of time involves the interaction of all three modes of time. At any one present date, things are decided that change the future and add to the past. Thus together with the change that consists in present actualization there is the change that consists in the unfolding of past actuality and that of the shifting of formal future possibilities. The togetherness of these three kinds of change is not temporal togetherness. Temporal things are in time, structured by the temporal dimensions. They have a future, move from date to date of present actualization, and lay behind them an actual past. Temporal things do not exist



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only in the present, anticipating a future that does not exist yet and remembering a past that no longer exists. Of course the future and the past do not exist in the present save through anticipation and memory. But they exist in their own temporal modes as possibilities and actual fact. The future possibilities cannot be unreal because their existence is only as possibilities anyway; they are what they are irrespective of whether they are actualized, although their patterns depend on what has been actualized. The past cannot change any more, and hence cannot cease to exist. The flow of time in temporal things consists of the dynamism in which the date of the present advances so as to move possibilities to either definite actualization or exclusion, building up a history of achieved character and structure. The human feeling of time flowing in the present includes the apprehension that the future has its formal patterns or limitations regardless of whether we rightly anticipate them, and also the apprehension that the past has an actuality that measures our memory rather than the other way around. The present alone is an abstract part of the larger temporal reality that includes the actuality of what has happened and the formal limitations of what yet might.

The picture of nature emerging with this hypothesis is far more complicated than might be conveyed by the introductory remark that nature consists of things being conditioned by and conditioning one another. The introductory language might suggest only that things are conditioned by the past lines of causation that lead up to them, or by their environment. Now we can note that at every date of their temporal existence things are conditioned by future possibilities, by past actual things providing their potentials for actualization, and by the random and directed decisions taking place in that date as present. But because no temporal thing exists at only one date, but rather through a temporal stretch of dates, each thing is conditioned by the shifts in its possibilities through time, by the ever changing cumulative character of its past, and by the diverse acts of creativity in each of its dates when those dates are in the mode of present time. The complicated dynamism of temporality means that every one of its dates when it is present has a somewhat open future, a past providing its potentials, and a decisiveness of actualization. Moreover, every one of its dates has a myriad of open forms structuring it as future possibility relative to each prior date, and also a fixed structure as part of an actual past that grows with the movement of the present. A dynamic temporal thing is never fully existent at a given temporal moment, although of course that is all the thing is at that moment. What is left out of a given moment, say of present existence, are the thing's future as that will have been actualized later and the past when those past moments were future or present. Any given moment is an abstraction from the whole of the temporal thing's reality.

Precisely because of the dynamism of time's flow, constantly adding to the past, shifting the future, and making decision after decision, a temporal thing is fully real only in eternity. Eternity is not a happy notion in modernity and it needs explication here. Eternity is not static because there is no time when the three temporal modes are not changing. Rather, the eternity in which time flows is fully dynamic in at least the ways mentioned here, and things are in eternity precisely because they are temporal. This is because the relations among the temporal modes are eternal, not temporal. The past is not before or after the present or future, but together they define temporal relations for temporal things.<sup>16</sup> The mutual conditioning of natural things is at least as complicated as described here, and surely far more complicated.

Yet another step must be taken to acknowledge diverse kinds of temporal things. Temporal things have been mentioned here as if they were all of one sort, and probably most people have had in mind individuals or Aristotelian substances. But in fact there are many crucial determinate distinctions between kinds of things. Human discrimination usually focuses on items picked out of backgrounds.<sup>17</sup> Sometimes these can be more or less autonomous organisms in an environment. Other things are so intertwined that the language of ecosystems is best for their description. Some things do indeed maintain a fairly continuous character through significant changes in environment. Other things such as human beings build a tight identity over time by extraordinarily sensitive adaptations to a variety of things, many at a great distance. There are aggregates of things such as sandpiles whose members' internal relations with one another are relatively insignificant; there are organic environments in which any change anywhere resonates with changes in everything else. Human societies exhibit vast mixtures of organic individuals living lifetimes, natural environments slowly changing, social institutions that exist in the human enactment of meaningful behaviors, and languages that provide meaning and change with use. Whereas any thing in any of these senses involves all of the kinds of conditioning of past, present, and future temporality, at every date of its existence, each kind of thing has different kinds of temporal conditioning relative to itself and to those things that are its conditions and which it in turn conditions. A temporal thing is in eternity in the sense that its whole identity includes each of its dates in all its future states toward which it might be responsible, each of its dates in its proper present of decisiveness, and each of its dates as given determinate actuality.

