The Earth Photographs and Ecological Theology

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The famous photographs of the Earth (e.g., the Earthrise photo in 1968 and the fully-illuminated photo of the Earth in 1972) taken from outer space by the astronauts of the Apollo missions depict the Earth "as it truly exists." They have allowed us to see the Earth outside of the Earth. As these photographs have revealed, the complex parts of the Earth appear to be wonderfully interrelated to one another to the effect that they form and emerge as a single whole. From a distance, the Earth and humankind appear to be forming a single entity. This worldview awakens our desire to love this beautiful planet and enkindles our ecological advocacy. In the face of the climate change phenomenon, the captivating photographs of a fragile Earth may serve as a powerful visual art for advocating ecological consciousness. Our contemplation on these Earth photographs invites us to revisit some vital questions about our identity (who are we?), origin (where did we come from?), and destiny (where are we going to?). To explore these questions, James Lovelock, Thomas Berry, and Leonardo Boff serve as our main dialogue partners. These authors will help us realize whether or not our traditional myths and cosmological theories still offer adequate answers to these perennial questions.

Introduction

The environmental activism emerged in Mindanao in the late 1980s. This phenomenon has crucially shaped my seminary formation and my interest in ecological theology. I was in pre-college seminary in 1987 when the poor people of San Fernando Parish (Bukidnon) staged their picket against logging operations, which greedily exploited the town's remaining forests.[1] This parish-based

1. On this account, see Karl Gaspar, *A People's Option: To Struggle for Creation* (Quezon City: Claretian Publications, 1990), 34.

environmental protest eventually grew into a diocesan advocacy, which successfully pressured the government to put the whole province of Bukidnon under a logging moratorium in 1990. I was in the final year of my college seminary formation when one of our diocesan priests, Nery Lito Satur, was brutally killed on October 14, 1991 due to his zealous implementation of this logging moratorium.[2] In November 1999, a few months before my priestly ordination, a coalition of civil society groups barricaded the streets to block the logging trucks from Lanao del Sur that passed along the highways of Bukidnon. Apparently, these living memories of ecological struggle did not only influence my pastoral ministry but also pushed my thinking towards the direction of ecological theology.

Let me situate the Filipino ecological consciousness within the larger context of the emerging ecological theology. Several factors have triggered this type of theology. In this paper, however, the focus is on the significant contribution of the art of photography to the emergence of ecological theology. It has two main aims: to revisit in passing the relationship between photography and art, with special focus on the artistic relevance of the Earth photographs; and to show how the contemplation on this pictorial art has significantly contributed to the emergence of ecological theology. The first part tries to revisit the ecological significance of the Earth photographs in the context of the human being's attempt to see the world as it is. The second part explores the impact of the Earth photographs on the prevailing ecological perspectives especially in the writings of James Lovelock, Thomas Berry, and Leonardo Boff. These dialogue partners will help us contemplate the Earth photographs in light of the new cosmology.

I. Art and Photography

The word "photography" literally means "light writing." Today, this medium has been developed hand-in-hand with computer digital imaging. Whether or not photography could be duly considered an art is still hotly contested today. In any case, it cannot be denied that

2. See Gaudencio Rosales, *Fr. Neri Satur and the Church He Died For* (Quezon City: Claretian Publications, 1997).

photography has become an important medium of communicating information and ideas in our contemporary cultures.

