A RELIGIOUS INTERPRETATION OF EMERGENCE: CREATIVITY AS GOD

by Gordon D. Kaufman

Abstract. Thinking of God today as *creativity* (instead of as The Creator) enables us to bring theological values and meanings into significant connection with modern cosmological and evolutionary thinking. This conception connects our understanding of God with today's ideas of the Big Bang; cosmic and biological evolution; the evolutionary emergence of novel complex realities from simpler realities, and the irreducibility of these complex realities to their simpler origins; and so on. It eliminates anthropomorphism and anthropocentrism from the conception of God, thus overcoming one of the major reasons for the implausibility of God-talk in today's world—here viewed as a highly dynamic reality (not an essentially stable structure), with God regarded as the ongoing creativity in this world. This mystery of creativity—God—manifest throughout the universe is quite awe-inspiring, calling forth emotions of gratitude, love, peace, fear, and hope, and a sense of the profound meaningfulness of human existence in the world—issues with which faith in God usually has been associated. It is appropriate, therefore, to think of God today as precisely this magnificent panorama of creativity with which our universe and our lives confront us.

Keywords: anthropocentric; anthropomorphic; Big Bang; complexity theory; create/creativity; creativity$_1$; creativity$_2$; creativity$_3$; Creator; emergence; emergence theory; evolution; faith; God; imagination; imaginative construction; mystery; new/novel; religious; science; serendipitous creativity; symbol; symbol system; universe

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The conference for which this article was initially written was largely concerned with the concept of *emergence*, a concept that has come to be increasingly used in some of the sciences and philosophy to characterize

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evolutionary developments in which new realities, not reducible to previous stages of evolution, have appeared. In our Western cultures and religions, we also have, of course, a very old word for the coming into being, or the bringing into being, of significant realities that had not previously existed: *creation*. The English verb to "create"—to bring something new into being—and the derivative nouns *creator*, *creation*, and *creature* go back to Chaucer and beyond. And in Western religious and cultural traditions, the *idea* of creating is very old, no doubt going back to before the Hebrew Bible in which God is initially introduced as the one who had "created the heavens and the earth" in the very beginning of things (Genesis 1:1 NRSV): it was God who brought into being everything that exists.

From the first words of the biblical story, God is distinguished in principle from everything else about which we can speak and think. All of these other things were regarded as God's creatures and thus absolutely dependent on God. This notion of God's utter uniqueness and all-powerfulness is found not only throughout the Bible but also in virtually all subsequent Jewish, Christian, and Muslim traditions, all the way down to the present. So the complex of interconnected ideas of creator, creating, creation, and creatures articulates in English a deep structure that decisively distinguishes God from the world and all its contents. It is the structure that underlies and has given the world-pictures of the three Abrahamic religions their fundamental shape.

Early in the last century a new creation word—*creativity*—appeared (O.E.D. 1989, Vol. 3, 1135), and with it came some new possibilities for fresh thinking about the concepts of God, the world, and humanity. The word designates simply the activity of creating, or the power to create, to bring something new into being. It does this, moreover—and this is a very important point—without in any way implying that creating requires or presupposes a creator, a *being* who does the creating; the word *creativity* refers simply to the coming into being of something novel and important.

For a good many years, instead of thinking and speaking of God as The Creator, I have been working with the idea of God as specifically *creativity* (more recently as *serendipitous creativity*).[1] I suggest that instead of taking it for granted that "God" is the name of a creator-person who has brought everything into being, we will find it illuminating to think of God as the religious name for the profound *mystery of creativity*—the mystery of the emergence, in and through evolutionary and other originative processes, of novelty in the world. The metaphor of creativity—a descendent of the biblical concept of creation, and directly implied in the ideas of emergence and evolution (as I will argue)—has resources for constructing a religiously pertinent and meaningful conception of God, an understanding that can quite appropriately become the central focus for human faith today.[2]

I invite my readers, therefore, to think of God, to imagine God, not as a quasi-personal Creator apart from and other than the universe but simply

as *creativity*—the creativity in the Big Bang, in cosmic and biological evolution, and in human sociocultural life.