This cosmology is abstract in the extreme, or *vague*, to use the technical term that means the concepts need to be specified by more particular theories before they apply directly to concrete things. In this regard, the cosmology is superfriendly to all the sciences, each of which offers particular conceptions of

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definition and conditioning or causation. Moreover, the sciences do not have to be reconciled with one another in order each to be understood as specifications of the vague cosmology. Whereas the language or categories of behavioral psychology, for instance, is incommensurate with that of particle physics, both can be represented as specifications of the temporal and eternal conditioning of harmonies. Perhaps it would be possible even to compare those sciences when both are translated into the language of the cosmology, although the difficulties of translation should not be underestimated. Best of all, the cosmology is vague with respect to, and therefore tolerant of, critical changes in the accepted hypotheses of the various sciences. Paradigm shifts are to be expected in empirical science, and representing the shifts as alternate specifications of the cosmology is one way of tracking them. The cosmology is not committed to the truth or falsity of any scientific hypothesis, only to its own capacity to be specified by any hypothesis.

What is true for the relations among the acknowledged sciences holds for relations among the sciences and other human endeavors that involve articulations and interpretations of reality, including the humanities, arts, and practical affairs such as work, family life, and politics. It is fair to say that any interpretation of anything interprets that thing in certain respects and not others. Interpretations might be true or false, and the respects in which they claim something about their objects might be important or trivial, relevant or obfuscatory. But all interpretations pick out something affirmed to be determinate about their objects, and hence relate to the objects as harmonies of conditional and essential features.

*Ontological Contingency: Creation and Eternity*

The previous section has sketched the hypothesis about cosmological contingency. A natural thing is contingent upon its entire shifting array of temporal conditions, inclusive of all of its dates in their eternal togetherness. What about ontological contingency? Two approaches to this question will be made here, one from the cosmology of temporal relations and the other from the metaphysics of conditional and essential features sketched earlier.

With regard to the cosmology of temporal relations, eternity was the name given to the context in which the temporal modes are together because, unlike things in time, they are not together temporally. Eternity is also the context in which temporal things have their full identity, in which each of their dates has forms that are future, present, and also past, eternally connected so that they are together temporally yet lived dynamically with a moving succession of

presents. What can this eternity be? It is the ultimate condition for the existence of temporal things and their temporal conditionings. What can provide that condition?

Eternity cannot be a static form because that cannot be the context for either existential actualization or the solidity of actual fact. Eternity cannot be a fully determinate whole, as absolute idealists might suggest, because that cannot be the context for the dynamics of shifting future possibilities nor existential actualizations. Eternity cannot be a temporal, present God, merely remembering the past and anticipating the future, however perfectly, because that cannot be the context including the reality of the past to which memory ought to be true and the future that is so sensitive to change. Rather, the most plausible hypothesis is that eternity is the act that creates everything determinate, everything variously determinate in all of their dates as past, present, and future, and as mutually conditioning one another in whatever ways they do. The determinate things have their ontological existence as the interrelated termini of the creative act. They are created to be together in the ways they cosmologically are, with the regularities and decisive spontaneities of their temporal unfolding, in one act. The act is not in time but creates time with temporal dynamism by creating the temporal things in their shifting natural conditioning relations. The act is not anything determinate apart from creating, and its determinate nature is only that of the determinate world. The act does not proceed from any determinate potentials, because all determinate things are created. So it can be said, in the language of Western theology, to be the act of creation *ex nihilo*. In the West, this has been identified with God, although not all Western conceptions of God would accept the characterization of creation *ex nihilo*. South and East Asian variants will be discussed shortly.

