RELIGION, SCIENCE, AND NATURE: SHIFTS IN MEANING ON A CHANGING PLANET

by Whitney Bauman

Abstract. This article explores how religion and science, as worlding practices, are changed by the processes of globalization and global climate change. In the face of these processes, two primary methods of meaning making are emerging: the logic of globalization and planetary assemblages. The former operates out of the same logic as extant axial age religions, the Enlightenment, and Modernity. It is caught up in the process of universalizing meanings, objective truth, and a single reality. The latter suggests that the processes of globalization and climate change break open any universalizing attempt at meaning onto a proliferation of different, evolving planetary contexts. Both science and religion are affected by these changes, and the ways in which they shape our understandings of and relationship to the rest of the natural world are changed.

Keywords: assemblages; cosmology; globalatinization; human exceptionalism; methods in science and religion; planetarity; post-modern science; Ptolemaic

---

When one thinks of "nature," often the first images that come to mind are those such as mountains, rivers, polar bears, the ocean, the "little blue ball," or trees. If not these images of the "natural" world, then perhaps one considers the substantial, Aristotelian meanings such as "human nature" or the nature of a particular subject-object within nature. Rarely, however, do images of technology, the city, human beings, cultures, or religious traditions pop up as a first flash. Similarly, when one thinks of "religion," most often the first kinds of things that come to mind are sacred texts, sacred buildings, rituals, dogma, or some type of deity. Rarely do actions/verbs surface that do justice to the etymological roots of religion as re-ligare/legere (to bind back or to re-read). This type of action suggests that re-ligion, whatever else it may be, is an action. The purpose of this brief essay is to question both of these imaginaries: "nature" and the sciences that define what that nature is, and "religion."

How is it, for instance, that we human beings and our meaning-making practices have written human beings, cultures, and religions outside of the

Whitney Bauman is affiliated with the Center for Civilizational Dialogue, University of Malaya, Kuala Lumpur, Malaysia, and is Assistant Professor of Religious Studies, Florida International University, Miami, FL, USA; e-mail: wbauman@fiu.edu.

 ISSN 0591-2385

rest of the natural world? Furthermore, how has nature become a noun, an object that can be defined by the sciences? What of the active side of nature that Spinoza so aptly referred to as *natura naturans*, or nature-naturing? What of the action suggested in the etymological root of nature, the natal, birth, or newness? Similarly, how is it that the "re" of religion has become largely ignored in favor of passive acceptance of traditions or laws, without the acknowledgment that all readings are also interpretations? How have the revelations within religions become objective foundations for justifying specific attitudes, ethics, and practices toward what it means to be "human," "male," "female," and how does this shape bodies within the world?

In short, this essay will look at the process of worlding and ask how both religion and science play a role in that worlding process. This is not merely a descriptive account, for there is no such thing. Rather, this essay will further imply that the meaning-making systems, the worldings, of extant philosophical, religious, and scientific traditions are fundamentally thrown into question through the processes of globalization and climate change. Globalization and climate change challenge our basic ontological presuppositions, which can lead to a clinging on to our worldings in the face of change. In the words of Jerome Miller:

> What we retreat *to*, and try to protect, is the meaning of being which our entire way of living and thinking presupposed; what we recoil *from* and try to prevent is a revolutionary challenge to our basic ontological presuppositions, and the experience of nothingness that such a challenge necessarily entails. (Miller 1992, 66).

In light of the challenges to contemporary worldings, I will suggest that we are caught between the method of meaning making that one might identify as the "logic of globalization" and a newly emergent form of meaning making that we might identify as "planetarity."[1] The former operates out of the same logic as extant axial age religions, the Enlightenment, and Modernity. It is caught up in the process of universalizing meanings, objective truth, and a single reality. The latter suggests that the processes of globalization and climate change break open any universalizing attempt at meaning onto a proliferation of different, evolving planetary contexts. Both science and religion are affected by these changes, and the ways in which they shape our understandings of and relationship to the rest of the natural world are changed. From within this emerging planetary method, science no longer dictates what "nature" is (e.g., Latour 2003), and religion no longer serves as a hermeneutical seal of certainty and removal from the rest of the evolving planetary community. Rather, both scientific and religious knowledge will help to open us up to our evolving planetary contexts. Before beginning this "line of flight," or critical-creative thought experiment, I turn to a few operational definitions of religion, science, and nature (Deleuze and Guattari 1987, 10–12).