It is no longer possible, I contend, to connect in an intelligible way the traditional conception of God—constructed, as it is, in thoroughly anthropomorphic terms—with today's scientific cosmological and evolutionary understandings of the origin of the universe and the emergence of life, including human life. What can we be imagining when we attempt to think of God as an all-powerful personal agentlike being, existing somehow before and independent of what we today call "the universe," the totality of all that exists? As far as we know, personal beings, agential beings, did not exist and could not have existed before billions of years of cosmic evolution of a very specific sort, and then further billions of years of biological evolution also of a very specific sort, had transpired. Does it really make sense for those of us who think of the universe in our modern evolutionary way—according to which complex actualities such as life and consciousness come into existence only in consequence of certain quite specific evolutionary developments—for us to continue imagining God in those traditional humanlike terms? Is it even possible for us today to think of such a personlike being as somehow existing before and apart from all evolutionary processes? It is unfortunate, in my view, that in most discussions of the religion-and-science issues bearing on creation there is a failure to face directly this problem with which our inherited idea of God confronts us.

In contrast, however, with this problematic character of the traditional idea of a Creator God, the idea of *creativity*—the idea of the previously nonexistent, the new, the novel simply coming into being through time, without any obvious explanation—is widely accepted today; indeed, it is bound up with the very belief that our cosmos is an evolutionary one in which new orders of reality emerge in the course of long and complex temporal developments. Although *creativity* is not a word much used by scientists, it can be very useful philosophically and theologically, for it encourages us to focus on and hold together in a single concept a very significant feature of life and the world as today understood—namely, that novel realities come into being, more or less continuously, in the course of time. In my view, we contemporary philosophers and theologians, scientists and other interested persons, can and should work with the idea of creativity, but we should not think of this creativity as lodged in a cosmic personlike Creator, a concept that, as I have suggested, is no longer intelligible. This creativity is a profound mystery.

In my book *In the beginning . . . Creativity* (Kaufman 2004) I suggest that we today are aware of at least three significantly different modalities of creativity, and each of these in its own distinctive way manifests the deep mystery that creativity is. The first of these modes, which I call $creativity_1$,

is the beginning of the universe in which we find ourselves, what is commonly called the Big Bang. A second is the creativity manifest in evolutionary processes, the ongoing emergence of increasingly complex novel realities in the various diverse trajectories that appear in the course of evolution. This is the mode of creativity with which we are especially concerned in this article. In this mode creation is not thought of as completely inexplicable, like creativity$_1$; it is, rather, the emergence of new realities in the context of other realities that already exist. *Creativity$_2$*, we can call it—the kind of evolutionary processes that today are believed to have brought into being, in the course of some billions of years, countless different sorts of creatures, including humans. A third mode, quite different from either of these first two, is the creation of extraordinarily complex cultures by human beings, human *symbolic* creativity, *creativity$_3$*.

There are, doubtless, other ways of thinking about the concept of creativity, but this threefold classification enables us to consider it from three quite different angles. I am proposing that we today should think of God as the creativity manifest in these three modalities. If we do this, we will find ourselves able to connect the enormously meaningful ancient symbol *God* with central features of our modern thinking about the origins of the cosmos, the evolution of life and other features of the cosmos, and the emergence and development of human life and culture on planet Earth.

It might be assumed that creativity should be thought of as a sort of *force* at work in the universe, bringing the new into being. To make that claim, however, assumes that we know more about the emergence of new and novel realities than we actually do. To regard creativity as a kind of force is to suggest that we have a sort of (vague) knowledge of an existing something-or-other that brings new realities into being, when in fact we have no such knowledge. Biologist Stuart Kauffman has rightly pointed out in his article on "The Emergence of Autonomous Agents" (2003, 64–68) that we do not understand at all well the central features of the evolutionary processes in our universe. There is much mystery here, as I would put it. It is possible, of course, at some future time—in further developments, perhaps of quantum mechanics, or string theory, or other modes of thinking—that significant light on this mystery may appear. However, even if we come to understand better how emergence happens, it seems to me quite unlikely that the profound *mystery* of creativity will disappear. For this is really the mystery of the ultimate source of all that has been, is, and will be—a metaphysical issue beyond the reach of us humans.

