

# Hartshorne, God and Metaphysics: How the Cosmically Inclusive Personal Nexus and the World Interact

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## I. Introduction

Charles Hartshorne introduced me to process philosophy as a graduate student at Emory University in 1960. Not until asking William A. Christian some years later why in his book (IWM) he hadn't considered Whitehead might be thinking of God as a personal series did I realize how deeply Hartshorne had influenced my interpretation of Whitehead. Christian replied, 8/8/69, "I do not know of any passage in which Whitehead characterized God as a nexus of actual entities." Since my own search concurred (except for one suggestive passage (PR 350), I was encouraged to continue re-evaluating Whitehead's Categorical Obligations begun by noting Transmutation is problematic since divinity could not exemplify it.

Trying to conceive of God<sup>1</sup> as one actual entity, is likely impossible despite several attempts to clarify Whitehead's statements on the subject,<sup>2</sup> but neither has Hartshorne's societal view of God as a personal nexus been clearly conceived. William Reese quotes Hartshorne himself saying a foremost problem with his theistic metaphysic is

"how God as prehending, caring for, sensitive to, the creatures is to be conceived, given the current non-Newtonian idea of physical relativity, according to which there is apparently no unique cosmic present or unambiguous simultaneity....Relating the divine becoming to the problem of simultaneity in physics exceeds my capacity....I feel incapable of solving the problem, and it seems clear that Whitehead did not solve it" (PCH 616, 642).

David Griffin, who outlines the history of this issue, and some of Hartshorne's responses to the problems and attempted solutions, also concludes Hartshorne "cannot reconcile his doctrine of God with relativity physics....," and that this "constitutes a serious difficulty for process theism" (PS 21: 85).

How an all-inclusive cosmic series can interact with the world is a problem inherent in a process metaphysic for which a metaphysical solution must be found apart from any problems that arise in reconciling special relativity theory with a process metaphysic. Philosophy owes a debt to relativity and quantum physics for developing concepts with metaphysical dimensions, but a metaphysic must ultimately stand on its own intrinsic rationality and provide the final interpretation for scientific concepts.

Many interpreters of relativity physics appear to have overstated its applicability when they denied the possibility of a cosmic present.<sup>3</sup> Reconciling relativity physics with process metaphysics should be a less formidable task if one avoids the unwarranted assumption that every experience of simultaneity is restrictive. The restrictive definition of "simultaneity" is only true of experiences *within* the universe. Quantum moments are less inclusive than cellular processes (assuming they are units); just as animal experiences seem to be more inclusive than their cells. God's experience, if meaningful, would be the unrestricted case of simultaneous inclusion, in other words, experience from no perspective.

In the attempt to conceive of cosmic unity and influence as a series of all-inclusive prehensions "which loses nothing that can be saved" (PR 346),<sup>4</sup> and then returns to the world what was saved for the world to prehend, close consideration must be given to,

- (1) the nature of potentiality, including
  - (a) Hartshorne's continuum versus Whitehead's eternal objects,<sup>5</sup>
  - (b) the basis for the uniqueness of each subjective aim, and
  - (c) the ontological status of an actual entity's satisfaction,
- (2) the difference between,
  - (a) direct and
  - (b) mediated prehensions, and
- (3) the further difference between,
  - (a) direct prehensions of the members of God's series, and
  - (b) direct prehensions of nondivine actual entities.

## II. *Prehending and Prehended*

A prehension is a grasping of another. More precisely, it is a grasping of what another has accomplished and now is, since the acting of the moment of actuality ceases once it is satisfied. From then on it is a determinate being available for others toprehend. One cannot embrace norprehend another's embracing; one can only embrace the result of another's embracing.

The act of prehending is not completed in a instant, nor is it composed of several changes. An act of prehension is one continuous, indivisible act, though often very complex. It begins somewhere and ends a finite moment later with the prehender's creative addition. It has a finite duration. All this is familiar to process thinkers.

But since not even God, as the series of all-inclusive moments, canprehend what has not yet been created by the comings-to-be of the world's moments, God must gather them up after they reach their satisfactions—and not just sometime after, but *immediately*, just as they complete their creative activity.

Griffin's proposal (PS 21:97) that the moments of the cosmic series occur less rapidly than those of the world is untenable because an actual entity's satisfaction/superject cannot sit around on its own. The being of a satisfaction only survives as a conditioning of some process. Either,

(a) a process must begin that includes the previous being as soon as the previous process has created it, or

(b) a process cannot reach a satisfaction unless the initiation of a new process is available to contain it.

In either case, only a cosmic series of all-inclusive processes occurring as quickly as any others can assure complete retention of every being created and also assure that the series is always all-inclusive, or knowledgeable, of all there is for the following reasons:

If God must wait toprehend what the world creates, the actual entities of the world would have to include what they inherit, without loss, and not die, in order to pass on all they actualized to God. Even so, the slower concrescences of God would not be all-inclusive during the time the world's changes were prehended and sustained only by other occasions in the world.

If a being were surviving as a cause in only one personal nexus, and if that series were to die, as it eventually must (or even to forget some of its past, if "negative prehending" makes sense), and did so during a divine concrescence, some of the being in the last actual occasion(s) of the series would become, contradictorily, "nonbeing" before it could be prehended or saved by divinity.

