

Religion in Human and Cosmic Evolution: Whitehead's Alternative Vision

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This essay explores the evolutionary origins of human religion. As many post-colonial anthropologists have argued, “religion” is a highly contested term that cannot be unproblematically deployed as a transhistorical and universal catch-all category. Although I have chosen to use the word, I agree with this problematization of *a priori* definitions of religion, which all too often blur our perception of the multifaceted richness of human spiritual expression by forcing it to submit to the discursive categories of modern scientific and sociological methodologies. I include the term “spiritual” here to indicate that by “religion” I do not just mean a set of clearly articulated dogmas in which one believes with certainty, but an open-ended and experientially-grounded orientation to the mystery of being alive. Religion and the spirituality at its core are more than can be captured by any fixed definition. They are interrelated dimensions of an ongoing, cosmologically-emergent activity, not simply a set of verbally professed beliefs. Instead of trying to explain religion by reducing it to the favored terms of modern biology, psychology, or sociology, this essay proceeds by attempting to let religion reveal itself by situating it within the evolutionary account offered by sociologist Robert Bellah and the cosmological scheme provided by philosopher Alfred North Whitehead.

Inquiring into the origins of religion—and connecting those origins to the evolutionary emergence of our species—is necessarily to step beyond the bounds of strictly empirical or positivist science and into the domain of myth-making. I approach my topic through what Bellah, after Eric Voegelin, called *mythospeculation*, a method somewhere between theory and story, incorporating elements of each. It is important that I be upfront about this, since it does a disservice to the phenomenon in question to pretend that what is essential to it could be accessed in an impersonal or objective way. Religion, now and in the past, has more to do with *matters of concern* than with matters of fact. Inquiring into its nature can never be a dispassionate affair decidable by mathematical proof or laboratory testing. At the same time, human religious concerns and values *are themselves matters of fact* that have arisen and continue to arise in the course of cosmic evolution. As such, religious concerns require interpretation within any adequate cosmological scheme.

Even the most sober-minded materialistic scientists, whenever they offer evolutionary accounts of the origins of our species or of our universe, inevitably become myth-makers. Bellah makes this quite clear when, in the early chapters of his 2011 book *Religion in Human Evolution*, he examines the popular works of scientific luminaries like Steven Weinberg, Richard Dawkins, and Jaques Monod. It became even clearer to me when I watched the philosopher and author of *The Atheist's Guide to Reality* (2011) Alex Rosenberg during a recent conference presentation introduce Charles Darwin and Lord Kelvin as “old testament fathers” and describe images of a leaf insect, a double helix DNA molecule, and a chamber full of gas particles as “iconography”—that is, religious icons whose contemplation is supposed to convert you to the indisputable laws they express.¹ Each of these supposedly scientific thinkers ends up offering their own physical or biological sermon, pretending all the while to have achieved some sort of heroic post-religious and therefore purely scientific rationality. The implication is that they are enlightened adults while the rest of us are cowardly children afraid to accept the pointlessness of our own existence, terrified of the fact that we are, as Monod put it, “[gypsies living] on the edges of an alien world.”²

In contrast to these scientific thinkers engaged in what Whitehead referred to as “heroic feats of explaining away,”³ my approach, building on Whitehead and Bellah, is motivated by the search for a cosmological reconciliation between scientific theorization and religious mythopoiea. I hope to show that the forced choice between religion and science is a false one, and that the emergence of an ecological civilization depends upon our species' ability to construct a cosmological outlook that does justice to both scientific facts and religious values, and that recognizes the various ways facts and values overlap.

One of the most well-known attempts to explain away the phenomenon of religion is the philosopher Daniel Dennett's book *Breaking the Spell: Religion as a Natural Phenomenon* (2006). He begins his book by comparing religion to *Dicrocoelium dendriticum* (lancet fluke), a tiny manipulative parasite that infects the brains of ants, compelling them to climb to the top of the nearest blade of grass so as to get themselves eaten by a cow, thereby transporting their fungal stowaways into the

¹Alex Rosenberg, "How Physics Fakes Design, and Makes Things Difficult for Theism," a presentation at The Greer-Heard Point-Counterpoint Forum in Faith and Culture at the New Orleans Baptist Theological Seminary on 2/22/2014. [accessed 1/5/2016: <https://youtu.be/VImtigQ-eIA>].

² Monod, *Chance and Necessity: An Essay on the Natural Philosophy of Modern Biology* (New York: Vintage Books, 1972), 172.

³ Whitehead, *Process and Reality* (New York: The Free Press, 1979), 23.

nutrient rich environment necessary for the completion of their reproductive cycle. Religion is explained, not as a *genetic* parasite, but, building on Richard Dawkins' well-known but scientifically discredited⁴ meme theory, as a *memetic* parasite, a sort of mind disease. By analogizing cultural evolution to the blind process of natural selection, even mind is explained away as mere mimicry. *Monkey see, monkey do*. So-called "religious memes" are said to spread and survive today not because past peoples found them deeply meaningful and transformative but because they have succeeded in their "competition for rehearsal space in the brain"⁵ by getting copies of themselves made.