Defining the Terms: Religion, Science, and Nature

Religion, again at its root is about re-binding and re-reading. In a phrase, religion is about meaning making. Following the argument of Heidegger, among many others, religion is then one of the ingredients of worlding or enframing (Heidegger 1997). As such, humans are, above all else, meaning-making creatures. If birds fly, dolphins swim, and dogs bark, humans make meaning and are made by this meaning. This is not to suggest that all humans are "religious" in the sense of following a traditional world religion, but rather that we all—atheist, theist, or agnostic—make meanings of our lives that place us into a wider context of human other and nonhuman other relationships. These meaning-making practices matter and matter to our bodies and the worlds around us: they shape our ideas about gender, humans, the more than human world, and they shape our cultural institutions—legal, economic, and political. These ideas and institutions then shape the many bodies that make up our worlds. Following Durkheim among many others, then, religion functions as a binding force or glue in our societies and daily lives (Durkheim 1995). Religion also functions to help us cope with existential matters such as life transitions, illness, and death. As Thomas Tweed notes, religions provide us with both crossings (navigating sticky existential transitions) and dwellings (making sense out of the new found worlds in which we find ourselves; Tweed 2006).

Having said that, religion is not just about the major world traditions, but can also be any system that organizes our life into a meaningful daily existence. Consumerism, the free-market economy, environmentalism, and other such systems can also be analyzed as meaning-making practices and in this sense, "religious." Furthermore, it can never be stressed enough that religion is always-already a Western construct in history and formation. Confucianism and Daoism may be more like philosophical systems; Hinduism is inseparable from the larger culture of India; and many indigenous traditions are more like lifeways or social-scapes than "religion." It takes a split between "religion" and "science" or at least between "religion" and "the secular" such as occurred in the history of the West to get such an understanding of "religion" as a separate realm from the rest of public life and culture. As a result of this split or "great divide," we must understand modern "science" too as Western in its construction.

At root, science or *scire*, is to separate one thing from another. *Scientia*, simply means knowledge or knowing. Taken together, we might creatively suggest that science implies a method of knowing through separation, taking apart, examining specific parts of the worlds around us. Science focuses on material and energy flows within and between its objects of study. It includes examinations of the smallest (quantum and subquantum physics) and the largest (cosmology) and every level of examination

separates itself from the other in such a way that integrative analysis is needed to bring the various levels back together.

It is always important to remember as well that science also involves scientists. Scientists, as human beings, come from various social locations and bring their bodies and contexts to the data. Science, then, must also always be engaged in the critical reflection on how subject positions and contexts shape interpretations of data. The practice of science includes, then, reflections from philosophy of science. Such reflection, as Sandra Harding (1998) notes, takes account of the multiple subject positions in interpretations of data and this is the only path toward a "strong objectivity" that reveals multiperspectivalism.[2] Any scientific study of "nature" always-already includes culture.

Nature is my all-inclusive term. It includes humans, cultures, religions, ideas, imagination, atoms, ecosystems, the earth, the universe, etc. Nature is multiscalar and emergent. By multiscalar and emergent, I mean that it consists of multiple levels, none of which can be reduced to the other, and that it is a process by which "new" (natal) levels emerge in the course of planetary and cosmic evolution (see, e.g., Goodenough and Deacon 2006, 853–71). Thus, nature is a multiperspectival emergent process. Nature is the *natura naturans* of Spinoza, but without the *naturata* (Spinoza 1996). Finally, it should be noted that there is no birth without death. The new is never *ex nihilo*, but emerges from the destruction of the moment—energy and materials—of that which comes before. As some scholars of the theory of emergence suggest, nature is the ongoing creative-destructive process of life.[3]

Given these definitions of religion, science, and nature, how might we re-read ourselves back into the rest of the natural world in a way that is conducive toward understanding human beings as part of a planetary community? In what follows, I argue that these understandings are not in any way new, and that we have indeed been reading our identities through understandings of nature as defined through a dialogical interaction of "religion and science" all along. In fact, most Eastern and indigenous traditions, philosophies, and lifeways have only been forced into separating "religion and science" through processes of colonization and its grandchild globalization. What is new is not the method of making meaning, but the contexts in which meanings are made: viz., globalization and global climate change. In order to examine the worldings resulting from the dialogical interaction of religion and science, I first examine the beginnings of the Western separation of religion and science in the Christianized Ptolemaic understanding of the cosmos. Further, I argue that the very separation forged during the scientific "revolution" (what Merchant refers to as the death of nature) itself is the result of "interstitial" or "hybrid" identity formation of subsequent understandings of "religion" and "science" (Bhabha 1994; Merchant 1980). As such, my claim will be

that religion always-already contains science, and science always-already contains religion. Through the dialogical interaction of "religion and science" our worlds are made more or less meaningful. Further, it is precisely at this juncture in our histories—marked by globalization, pluralism, hybrid identities, and a changing planet—that the very foundations of our worldings are being challenged. In this challenge, I argue, science and religion in dialogue can help redefine the human as part of an emergent, planetary process. As always, in order to imagine forward into the future, we must first imagine back into the past.