But how can the cosmic seriesprehend all the actual entities of the world, if each actual occasion of the world may end at a different time? Are God's moments of creative duration so quick that one would always begin just as any one in the world arbitrarily ends? Hartshorne's suggestion that the moments of the cosmic series are as short as any other seems reasonable, but if the actual entities of the world are not somewhat in step, the divine creative efforts must be unbelievably quick, their durations unbelievably "thin."

Since every actual entity must not only end by being prehended by another, but must also begin by prehending or embracing others, no actuality can begin with "nothingness." For theism to be a necessary condition of existence, each actual entity in God's series must not onlyprehend every superject created by another immediately when it is created, but God (that is, the last divine satisfaction/superject) must be one of the actualizations prehended by every actual entity as it begins.

Again, to assure every being is in some process or other, every actual entity (divine and worldly) must end just as some moment of the divine series begins<sup>6</sup> (though nondivine actual occasions may begin at any time, even during the concrescence of a divine actual entity, as explained below in Section 7).

## III. *Direct and Mediated Prehensions*

There are two classes of unmediated prehensions:

(1) The direct prehension of the last ubiquitous satisfaction/superject in the divine's cosmic series. These immediate prehensions of divine subject/superjects will include others' satisfactions as mediated by, that is, as aspects of, the immediately prehended superject, and

(2) Direct prehensions of satisfactions other than those presented by God's superject, that is, direct prehensions of those who reach satisfaction in unison with the last divine actuality. These immediate prehensions may also include distant others as mediated parts.

As for the first type, every actual entity (not just those of God) mustprehend *all* the determination made by God just prior to the initiation of that moment of experience: All influences are causal, either as pure physical or hybrid physical feelings (see Section 6). For God this must include,

(a) infallible memory of God's own personal nexus, into the infinite past (that is, temporal all-inclusiveness), and

(b) determinations just made by all others during God's last all-inclusive concrescence (that is, spatial all-inclusiveness).

Even though actual entities of the world must end as some moment of the divine series begins, actual entities are still free to exhibit different temporal extensions, since actual occasions are not required by any

metaphysical conditions to start at any particular time nor last for any particular duration. Only those of the divine series must begin just as the previous one ends and have concrescent durations as short as, or shorter than, any others. If these conditions are satisfied, no created determination will be lost, or lapse into “nonbeing.”

#### *IV. Satisfied Process as Potentiality*

Determinations (that is, beings) made by actual entities, including those of the all-inclusive, divine series, are the source of potentiality for superseding others. Nothing is more fundamental in the process metaphysic than the process of creating a being: This acting is the fullness of actuality. The other pole of the actual/potential distinction, potentiality, is the actualized, that is, the being created. The satisfaction of an actual entity’s creating is potentiality for those who find the created determination in their actual world and embrace it as they begin their concrescent life.<sup>7</sup>

The Whitehead/Hartshornean process metaphysic recognizes the absolute unalterableness of being: The actualized is and will forever be as it is. Parmenides is at least half right. But this changeless, nonrational surd must reside in some process or other, causally conditioning the process it is in. This is a theory of dipolarity where one pole includes the other, not the incoherent attempt of dualism.

Every created being is a source of potentiality for every actuality, for every process. These tenants, the changelessness of being and its universal influence, are as important as the irreducibility of creative process, but are less rigorously asserted by process thinkers. Anaxagoras believed something of everything is found in everything. As formulated in process philosophy: Every being is a potential in every becoming. “...No two actual entities can be torn apart: each is all in all” (PR 348).<sup>8</sup>

Even assuming Whitehead did not intend to imply present actualizations are causes in past actualities,<sup>9</sup> still, there is one important *exception* to the truth that a satisfied actuality is in all superseding actualities: Beings created by contemporaries are *not* in every successive process. Some being, say B, can only be in a process, P, when it is spatio-temporally prior and contiguous to the process it is in. This can happen even if being, B, is spatially distant in the world from actuality, P, as long as B is part of the satisfaction of a moment of God’s series that ends before the process, P, begins. God’s satisfaction is spatially ubiquitous and, therefore, contiguous to all superseding others.

But when a satisfied actualization, C, is prehended by God, but not by a creaturely process, P (because P begins its process before the moment of God that prehends C has reached its satisfaction, and C is not contiguous to P), then P is completely *unaffected* by C, even though C is a determinate being and can be found in God’s coming-to-be (and in other moments contiguous to C).

Recognizing this qualification of the nearly unqualified truth that “all is in all” (if even for the minuscule moment required to accomplish a divine creation), is extremely important. There are not just past and future actual entities to a divine, all-inclusive actuality; there are also contemporaries. This means that instantaneous transmission throughout the universe is not possible, even though some degree of influence of everything is felt everywhere as quickly as God’s concrescences occur. This is very quick, but not “infinitely” (instantaneously) fast.

Assuming Hartshorne is right and potentiality is a continuum (not a set of discrete objects), it follows that a prehension of any part of a being (another’s satisfaction as superject) is really a prehension of the whole continuum of being created by that previous moment. To experience part of what an actual entity has done (including God) is to prehend it *all*. Though parts of a whole process (or aspects of the whole satisfaction of a process) may be distinguishable, they are not capable of being separated nor isolated from the whole of which they are a part.<sup>10</sup> Coordinate division, like genetic division, is a conceptual process that focuses on aspects of an indivisible satisfaction as superject. If Whitehead did believe one can prehend only a part of a previous satisfaction as a moment’s “actual world” is established, while completely dismissing the rest by way of “negative prehensions,” it likely stemmed from his inadequate view of potentiality as discrete objects.