1.1 Photography as an Art: Some Opposing Views

Nowadays, it is no longer as convincing to tell a story without stunning images to back it up. The stories with the accompanying visual images are effective means of communicating ideas. The use of visual images in fine arts is not actually a totally new practice. History tells that ancient people have been using some drawing devices (e.g., *camera obscura*) to copy and record the observable world for purposes of communicating visual information. To this effect, some authors could claim that "Human beings are born image-makers and image-enjoyers."[3] Accordingly, when photography was invented in 1839, people "applied it to portraiture, record-keeping, political persuasion, academic investigation, and travel accounts."[4] Since then, the use of camera to produce pictorial images has become a common practice in rendering valuable aids to science and other fields of learning, especially in producing and exhibiting "objective" evidences. Unfortunately, as one author has critically observed, our present generation is heavily "governed by pictures," even to the effect of trivializing firsthand experiences.[5] Moreover, the advent of computer and digital technologies has enabled us to produce sophisticated photography which could take both microscopic and telescopic images of complex phenomena that are otherwise invisible to bare human eyes. Consequently, with the invention of a sophisticated "computer-photography fusion"[6] that can thoroughly enhance the photographic power of cameras, a new age of discovery has dawned.

3. Denis Dutton, *The Art Instinct: Beauty, Pleasure, and Human Evolution* (New York: Bloomsbury Press, 2009), 33.

4. Mary Warner Marien, *Photography: A Cultural History*, 3rd edition (London: Laurence King Publishing, 2010), 1.

5. On this critique, see Lynne Warren, "Miroslaw Rogala," in *Photography After Photography: Memory and Representation in the Digital Age* (Amsterdam and Munich: OPA and Siemens Kulturprogramm, 1996), 52.

6. Joan Fontcuberta, "Introduction," in Pedro Meyer, *Truths and Fictions: A Journey from Documentary to Digital Photography* (New York: Aperture Foundation, 1995), 11.

In our cursory review of the history of photography, at least two main issues come to the fore. The first issue is whether or not photography—like painting—can be considered a full-fledged art form with a legitimate space in the gallery and museum. On this issue, two classical opposing views are worth revisiting. On the one hand, there are those who claim that photography in itself cannot be an art because it lacks a subjective expression of human imagination. As John Ruskin (1819-1900) has argued, photography does not express "the personality, the activity, and living perception of a good and great human soul."[7] Unlike painting, photography mainly relies on the technical ability of the camera to make an "objective" picture of the reality which is devoid of personal artistic style, subjective interpretation, and creative imagination. Artists, however, may use photography as a device to aid their drawing or to prepare some of their painting materials. On the other hand, there are those who propose photography as surpassing all other artistic media due to its ability to depict nature "as it truly exists." As some authors affirm, "Photographs offer powerful concrete evidence of a reality in a way that words simply cannot capture."[8] This argument presupposes that an ideal artist should be able to translate into his or her work exactly how the eye sees.[9] In this case, the products of mere human imagination may be regarded as untrue and/or fictitious. It has been argued that, due to its special concern for the optical reality, photography is not interested in copying the religious or mythological scenes "that were central to art production until the nineteenth century."[10] This largely explains why the relationship between photography and theology has not been sufficiently explored in the history of theology.

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7. John Ruskin, *The Works of John Ruskin*, ed. E.T. Cook and A. Widderburn (London: G. Allen, 1903-1912), vol. ii, 212.

8. Beverly Palibroda, Brigette Krieg, Lisa Murdock, et al., A Practical Guide to Photovoice: Sharing Pictures, Telling Stories and Changing Communities (Winnipeg: Prairie Women's Health Centre of Excellence, March 2009), 10; an on-line version is available from: http://www.pwhce.ca/photovoice/pdf/Photovoice_Manual.pdf (date accessed: September 19, 2011).

9. Contrary to Ruskin's criterion, "perfect artistic painting is only reached when we have succeeded in imitating the action of light upon the eye." See Peter Henry Emerson, "Photography: a Pictorial Art," in *Amateur Photographer* no. 3 (March 19, 1886), 139; quoted in Marien, *Photography: A Cultural History*, 161.