There is an old Leibnizian question that formulates clearly this matter: Why is there something, not nothing? What we actually see or understand (in the evolution of life, for example) is that new realities *emerge*, come into being in time—in many respects quite surprisingly. In the case of life, we see this mystery of creativity occurring (as we say) through chance variation and selective adaptation, but neither of these can properly be thought

of as "forces" or "causes" that directly produce this or that new creation. And how mere chance can significantly help bring into being realities that have never before existed is a profound mystery indeed. Brain scientist Terrence Deacon takes up this problem in his paper "Emergence: The Hole at the Wheel's Hub" (2006).

Thinking of God as the *mystery* of creativity draws us into a deeper sensitivity to the mystery of God than our more traditional religious conceptions do, with their reifying talk of God as the Creator. This traditional idea suggests that we know God is really a personlike, agentlike being, one who "decides" to do things, who "designs" projects and then brings into being new, extraordinarily complex realities; one who "loves" humans and therefore can be counted on to take care of us; and so on. This humanlike model of God is found throughout the Bible and is a central feature of the Bible's creation stories. God is presented there as, for example, like a potter or sculptor who creates artifacts (in the Genesis 2 story God creates Adam out of the clay in the ground), or like a poet or king who brings new order and reality into being through uttering words (as in Genesis 1: "Let there be light"—and light mysteriously comes into being). With Darwin, however, we have learned that significant creativity can be thought of in other ways than these human examples. If we take evolutionary thinking seriously, we will understand that these human forms of cultural creativity were themselves "created" in time: that is, they came into being as cosmic processes over long stretches of time brought humans and their cultural activities into being. For us today, therefore, the fundamental kind of creativity cannot be that displayed in human purposive activity, as suggested by the biblical stories, but is rather the creativity exemplified in the evolution of the cosmos and of life, in and through which new realities simply emerge into being.

Although we can describe this model of emergence with some precision, this in no way overcomes the profound mystery at the root of this amazing creativity: Why—and how—have such multitudes of truly new, increasingly complex, realities come into being as the universe developed through time? Why is the universe so massive and so enormously diverse? Why is there something, not nothing? Questions like these push us beyond the limits of our knowledge and speculation. We humans are simply not in a position to dissolve away the ultimate mystery that creativity is.

I want to explore briefly now each of the modalities of creativity that I have mentioned, beginning with creativity$_1$ (see Kaufman 2004, 75–100). The ideas of the Big Bang and the subsequent evolution of the world and of life have become commonplace today. It is believed that the universe is very large indeed, perhaps consisting of as many as 200 billion galaxies, each of which, on average, may contain 100 billion stars. (Take a minute to think about these huge numbers: can we really grasp what 200 billion

times 100 billion means?) The universe is thought to have begun in an enormous inexplicable event, usually called the Big Bang, an event believed to have occurred approximately 14 billion years ago. Scientist Stephen Hawking tells us that "At the big bang itself, the universe is thought to have had zero size, and . . . to have been infinitely hot" (1988, 117). This may be plausible mathematically, but it is impossible to imagine—and very difficult to think—just what is being said here. What could it mean to describe this whatever-it-is as of "zero size"?[3] And what could it mean to say that this nothing is "infinitely" hot? It is really quite confusing to apply these extremely abstract mathematical terms—*zero* and *infinity*—directly to actual states of affairs. Moreover, with the Big Bang (we are told) the universe immediately started to expand at an enormous rate. What can it mean to say that something of zero size is "expanding"?