Of course, creatures are not all-knowing nor all-inclusive, even though they prehend the totality of God’s creation, for two reasons:

(1) Awareness (which arises in later stages of a coming-to-be) occurs with degrees of clarity and obviousness, and only God is assured of unsurpassable clarity and complete, conscious retention,<sup>11</sup> and

(2) Inclusiveness is always compromised because there are always others in the universe, as noted above, whose results are immediately prehended by God that are only prehended by a few others (until they are prehended as parts of the next cosmic result). Only by mediation of God do others experience all the others there are, but by then it is too late to be all-inclusive, since new others have already been created, namely, those whose creative durations were contemporaneous with the last moment(s) of the divine series.

### V. *Direct Prehensions of NonDivine Creations*

Every actual entity must not only directly apprehend the most recent cosmic satisfaction/superject, it also must apprehend satisfaction/superjects of immediately contiguous actual entities *other* than the cosmically extensive subject/superject. Apprehending others, in addition to one's apprehension of God, is a metaphysical necessity because no actuality can begin to create without a novel standpoint. Novelty is only possible if an actuality begins with an actual world different from any accomplishment already in being. To experience *only* what God has done, or *only* what any one actual entity has done, provides no novelty—no novelty, no new process of actualization.<sup>12</sup>

So, though it is true that every actual entity must be initiated by what has already been done, each must also experience a unique combination of others' superjects in its "actual world." The unique standpoint of its actual world so conditions its real potentiality that a novel outcome must be achieved (if death does not intervene). Its real potentiality, or subjective aim, is a continuum based on the actual entity's apprehension of,

(1) the cosmic unity, which offers the widest range of innumerable possible outcomes, and

(2) a multiplicity of nondivine and contiguous subject/superjects, which condition or limit one's range of possibility to what is most relevant to those nondivine apprehensions. Supplementing the influence of the divine potency with that of one's nondivine neighbors turns the widest or "pure potentiality"<sup>13</sup> into the "real potentiality" of the actual entity's subjective aim.

So, too, must God apprehend more than what God has just accomplished. Apprehending at each moment the new actualizations created by the world is necessary in order to establish a novel subjective aim for God. What makes God's experience unique is the scope of God's inclusion. Where nondivine actual entities experience *some* others' results (and always a different selection from anyone else's), each moment of the unsurpassable series includes *all* others. This difference between the logical contradictories "some" and "all" is at the heart of understanding theism as Hartshorne often states; not the contraries, "all" and "none."

### VI. *Perspective and Causation*

In addition to the unavoidable apprehension of the most recent satisfaction/superject of God's personal series, all actual occasions must apprehend some others. Apprehending some, rather than all, others is what gives every nondivine moment a perspective. "Perspective" is failure to experience all the results in existence because all the results are not contiguous to the incipient, apprehending moment. Perspective enhances a limited range of possibility leaving most of the welter of being contained in one's apprehension of the divine's satisfaction in relative obscurity. Perspective is enhancement of some of the cosmically presented background of potentiality rather than a "negative apprehension" of most of the continuum of being.

Action at a distance has always been problematic. Interpreting Whitehead to say all causation is from contiguous others around which the present grows seems correct. Only by apprehending the result of another, can that other be a cause, and every apprehension of another's satisfaction must be spatio-temporally prior and contiguous to the apprehender. This is true whether the apprehensions be "pure" or "hybrid."<sup>14</sup> Since all acts of apprehension have a finite duration, it follows that a cause, A, in someone else, B, cannot be a cause in another, C, who is not contiguous to A, until it has been transmitted by mediation to where it is contiguous to C. There can be no instantaneous transmission of A to C, *even though B is in a moment of God*.<sup>15</sup>

This is true because each moment of God not only has a cosmic past and future, it must also have contemporaries. There are always mutually contemporary divine and nondivine durations.<sup>16</sup> This does not mean the world's moments must begin or end with each cycle of the cosmic rhythm (see Figure 1, Synchronization of God and the World). Most will be much longer than any one moment of the unsurpassable series.

### VII. *Synchronization of God and the World*

Every actual entity must begin

(1) contiguous to the last divine subject/superject, since God is not only all-inclusive, God is everywhere, ubiquitous. Every actual entity must also begin

(2) contiguous to some others in addition to God.

Every actual entity apprehends all that the last moment of the divine contains: all the spatial (external) relations and the primordial past (internal relations). In this sense, action at a distance is not only meaningful, but inevitable. Everything affects everything else that supersedes it, but only *after* it has been incorporated into the satisfaction (body) of the divine, where it must be apprehended (consumed) by all future others.<sup>17</sup> Until something, B, has been ingested and returned to the world by God, B only affects God and those actual occasions (those Cs) that are immediately successive and contiguous to B. All others are contemporaneous with that moment of God and with those B is causally conditioning, so B could not be part of their actual world to apprehend.

Actual entities not contiguous to B are completely ineffectual in B, even though they are satisfied and exist as beings, as potentials, for others. They are only causes in God and any others contiguous to their satisfaction/superjects. Since all others are contemporaneous with that moment of God, they are not capable of being influenced by distant, noncontiguous creations nor by God's contemporaneous concrescence. This indifference to some actualizations already in being, is what sets all others apart from God who is contiguous to all, and indifferent to none.