The argument is not coercive because it merely eliminates some obvious candidates for eternity and then says that we can think of only one more possibility, the act of creation of all temporal reality. Furthermore, the vast complexity of natural temporal conditions described makes it hard to get the argument in mind. But in the discussion of temporality, the very distinctness and connection of the temporal modes and hence of the ways different temporal structures provide conditions for temporal things was described in terms of essential and conditional features. Because of the essential features the temporal modes cannot be reduced to one another; because of the conditional features each is defined in part by its relations to the others; the determinateness of past, present, and future comes from each being the harmony of its essential and conditional features. From this, the argument for creation *ex nihilo* as the context for ontological contingency can now be restated in terms of the metaphysics of essential and conditional features.

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The conditional features constitute a complicated set of cosmological, indeed temporal and spatial, togethernesses. But the essential features of each thing are not contained in the other things to which it is related by conditional features. Rather, the essential features are what give it its own existence, allowing it its own being so as to be able to enter into conditioning relations with other things. The other things each have their own essential features by the same token. The mutual togetherness of the conditions does not include the togetherness of the essential features of the several harmonies together. Yet the things could not have their mutually conditioning conditional features if those features were not harmonized with the essential features in each case. Therefore, there is a deeper, ontological, context in which things are together with their essential as well as their conditional features. This deeper ontological context of mutual relevance is what allows things to condition one another. What can be the ontological context that allows harmonies of essential and conditional features to be together without swallowing each within the others? What is the context that allows the harmonies to be, which they could not if they were not separate in essential features and mutually implicated in their conditional ones?

The ontological context of mutual relevance could not be a common property such as *being*, because then all the other properties constituting things, all their essential and conditional features, would be outside of or in addition to the context that is supposed to contain them. Nor could the ontological context be some kind of determinate container such as the Absolute, because then there would have to be a yet deeper ontological context to relate determinate harmonies to the determinate container. The context itself cannot be determinate without an infinite bad regress. Yet if it is merely indeterminate, it does not contextualize anything. The hypothesis that solves this problem is that the context is the creative act that is nothing without acting and which results in the world of determinate harmonies. The determinate harmonies with their essential features are together as created together, and their conditional features specify their temporal and other relations with one another. The sense in which things are in an ontological context of mutual relevance, which they must be in order to be determinate through conditioning one another and having essential features, is the sense in which they are created together. Togetherness in the creative act is eternal because it makes possible the temporal relations described above. In their temporal relations, things are together as earlier, later, and as contemporaries, and this is possible only because they are also together eternally as creatures. Such is ontological contingency.

The great abstractness of this hypothesis is a philosophical virtue even if a rhetorical sticking point. For the thesis that all determinate being is contingent

upon an act of ontological creation is compatible with any determinate world whatsoever that science and the other forms of cognition might discover. The universe might begin temporally with a big bang, or it might be continuous through endless years as was believed in the steady state theory until recently. Human beings might be the highest form of intelligence, or there might be far superior beings. The running of the world might be practically deterministic, or it might involve both chance and responsible freedom. Whatever is determinate, including determinate indeterminacies such as openness to the future, can be created *ex nihilo*, and it is up to whatever forms of inquiry recommend themselves to ascertain what the determinate world is. This hypothesis opens inquiry to radically empirical questioning, at the same time that it provides at least the abstract beginnings of a reconstruction of the world's religions' apprehensions of ontological contingency.