To be fair to Dennett, his book is less an attempt to provide the definitive explanation for the evolution of religion than it is an argument that religion ought to be studied scientifically as a natural phenomenon. He admits that the memetic theory he puts forward is probably wrong, but at least, he says, it gives others something to fix. Fair enough. Following thinkers like Bellah and Whitehead, I am sympathetic to the call for a naturalization of religion, for a scientific study of its emergence out of a wider biological and cosmological context. But of course, it all depends what we mean by "science" and what we mean by "nature." There is more than one kind of naturalism.

The problem is that approaches like Dennett's to the evolutionary emergence of religion presuppose what Whitehead's philosophy of organism so passionately protests against: *the bifurcation of nature*.⁶ For Dennett, to count as a scientific explanation, the cultural meanings of religion must be accounted for in terms of the natural mechanisms of his reductionistic view of biology. All the seemingly intrinsic values of our human existence must once have been of merely instrumental survival value, otherwise they could not have been preserved by the Darwinian mechanism of natural selection. All seemingly intrinsic value is thus explained away as a mere "psychic addition" to what is really the purposeless exchange of genetic or memetic material from brain to brain across the generations.

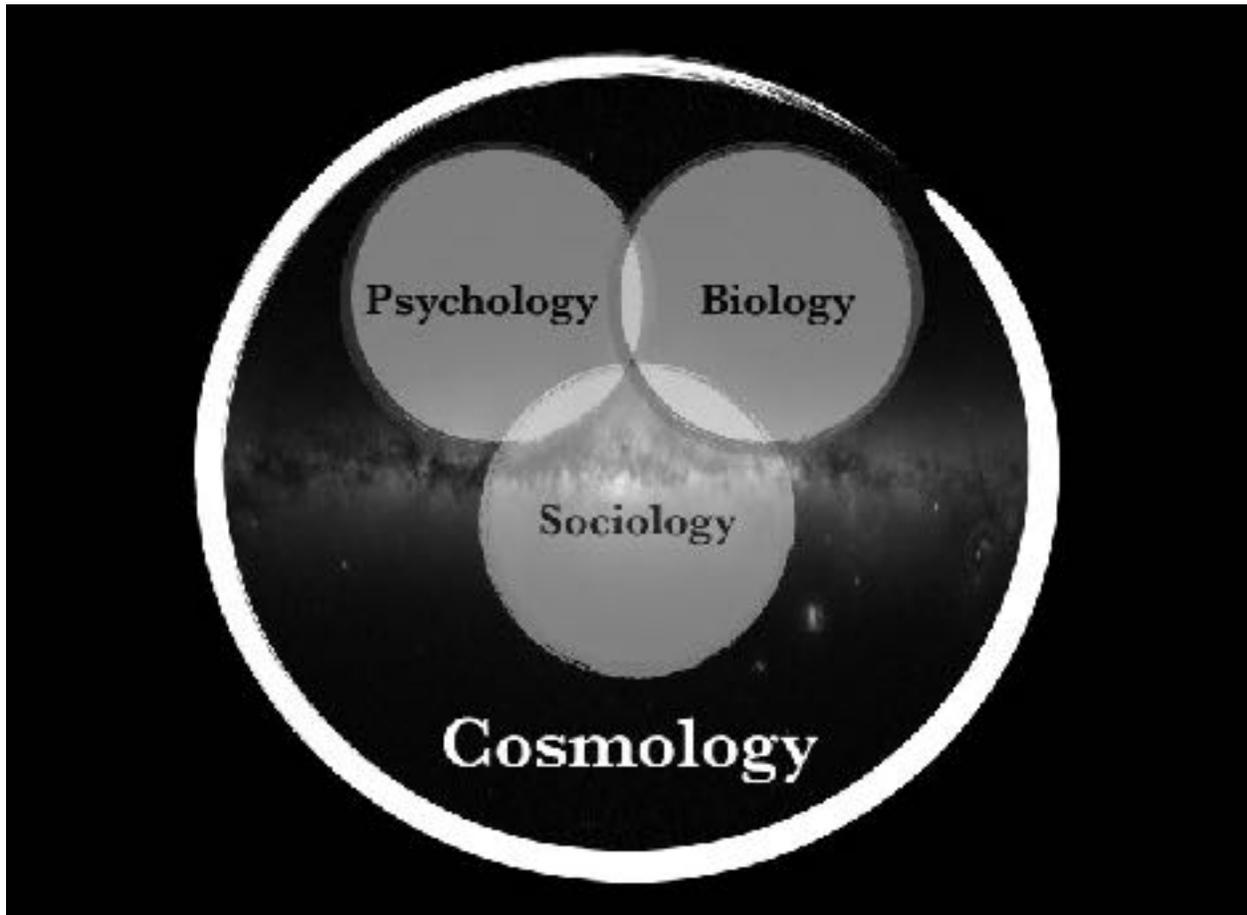
The contrast between such reductionistic biological accounts of religion and Bellah's and Whitehead's more holistic, cosmological approaches could not be starker. Dennett mentions and

⁴ See Terrence Deacon, "The trouble with memes (and what to do about it)," in *The Semiotic Review of Books* 10(3), 1999. [Accessed 1/5/2016: <http://projects.chass.utoronto.ca/semiotics/srb/10-3edit.html>]

⁵ Daniel Dennett, "Wild and Domesticated Religions: How the Machinery of Religion Evolved," a presentation at the Santa Fe Institute on 3/16/2010. [Accessed 1/5/2016: <https://youtu.be/Qo4V7PsX4qU>].