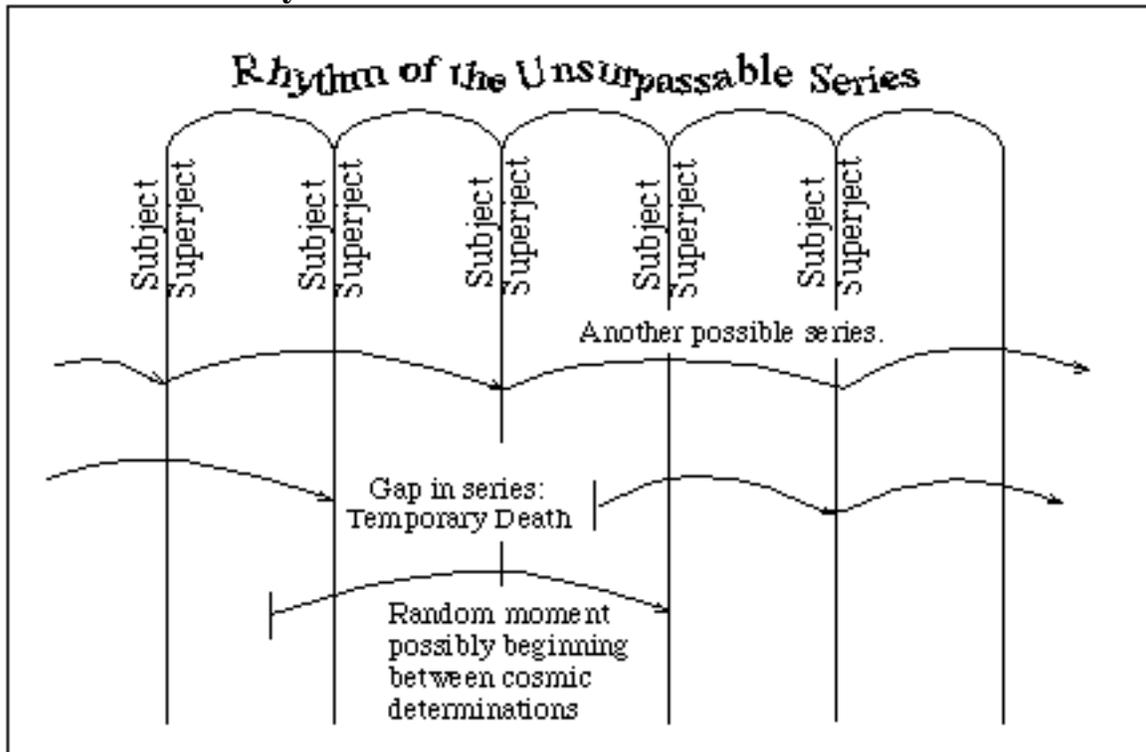
Since the divine prehension of God's own past is flawless, a nondivine actual entity has the luxury of beginning at any time, not just as a divine moment ends and another begins. This is so because a being is capable of being inherited at any time as long as,

- (1) it is held in existence by some process or other, as it must, and
- (2) it is spatio-temporally prior and contiguous to the incipient actuality.

No being, or satisfaction, can exist on its own, since being is only the result of, and a conditioning of, creative process. There is no Unmoved Mover prehending the act of prehending, though there will always be a prehending of what other actual entities prehended and what their concrescing processes of prehending create. However, just because a being is prehended by (that is, conditioning) some process does not imply that the being cannot be prehended by others. Beings are not only available to all incipient actual entities contiguous to them, they are unavoidable causes in those actual entities.