The Ptolemaic Cosmology, the Scientific "Revolution," and the Grounds for Globalization

> The new conceptual framework of the Scientific Revolution—mechanism—carried with it norms quite different from the norms of organicism. The new mechanical order . . . and its associated values of power and control . . . would mandate the death of nature. (Merchant 1980, 190)

What Carolyn Merchant describes in her book, *The Death of Nature*, is the process by which a specific culture and civilization (the West) came to understand a divide between humans-culture and the rest of the natural world. This "gap" or separation placed ("civilized," white and male) humans as the source of all value and wrote nature and the rest of the natural world (including "uncivilized" humans) as dead or passive matter awaiting to be made valuable through cultivation, extraction, and transformation toward the progress of Western culture. The contemporary process of globalization spreads this "great divide" to the rest of the planet. Furthermore, it is the legacy of this great divide that has led to many of the contemporary ecological and social ills associated with globalization. This divide, which makes humans exceptions to the rest of the natural world has roots in an earlier form of exceptionalism and can also be described as the process by which the divine or sacred exits the world. It is only at this point of separation that one can begin to talk about a distinct "religion" and "science." In fact, this is a foreign separation for most until processes of globalization force the separation upon cultures around the globe. However, as I will argue here, this separation is more aptly described as a transformation of spirit and divine revelation into reason and natural laws. In order to explain this, I start with the Ptolemaic/Aristotelian understanding of the cosmos through which Christian theology developed.

The Ptolemaic Universe. As many readers may know, Aristotle's Universe (which was further developed by Ptolemy) holds the earth at the center of the universe with the planets and sun revolving around the earth (see Figure 1). Beyond these concentric circles are the realm of the fixed stars and the realm of the unmoved mover that sets the universe in

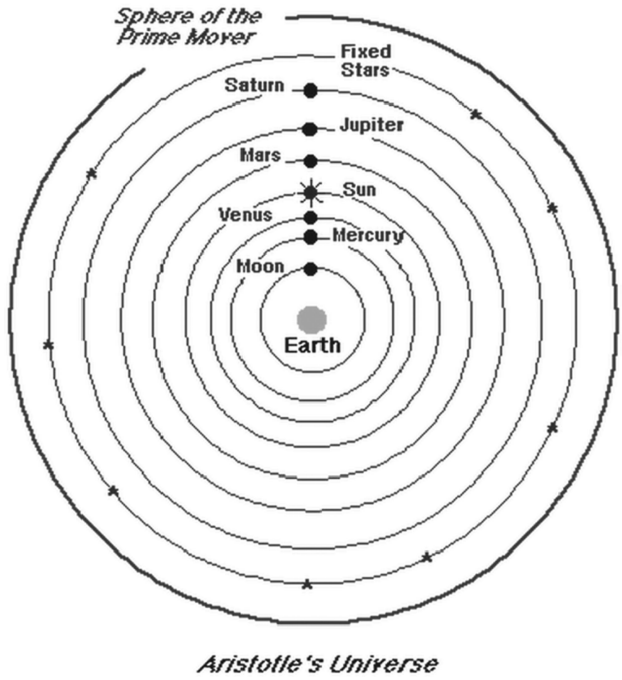

Figure 1. Aristotle's Universe or the Ptolemaic Cosmos.

motion and keeps it moving through the infusion of the whole cosmos with a "world soul." This structure is important for teleology as well since all things within this understanding of the cosmos move toward their own "natures." Each human spirit is in part determined by stars (hence astrology) and our spirits long to return toward their home in the sphere of the prime mover.

Christian thought is deeply tied to this view of cosmology. Biblical scriptures are read and interpreted through this cosmos, and the theology developed is thus dependent upon this cosmos. Let me provide you with one example, that of the Trinity. One of the hardest things to explain about Christianity in its earliest stages was how God came to earth in human form. This is because for the Greek mind movement and perfection were diametrically opposed. There is no way the unmoved mover could materialize and move about on the earth. Christian theology had to develop a way to describe this and did it through Trinitarian thinking by which the Father (unmoved mover) stays put and is at the same time incarnated through the mediation of the Holy Spirit. Entering this conversation are all sorts of doctrinal quibbles about the nature of Jesus and Jesus's relationship to the Father: one substance with two forms, two forms one substance, etc.

The point is that religion here, in this case Christianity, is always-already involved in making meaning out of a world where science (in this case natural philosophy) has much to say about that world. The same can be said, quite arguably, about most cultures, but in most cultures the "split" between what is "science" and "religion" does not occur, so the statement is not quite accurate. It is even anachronistic to tease out "science" (natural philosophy) and "religion" (early Christianity) before the rise of Modern Science, but I do so here for illustrative purposes. Christian theology developed for almost one thousand years with this Ptolemaic cosmological model.