⁶ See *The Concept of Nature* (Cambridge: Cambridge University Press, 1919).

even praises William James' radically empiricist approach to religious experience (a major influence on Whitehead), only to dismiss it as inadequate for his own, more reductionistic purposes. Dennett instead trades in James' psychological microscope for what he describes as a wide-angle biological and social (or sociobiological) lens. For Bellah and especially Whitehead, while biology, psychology, and sociology each have important contributions to make to the study of religion, in the end the



proper lens to take is that of the telescope: human religious expression must be understood in the broadest context we are capable of imagining, namely, the cosmological.

“Cosmology,” writes Whitehead, “is the effort to frame a scheme of the general facts of this epoch, of the general character of the present stage of this universe. The cosmological scheme should present the genus, for which the special schemes of the sciences are the species.”⁷ He goes on: “A cosmology should above all things be adequate. It should not confine itself to the categorical notions

⁷ *The Function of Reason*, 77.

of one science, and explain away everything which will not fit in. Its business is not to refute experience, but to find the most general interpretive system.”⁸

So long as our view of nature falls victim to the fallacy of bifurcation, reductionistic explanatory strategies like Dennett’s will continue to handicap scientific investigation into the evolutionary emergence of religion. Instead of trying to explain away religious behavior as the accidental result of blind biological forces, we can more coherently approach it as a genuine flowering of the universe we find ourselves living within. Treating religion scientifically requires coming to view it not as an improbable anomaly, but as a natural expression of cosmogenesis in its human mode. Human religious experience, in other words, must count as part of the legitimate data to be included in any adequate account of this universe. To treat religion naturalistically, we need not explain it away as epiphenomenal. We can instead inquire into the cosmic conditions of its possibility. From the perspective of Whitehead’s cosmological scheme, the history of the human species’ religious experience “consists of a certain widespread direct apprehension of a character exemplified in the actual universe.”⁹

Stated in more general terms, instead of following the typical reductionistic logic of evolutionary explanation that seeks to make life and mind mere epiphenomena accidentally emergent from what remains in reality a dead material universe, we can adopt the alternative, no less naturalistic Whiteheadian approach. “[Humankind] has gradually developed from the lowliest forms of life, and must therefore be explained in terms applicable to all such forms,” admits Whitehead. “But why,” he continues, “why construe the later forms by analogy to the earlier forms. Why not reverse the process?”¹⁰ That is, why not give up the polemical desire to explain away the more complex by reducing it to the less complex by recognizing that, if phenomena like life and mind (and with them, human religiosity) are present in today’s universe, they must have in some sense been prefigured from the beginning.

“In the course of evolution,” Whitehead asks, “why should the trend have arrived at [humanity], if [our] mental activities...remain without influence on [our] bodily actions?” In other words, the

⁸ *The Function of Reason*, 86.

⁹ *Religion in the Making* (Cambridge: Cambridge University Press, 1927), 74.

¹⁰ *The Function of Reason*, 15.

question we should ask ourselves is *what is this universe such that something like human organisms with their religious mentalities are possible?* Whitehead's answer is that "...some lowly, diffused form of the operations of [mentality] constitute the vast diffused counter-agency by which the material cosmos comes into being."¹¹ This "counter-agency" confronts the otherwise entropic tendency of the physical universe, a tendency Whitehead has no interest in denying. Much of the cosmos, including the Sun that feeds all life on our planet, he readily admits, is decaying and will eventually return to chaos. He invokes a counter-agency only out of explanatory necessity, since the mere mechanics of efficient causality cannot account for the current highly organized state of the universe, for the fact that a star like the Sun feeding a living planet like the Earth should have been energetically possible. Physicists now understand that far from equilibrium systems are not in fact disobeying the 2nd law of thermodynamics, but more efficiently realizing it. But why must we emphasize entropy as the sole causal tendency, given that physicists now also understand our universe to be self-organizing at every scale? Why not also identify *centropy*, the tendency of our universe to organize itself into ever-more complex forms or centers of agency? Alongside efficient causality, formal and final causality are also evident in the creative urge of the universe toward as yet unactualized possibilities of self-organization. If we deny a cosmic ground to agency, purposiveness, and value, logical consistency requires the absurdity that we deny these in ourselves, as well. For we are the children of this universe. Whitehead defines the advanced cosmological stage of religion as "the wider conscious reaction of [humans] to the universe in which they find themselves."¹² Following Whitehead's reversal of the usual logic of evolutionary explanation, we can recognize the emergence of religion in human beings as evidence that something more than blind chance and inexplicably imposed physical laws are at work—or, as we'll see—at *play* in the evolution of our universe.

Bellah, like Whitehead, grounds his account of the emergence of religion in the broadest possible context by situating human evolution within so-called "Big History." He spends the first 40 pages of the second chapter of his book, called "Religion and Evolution," laying out the course of cosmogenesis from the first few seconds after the Big Bang, through the formation of galaxies and stars, to the solidification of the Earth, to the appearance of the first single-celled procaryotes, to eukaryotes, metazoa, reptiles, mammals, primates, and finally *Homo sapiens*. He is less confident than Whitehead when it comes to attributing some "metaphysical direction" to the over-all arc of

¹¹ *The Function of Reason*, 26.