The ontological hypothesis of creation *ex nihilo* is hardly tolerable to the late-modern sensibility because of its blatant theological connotations. Late moderns seem to just know that whatever explains the contingency of the world, it cannot be the God of old-fashioned religion. Here is the nub of the tension between traditional religions and late modernity. Lest the idea of ontological creation *ex nihilo* be too quickly assimilated with what is popularly thought to be the theology of the West Asian religions, it is important to mark the peculiarity of that idea.

The oddest element of the creation *ex nihilo* hypothesis about ontological contingency is that it describes, points to, and names an act. The hypothesis claims that the way to understand how there can be a world of nature with many different but connected things is by identifying an act that makes them be as determinate things. This is different from our customary intellectual strategy, namely, to understand things by identifying the principles or structures from which they derive. More concretely, our customary strategy is to explain things by reference to a being, or set of beings, that has a determinate nature, such that the world to be explained follows from that nature. This strategy is illustrated in common understandings of God according to which the world's goodness, rationality, or purpose derive from those properties in the divine nature. The sciences no less than theology employ the strategy of explanation by principle and by appeal to the nature of foundational beings when they cite the nonobvious implications of mathematical structures, for instance, or the natures of elementary particles. But these strategies, whatever their merit in orienting us to certain commonsense matters or for explaining the regularities science discovers, do not address ontological matters at all. Stephen Hawking (1988, 174) remarked, "The usual approach of science of constructing a mathematical model cannot answer the questions of why there should be a universe

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for the model to describe.” The question is more radical than he knew, because we can also ask why there should be mathematical determinateness so that models are conceivable.<sup>18</sup>

Put bluntly, curiosity about why there is a world can be answered only by reference to an act or acts that make there be a world, with whatever character it has. An appeal to first principles or to the nature of basic beings is unhelpful if the question is why or how there are principles and beings at all. Even within ordinary experience we appeal to acts of making more than the European Enlightenment story about reason leads us to believe. In moral situations, we want to know who is responsible for the way things are and whose responsibility it is to act in the matter. When we ask why people do what they do, we presuppose an understanding of the principles and possibilities of action, including the possible motives; but the moral force of the question is why the people adopt the motive they do when they could have acted out of other motives, why they choose to have the moral character that comes from their choice of action, why they make one thing happen rather than another when the decision is up to them. Scanning any ordinary situation and taking up an orientation to it, we look to all the myriad choice points that need to be observed to follow what is going on, intentional choice points of human actors and random choice points of chance collisions among causal processes. In ordinary experience we do not limit our considerations to principles of possibilities or to the natures of established actuality but look also to the pulse of existential decisions or actualizations. Understanding by reference to decision points is the analogue for noting ontological creation, the result of which is the entire realm of determinate things, in all temporal modes, *sub specie aeternitatis*.

Critics will point out that the idea of an ontological creative act is wholly discontinuous with all senses of causation, conditioning, or creation within temporal existence. Yes and no. Yes, all finite acts of creation are conditioned by actual antecedents that must be taken into account and also by formal possibilities, and ontological creation produces both of those kinds of conditions rather than being conditioned by them. No, in every present moment of finite actualization some new reality is produced that was not contained in the antecedent actual conditions. If that were not so, there would be no difference between the situation of the actual conditions without the new actualization and the situation in which the new actualization has added something to what before was actual. Formal possibilities conceived next to old actualities cannot provide any new actuality. The actuality in the actualization is all the old actuality plus something that makes the actualization an addition. Human beings experience this in every single intentional act for which responsibility can be taken. The ontological creative act is like every act of finite actualization except