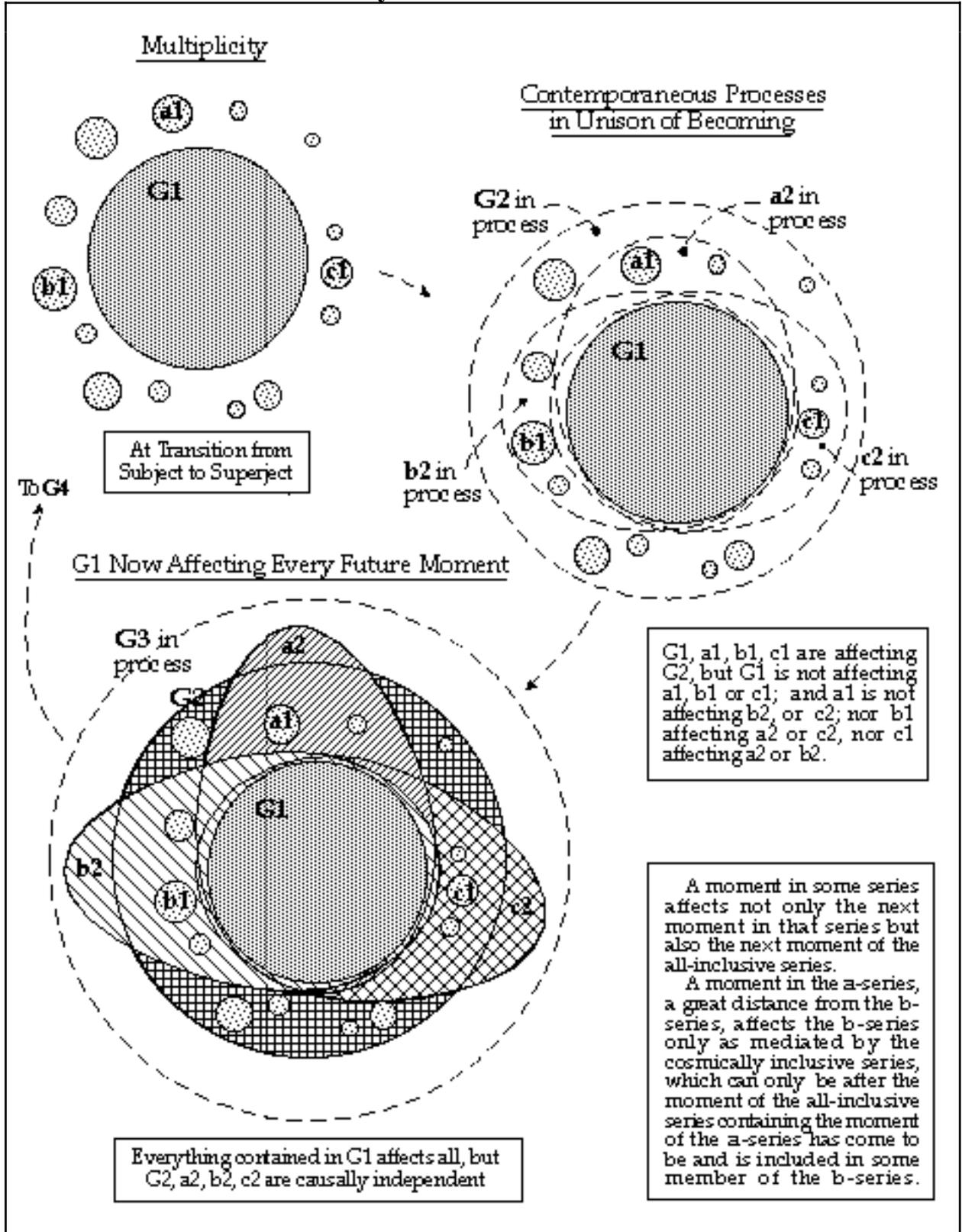
Speculation, and perhaps factual evidence also, suggests that a moment of a nondivine personal series may not be always follow immediately upon a previous member of the series, as experienced from the point of view of another series, especially that of God. Temporary death of a personal series is possible, if not likely (see Figure 1). The satisfactions of the dead personal series can be retained by others, and always by God, until the next moment of the series is established with memory of its own past which, for it, will still be spatio-temporally prior and contiguous, though this moment must also prehend the most recent determinations made by God and its nondivine neighbors who are mediating the temporarily forgotten personal nexus.

**Figure 1**  
**Synchronization of God and the World**



However, God must immediately prehend others once they have come to be, because no others are capable of being all-inclusive or immune from death. Therefore, to assure that all the created determinations of being are retained, each and every satisfaction must be prehended and made part of the determination of the divine process immediately upon its creation.

Figure 2 □  
Cosmically Mediated Influence



God cannot be a reality that “simply knows” the truth about cosmic relationships (PS 21:106); God’s experience,

(1) establishes the overall contrasts or relationships not found in creatures, and it

(2) retains forever the relationships that the world creates but will eventually lose since every moment and series in the world will forget or die. Being is not capable of alteration, corruption or loss. Being, of course, must be forever added to by newly created specifications. These metaphysical requirements have yet to have much impact on the discussion of cosmological entropy.

### VIII. *Graphic Presentation*

Figure 2, Cosmically Mediated Influence, should be helpful in summarizing how God and the world interact. At each section between two moments of the divine series there exists a multiplicity of subject/superjects, or satisfied actual entities. All these beings are immediately prehended by God, say, **G2**. A selection of some of them are prehended by each actual entity in the world, perhaps as a member of a series, say **a**. Series **b**, and **c** also represent unique selections.

Every actual entity, including those of the world, prehends all the previous moments of God, that is, **G1**, as mediated by **G2**. There is a simplifying assumption in the diagram that all four actual entities, **G2**, **a2**, **b2** and **c2** end at the same divine subject/superject juncture. At this juncture another multiplicity of beings exists to be prehended. God as **G3** must again prehend the total multiplicity, while **a3**, **b3** and **c3** only have to prehend all of **G2** and some others contiguous to itself, including some of its own past if it is to continue as a personal series.

The initial aim, or real potentiality for each moment, is a function of what superjects (beings) are prehended, which must always be more than a superject of just one other. Each moment must experience a multiplicity of results, and each moment’s multiplicity must be unique: God’s because only God’s subjective aim is conditioned by all that has been done, and every other’s because the selection of others it includes and excludes is not that of any other actuality. Actualities may include some of the same superjects (this is what gives us a common world to live and communicate in), but the total selection must be somewhat different from all others.

The subjective aim, or feeling of a relevant range of possible outcomes,<sup>18</sup> is conditioned by all the members of the multiplicity prehended. Not only is every aim unique, so is every satisfaction of that aim. The satisfied aim is then available for others to prehend, but only after the effort of the moment is exhausted, which takes a finite temporal duration.<sup>19</sup>

Since this effort is not instantaneous, transmission must exhibit a finite ratio of temporal extension to spatial size, such as that exhibited by the perspectival spatial shortening and temporal slowing in special relativity, with the smallest quantum “volume” in our epoch being expressed by,  $h$ , the famous Planck Constant.<sup>20</sup> For any moment, a perspective that prehends something with less spatiality than another, must prehend it with more temporal duration. Zero or infinite size, just as instantaneous or infinite temporal duration, is impossible, which means there must always be a finite quantum of actuality. This quantum is always a quantity of some quality; and any qualitative continuum, no matter how small or restricted, is still a quantum which is capable of being endlessly specifiable by the freedom of the moment, though possibly with only trivial variations.