¹² *Religion in the Making*, 31.

the evolutionary process. He does, however, approvingly reference a comment in *The Origin of Species* where Darwin admits that “a little dose...of judgement or reason often comes into play, even in animals very low in the scale of nature.”¹³ Purpose does seem to operate, then, at least at the scale of individual living beings. In contrast to Dennett’s mechanical gene-centric view, Bellah’s, like Darwin’s, is certainly an organism-oriented understanding of biology. But it is not yet a full-fledged *ontology* of organism like Whitehead’s. More on this in a moment.

Although Bellah recognizes important distinctions that make humans unique among other members of the animal kingdom, even reproducing Terence Deacon’s statement that our species represents an entirely new phylum, he nonetheless dwells at length on the many pre-existing mammalian capacities that prepared the way for us, including extended parental care, empathy and shared attention, ethical relationality (including ritualized aggression and mating), and most significantly, the capacity for play. Play becomes especially prominent in young mammals because of the “relaxed field” provided by prolonged empathic parental care. This period extends even more as evolution draws nearer to *Homo sapiens*, who are born exceptionally premature and remain in the childhood phase longer than any other species. Play is not initially a functional capacity that might be selected for by the normal Darwinian mechanisms. Play is evidently engaged in purely for its own sake: it is an end in itself. Play has nothing directly to do with sexual reproduction or eating (though it may be erotic and enjoyable), nor can we play while fleeing or fighting for our lives. This is not to say that play may not become functional later on. Bellah cites numerous ethologists who describe the way bouts of playfulness in some primate species leads to the neutralization of hierarchies and physical inequalities among play partners, such that a sort of proto-justice appears to emerge. More than any other animal behavior, play requires the capacity, not only for shared attention, but for shared intention. Shared attention and intention are the precondition for any form of empathy or sociality.

Most significantly for the purposes of this essay, Bellah posits that early hominids developed the first ritual activities out of complexified forms of mammalian play. The source of the complexification was the ramping up of empathic sociality among humans, eventuating in what Bellah (quoting Sarah Hrdy) calls “emotional modernity.”¹⁴ Human minds, due to their tendency to play ever-more intimately, have become uniquely empowered (and sometimes possessed) by

¹³ Charles Darwin, *On the Origin of Species* (New York: P.F. Collier & Son, 1909), 262. Quoted in Bellah, *Religion in Human Evolution*, 208.

¹⁴ *Religion in Human Evolution*, 85.

symbolism—the ability of words and images to bind us to certain sociopolitical realities, realities we co-create in concert with deep cosmic and biotic patterns through ritual enactments of myth. This power of symbolic binding transforms ritual play into religion. It is important in this context to admit, as Whitehead reminds us, that “we should not be obsessed by the idea of [religion’s] necessary goodness. This is a dangerous delusion.”¹⁵ Despite the fact that religious symbolic consciousness was born out of our unprecedented capacity for social intimacy, once it has emerged, it can also detach us from one another just as readily, generating the worst kind of in-group/out-group discrimination and violence, and, as has become more apparent in the modern, industrial era, symbolic consciousness also has the power to produce civilizational myths that are entirely detached from the ecological context of the living planet that sustains us.

While symbolic consciousness may be the *flower* of religion, it grows from seeds planted in the soil of collective ritual play. Religion is not primarily a matter of individual belief: it is rather something we are and do together. The essential thing about religious life is not the mindless repetition of dogmatic creeds, but sincerity in its engagement with symbolic forms of ritual play. According to Whitehead, a religious symbol “[has] the effect of transforming character when [it is] sincerely held and vividly apprehended.”¹⁶ Early rituals, we can speculate based on the archeological evidence, emerged out of collective celebration involving song and dance. Most probably, these celebrations were in tune with diurnal, lunar, and seasonal rhythms. The earliest religious rituals were cosmologically embedded celebrations of the cycles of life, death, and rebirth. These ritual celebrations were not based on beliefs in supernatural beings, but on deep perception of and desire to participate in the rhythms animating the plants and animals of the Earth and the shining orbs in the sky. The human being’s religious impulse, growing out of ritual play, is to “recreate” the harmonies of these cosmic beings in symbolic form, to refashion them into myths for the guidance of our civilized societies. Only very recently in the history of our species have these ritualized symbolic enactments become detached from their encompassing cosmic and biotic rhythms. Our modern myths have become too anthropocentric. We have immersed ourselves in a symbolic system that is radically out of tune with our ecological context.

¹⁵ *Religion in the Making*, 3.

¹⁶ *Religion in the Making*, 5.

Bellah's argument draws extensively on the cultural historian Johan Huizinga's book *Homo Ludens: A Study of the Play-Element in Culture* (1938). Huizinga argues that "in the form and function of play... [humanity's] consciousness that it is embedded in a sacred order of things finds its first, highest, and holiest expression."¹⁷ Rooting the emergence of religion in ritual play short-circuits any attempt to explain religion in terms of biological utility, since by definition play is not about working as a means to the ultimate end of survival, but about sheer enjoyment as an end in itself. Further, because of the important role of play in the evolution of our species, and because it depends on shared attention/intention and basic ethical relationality, it provides clear evidence against Dennett's view that organisms are just mimicry machines. "In acknowledging play," writes Huizinga, "you acknowledge mind, for whatever else play is, it is not matter." "Even in the animal world," Huizinga continues, "[play] bursts the bounds of the physically existent. From the point of view of a world wholly determined by blind forces, play would be altogether superfluous. Play only becomes possible, thinkable...when an influx of *mind* breaks down the absolute determinism of the cosmos."¹⁸