The "dark ages" were actually not "dark" at all, rather they can also be described as the Golden Age of Islam when Islamic scholars took up Greek thought and made significant developments in mathematics, optics, medicine, and what would eventually become "modern science." Thus, the Copernican and Galilean "revolution" are not possible without the input from the Golden Age of Islam (Mignolo 1995). Most general history accounts from Western perspectives leave out this influence of the Islamic world on Modern Science not to mention the period of *convivincia* in southern Spain during which Christians, Jews, and Muslims lived together in relative peace and toleration. Not that this period was paradise, but rather there were pockets where interactions between these three cultures/religions thrived. Through backgrounding this religiously and culturally mixed history, contemporary Western peoples are more easily able to make "Islam" the "dark other," that which is a threat to the "light of reason" and the goodness of civilization. Witnessing to this problem is the recent uproar of peoples over the proposed building of the Cordoba Institute near the site of "ground zero" in New York City. Cordoba was precisely chosen because it is one of the primary cities of the *convivencia* and is thus a historical example of Muslims, Christians, and Jews living together. It reminds us that our religious identities are always-already mixed together: there is no "pure" tradition. Similarly, there is no scientific revolution without the contributions that the Islamic world made to modern science, not to mention the contributions of Jewish thinkers, such as Maimonides.

Effectively what happens during the scientific revolution is that the Ptolemaic cosmos is shattered. Copernicus (among many others) argued and Galileo later proved (again through optical technology that was made possible by contributions from Muslim scholars) that the earth is not at the center of the universe and that we actually revolve around the sun. This was shattering to the Christian theology that had placed human beings (again Christian human beings) at the center of God's salvation history based upon the Ptolemaic model of the cosmos. Furthermore, the movement of the stars threw into question the idea of a fixed universe. What was going on here was not so much a conflict between religion and science but between

science and science: between the Ptolemaic cosmology and the newly emerging Copernican one. At the same time, the Reformations in England and Germany were challenging religious hegemony. Thus, between the uncertainty in religious authority and the uncertainty in the new scientific cosmology, much doubt was cast on the Christian understanding of the world.

It is with Descartes's cogito and Newton's billiard-ball model of atoms that the new emerging cosmology gained its definition. Descartes's *cogito* effectively places value within the individual "thinking thing." All other life is just dead matter and only receives its value through human use. Furthermore, the *cogito* separates mind and body in such a way that the *cogito* is as a "ghost in the machine" of the body. With Newton, nature comes to be understood as dead matter, with atoms like billiard balls that are moved by external energy. Furthermore, the whole cosmos becomes mechanical. God's role is only important as its creator. This Deism becomes very important for modern science. It means that the world can be manipulated and controlled toward the human project of "progress," which is slowly taken out of the hands of religion and priests and given over to science and scientists. In fact, Bacon's *New Atlantis* is rife with religious images of progress influenced by the millennial thought of Joachim of Fiore among others (Noble 1999).

There are several ways in which science adopts within its very structure religious ideas. First, it adopts the human exceptionalism that was read into the Christianized Ptolemaic universe. In other words, just as human beings were created in the image of God and as the center of salvation history over and against the rest of the natural world, now humans are the locus of value and the rest of the world is instrumental to scientific goals of progress. Second, the very idea of revelation and a "good" creation that was ordered by God is translated into universal natural laws that can be discovered through the light of reason. Third, monotheism itself suggests that there is one, Universal, Truth. This understanding of truth becomes the universal justification for scientific laws and theories. In other words, unlike "religion," science becomes acultural and apolitical; it is thought to be the same everywhere. This universalization is every bit as colonizing as religious forms of universalizing. It is this process that shapes the contemporary model of globalization and always-already includes both "science" and "religion." My point in arguing this is that science and religion have always been and are necessarily in dialogue. To deny this is to turn religion into a personal (apolitical) matter and to turn science into a logical, universal (apolitical) matter. De-politicizing religion and science is a myth: they are always-already political. This is just as true today as it was during the shifting of worldviews 500 years ago. Through denying the political nature of "science" and "religion" we ignore the ways in which modern Western, secular culture is inherently shaped by a specific religion

and thus in globalizing modern science and culture, colonize the rest of the peoples and places in the world. Globalization is not about a process of equal exchange between cultures and places, as the reader is well aware; it is thus more aptly described as globalatinization (Derrida and Vattimo 1996, 178).

The Myth of the Secular and the Space of Capitalism: Globalatinization

As a part of the process by which religion becomes personal and private, and science becomes objective and public, science and economics become handmaidens in defining public spaces. In other words, "science" and "economics" (of the free-market capital variety eventually) become that which defines secular spaces along with the legal systems. Law, science, and economics are then supposed to transcend religious preferences. However, this very "secular" positioning of the places of science and religion itself harbors religious underpinnings. First and most obvious are the very separating out of these realms from overall culture and life. Many religious traditions and the cultures they are a part of do not separate the economic, legal, and scientific from the religious. In other words the command to open up one's country to the globalization of free-market capitalism is very much a religious and personal issue as well. Second, and related, just as modern science harbors its own religious underpinnings of belief in progress, dead matter that can be transformed, and anthropocentrism, so it is the same with economics.