10. Marien, *Photography: A Cultural History*, 6.

The second issue about photography has something to do with the relationship between image and reality. On this issue, there is an ongoing debate on whether or not a photograph objectively and accurately mirrors the real event. On the one hand, there are those who propose that a photogenic shot may be compared to a perfect mirror that "is infinitely more accurate in its representation than any painting by human hands."[11] Fascinated by this magical technique of imitating reality (*mimesis*), the proponents presume that photography, as an automatic recording device, has the power to copy accurately "with a great deal of ease" even the most difficult and complicated things.[12] They take for granted the view that a photograph is an objective representation of the visible world. On the other hand, there are some critical voices that question the trustworthiness of photographic records.[13] Especially today that computer manipulation has been a common practice, many people are quite aware of the fact that photography may be used to fabricate fake pictures and simulate photographic evidences. For instance, computers can conveniently retouch and digitally modify a photograph to make it appear as more or less close to the "real." At best, as these critics have proposed, photographs may be considered as a "symbol" of the reality but not necessarily its replica.[14] This view gives more value to the things represented than to the representations of the things *per se*.

Having presented both sides of the argument, we are now in a position to make a judgment on this issue. I think we need to recognize photography not only as a reproductive medium but also as an art—that is, as a form of self-expression and creativity. Obviously, producing a pictorial art is not just a matter of "pointing" and "shooting." A photographer is not just an "operator" of photographic equipment which replicates natural scenery onto a permanent picture. Rather, as some authors have proposed, a

11. Edgar Allan Poe, "Alexander's Weekly Messenger" (January 15, 1849), 38; quoted in Marien, *Photography: A Cultural History*, 28.

12. Gail Buckland, *Fox Talbot and the Invention of Photography* (Boston: David R. Godine Publishers, 1980), 19.

13. On this view, see Lewis Hine, "How Camera May Help in Social Uplift," quoted in Maren Stange, *Symbol of Ideal Life: Social Documentary Photography in America, 1890-1959* (New York: Cambridge University Press, 1989). Hine argues: "while photograph may not lie, liars may photograph." (p. 86).

14. On this position, see Stange, *Symbol of Ideal Life*, 86.

photographer is like any artist who needs to substantially learn about "perspective, lighting, balance, contrast, composition, capturing the viewer's attention and other photographic techniques."[15] In this sense, the well-arranged pictures can visually represent the photographer's ideas and response to the particular scene. Thus, a good pictorial artist allows the viewers to see in a specific way the symbolic content being communicated through the image.[16] We will advance this view by taking the example of Earth photographs.

1.2 The Earth Photographs: Seeing the Earth outside the Earth

There is no doubt that photography has the power to artistically capture the beauty of our planet. The astronauts who went to space made use of photography to document their travel and the unique experience of seeing the beauty of the Earth outside the Earth. As the saying goes, "one can't see the picture when one is standing inside the frame." This means that one needs to get out of the Earth to see it as it is. Indeed, the astronauts were the first ones to get outside the Earth and see the whole Earth from a distance for the first time.

The astronauts must have seen how fragile and lovable is this planet of ours. James Irwin, one of the astronauts who travelled to the moon, gave this very moving testimony:

> As we got farther and farther away [the Earth] diminished in size. Finally it shrank to the size of a marble, the most beautiful marble you can imagine. That beautiful, warm, living object looked so fragile, so delicate, that if you touched it with a finger it would crumble and fall apart. Seeing this has to change a man, has to make a man appreciate the creation of God and the love of God.[17]

15. Palibroda, Krieg, Murdock, et al., *A Practical Guide to Photovoice*, 50.

16. On this claim, see Tad Beckman, "Photography as Art" (2004); available from http://www4.hmc.edu:8001/humanities/beckman/artclasses/art.htm (date accessed: March 14, 2012).

17. Quoted in Michel Reagan, *The Hand of God: A Collection of Thoughts and Images Reflecting the Spirit of the Universe* (Atlanta: Lionheart Books, 1999), 158.

Indeed, this unique privilege to contemplate the beauty of the planet Earth from outer space is truly an extraordinary experience that no human words can fully capture. Perhaps this is the aspect where the art of photography can find its unique service—to communicate through pictorial images what is beyond words.