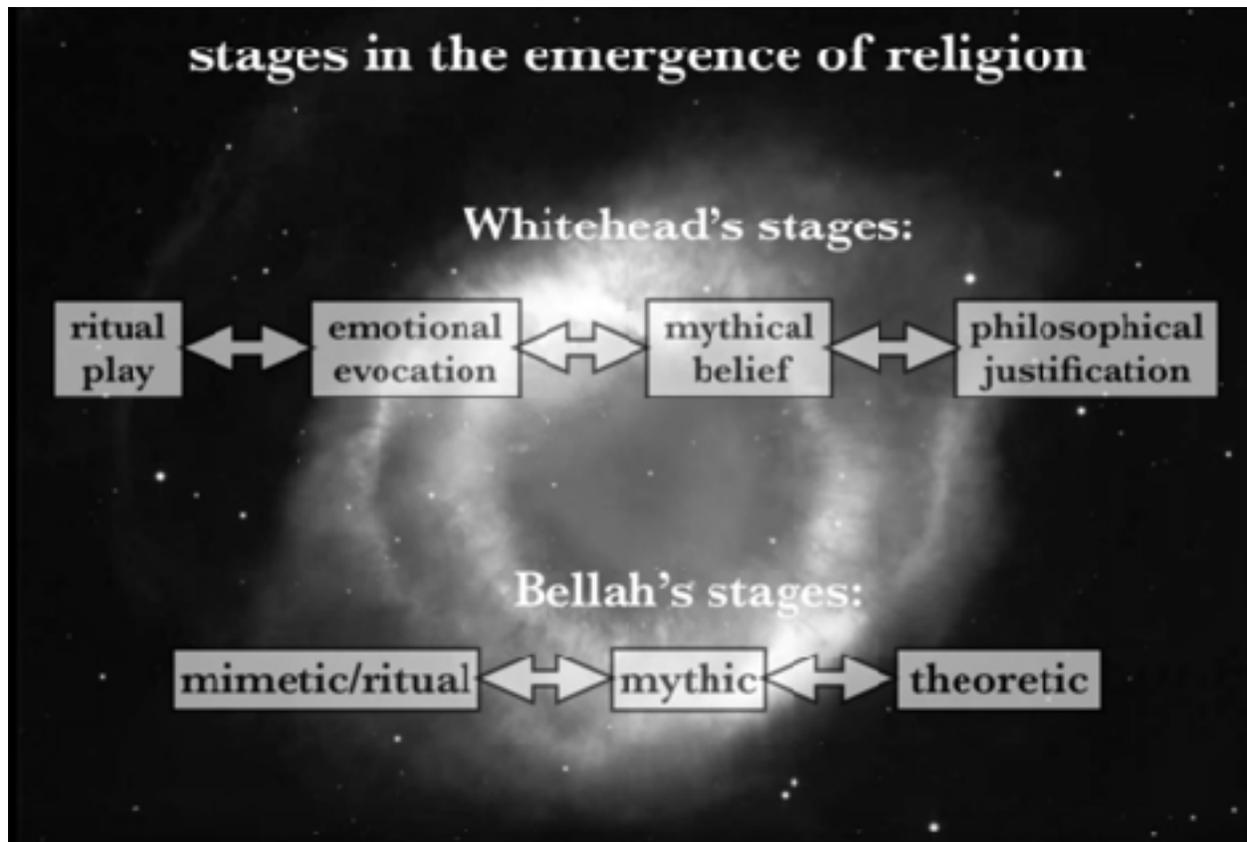
Huizinga here almost slips into Whitehead's fallacy of bifurcation by reifying the difference between mind and matter. Elsewhere he asks "would it be too absurd to assign a place [to play] *outside* the purely physiological?" I would say yes, it would be absurd, or at least incoherent, to suppose the playfulness of mind-bearing organisms somehow exists separately from their physiological make-up. The physiological need not be equated with the mechanical.

Even though I'm critical of Huizinga's slippage toward bifurcation due to his tendency to reify culture and mind as entirely "outside" of and set apart from mere "nature," I still acknowledge and gladly amplify his other, underemphasized but no less profound intuition, that the efficacious reality of play in human and nonhuman lifeforms entails that we inhabit an intelligent, sensitive, sometimes violent and sometimes playful universe, not a dull, deaf, and dumb one. As I suggest below, I have similarly mixed feelings about the residue of bifurcation in Bellah's more culture-centric and phenomenological approach to religion.

¹⁷ *Homo Ludens* (Boston: The Beacon Press, 1950), 17-18.

¹⁸ *Homo Ludens*, 3.

We might also describe ritual as *serious* play (following Huizinga who points out that the opposite of play is not seriousness, but *work*). That animals should engage in play behavior is already a sign that reductionistic accounts of biological evolution miss something when they ignore organismic agency by focusing exclusively on the struggle for existence and fitness to a pre-existing environment. Life, as Whitehead also knew, is not just about mere survival. The urge of life seeks more than mere survival: it seeks to thrive, to “live well, and to live better.”¹⁹ If survival were the name of the game,



matter would have done better to remain in rock form, for compared to million year old minerals, life is deficient in survival value.