I need not rehearse here the Weber thesis and other connections between capitalism and the protestant religions (Weber 2008), or the role of the Reformation in developing a work force for the industrial revolution (Dupre 1993), but rather, I will focus on the theology behind John Locke's understanding of property, which is still the definition of property that justifies free-market capitalism (Bauman 2009). For most educated in the history of modern, Western economics, its "secular" description begins with the *Second Treatise* of John Locke and the definition of private property he lays out there. That is, private property is the result of the individual human mixing his/her labor with dead matter. Later, and of course through industrialization, the wealthy are also able to gain more capital through the use of other's labor—something which Locke's own theory did not support. It is this very notion of an individual mixing one's labor with dead matter that is at heart religious.

What most people do not read about in this "secular" history is that the First Treatise provides the theological underpinnings for such an understanding of the individual human as active and nature as dead matter (Merchant 2003). Locke was writing in the time of the Glorious Revolution and against the work of Robert Filmer. Filmer interpreted the language of

genesis and the *imago Dei* in an aristocratic way suggesting that some humans could have dominion and rule over others. Locke, on the other hand, argued that all humans shared dominion equally. He democratized the *imago Dei* and the dominion clause of *Genesis* in such a way that made everyone their own little rulers. Furthermore, the cosmology that provided his understanding of nature as dead matter was also being developed by Descartes and Newton and their subsequent understandings of nature as desacralized. Thus, some form of monotheistic deism underwrites the anthropology and understanding of nature that leads to the development of Locke's private property, which then with modification becomes the basis for free-market capitalism. Capitalism and Science, then, share the understanding of nature as dead and humans as over and against that nature. And, I argue, these are religiously loaded rather than "secular" concepts.

If we skip over the first wave of colonization and enter the era of the contemporary globalization of this heavily subsidized understanding of free-market capitalism, then we can begin to see how these notions of the secular can be interpreted as religious attacks on other religious traditions and peoples that do not understand nature as dead, nor humans as little gods capable of creating their own worlds out of nothing (or this dead matter). It is a further offence to "others" when the religiosity of these concepts are covered over as "secular," or "business as usual." There is a sense then in which the spread of capitalism and its handmaiden Modern Science is, indeed, a religious war of planetary proportions. But, within the very walls of "Modern Science" itself, and perhaps as a result of the mixing of identities through the process of colonization and globalization, lie some keys toward breaking down the logic of domination found in globalization. New "post-modern" sciences are beginning to challenge Christianized understandings of anthropology and nature as dead matter. In other words, the excluded others in the process of globalization have now returned to redefine and reshape the center's self-understanding.

The "Post-Modern" Sciences and the Turning of Worlds: The Emergence of the Planetary

Just as Modern Science contains within itself a substantial notion of metaphysics, anthropology, and ontology, so-called postmodern sciences are not devoid of religious influence. The influx of many different world religious traditions into Western academic education in the nineteenth and twentieth centuries is, I argue, part and parcel to the development of new scientific ways of understanding the worlds around us. Focus on nondualism (Einstein's relationship of matter and energy and quantum realities), process (evolution) and nonreductive sciences has surely been influenced by the influx of "traditional ecological knowledge," Buddhism,

Hinduism, and other Eastern religious traditions that focus more on relationship and process than essence and substance.

Einsteinien and post-Einsteinien nonsubstantive physics suggest that matter and energy are not separate but rather matter and the "things" around us are collections of energy in space-time folds. This means that matter is always-already internally energized or "alive." Furthermore, quantum and subquantum realities challenge the idea that all of life can be reduced to some basic, substantial level: below the atomic are the subatomic particles, below them are the quarks, neutrinos, and smaller and smaller "quanta" of reality to the point that nonsubstantive physics suggests there is no "bottom" to reality. This reality, arrived at through a different process and in no way the same as concepts found in ancient religious traditions nevertheless makes more sense out of notions, such as co-dependent arising in Buddhism or the concept of Indra's Net than it does of ensouled matter moving toward some sort of ultimate Telos.

Through our understandings of evolution and ecology, we are beginning to break down species barriers and recognize our radical dependence and emergence from the rest of the natural world. We are more like "assemblages" or flows of culture, history, biology, energy, etc. than we are distinct "individuals" or "species." Our identities are not formed from divine commandment, nor from some natural laws set forth from the beginning of the universe that would dictate the emergence of *homo sapiens sapiens*. Likewise, our futures are not sealed off and secured in some transcendent teleology, rather we are emergent entities and the future is open to many different ways of evolution. As Deleuze and Guattari (1987) suggest, the rhizome rather than the root-tree (arboreal) should become our image for ontology. A rhizome expands in many directions and sends shoots (or lines of flight) in many different directions. A rhizome has no detectable center, origin, or tap-root, but is rather in the process of expanding in multiple directions. So it is with the life we find ourselves in: the possibilities for the future are emergent and multiple, there is no one "right" way.