To document their travel, the astronauts of the Apollo 8 mission took the picture of the Earth on Christmas Eve in 1968 and brought back to us the first photographs of the Earth from space. Through these Earth photographs from the moon, we were able to see our beautiful planet with the interconnectedness of its natural systems. Accordingly, this photograph became known as *Earth Rise*—a picture of the Earth emerging from the dark void of space. Inspired by this captivating picture, an American poet Archibald MacLeish (1892-1982) wrote:

> To see the Earth as it truly is, small and blue and beautiful in that eternal silence where it floats, is to see ourselves as riders on the Earth together, brothers on that bright loveliness in the eternal cold—brothers who know now that they are truly brothers.[18]

18. Quoted by Al Gore, *An Inconvenient Truth*: *The Planetary Emergency of Global Warming and What We can Do about It* (New York: Melcher Media, 2006), 12. As Gore has noted, the *Earth Rise* photograph "exploded into the consciousness of humankind" and, within two years, it gave birth to "the modern environmental movement."

> today as "Earth Rise," showing the Earth from space for the first time. This was taken by the Apollo 8 crew in December 1968.[19]

Our view of the Earth from space dramatically unfolded when the Apollo 17 mission in December 1972 produced a fully illuminated picture of the Earth. So far, this is the last Earth photograph we have today, a best picture and arguably the most unique one taken by a human being from space. It has become the most commonly published photograph of the Earth in our time. In a moving testimony after his orbital and lunar missions, American astronaut Russell "Rusty" Schweickart poetically describes his dramatic experience of how, from a distance, the Earth and humankind make up a single entity:

> The Earth is so small and so fragile and such a precious little spot in that universe that you can block it out with your thumb, and you realize on that small spot … is everything that means

19. This Earth photograph is available from http://www.nasa.gov/multimedia/imagegallery/image_feature _102.html (date accessed: September 14, 2010).

> to you—all of history and music and poetry and art and death and birth and love, tears, joy, games, all of it on that little spot out there that you can cover with your thumb.[20]
> This fully illuminated photo of the Earth in its "blue marble" image is, so far, the most detailed true-color image of the entire Earth. This was taken by the Apollo 17 mission crew in 1972.[21]

This view from outer space depicts the harmony and beauty of the Earth—the iconic artwork of the Creator worthy of our reverence and love.

These revealing photographs of the Earth, an image of a fragile planet in the vast planetary community of the cosmos, offer us a new cosmological understanding and worldview to sustain the growing deep ecological and environmental movements. In the United States, as Eugene Odum (1913-2002) has recounted, the widespread publication of the photographs of a cloud-wrapped planet Earth gave rise to "a worldwide environmental awareness movement," which led to the launching of an annual Earth Day in 1970, and dramatically pushed the governments all over the word to enact many environmental protection laws.[22] Thanks to photography, this clever use of pictorial art has influenced the crucial decisions of

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20. Quoted in Frank White, *The Overview Effect: Space Exploration and Human Evolution* (Boston: Houghton Miffin Company, 1987), 38.

21. This Earth photograph is available from http://visibleearth.nasa.gov/view_rec.php?id=2429 (date accessed: September 14, 2010). Al Gore remarked that the fully illuminated Earth photograph in 1972 was skillfully taken "when the sun was lined up almost directly behind the Moon while the spacecraft was making its journey." See Gore, *An Inconvenient Truth*, 15. Let us note here in passing that today's Earth photograph, in its "most amazing high-definition image" (also known as "Blue Marble 2012"), has been subject to controversy. The stunningly detailed image of the Earth is actually a composite stitched together from photos collected—"digitalized into a single image, with the goal of reflecting Earth in its true colors." In effect, some critics could say that it is a technically fake photo—"impossibly beautiful" and "actually too beautiful to be real." On this critique, see "NASA's 'Impossibly Beautiful' Photo of Earth," *The Week* (January 26, 2012); available from http://theweek.com/article/index/223689/nasas-impossibly-beautiful-photo-of-earth (date accessed: April 19, 2012).