In these and many other of Hawking's expressions, words are used in very loose ways. We are dealing here with mysteries that seemingly cannot be articulated clearly or precisely in our ordinary speech. We are given a picture of a tiny, enormously hot speck of some sort ("of zero size") which, for no reason at all, suddenly produces—in the course of just a few hours—the beginnings of what we call the universe. According to Hawking, we have no way of knowing whether there was anything at all before the Big Bang or, if there was, what it could have been. Nor can we know anything beyond the universe itself. So we are facing utter mystery here. Hawking explains why: the "universe has a beginning and an end at singularities that form a *boundary* to space-time . . . *at which the laws of science break down*" (Hawking 1988, 139; emphasis added).[4]

It is implied in this statement that scientists have discovered the Big Bang and the subsequent development of the universe through exceedingly ingenious imaginative application of the laws of science, and therefore we can have considerable confidence in this picture. But the Big Bang is also said to be a boundary where these laws "break down," and therefore no knowledge of what has brought it about can be attained. We and our universe are thus ensconced in inscrutable mystery. However, although we cannot know anything about what might have preceded the Big Bang, we can know quite a bit about its effects—what follows upon it. These are cumulative and long-lasting (but probably not unending), as new structures and patterns gradually emerge in the universe that is coming into being and then later pass away. These forms of order and ordering become the contexts within which further creativity (what I call creativities$_{2,3}$) occurs. This further creativity also cumulates and develops and brings more new forms into being through long and increasingly complex creative evolutionary processes. Our knowledge of the *consequences* of the Big Bang is very impressive, but since (as Hawking says) we never will have any way of finding out how or why the Big Bang itself occurred, it gives us no answer at all to our question: Why is there something, not nothing? All that we

can say is that the enormous creativity obviously occurring in and with the Big Bang is a complete mystery; we are at the limits of our knowledge.

The mystery here goes deeper than we have considered so far, although this is not often taken up in the scientific accounts. Where did this somewhat fantastic story about a Big Bang come from? Everything I have sketched, and much more, has been worked out carefully and painfully by scientists and mathematicians here on Earth. This whole story has been built up in connection with scrupulous observations of data, all found on Earth or in its immediate vicinity. These observations have been studied and refined for generations, during which more and more convincing interpretations and explanations have been developed, interpretations that involved increasingly elaborate and ambitious creative extrapolations—that is, thoughts that go far beyond planet Earth and beyond all human experience. These highly imaginative extrapolations extend far backward in time, at least 14 billion years, and move far out in space, 14 billion light-years in all directions. Extrapolations of this sort are all, of course, human imaginative constructions. They have been created by the power of the human imagination (creativity$_3$), the power to pull together into a coherent and intelligible picture observations and data from many disparate sources. Why and how did this enormous human imaginative power come into being? How reliable are its extrapolations and other constructions that are the basis of all our cosmological knowledge? We are confronted once again with a strange mystery. The imagination has created innumerable sets of symbols—images, noises, marks on paper, graphs, charts—and symbol systems, and our ideas about evolution and emergence and creativity have all been worked out in terms of some of these symbols. These humanly created symbols (at least some of them) are generally thought of as "standing for" (as we say) the so-called realities of life and the world about which we seek to learn. But how can all of this have come about? How and why did humans create this whole new world of symbols?

For many millennia humans seem to have found it possible to picture to themselves—that is, to imagine—aspects of the environment in which they lived. They found that they could create images and ideas of various features of the settings in which they were living. (Think of the ancient cave paintings in France and Spain—in some cases, possibly going back 27,000 years.) Without imaginative pictures, stories, and ideas humans could not have learned to act intelligently, for they would have been incapable of thinking about—imagining—the future, making plans for that future, and carrying through those plans. All of our myths and world-pictures, from the most primitive to the most sophisticated, whether deeply religious or thoroughly scientific or both, are also creations of the human imagination.