that everything in its outcome is new and nothing is a potential deriving from a previous actualization. There are countless finite analogues to the ontological creative act, and we can say precisely what is not analogous—antecedent determinations that condition the creative act. Ontological creativity as expressed within time is involved in every present moment of spontaneity, in any respect in which something new is added to the inherited actual conditions. Moreover, every one of those past conditions, when it enjoyed its own present, had ontological creativity in its novelty; each past actuality had its own past when it was present, but then its past too involved ontological creativity insofar as something novel happened when it, earlier, had been present. So in the whole temporal stretch of things, any actual change involves some novelty, and every novelty is, was, or will be a bit of the ontological act. No actual condition fails to be analyzable into its own expressions of novelty in its present moments and the actual conditions for those moments, which themselves derive from inherited acts of novel creation. Actual existence is not the whole of reality, of course, because there is also possibility, which the hypothesis about time says is the character of the future and therefore an integral part of time's flow. The pure form constituting possibilities as such is created itself in the eternal ontological act in connection with the shifting novel moments of the present and the accretions of the past. In sum, the ontological creative act is like every finite act of present creativity except that it creates everything new and inherits nothing.

### *Symbols of Ontological Asymmetry*

The ontological creative act is radically asymmetrical, as a finite creative act is partially asymmetrical, namely, in adding something new to the actualized past. Ontological creativity is the making of something, starting from nothing (not just the past) and ending with the entire world of determinate things (not a mere addition). The explanatory reference to the ontological act has three dimensions: it requires an icon, an index, and a conventional symbol or name. Treating these three modes of reference, themselves analyzed formally in chapter 3, brings the argument to a close.

The icon of the ontological creative act is, of course, the theory that says the reality is like what the theory describes. The ontological creative act must be understood in terms of three notions, the act of making, the source of the act, and the product. None can be understood without the other, and in this sense the three terms are symmetrical. Yet their connection is such that they assert the asymmetry of creation. The source of the act is indeterminate, because



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everything determinate is in need of being created. Moreover, only something indeterminate escapes the requirement for a further ontological ground of mutual relevance between itself and the determinate world. Without the act of creation, the indeterminate ground is nothing, absolute nothingness; it is not even the ground of anything and is wholly inconceivable. In fact, without the act of creation there would be no determinate conceivability at all. But there is the creative act, and therefore the ground is indeed the source of the world. The world itself consists of all determinate things, nature in the most inclusive sense, whatever that might turn out to be. The act itself is determinate only in the sense that it is the creation of the determinate world. The act has no determinate extensionality of its own, no medium that constitutes a nature apart from its product, because all determinateness is in the product; it is simply an act of making. Taken together, the indeterminate source, the act, and the determinate product are the ontological creation of the world and of the creator. Theisms, starting with metaphors of gods as superintensifications of human agents, point out that ontological creation is the voluntaristic making of the nature of God which is itself dependent on the divine creative will. Duns Scotus was a voluntarist in this sense in contrast to Thomas Aquinas, who claimed that God creates according to a preexistent nature, albeit one that is too simple to be determinate! Just as a moral agent gives himself or herself the morally relevant parts of personal identity, so God makes the divine nature in the ontological creative act. The icon of source, act, and determinate product describes the ontological situation of contingency.

The indexical reference to the ontological act is to point our attention toward the act, like finding out who the moral agents are in a complex situation, or where the important causal happenings take place. The entire dialectical argument presented here is a single indexical reference, starting with a general historical assertion of pervasive senses of ontological contingency, directing the issue of contingency to determinateness as the mark of closure for nature, giving a metaphysical analysis of determinateness, and a cosmological analysis of temporal conditioning, pointing out the eternal character of the context in which determinateness and temporality are possible, and then asking for what might be that eternal context. That question indexically points us toward what makes the world in the most basic sense of making.

Such a dialectical index is appropriate for philosophers. Many other things function as indices for contingency and its ground for other people. According to the iconic theory, there ought to be three main classes of indexical experience. The determinate world is itself contingent, and any special marker of that, such as a death, an intimation of one's mortality, a natural disaster, or an observed cosmic singularity can trigger the look toward the creative act. For

many people the creative dynamism of the act itself, never separate from its determinate work, is an indexical pointer of attention. Gerard Manly Hopkins' haecceities shimmer creativity like shaken foil, and most of us become nature romantics at least temporarily when confronted with a sublime sunset or sea swell. Then for the mystics the experiences of penetrating deeper and deeper into the basic elements of the created world, until the abyss of nothingness yawns like the fire whose flames come from nothing, point to the source sourcing, that on which all depends, nothing in itself, everything for us.