### IX. *Summary*

A series of cosmically inclusive actual entities not only can, but must interact with all the innumerable actual occasions of the world. Though relativity physics establishes that temporal ordering of causally independent events (contemporaries) depends on one’s perspective *within* the universe, special relativity theory cannot rule out universally inclusive experiences of simultaneity (the very meaning of “uni-verse”<sup>21</sup>) because the necessity of such a cosmic ordering also implies the necessity for relative orderings within the universe.

Although there is no instantaneous action at a distance, influence is felt quickly everywhere because metaphysical theory requires not only that every actuality be influenced by,

(1) others spatio-temporally prior and contiguous to it (all others, in the cosmically unique case of God), but also by

(2) the totality of the universe as unified by God just prior to that actual occasion’s inception.

God’s cosmic presence establishes an influence (from all the satisfied actualities that have ever occurred) in every new actuality. The totality of the infinitely distant past and the farthest reaches of spatial distance have their part in constituting every new moment once they are part of God’s satisfaction/superject. This cosmic, supraluminal influence on worldly events may be finding empirical support<sup>22</sup> in addition to its metaphysical necessity.

The unity of the universe is not space: Space is a result of the world’s multiplicity simultaneously prehended. Each unity exhibits spatiality, namely, its simultaneous inclusion of some or all objectified

others. Reality is a multiverse of creations that offer their creations to their unifying neighbors, including the all-inclusive cosmic unifier. These offerings, whenever they begin and however long it takes to make them, must be objectified in some cosmic moment or other, just as that cosmic process begins, in order to assure nothing is lost.

### Notes

<sup>1</sup>The failure of our language to have a gender-neutral way of referring to a person is a difficult problem when it comes to divinity, but ignoring it is not acceptable. I am reluctant to use “God,” even if one avoids all pronouns, since it is still strongly masculine. The avoidance of this gender bias is something that concerns Hartshorne also. In 1994 I sent Hartshorne a draft of my Introduction to Philosophy text, *Change and the Unsurpassable*, which evaluates philosophical issues from a process position but also contains material on prepatriarchal worldviews and uses gender-neutral expressions. He responded, “Your understanding of Whitehead’s philosophy and of mine seems excellent....Your fascinating speculative views about the cosmic mother are a welcome plus. They make sense to me, I have never cared for the idea of God as a father, although (and I am aware of no good reason for this) during most of my career I have unthinkingly, like nearly all the other men, used the male gender in referring to God or to our species; but about two decades ago I did begin to think about, and began avoiding, this practice. Women are too important to be treated as secondary.”

In attempting to find a better way of referring to divinity, I have often used “The Unsurpassable” as shorthand for Anselm’s “That than which nothing greater can be conceived” or in place of the long list of positive expressions like, The Fully Worshipful, Lovable, Loving, All-Inclusive, Supremely Free, All-Knowing, Relative of All; The Infinitely Flexible and Influencer of All and so forth.

A reviewer of this article objected to using “God/dess,” “s/he and “his/er” saying they “either suggest that God is feminine [I don’t see why this follows] or hermaphrodite, not that God transcends gender....God/dess also suggests polytheism.” Conceiving of God/dess as a self-impregnating hermaphrodite may be a good halfway transition to a concept of a personal and nongendered divinity. Perhaps thinking of God/dess as all-gendered, rather than nongendered would resonate ritually with more people.

Using “God” and no pronouns can make for a heavy, artificial style, but until a convention emerges that is not overly distracting, perhaps this is the best recourse, supplemented with euphemisms like “divinity,” and “cosmic process.” However, if a choice must be made between using “God” or “Goddess,” I’m inclined to think the attributes of Hartshorne’s theism are more in line with the traditionally conceived female characteristics of love, inclusiveness and giving birth than the male ones of power, hierarchy and noble death.

<sup>2</sup>For example, Lewis Ford, PS 11:169-179; and more recently (PS 27/1-2:134) has said Palmyre Oomen’s attempt (“The Prehensibility of God’s Consequent Nature,” PS 27/1-2:108-133) seems to solve the problem of how God’s one actual entity canprehend new worldly creations. However, I am far from convinced she solves this problem. As Oomen herself points out on page 116, point 2, the problem is how the same subject can change and remain the same subject. “Subject” here for her does not mean a personal nexus of actual entities, but rather one actual entity, one whole. But a whole is what it is because of just the parts it contains: A new part implies a new whole.

To say “that concrescence is possible for God without phases of indeterminateness, and satisfaction is possible without (temporal) completeness,” is to declare God such an exception to the most basic metaphysical categories as to be unintelligible.

Further, to allow new worldly creations to be *continually* added to God’s satisfaction, implies God is never satisfied, not that God is always satisfied. The Actual Entity, God, would have to be one as it is, and somehow still the same one with new additions. Either this is the case or the new “additions” are not real, not created and added successively. This latter view would have all the problems of the classical attempt to define omniscience.

Also, is Oomen saying God has one satisfaction, a “growing satisfaction,” that grows *continually*, that is, not in finite increments? Continuity is a characteristic of potentiality only, not actuality. An actual addition must occur with somewhat different content and somewhat after the former such that an infinity of other possible (but forever unactualized) additions would be logically possible between the two. The attempted notion of an infinitely dense continuum of actualities is meaningless. An infinitely dense continuum of specified potentialities (eternal objects?) fails because all potentialities are generic, this is why God cannot know “all future contingents beforehand” (PS 27/1-2:139), since they have not yet been created, or specified. Not even God can know what is meaningless to know; or create something before it is created.