Why and how did all of this come to pass? All of these creations are fallible human symbolic products that may or may not stand up to critical

examination. One of the most important features of modern science is that it has built into its methods a kind of continuous critical scrutiny and questioning of the ideas, proposals, and conclusions that are being developed. But all such critical examination—since it also is always carried out by women and men here on Earth—is itself fallible, however "creative" it might be. I am not trying here to discredit in any way modern cosmological, evolutionary, and ecological theory; it is, in my opinion, by far the best thinking we have about the universe and our human place within the universe, and therefore it is appropriate to live and think and act in the terms it provides. But at the same time we should take a thoroughly critical stance. In the future today's symbolic constructions will doubtless change and develop in ways now completely unforeseeable, as has frequently occurred in the past.

In sharp contrast, thus, with creativities$_{1,2}$ (the creativities through which the massive universe in which we now take ourselves to be living gradually emerged), many diverse worlds of signs and meanings—languages and cultures in innumerable fantastic variations—have come into being through our human symbolic creative activity (creativity$_3$). The countless ideas and images; memories and hopes; fears and anxieties; achievements and failures; ways to live and act; societies and cultures of many different kinds; imaginary worlds (in the literary arts); forms and patterns and designs of all sorts (in the plastic arts); vast worlds of music and mathematics and dance; theories and hypotheses of many diverse philosophies, sciences, and religions; innumerable values and meanings of all sorts; and connected with all of this the terrifying experiences of meaninglessness—none of this would exist apart from this creativity$_3$. Nothing like this enormously prolific symbolic creativity is to be found in the story of the Big Bang; indeed, that story itself, as articulated in modern mathematics and the modern sciences, is a product (as we have just been noting) of creativity$_3$. Symbolic creativity came rather late into the world, with beginnings perhaps some hundred thousand years ago in and through the gradual creation of language, as human beings slowly emerged. Deacon has persuasively argued that this emergence of humans was a very complicated matter, involving "the co-evolution of three emergent modalities—brain, symbolic language, and culture—each feeding into and responding to the others" (Deacon and Goodenough 2006, 863). The mystery of this coevolving creativity$_3$, although very different from the mystery of the Big Bang, is surely as striking and as important to us humans as those earlier mysteries that it apparently presupposes (creativities$_{1,2}$).

It was creativity$_2$ that, over billions of years, produced the universe as we know it today, a creativity that—in the mysteriously serendipitous aspect that creativity sometimes manifests—gradually produced the conditions that enabled human self-conscious life to emerge. Creativity$_3$ appears to be

a special complexifying of creativity$_2$, to which we now must turn. We obviously cannot explore all the manifestations of this modality of creation, given the exceedingly complicated evolutionary picture that the sciences present today, but it will prove illuminating for us to look briefly at some current theoretical speculation on how the evolutionary developments in the cosmos at large, and later on in life, may have come about.

I want to turn very briefly now to some ideas in what is called complexity theory. This will be a bare-bones sketch of only a few points bearing on creativity$_2$.

Philosopher/theologian Mark C. Taylor, in his book *The Moment of Complexity: Emerging Network Culture*, has explored and critically reflected on some of the remarkable ideas and theories about complexity and its creativity. He writes:

> According to complexity theorists, all significant change takes place *between* too much and too little order. When there is too much order, systems are frozen, and cannot change; and when there is too little order, systems disintegrate and can no longer function. . . . [But] disorder does not merely destroy order, structure, and organization, [it] is also a condition of their formation and transformation. New dynamic states . . . emerge in conditions far from equilibrium. . . . Complex adaptive systems . . . always emerge at the edge of chaos . . . [and] are in a state of continual evolution. (Taylor 2001, 14–16)

It is this complex interactive intermix of order and disorder in all systems, structures, and organisms, sometimes coming to the very "edge of chaos," as Taylor puts it—this intermix of "information" and "noise" in every system and organism, to use the more technical terms—that is the womb within which new forms may be created.