Whitehead, like Bellah and Huizinga, also roots religious behavior in ritual forms of play.²⁰ Both he and Bellah offer strikingly similar accounts of the stages of religion's evolutionary emergence:

Both Whitehead and Bellah acknowledge that ritual is widespread among mammals. Early humans were no different, but because of their increasing emotional and cognitive sensitivity they began to

¹⁹ *Religion in the Making*, 8.

²⁰ *Religion in the Making*, 10.

recognize that certain emotional states enjoyable for their own sake apart from the needs of biological survival could be reliably reproduced through collective ritual enactment. Only later, once the capacity for symbolism emerged, were mythic beliefs articulated as expressions of the purpose of ritual practices and their attendant emotional qualities. Myths then contributed recursively to the intensification of the emotional qualities. Notice that the arrows in the diagram point both ways, which is meant to prevent us from thinking that the emergence of a new stage means the prior stage is forgotten or transcended. Early stages are still present with and necessary for the expression of later stages. This is true even with the latest stage of rational, philosophical, or theoretical reflection upon religious rituals and myths. Religion of the theoretic or rational type (the sort we are most familiar with today) grows out of and remains dependent upon non-rational forms of mythic speech and ritual play. Again, an adequate account of the emergence of religion in human evolution makes it clear that it is not primarily about *what* one believes, but about *who one is* and *what one does*. The fundamentalisms of our late modern age, whether atheist or creationist, tend to neglect the ritual and mythical dimensions of religious life. Instead they focus almost exclusively on the cognitive components of belief systems, which are often only the dead products excreted by a more primary living process of cosmic participation. Explicitly stated beliefs are the most superficial aspect of human religion. Given Whitehead's non-bifurcated and re-enchanted cosmological scheme, the myths generated by ritually-induced emotional upwelling need not be dismissed as childish fairy tales, but can be understood to be the archetypal energies of the cosmos itself erupting into human symbolic consciousness.²¹

Bellaah describes ritual play as an experiential opening transporting us into a non-ordinary reality transcending the everyday world of "work" or mere survival. Bellaah's understanding of religious experience as one among a variety of cultural realities (differing from that of science, aesthetics, politics, and so on) is drawn largely from the cultural phenomenology of Clifford Geertz and Alfred Schutz. This sort of phenomenological approach provides a helpful critique of and alternative to more scientific explanations by allowing us to examine religion on its own terms. Indeed, as I describe below, Bellaah's use of Martin Buber's theological phenomenology provides crucial insight into the nature of religious concerns. But because in general, phenomenological approaches, especially those with a cultural and symbolic focus, leave the question of the *cosmological* basis of religious experience unanswered if not also unasked, I believe a Whiteheadian speculative

²¹ As Joseph Campbell put it in the opening lines of *The Hero With a Thousand Faces* (1949), these myths may be "the secret opening through which the inexhaustible energies of the cosmos pour into human cultural manifestation."

supplement proves necessary. Taking a phenomenological look at religious experience by bracketing other cultural enactments of reality risks leaving the bifurcation of nature from culture intact. Whitehead's scheme allows us to grant the validity of multiple cultural realities while also acknowledging human culture's continuity with the nonhuman cosmos. How it does so will become clearer as I conclude this essay, but before jumping ahead I must continue unpacking Bellah's important claim that ritual play (and the religious experiences it is associated with) transcends the everyday world of work. The idea is not to transcend work entirely, which would be impossible, but to recognize its relativity in relation to all the other experiential realities that we participate in. A certain degree of work will always be necessary for survival, but the question remains what we are to survive for: if not to engage in ever-more ingenious forms of play (and here "play," following Huizinga, should be taken in its widest sense as the basis for all sociocultural activity), then for what? And what does it mean that ritualized play, and the spiritual efflorescence it generates, is at the historical origin and remains the existential core of our cultural lives?

One way to apply Bellah's theory is to consider what it tells us about the history of work, in particular as it relates to the shift in socioeconomic organization represented by the agricultural revolution. Göbekli Tepe, an enormous and elaborately decorated 12,000-year-old temple structure uncovered by archeologists in Turkey in the 1990s, provides us with a counter-example to the standard, techno-centric account of human evolution. As the standard account goes, human beings needed to technologically secure their basic survival needs by domesticating plants and animals before the supposedly superfluous activities of ritual, art, and religion (all closely related for archaic consciousness) could flourish. The existence of Göbekli Tepe suggests, instead, that these cultural activities pre-dated the shift to the agricultural mode of production. Evidence at the site shows conclusively that the people who built this temple were hunter-gatherers. It does not seem such a stretch to suggest in light of this site's age that the need for stable religious expression made the labor-intensive shift to agriculture more worthwhile than it otherwise would have been for hunter-gatherers, the "original affluent society," as the anthropologist Marshall Sahlins has argued.²² The tremendous amount of detailed planning and hard work required to construct such a temple—a structure we may suppose produced for the people who constructed it a ritually-enacted, relaxed field of spiritual and artistic play—makes clear that no necessary separation exists between the serious and the playful. Human beings are quite willing to work harder to secure time and space for more elaborate forms of play. Not only religion, but science and art too, are born out of our innate

²² See *Stone Age Economics* (London: Routledge, 2004).

playfulness. Humans are not the only beings who play, but surely we have taken play more seriously than any being before us.