The conventional references to the ontological creative act on which all nature is contingent are to be found, of course, in the cultural references to such contingency in the world's great civilizations. A brief review of some of the standard ancient motifs of East and South Asian civilizations shows how they mark contingency with different symbols. The language of the argument so far has called up the parallel Western ideas, such as God's creation of the world so eloquently expressed in the Hebrew Bible and presupposed in the New Testament, Plato's claims that the form of the Good creates the world and that soul is the primitive source of motion, and Aristotle's explanation of the contingency of all motion on the imitation of perfection as self-sufficiency. This review of non-Western motifs comes last rather than at the beginning because the philosophical analysis above can be seen to resonate with these symbols, finding in them concrete specializations of the abstract notions. The symbols themselves are generally familiar.

From China two basic motifs suffice to illustrate the point. The first and most obvious is the opening of the Daodejing:

The Tao (Way) that can be told of is not the eternal Tao;  
 The name that can be named is not the eternal name.  
 The Nameless is the origin of Heaven and Earth;  
 The Named is the mother of all things.  
 Therefore let there always be non-being so we may see their subtlety,  
 And let there always be being so that we may see their outcome.  
 The two are the same,  
 But after they are produced, they have different names.

(Chan 1963, 139)

The Confucian tradition picks up the more general Chinese sense of causal process as the subtle interweavings of yin and yang and gives that process an ontological interpretation. The eleventh century Neo-Confucian, Chou Tun-i, wrote,

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The Ultimate of Non-Being and also the Great Ultimate! The Great Ultimate through movement generates Yang. When its activity reaches its limit, it becomes tranquil. Through tranquillity the Great Ultimate generates yin. When tranquillity reaches its limit, activity begins again. So movement and tranquillity alternate and become the root of each other, giving rise to the distinction of yin and yang, and the two modes are thus established. (Chan 1963, 463)

For Chou, temporal process in the ordinary sense is the result of the not-yet-temporal movement from nonbeing to the Great Ultimate as undifferentiated being which is the source of primeval movement, and so forth.

From the Indian tradition there are many accounts of the creation of the world with both mythical expressions and highly philosophical expressions of the contingency of not only matter but appearance, as in Advaita Vedanta. Here is the very ancient hymn of creation from the Rg Veda:

Non-being then existed not nor being:  
 There was no air, nor sky that is beyond it.  
 What was concealed? Wherein? In whose protection?  
 And was there deep unfathomable water?  
 Death then existed not nor life immortal;  
 Of neither night nor day was any token.  
 By its inherent force the One breathed windless:  
 No other thing than that beyond existed. . . .  
 Desire entered the One in the beginning:  
 It was the earliest seed, of thought the product.  
 The sages searching in their hearts with wisdom,  
 Found out the bond of being in non-being. . . .  
 Who knows for certain? Who shall declare it?  
 Whence was it born, and whence came this creation?  
 The gods were born after this world's creation:  
 Then who can know from whence it has arisen?  
 None knoweth whence creation has arisen;  
 And whether he has or has not produced it:  
 He who surveys it in the highest heaven,  
 He only knows, or haply he may know not.

(Macdonell translation in  
 Radhakrishnan and Moore 1958, 23-24)

Philosophers should resist until the end the claim that nature's existence is a mystery. But it is. Why it is a mystery should be clear by now: nature rests on a



creative act which has no nature, no necessity, and no existence save in the standing forth of determinate being from nothingness. The alternative to the world is very serious nothingness, and the mystery is the act that makes the difference. Given the primitive character of the conception of making something new, which applies throughout nature in many limited ways, we stand in awe before the Ultimate Making, and the Maker made in the Making.