These are startling and puzzling ideas. Between the order and the disorder, the information and the noise (found in all systems and structures), new realities, new forms, somehow emerge—mysteriously, surprisingly. And it is this ongoing emergence, this creativity, that has brought about the evolution of the cosmos from the Big Bang to the complex universe that we know today. This creativity has become especially manifest to us humans in the unfolding of life on planet Earth. We see here an evolutionary dynamic that develops from very simple forms into innumerable highly complex forms. Because all systems, according to complexity theory, are in some respects out of balance, they sometimes come to a "tipping point" (as it is called), and the present order gives way to a new better-adapted order: creativity has occurred! On other occasions the existing order simply breaks down into chaos at the tipping point and is destroyed (Taylor 2001, 148).

We can sum up the major considerations here in four points: (1) All complex systems, structures, and organisms apparently have an internal organization that holds them together and makes them precisely *this* system or organism. Moreover, this feature is not imposed from without but is a kind of *self-organization*. (2) This internal self-organization is always in tension, in certain respects out of balance. (3) Though it can never be

predicted just when or why a tipping point will come, when it does, an avalanche with quite unpredictable consequences follows. (4) These consequences may be completely destructive, with the earlier order breaking down into chaos; or they may self-organize into a new pattern, better adapted to the environment than the old one. Thus a novel reality, a more fit reality than that which had existed before, is created.

This is the barest kind of outline, but what it presents to us, it seems to me, is a general description of what I have been calling creativity$_2$. What we do not have here is an *explanation* of how or why this creative self-organization and its consequences occur; doubtless many different sorts of explanation would be required to account for all the diversity in our universe. Nor do we have an explanation of precisely why this or that novel reality comes into being through this process. Creativity$_2$ of the new and the novel is thus always unpredictable, unexpected, surprising—a mystery! It can be described in some detail but not clearly explained. It is difficult to understand the mystery of how greater and more complex things can come out of simpler and lesser things. This question of how and why greater complexity emerges out of lesser complexity is the creativity$_2$ version of the old question, Why is there something, not nothing?

We have before us here brief sketches of the three more or less familiar modalities of creativity that I proposed we consider. Moving backward now with our three modes, we can say that creativity$_3$ and creativity$_2$ are in some respects more readily intelligible to us humans than creativity$_1$, because they continue to occur in our present world and we can know something of the contexts within which they occur. Unlike the Big Bang, of which we know nothing about the context, with creativities$_{2,3}$ we are able to specify some of the conditions apart from which their occurrence would not have been possible. But we really do not know how or why these creativities are truly *creative* instead of producing just more or less trivial changes. Current complexity theory appears to provide us with a way to think about some features of these developments, but this understanding is just the tip of an iceberg most of which remains hidden from view. The mystery of creativity$_2$, running through 14 billion years, is obviously very massive and comprehensive and deep. And how creativity$_3$—human symbolic and cultural creative activity, eventually leading into self-conscious and deliberate creation of countless cultural symbolic forms, realities, and worlds—could ever emerge out of creativity$_2$-processes is also in many respects a profound mystery, a mystery connected with the emergence of humans as self-conscious and responsible creative beings. How and why we humans have been so enormously prolific in our creativity is another amazing mystery. Without the emergence of beings like ourselves, with our powers of symbolic creativity, this whole grand picture of the developments from the Big Bang onward would never have appeared.

Where does this leave us? I am suggesting that we today should think of this magnificent creativity—all of this creativity—as God. Thinking in this way implies, of course (as we have seen), that we are thinking of God no longer as a personlike being but rather as a profound mystery—the mystery of all this creativity. In our Western languages, the word *God* is the weightiest name, the most profound name, the most revered name for the ultimate source of all that is—the ultimate creativity, the ultimate mystery of things, precisely that to which our word *creativity* points.

What does our cursory exploration of these diverse modes of creativity tell us about God? I mention four points here. First, creativity (God)—the coming into being of the new, the emergence of the novel—seems to be happening virtually everywhere we look: from the Big Bang through the cosmic expansion into galaxies in which stars and planets emerge, through the appearance of life on planet Earth (and possibly elsewhere) and its evolution into countless forms, ultimately including human beings—creatures who are themselves creative and in whom creativity begins to become to some extent self-conscious and deliberate.