Finally, our understanding of cosmology suggests that the universe is expanding in all directions. It is not "closed off" but expansive. Nonequilibrium thermodynamics also suggests that our universe itself may not be a closed system and hence entropy may not apply at the universal level. We may actually exist within one of many universes in a multiverse. The Hadron Collider near Geneva will test some of the theories of multiverse in a way that our knowledge of the universe could shift as much as Copernicus's and Galileo's did in their time. Furthermore, even within our own universe, we are a part of a 13.7 billion year process of ongoing cosmic expansion. To think that our human conscious experience could exhaust the realities of this 13.7 billion year process is at least hubris if not completely arrogant.

Surely these postmodern sciences suggest challenges for our meaning-making practices. They suggest new ways of relating to the rest of the natural world, to other animals, and to the expanding cosmos. They do not dictate what or "how" we ought to become, but they do challenge quite a bit of our axial age methods of making meaning out of the rest of the natural world. Given these challenges, brought about in part as a result of the processes of globalization, and given the realities of global climate change, which is a very new problem for humanity to deal with, I would like to end here with a brief sketch of the broad parameters of two competing regimes of truth: globalization and planetarity (Spivak 2003). In doing so I do not mean to suggest that there is a dualistic fork in the road and we must choose between these competing truth regimes, but rather among the many possible paths forward, most of them tend toward one of these directions.

Emerging World Formations: From Models of Globalization to Planetary Creatures

The image of "Earth Rise" from 1968 is still rippling through the consciousness of many in the world today. Its effects (both good and bad) have not been fully realized (James 2006, 262–65). That all life and human histories exist on this one, small planet, falling through space-time is something that surely changes the way we understand ourselves. We are contained within this single planet. This understanding of "nature" is of course mediated through technology that has enabled us to "step outside" and look back, not to mention all of the technologies that disseminate this image nearly worldwide. On the one hand this image is humbling, perhaps suggesting some sort of common grounds from which we all emerge and to which our reflections return to affect. It also suggests commonality with all other life forms on the planet. On the other hand, this image gives us the illusion of having some sort of objective, removed gaze. This global gaze washes over the many details and multiperspectives that constitute the "little blue ball." It is as if the complexities of the planet can be contained under the objective, global gaze.

Ursula Heise suggests that we need to move from the "little blue ball" image to that of Google Earth (Heise 2008). Google Earth, another mediated understanding of the planet, enables us to see the diverse contexts—geographical, cultural, and political—that make up the many grounds of the planetary community. In other words, the singularity of the planet is constituted by multiplicity. This multiplicity is primary and much messier than that of the global gaze suggested by the "little blue ball" image. It is this type of shift in our thinking that I am calling the emergence of planetary identities. There are several basic shifts that take place with the emergence of the planetary and here I will only discuss a few

given space considerations: the shift from universalism to contextualities, the shift from singular identities to assemblages, and the recognition of nature as political.

Prior to the "globalization" processes and the understanding of the vast space-time of the cosmic and planetary processes of evolution, it was much more possible for thought systems and meaning-making practices to be understood as "Universal." Though societies, cultures, and civilizations were never completely isolated—there has always been sharing and mixing of some sort rather than "pure" identities—most peoples were born and lived their entire lives within a very small geographical range. From within these small worlds, the challenges to one's own way of thinking was significantly less, hence "our" way could be projected as "the" way. Fast-forward through colonization, the scientific "revolutions" and the development of modern communication and transportation, to the development of web technologies and globalization, and the "small worlds" explode. At this juncture in planetary historical formation, our little worlds are no longer possible. With a few keystrokes, we can be around the globe and move energy and resources on a planetary scale. Such movements of goods, ideas, peoples, and other life on the planet weaken the idea that "Universal" understandings are even possible. Now, in order to make a universal claim one must make that claim over and against all other ways of being-becoming on the planet. Not just that, but one must extend this "Universal" claim over some 13.7 billion years of cosmic history. A bold attempt to say the least. If Horkheimer and Adorno are correct, this attempt even to enforce something like Reason as a Universal on the face of the globe indeed leads to much violence on the global level (Horkheimer and Adorno 1972). It turns out that even the "Light" of "Reason" of the scientific project cannot exhaust the realities of the planet.