This understanding of the origins of religion (and culture more generally) in ritualized play provides a powerful critique of the economic values guiding our contemporary civilization, for which work has become an end in itself, and for which play, when we find the time for it, has little connection to the rhythms of the Earth and wider cosmos in which we are embedded. The question remains: Are we here to toil extracting Earth's resources, competing with one another for more money to consume more products, or are we here to ritually participate in ever-renewing cycles of cosmic creativity?

Part of what makes so many scientific materialists averse to accounts of the evolution of religion like those of Whitehead and Bellah is that they seem at first to be both anthropocentric and anthropomorphic. When Whitehead claims that photons, protons, electrons, stars and galaxies are species of organism possessed of feelings and desires, and that their ecological evolution is analogous to that of bacteria, plants, and animals, is he not just projecting human or at best vital capacities onto a dead inanimate collection of objects? *Only if we are unwilling to reconsider the incoherence of modern science's bifurcation of nature.* What if the scientific attitude of austere objectivity makes the scientist constitutionally tone deaf to the erotic pulse of the universe? Overcoming the incoherence of the bifurcation of nature requires a new scientific outlook, since the narrow materialist version of science makes it impossible to understand how life and consciousness (not to mention religious expression) could be a part of this universe. We are left having to claim they are astronomically improbable accidents, which is the exact opposite of an adequate scientific explanation. What if instead of turning our own existence into an absurdity we look again at the universe and ask: *What is this universe such that something like human organisms with their religious mentalities are possible?*

This is not to center the universe on the human, or to make the universe in the image of the human, it is only to admit the evident fact that we are the children of this cosmos. For better and for worse, the space-time of this universe is our parental unit. We are not an accidental appearance in this world, we are what the universe has come to be doing here and now, an anthropic amplification of its innately prefigured potentiality. I have metaphorically referred to our species as the children of this universe several times in this essay, which would seem to play right into the hands of scientific materialist atheists, who tend rhetorically position themselves as the only adults in the room. But I

have used these metaphors deliberately because I think the story of heroic maturation into nihilism championed by Monod, Dawkins, and Dennett, et al. contradicts the evolutionary evidence that what makes our species so unique is precisely our "childishness," that is, our neoteny and propensity to play. Maturation and adulthood need not be defined by the acceptance of cosmological meaninglessness. It is precisely this attitude that has resigned our civilization to toil to accumulate the only remaining value "adults" are allowed to believe in: money (and maybe power, too). "Truth" may be of value to the scientific materialists I have mentioned, but it seems to me that when they rhapsodize about their desire to understand the universe they almost always fail to hold their own value-laden view of truth to the same skeptical standard they hold those with (explicitly) religious views of truth to. *If* we are to allow biological, psychological, or sociological explanations for religious truth-values, then we must also allow such explanations for scientific truth-values.

Bellah is not as metaphysically confident as Whitehead about the cosmic extent of meaning or the centropic tendency of evolution. But he is by no means a cosmic pessimist like Dennett, Monod, or Rosenberg. Bellah takes his stand not on an ambitious metaphysical cosmology, but on the phenomenological theology of Martin Buber (thereby potentially helping him overcome the residue of bifurcation resulting from his reliance on Geertz and Schutz's more culturally focused, and so ontologically underdetermined approaches). Buber distinguished the two fundamental ways of relating to reality: 1) the I-It relation, which objectifies the world into dead things to be manipulated, and 2) the I-You relation, which perceives the world as full of subjectivities, and as itself a subject (i.e., God, the "eternal You").

Building on Buber, Bellah argues that it is not at all surprising that for a "supersocial" species like us, an "I-You relation would at the highest level of meaning trump the I-It relation." He continues: "To put it bluntly, there is a deep human need—based on 200 million years of the necessity of parental care for survival and at least 250,000 years of very extended adult protection and care of children, so that, among other things, those children can spend a lot of time in play—to think of the universe, to see the largest world one is capable of imagining, as personal."²³

Understanding how religion could have emerged from mammalian play requires shifting from the I-It to the I-You mode of relation. "In the observation of play," writes Bellah, "and even more clearly in actually playing with an animal, it is almost impossible not to have an I-You relation, which

²³ *Religion in Human Evolution*, 104.

arouses suspicions that one is not really doing science.”²⁴ The I-It relation leads the scientific materialist to a view of evolving organisms as passive machines, rather than creative actors. Grasping the creative, purposeful, playful dimension of organic life requires the adoption of a more participatory I-You relation to evolution, which is what Whitehead invites us to do when he reverses the typical logic of evolutionary explanation. In contrast, Dennett’s I-It approach is predicated upon the idea that the best way to study the evolution of religion is to imagine we are aliens from another planet trying to gain a view of it “from the outside,” as it were. To approach human religion from such an alienated perspective is to seriously handicap the pursuit of a naturalistic account of its evolutionary emergence. If we want an account of religion’s emergence that is *immanent* to cosmogenesis and avoids the undue imposition of other-worldly transcendence, then we are going to need to study religious experience from the *inside out*.