Second, in our human context symbols, values, and meanings of many sorts emerge as creativity, now in the mode of creativity$_3$, manifests itself within human affairs. Thus, in due course—through the creativity of such persons as, for example, the Buddha and Jesus of Nazareth—ideals and values, images and norms and meanings such as compassion and *agape* love, regarded by some as supreme human norms and standards, have been created. Here creativity has seemingly transmogrified itself in a way appropriate to its ongoing development in the human world. The philosophical and theological implications of this are vast. In the course of time God (creativity) adapts Godself to the changing world that is being created, adapts in ways appropriately creative within the diverse contexts in which all these things are happening.

Third, the three modalities of creativity that we have noted are both serially and dialectically interconnected. On the one hand, they are obviously in a serial temporal order (1, 2, 3); on the other hand, we cannot think clearly about any of the three without thinking of them all in their dialectical interconnectedness. Although the three modalities are quite different from each other, through each of them multitudes of new realities emerge into being.

Fourth, whenever we see (or come to believe) that creativity—a new emergence—has occurred, we also always find profound mystery. We really cannot understand why there is such massive ongoing creativity in the universe, why this creativity brings forth the countless diverse emergents that it does. God (creativity)—apparently always and everywhere active in some degree and some respects in all of these enormously diverse developments—remains ultimately a mystery, a rather momentous point.

Some may ask, Why think of creativity in these religious terms? Isn't this just taking over some modern scientific ideas and simply declaring them religious by calling them God? I hold that identifying creativity (this ongoing emergent activity that has brought forth the world and all its contents) as God is fitting, given the long history in the Abrahamic traditions in which creativity has been the defining mark of God. The word *creativity*, we should note, has a much deeper and richer human significance than most scientific terms; and scientists do not actually employ this word very much, either, as I mentioned earlier. I have tried to show that the idea of creativity holds together in a single concept all the innumerable examples of the ongoing, dynamic, coming into being—the dynamic emergence—of new realities that constitute the world of which we humans are a part. If we think of this creativity as God, think of God as creativity, we have a reasonably distinct idea of what we are referring to when we use the word *God*, though this creativity continues to remain a profound mystery to us. But it is a mystery specifiable in terms of today's understandings of the world and the human, and we can give examples of it, as I have been doing in this article.

In thinking of God as creativity in this way, we do not compromise the important traditional insistence (mentioned in my opening remarks) that God not be confused with any of the realities of the created order. As God has always been understood, here also God is *creativity*, not one of the creatures, although deeply involved with the creatures. Indeed, God is explicitly manifest in and through the creativity of us human creatures, and it is God (creativity) that has given us humans our very humanness, though we also have participated in its creation. This conception undercuts completely all the anthropocentrism and anthropomorphism of our traditional religious understandings of God—understandings which, as has become obvious today, make these traditional views of God very dangerous, as peoples and nations with nuclear arms go to war against each other in response to what they each call God.

There will be those who say that in this theology God has disappeared in the mists of mystery, and true faith in God is thus also gone. To this I reply that true faith in God is not living with a conviction that everything is going to be okay in the end because we know that our heavenly father is taking care of us. (Think of the recent massive hurricanes, earthquakes, and the tsunami when you speak of God's care!) True faith in God is, rather, acknowledging and accepting the ultimate mystery of all these things in our lives and, precisely in face of that mystery, going out like Abraham (as Hebrews 11:8 in the New Testament puts it) not really knowing where we are going but nevertheless moving forward creatively and with confidence. This confidence is grounded on the mystery of serendipitous creativity—God!—that has brought into being our human biohistorical[5] trajectory, and us along with it, and has continued to sustain the human

project within the web of life that surrounds and nurtures us, giving us a measure of hope for our ongoing human existence here on planet Earth.