In place of forcing a Universal over the face of the globe, from within a planetary perspective, "universal" connotes "uniqueness" and context. In other words, from a given place and time, unique manifestations of realities emerge and in human beings, unique understandings of our realities and the rest of the natural world emerge. As such, they are the only of their kind in the universe. These unique, located being-becomings and our unique understandings of them are in this sense universal: unique manifestations within an evolving planet and cosmos. Furthermore, as human beings, we get to choose to varying degrees which understandings make more sense to us and which ones we want to live toward within our planetary context. We do not make these decisions dictatorially as if we were individuals creating worlds *ex nihilo*, but rather we make them as parts of bio-historical or natural-cultural planetary assemblages.[4]

From within the model of globalization, the individual is still very much seen as the Lockean individual mixing his/her labor with dead

matter and recreating worlds as if out of nothing. However, this model of individuality is not extended equally even as the Universal Declaration of Human Rights would suggest. Rather, as Zygmunt Bauman notes, this process divides humanity into at least two larger categories (with much variation in between): the global mobiles and the immobile locals (Bauman 1998). The global mobiles are those (such as many in the "first world") that can literally move around the globe and that move energy and resources around the globe. The more capital one has, the easier it becomes to both act as the isolated individual (one has the resources to "make things happen" on a global scale) and background one's dependence upon others (one lives in isolated communities shielded from the ecological and social consequences of one's effects). The immobile locals, on the other hand, are those that are crushed by this globalizing process: losing subsistence lifestyles centuries in the making; being forced into migrations due to famine and other environmental disasters; living in environments degraded by the consumption of the global mobiles which in turn leads to birth defects, cancers, and other ills that help to ensure the continuation of the cycle of poverty; and all the while being told this is the process of "development." Fortunately, postcolonial studies and many resistance movements that focus on environmental justice are ripping these notions of development at the seams.

At some point, these isolated identities begin to break down and we understand ourselves as always-already a collection of relationships and flows, as Deleuze and Guattari (1987) might say, assemblages. As assemblages, we are each collections of plants, animals, minerals, cultures, histories, energy, etc. We are each unique nodes in an ever-changing perhaps fractal-like spiral. Our many-ness is prior to our oneness. As such, we are always-already becoming with the rest of the life around us. This realization also suggests that the denial of such connections will create violence somewhere. To some degree, global climate change, economic inequities, wars, famines, and many other ecological and social ills can be explained through the "backgrounding" of our always-already planetary connectedness (Plumwood 2002). The more one tries to transcend these connections—through theological and philosophical understandings of Universal Truths or Natural Laws or Reality that then become manifest in societies where "the haves" actually background their connections through walls, political sanctions, and security—the more ecological and social ills result. Rather than making recourse to such violent, transcendent realities, a shift to the planetary understands science and religion and discourse on "nature" as inherently political.

Again, both science and religion have been guilty of the logic of globalization: of spreading one meaning-making practice, one understanding of Nature and Reality, over the face of the entire globe. This is just as true in the process of the failed "Green Revolution" in agriculture as it is of

the efforts of early colonizers to the Americas and their attempts to spread Christianity. If truth is just "out there," waiting to be grasped, and if that truth is singular, what choice does one have but to educate, civilize, and cultivate awareness of this truth in any "other" he/she might come into contact with? This, at least, is the logic of globalization. From a planetary perspective, however, truth is seen as the co-construction of "truth regimes" (Foucault 1972). Our understandings of the world and the technologies of those understandings begin to create those worlds that we are persuaded most toward. In other words, one of the reasons Modern Science became so pervasive is that its truth regime—including the medical, communication, and transportation technologies derived from its way of understanding—is quite persuasive. It gives us results; it gives us things. However, at no small cost: atomic bombs, environmental ills, species extinction, global climate change, etc. What I am suggesting here is that one can live "truthfully" within this world of Modern Science, but there is always a cost. This is true of any meaning-making system and its truth-regimes. One can live "truthfully" from within the truths of "traditional ecological knowledge" and in isolation from the forces of globalization and development as well—again, not without some costs. From a planetary perspective, the question becomes toward which truth-regimes do we want to live? Given the costs of the contemporary truth regime of the globalization of free-market capitalism and its Modern Scientific technologies, I would argue we need new ways of becoming into the future that respect the multiperspectival reality of the becoming planetary community. We need to begin imagining with the whole planetary community in order to develop new ways of being-becoming into the future. These new ways do not need to be singular, as the wider planetary community has largely thrived on biodiversity, and human communities on biocultural-historical diversity. Rather, the point is that through this rethinking, human-being/becomings are thought back into the rest of the natural world and that this "nature" is understood as always-already a political process. Planetary politics, then, will extend "the political" to include the rest of life on the planet and also place critical focus on any understanding of "nature" that becomes naturalized (see, e.g., Latour 2003; Morton 2007).

Notes

A version of this article was delivered in a public lecture at the Center for Civilizational Dialogue, University of Malaya, Kuala Lampur, Malayasia on July 9, 2010.