“The final principle of religion,” writes Whitehead, “is that there is a wisdom in the nature of things, from which flow our direction of practice, and our possibility of the theoretical analysis of fact... Religion insists that the world is a mutually adjusted disposition of things, issuing in a value for its own sake. This is the very point that science is always forgetting.”²⁵

Science deals with the facts, but some scientists, in their perhaps somewhat adolescent, hubristic rush to overthrow the religious social matrix out of which science emerged a few hundred years ago, have neglected to include the values of the universe alongside the facts, or rather, to include these values as among the facts. “We have no right,” writes Whitehead, “to deface the value experience which is the very essence of the universe.”²⁶ For what is a fact, metaphysically speaking? Whitehead’s non-bifurcated image of nature is a rejection of the fallacy of “vacuous actuality”—a rejection of the idea, in other words, that facts can exist independently of experiential values. To be actual, to be a fact, for Whitehead, means to experientially enjoy existence as an end in itself, to value oneself as an actuality and to be valued by other actualities. Without the value-experience of human and nonhuman organisms, “there is nothing, nothing, nothing, bare nothingness.”²⁷

²⁴ *Religion in Human Evolution*, 82.

²⁵ *Religion in the Making*, 128.

²⁶ *Modes of Thought* (New York: The Free Press, 1968), 111.

²⁷ *Process and Reality*, 167.

Whitehead's cosmology is an invitation to move beyond the modern bifurcation separating nature from culture, fact from value, and mechanism from meaning. Moving beyond the bifurcation of nature to grasp the cosmological significance of religion, and the religious significance of cosmology, will require re-evaluating metaphysical assumptions that have been woven into the very fabric of the scientific worldview for hundreds of years. The originators of this worldview, the original myth-makers responsible for initiating the Scientific Revolution, conceived the universe as a machine and imagined God as its transcendent designer. Though they differ in the details, this was the imaginative background informing the thoughts of Newton, Descartes, and Kant. Nowadays, scientific materialists no longer have any need for the "God hypothesis" as Laplace famously called it, but the imaginative background informing their ideas remains the same. The universe is still to be understood by analogy to a machine, only now it has become a purposeless machine. Understanding this cosmic machine requires purifying our perspective of any hint of emotion, value, or aesthetic appreciation, since these merely subjective qualities can only contaminate an impartial view of reality. Whitehead's cosmological scheme provides an alternative.

"The metaphysical doctrine, here expounded," he writes in the final pages of *Religion in the Making*, "finds the foundations of the world in the aesthetic experience, rather than—as with Kant [and many contemporary scientific materialists]—in the cognitive and conceptual experience. All order is therefore aesthetic order...The actual world is the outcome of the aesthetic order, and the aesthetic order is derived from the immanence of God."²⁸

To conclude this essay, I would like to draw a parallel between Whitehead's aesthetic ontology and Huizinga's understanding of play, a parallel generative of a series of fertile questions worth considering. Huizinga locates play within the field of aesthetics, and suggests that play is inherently generative of order. "Play," he writes, "has a tendency to be beautiful."²⁹ Huizinga goes on, in Whiteheadian fashion, to describe ritual acts of play as cosmic happenings that are continuous with natural processes.

Would it be too absurd, following Whitehead's rejection of the bifurcation of nature in favor of an aesthetic ontology, to assign a place to play *within the evolution of the universe itself*? Might we come to

²⁸ *Religion in the Making*, 91-92.

²⁹ *Homo Ludens*, 15.

understand the whole of the cosmos at every level of its self-organization as an expression of divine play? Might Blake have been right that “energy is eternal delight”? Instead of God the disincarnate transcendent designer of a clockwork universe, or a meaningless machine-world running down toward heat death, might we interpret the scientific evidence otherwise? Might it be, as Whitehead suggests, that “the world lives by its incarnation of God in itself,” that “every event on its finer side introduces God into the world,” that “every act leaves the world with a deeper or a fainter impress of God”?³⁰ For those with an allergy to the “G” word, remember that Whitehead’s philosophical intervention into traditional theology aimed to transform the transcendent God of “coercive forces wielding the thunder” into the creaturely God of persuasion, “which slowly and in quietness [operates] by love.”³¹ The ultimate religious theme in Whitehead’s cosmology is this divine Eros, the counter-agency that saves the world from decaying into irrelevance by luring organisms toward more creative forms of organization. Whitehead’s God is not a big boss in the sky who designs and determines everything, but the poet of the world—indeed, the *tragic* poet of the world—who through aesthetic sensitivity beckons all beings toward the highest beauty that is possible for them given the limitations of their finite situations. *Beauty is the teleology of the universe*. This, at least, is Whitehead’s alternative cosmological interpretation of the facts and values of the history of human religious expression. Whether or not we seize this alternative vision will determine the future of our civilization, if indeed it is to have one.

Further resources:

On the ideological sources of the “selfish gene” approach to biological evolution:

Bruno Latour. “How to make sure Gaia is not a God of Totality, with special attention to Toby Tyrrell’s book *On Gaia*.” Written for the Rio de Janeiro meeting “The Thousand Names of Gaia,” September 2014.

On the geochemical inevitability of the emergence of life on earth (life is no accident):

James Trefil, Harold J. Morowitz and Eric Smith. “The Origin of Life: A case is made for the descent of electrons.” *American Scientist* (Volume 97), 2009.

On the importance of love in biological evolution:

Humberto Maturana Romesin and Gerda Verden-Zoller. *Origins of Humanness in the Biology of Love*. Imprint Academic, 2009.

³⁰ *Religion in the Making*, 140, 143.

³¹ *Adventures of Ideas*, 166; *Process and Reality*, 343