<sup>3</sup>Though I have never been able to see why special relativity is considered incompatible with cosmic simultaneity, it’s reassuring to see others agree whose mathematical skills surpass mine. See Henry Stapp’s

letter in the 11th note of David Griffin's article, "Hartshorne, God and Physics," PS 21:108. "Simultaneity" has to do with items that are causally effective in the same moment, which also means effective at the same time, since one moment is also only one moment of time. Every actual entity is constituted by a unique set of objects different from all others. Those in the world are unique because they are spatially restrictive, that is, a selection of all the satisfaction/superjects that exist. Being restrictive is not a requirement for simultaneity, even though it is a requirement for all of us who exist as fragments within the present whole. Just because there can only be one all-inclusive experience of simultaneity at each moment is insufficient grounds for ruling it out *a priori*.

<sup>4</sup>This must be every being, otherwise being becomes, contradictorily, as Parmenides noted, "nonbeing." Whitehead's reservation is likely directed toward process which is not a being to save. It is the saver of what was done and maker of a new being. Process saves by creating more than what has been done; "more" ultimately means "at least as much as before plus..." The process of the moment can't continue beyond what it accomplishes. If it never accomplished anything definite, nothing at all would be salvageable, which is the dilemma of a Heraclitian/Bergsonian flux.

<sup>5</sup>See note 18.

<sup>6</sup>My proposal requires every actual occasion reach a satisfaction in step with the subject/superject of some moment or other of the cosmic series in order for its determination of being to be immediately accessible to the next cosmically inclusive prehension which also must follow immediately upon the completion of the previous cosmic moment. Though I think this proposal is sound, I would much prefer not making this requirement, or at least finding further reasons to reduce its apparent arbitrariness. The explanation of the initiation of nondivine moments seems more elegant, since they are able to start at any point during the divine concrescence.

Lewis Ford has suggested to me that the initial stage of an actual entity might be able to accept data for a short duration before beginning its creative process towards its satisfaction. Once this initial phase is over, it would then not be further influenced by others as freedom requires. This would remove some of the arbitrariness, but I have other concerns about the nature of process and the "cut-off" point of the dative phase that need to be thought through before I could adopt this approach.

<sup>7</sup>The only exceptions, to *created* determinations being the locus of potentiality, are the eternal, metaphysical characteristics of reality, that is, those characteristics necessarily exhibited by all possible subject/superjects, including those that are actualized.

Since every actual entity is required to include all the determination presented by the last satisfaction/superject of the cosmic series, and since this determinate being includes all that has been created except what was created contemporaneously (that is, in unison) with that cosmic moment, the only being that would be "lost" if a creature, C, reached a satisfaction which was not carried forward into a new moment, D, would be the unique determination made by C itself.

If C were the last member of a personal series, the previous members of the series would be in being (at least in God) and would not violate any metaphysical principles. So though I would like to allow an actual occasion in the world to end at any time during a cosmic concrescence, just as such a moment may begin at any time during a cosmic process, still I see no way to assure complete retention of all the determinations of being in existence, without requiring every one to end just as some new moment or other of the cosmic series begins. Only when the end of one process is contiguous to the beginning of another, it is possible for the being in the first concrescence to be available for conditioning the concrescence of the second.

<sup>8</sup>That each actual entity is "all in all" can only be true temporally asymmetrically; it can only be true of objectified actualities (that is, of beings). It cannot be true of the full actuality of process which is the subjectivity Aristotle correctly asserted could not be in another's subjectivity. Thus asymmetry is a necessary condition of reality. It simply is a necessary condition for any change. Joseph Rosen confirms asymmetry is the basic notion in physics (PS 26:318-323). Symmetry as identity can only be found when one abstracts a part of a present whole and compares it to a previous whole now found as that part in the present.

<sup>9</sup>Those philosophers who do allow symmetrical interpretation, end up with a static view of reality. The spatialization of time (with fantasies of time travel) is a familiar way this mistake is found in the philosophy of science as well as popular culture.

<sup>10</sup>The assumption that parts are what they are apart from their interaction with others in the whole they are in is a persistent philosophical mistake. Hume is an archetypal example, but Whitehead is not immune as his theory of eternal object attests. Perhaps this mistake should be called the Aesthetic Fallacy since artists know that much of what colors or words do and mean come from the context they are in.

<sup>11</sup>If my proposal that prehensions of others is all or none is meaningful, then there are no “negative prehensions,” unless the failure to apprehend one who is not contiguous can be called a negative prehension. Whether or not an actual occasion can eliminate part of a prehension from feeling during its creative concrescence is debatable. If not, as I suspect, then the notion of “negative prehension” is only a matter of its degree of effect.

Transmutation, also, cannot be elimination; it can only be the addition of a feeling that substitutes in one’s awareness for the multiplicity still felt pre-consciously. How God and Transmutation are related is another question. God could not substitute the one so-called transmuted feeling for the many felt initially, but perhaps God could create the feeling of the region as one and still have in full awareness the feeling of the many. If not, then divinity depends on creatures to create transmuted feelings for the cosmic series to experience, which is one way I can make some sense of Ford’s suggestion that only actualities in the world create concrete unities (PS 11:172ff).

<sup>12</sup>Novelty of standpoint is a necessary condition for a new creative process. However, not all “possible” novel standpoints are actualized due to insufficient presented order. The creative effort required to unify some “possible” standpoints seems to be more than any actuality can muster in that region.