1. For a good description of what is meant by "planetarity" here as opposed to "globalization" see: Spivak (2003); Nancy (2007); and Ursula Heise (2008).
2. For an understanding of a multi-perspectival reality, see: Harding's concept of "strong objectivity" (1998); Haraway's understanding of "situated knowledge" (1988); and Deleuze and Guattari (1987).
3. The use of "creative-destructive" here should not be confused with the use of "creative-destruction" by some economists and other scholars to describe the process of capitalism.

4. Haraway uses the term nature-culture to talk about how we always-already are a combination of nature-culture in- *Simians, Cyborgs, and Women: the Reinvention of Nature* (1991). Gordon Kaufman refers to humans as "bio-historical" creatures to denote this (2000); and the language of "assemblages" belongs to Deleuze and Guattari (1987).

References

Bauman, Whitney. 2009. *Theology, Creation and Environmental Ethics: From* Creatio ex Nihilo *to* Terra Nullius. New York: Routledge.

Bauman, Zygmunt. 1998. *Globalization: The Human Consequences*. New York: Columbia.

Bhabha, Homi. 1994. *The Location of Culture*. New York: Routledge.

Deleuze, Gilles, and Felix Guattari. 1987. *A Thousand Plateaus: Capitalism and Schizophrenia*. Minneapolis: Univ. of Minnesota Press.

Derrida, Jacques, and Gianni Vattimo. 1996. *Religion: Cultural Memory in the Present*. Stanford, CA: Stanford Univ. Press.

Dupre, Louis. 1993. *Passage to Modernity: An Essay in the Hermeneutics of Nature and Culture*. New Haven, CT: Yale Univ. Press.

Durkheim, Emile, ed. 1995. *The Elementary Forms of Religious Life*. New York: Free Press.

Foucault, Michele. 1972. *Power/Knowledge: Selected Interviews and Other Writings*. New York: Pantheon.

Goodenough, Ursula, and Terrence W. Deacon. 2006. "The Sacred Emergence of Nature" in *The Oxford Handbook of Religion and Science*, ed. Philip Clayton, 853–71. Oxford, UK: Oxford Univ. Press.

Haraway, Donna. 1988. "Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective." *Feminist Studies* 14(3):575–99.

———. 1991. *Simians, Cyborgs, and Women: The Reinvention of Nature*. New York: Routledge.

Harding, Sandra. 1998. *Is Science Multicultural? Postcolonialisms, Feminisms, and Epistemologies*. Bloomington: Indiana Univ. Press.

Heidegger, Martin. 1977. *The Question Concerning Technology*. New York: Garland.

Heise, Ursula. 2008. *Sense of Place and Sense of Planet: The Environmental Imagination of the Global*. Oxford: Oxford Univ. Press.

Horkheimer, Mark, and Theodor Adorno. eds. 1972. *Dialectic of the Enlightenment*. New York: Continuum.

James, Paul. 2006. *Globalism, Nationalism, Tribalism: Bringing Theory Back In*. London: Sage.

Kaufman, Gordon. 2000. *In the Beginning: Creativity?* Minneapolis, MN: Fortress.

Latour, Bruno. 2003. *The Politics of Nature: How to Bring the Sciences into Democracy*. Cambridge, MA: Harvard Univ. Press.

Merchant, Carolyn. 1980. *The Death of Nature: Women, Ecology, and the Scientific Revolution*. New York: Harper and Row.

———. 2003. *Reinventing Eden: The Fate of Nature in Western Culture*. New York: Routledge.

Mignolo, Walter. 1995. *The Darker Side of the Renaissance: Literacy, Territoriality, and Colonization*. Ann Arbor: Univ. of Michigan Press.

Miller, Jerome. 1992. *In the Throe of Wonder: Intimations of the Sacred in a Postmodern World*. Albany, NY: SUNY Press.

Morton, Timothy. 2007. *Ecology without Nature: Rethinking Environmental Aesthetics*. Cambridge, MA: Harvard Univ. Press.

Nancy, Jean Luc. 2007. *The Creation of the Word or Globalization*. Albany, NY: SUNY Press.

Noble, David F. 1999. *The Religion of Technology: The Divinity of Man and the Spirit of Invention*. New York: Penguin.

Plumwood,Val. 2002. *Environmental Culture: The Ecological Crisis of Reason*. Oxford: Routledge.

Spinoza, Benedict De. ed. 1996. *Ethics*. New York: Penguin.

Spivak, Gayatri. 2003. *Death of a Discipline*. New York: Columbia Univ. Press.

Tweed, Thomas. 2006. *Crossing and Dwelling: A Theory of Religion*. Cambridge, MA: Harvard Univ. Press.

Weber, Max. ed. 2008. *The Protestant Ethic and the Spirit of Capitalism*. Oxford: Oxford Univ. Press.