22. Eugene Odum, *Ecology: A Bridge between Science and Society* (Sunderland: Sinauer Associates, 1997), 2.

policymakers and proved to be a powerful visual aid for promoting ecological consciousness.

As we know, this small, fragile, and precious Earth is being threatened today by the global phenomena of climate change and other anthropogenic ecological crises. As a living planet, the Earth regulates itself and spontaneously seeks for its natural balance to the effect that we experience its wild and terrifying forces. These forces make us insecure of the future and awaken our instinct for survival. The violent and unsettling activities of a threatened Earth may not be visible in these celebrated photographs from the Moon. Thus, after contemplating these beautiful pictures, we have to turn to the "real" Earth and experience its rough realities. We must personally experience both its sublime and terrifying faces.

It must be said that photography, like many other modern inventions, can be ambivalent. It can be abused to enhance modernity's project of controlling and conquering the Earth—capturing even its innermost secrets. Obviously, that arrogant goal of photography is a remnant of the Baconian thrust to emphasize human being's dominion over nature and to enlarge the "bounds of Human Empire" for the sake of scientific progress.[23] However, modern photography can also be liberating and empowering when it is creatively applied in the Third World context, that is, to overcome the evils of human oppression and unsustainable ecological exploitation.[24] It is good to know that many media people use photography to criticize these evils. We need to support and develop this constructive use of photography for social and ecological advocacy.

2. Contemplating the Earth Photographs: Towards an Ecological Theology

Like any artistic painting, the beautiful Earth photographs deserve our contemplation. They challenge us to look at them beyond their

23. Francis Bacon, *The Advancement of Learning and the New Atlantis*, ed. Arthur Johnston (Oxford: Oxford University Press, 1974), 239.

24. A good example of liberative application of the art of photography is the emerging use of "Photovoice" in participatory action research which empowers members of marginalized groups "to work together to 'identify, represent and

mere appearance. In this section, we explore three important authors—James Lovelock, Thomas Berry, and Leonardo Boff—who have been greatly influenced by the revelations of the Earth photographs in their respective ecological perspectives. Admittedly, their ideas are far more complex than what can be presented here. Nevertheless, the risk of oversimplifying them in this limited space should not prevent us from exploring their ecological insights.

2.1 The Earth as Alive: James Lovelock

As we have pointed out, the celebrated Earth photographs taken from space reveal the unique qualities of the planet Earth. In his autobiography, the English scientist James Lovelock confessed how these photographs have guided his "quest to know and understand our planet as one that behaves like something alive."[25] In these snapshots of the dramatic episode of space travel, Lovelock clearly saw a "revelation" of the "Earth as a living planet." According to him, this holistic vision of the Earth in its full spherical contours "has been the Grail that beckoned [him] ever since."[26]

Let us take a glimpse of Lovelock's ecological perspective. In the face of resistance from other scientists, he persistently calls the Earth a *living* planet. The analogy of a living planet, which is actually a reaffirmation of the ancient view of the Earth as a living organism,[27] strengthens his theory that the Earth has a capacity for inner self-adjustment amidst the changing external conditions of the solar system. This is evident in the "feedback" process of the Earth which, according to him, spontaneously sustains the habitability of the planet

enhance their community through a specific photographic technique.'" See Palibroda, Krieg, Murdock, et al., *A Practical Guide to Photovoice*, 8.

25. James Lovelock, *Homage to Gaia: The Life of an Independent Scientist* (Oxford: Oxford University Press, 2000), 241.

26. Lovelock, *Homage to Gaia*, 241.

27. Let us call to mind that Plato (423/4-347/8) had already explicitly used a supraorganismic image of the world in his writings. According to him, God did not make the world like any one species, but rather as "like, above all things, to that Living Creature of which all other living creatures, severally and in their families, are parts." See Francis Cornford, *Plato's Cosmology*: *The* Timaeus *of Plato* (Cambridge: Hackett Publishing Company, 1997), 39-40.