<sup>13</sup>The attempt to define “pure potentiality,” as an *ultimate* range of possibility that has no restrictions (where anything at all is possible), rather than defining it as the *supreme* range of possibility presented by the cosmically complex and inclusive determinations of the divine series, will always fail. The so-called Primordial Nature of God is meaningless in abstraction from the Consequent Nature. Both are, and always have been, aspects of each moment of the never-beginning and everlasting divine personal series.

<sup>14</sup>The distinction between pure and hybrid physical prehensions reduces to the difference between what the previous moment inherited and what it added to its inheritance.

<sup>15</sup>Here again the metaphysical requirement that an “actual entity” have a finite temporal duration is not always acknowledged.

<sup>16</sup>Griffin, if I follow his many proposals, seems to be saying this also, but dismisses it “as a matter of taste,” because he thinks it is “preferable to think of God as simply knowing the truth about the cosmic ‘nows’ rather than having these ‘nows’ dependent for their very existence upon the divine experiences” (PS 21:105-106). I, too, find it distasteful to bring in God to prop up a metaphysical position. But the relationship between God and the world must be one of metaphysical necessity. Each must be necessary for the other, remembering Hartshorne’s qualification that the world requires the one and only possible God, but God only requires some world or other.

<sup>17</sup>Griffin discusses what some think is necessary to constitute a subjective aim in the members of a series: “...For God to be prehensible for each occasion of experience in a personally ordered society, such as an electron, there would have to be a divine occasion that occurred after one electronic occasion (call it A) had achieved satisfaction and before the next occasion (B) [in the series] began. God would apprehend A and then, on the basis of knowledge of A, provide an initial aim for B” (PS 21:96-97).

This, of course, is *not* what happens, as Griffin also says, (unless there is temporary death of the electronic series—see Section 7), but I cannot accept Griffin’s suggestion that the way around the problems this interpretation presents is to allow the durations of divine moments to be longer than those of the world.

God experiences A *at the same time* that B experiences A, just as B experiences God (as containing all that came before A) at the same time as God experiences God’s own complete past as containing all that came before A. God (as experiencing A) and B (as experiencing A) are contemporaries. God (as containing and responding to A) *cannot* contribute A to B’s subjective aim. But since A is, by hypothesis, contiguous to B, B is influenced by A anyway. Only when C begins does God (as containing A) affect that series, or any actual entity in the world, and then A affects *every* new actual entity in the world, *everywhere* from then on.

<sup>18</sup>As Hartshorne’s theory of potentiality as a continuum requires. Whitehead’s theory of eternal objects presents a dilemma here: The aim must be one or the process has no unity; yet if the aim is one (albeit

complex) eternal object, there is no room for creative “decision.” The unity of process is a proposition which has the physical prehensions as its complex subject and the subjective aim as its unifying predicate (PR 24). However, Whitehead also says, “This indetermination, rendered determinate in the real concrescence, is the meaning of ‘potentiality.’ It is *conditioned* indetermination, and is therefore called a ‘*real potentiality*’” (PR 23). Whitehead seems to have two incompatible theories. Creativity must make some determination that has been (since the primordial past) unspecified and indeterminate until then.

<sup>19</sup>Perhaps the creative effort is not enough to make a result, and the moment dies, and with it, perhaps, a series it was supporting. Whitehead seems to say that once a process has been established with its prehensions and subjective aim, it must reach a satisfaction.

<sup>20</sup>Leon Lederman, the well-known physicist in his book on the history of particle physics, *The God Particle*, (GP 175) expresses the unavoidable finitude as a limit of knowledge expressed by what Max Planck called the “quantum of action,” now known as Planck’s Constant: “Heisenberg announced that our simultaneous knowledge of a particle’s location and its motion is limited and the combined uncertainty of these two properties must exceed...nothing other than Planck’s constant, *h*...Our measurements of the particle’s location and its motion (actually, its momentum) are reciprocally [and inversely] related to each other: The more we know about one, the less we know about the other.”

Since every actual occasion mustprehend God as supremely large or inclusive, perhaps there exists an argument here for saying every occasion mustprehend God as occurring supremely fast: The largestprehendable must occur the fastest. I don’t want to push this suggestion too far because occasions in the world that seem to occur relatively slowly, like human experiences, also seem to be more inclusive than rapidly occurring events at the atomic level. Still, I can’t help wondering whether the rapidity of atomic events might mean they do have broad inclusiveness.

Such a view might help interpret the “smeared-out” character of atomic and subatomic events and explain some supraluminal relationships even better than suggestions made here that they may result from God’s mediation. Perhaps humans are not more inclusive than atomic events. They both mustprehend all the universe as mediated by God, and the rapidly occurring atomic occasions would be affected by more changes. Then, too, humans may be influenced by fewer, but more complex others—though complexity seems in some sense to imply a larger quantity. There are many issues here that are not yet clearly thought through, including the function of Transmutation.

<sup>21</sup>Only this creative unification provides a unifying locus for the oneness of all there is. Space is not a unifying container that bends to accommodate different perspectives within it. Space is a function of simultaneous inclusion. It is not absolute but is somewhat unique to each actual occasion, just as time is not something which flows independently and apart from successive inclusions. A temporal nexus curves under the influence of gravity because of the effect of mutual attractiveness, not because the one container (space) of reality is curved.

<sup>22</sup>Bell’s Theorem establishes a provocative, and experimentally verified relationship, such as, polarization, between two particles that exists even though signals between them at the speed of light are not possible.

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