I have been suggesting that thinking of God as the *mystery of creativity*, instead of as a personlike Creator, enables us to bring religious and moral ideas and values and meanings into significant connection with modern cosmological and evolutionary thinking. One of the major reasons that God-talk has become implausible for many today is because of the humanlike metaphors in terms of which God has traditionally been conceived—terms completely incongruous with the massive magnificent cosmos round about us. That anthropomorphic/anthropocentric picture of God is completely gone in this conception of God as creativity. Here the world is a highly dynamic reality, not simply a stable structure, and God is thought of as the mysterious creativity that brought this world into being and that continues now with the ongoing development of this world.

With this concept of God we are in a position to connect our modern ideas—of the Big Bang; of cosmic and biological evolution; of the emergence of novel increasingly complex realities from simpler realities—with our thinking about and faith in God. Creativity, in this view, is not a quasi-scientific *explanation* of why and how new realities come into being; it is rather the word we use to identify and call attention to one of the profound mysteries of life: the mystery of new realities continuously being created, the mystery of complex things emerging from things less complex, the mystery of the coming into being of the universe and ourselves in that universe, the mystery of an open and unknown future into which we all are moving.

For many this creativity—God—manifest throughout our universe (as we today conceive that universe) is very awe-inspiring. It calls forth emotions of gratitude, love, peace, hope, and fear, and a sense of the profound meaningfulness of our distinctive human existence in the world—issues with which faith in God usually has been associated in the past. It is entirely appropriate, therefore, to think of God as precisely this magnificent panorama of creativity with which our universe, as well as our lives in this universe, confronts us. This does not mean that those who do not want to associate themselves and their world with God must now begin to do so; it is an example, however, for those who are interested, of a meaningful, thoughtful, and responsible way to think of our lives and our world in scientific terms and simultaneously with a sense of significant connection with God.

I conclude with a paraphrase of the opening verses of the Gospel of John: In the beginning was creativity, and the creativity was with God, and the creativity was God. All things came into being through the mystery of creativity; apart from creativity nothing would have come into being.

NOTES

A version of this essay was presented at the Fifty-third Annual IRAS Conference, "Emergence: Nature's Mode of Creativity," Star Island, New Hampshire, 29 July–5 August 2006.

1. It was, I believe, in Kaufman 1985, 41 (see also 35–45, 57, 60–62) that my first published use of the word *creativity* to characterize God is to be found.
2. Much of what follows here is drawn from Kaufman 2004, esp. ch. 3.
3. Is this just a dressed-up modern way of referring to the ancient idea of God creating the world out of nothing (*creatio ex nihilo*)? Creation out of nothing was a phrase often used during the last two thousand years to make absolutely clear what is meant by speaking of God's creative activity. This formula is not found anywhere in the Bible, and the opening chapters of Genesis even seem to deny it, suggesting that in the beginning God had worked with preexistent primeval waters and an earth that was "without form and void" (1:2 RSV). The earliest explicit statement of creation out of nothing is found in the apocryphal book of Second Maccabees, where readers are called upon "to look at the heaven and the earth and see everything that is in them, and recognize that God did not make them out of things that existed" (7:28 NRSV). The earliest extant expression of the formula *creatio ex nihilo* itself is by Theophilus of Antioch (c. 170–190 C.E.): "they [the prophets] taught us with one consent that God made all things out of nothing" (Pelikan 1960, 250). The phrase "creation out of nothing" was intended to set aside all suggestions that God had created the world and its contents out of something that already existed. Prior to and independent of God's creative activity there was nothing at all out of which the created order could be made; the omnipotent God created all that exists simply by commanding that it come into being. As Genesis 1 puts it:, "God said, 'Let there be light'; and there was light" (1:3 NRSV). In this ancient picture everything that exists, thus, depends in all of its fundamental characteristics on what God has willed.
4. Not everyone agrees with Hawking on this point; for a different view, see Rees 1997.
5. For the most recent exposition of my concept of humans as biohistorical beings, see Kaufman 2006, 29–30 and ch. 3; for an earlier exposition of the wider significance of this notion, see Kaufman 1993, Part 2.

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