(*homeostasis*). He argues that this vital and "organic" quality of the planet Earth is not shared by any of its sibling planets. For this reason, he proposes to call the Earth "the largest living thing in the solar system."[28] Although—unlike other living things—the Earth is not capable of reproducing itself, this living planet is actually like a mother that continually gives birth to diverse living forms which could possibly exist in her habitable condition.

It is clear that the Earth photographs, as well as the testimonies of the astronauts, have significantly influenced Lovelock's formulation of the "Gaia Theory."[29] This theory has been criticized for "anthropomorphizing the Earth." Nevertheless, Lovelock makes it clear that his view of *the Earth as alive* transcends the Darwinian notion of life. He affirms the emerging ecological perspective that it is not only the living organisms in the biosphere that constantly evolve but the whole biological and physical environment that make up the Earth.[30] The tight unity between the living organisms and their physical environment enables the Earth as a whole which behaves as a single, self-regulating organism—capable of maintaining the state of constancy in the face of the changing external environment of the solar system.

The Earth photographs, which led Lovelock to come up with the Gaia theory of a living planet, offer a distinct ecological perspective on understanding the worsening global environmental crisis: to see the physiology of the human body as a microcosm of the Earth.

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28. James Lovelock, *The Revenge of Gaia: Why the Earth is Fighting Back—and How We can Still Save Humanity* (London: Penguin Books, 2007), 21.

29. Lovelock's theory is named after "Gaia"—the name of the wise and bountiful Greek goddess guiding the Earth to make its habitable conditions of life possible. Lovelock defines Gaia "as a complex entity involving the Earth's biosphere, atmosphere, oceans, and soil; the totality constituting a feedback or cybernetic systems which seeks an optimal physical and chemical environment for life on this planet." See James Lovelock, *Gaia: A New look at Life on Earth* (Oxford: Oxford University Press, 2000), 10. On his definition of "Gaia Theory," see Lovelock, *The Revenge of Gaia*, 208.

30. Lovelock has pointed out that we are beginning to see the incompleteness of the Darwinian theory of evolution. As we know now, "Evolution is not just a property of organisms—what evolves is the whole Earth system with its living and non-living parts existing as a tight coupled entity." See Lovelock, *The Revenge of Gaia*, 178.

Lovelock, who is a medical doctor by profession, considers himself as "a planetary physician whose patient, the living Earth, complains of fever."[31] Based on the belief that the living planet Earth is now 3.5 billion years old, Lovelock proposes that "she has already lived nearly 88 per cent of her life."[32] He sees "the Earth's declining health as our most important concern" because our very lives and welfare extremely demand and depend upon a healthy Earth. Thus, for him, our concern for the health of the Earth "must come first."[33] Like a prophet of our time, he persistently warns that if we fail to intuitively feel the Earth as alive, then we may also "fail to react automatically for its and ultimately our own protection" and survival.[34]

2.2 The Earth Photographs as a Story: Thomas Berry

The relevance of the Earth photographs may be discerned in the works of the ecological cultural historian Thomas Berry (1914-2009), a North American Passionist Catholic priest who prefers to call himself a "geologian." Berry points out that the Earth photographs, together with the moving testimonies of the astronauts, reveal the "Earth at a highly developed phase in its continuing emergence."[35] From the perspective of the New Cosmology, these beautiful Earth photographs more or less reflect the present Earth after some billions of years of countless irreversible transformations until it emerged in such unspeakable splendor. Berry presumed that the astronauts who contemplated on the overwhelming view of the planet Earth from space must have a deep awareness of this emerging scientific knowledge. He cited the testimony of astronaut Edgar Mitchell who affirmed that "this blue-and-white planet floating there

31. Lovelock, *The Revenge of Gaia*, 2.

32. James Lovelock, *The Vanishing Face of Gaia: A Final Warning* (London: Penguin Books, 2010), 62.

33. Lovelock, *The Revenge of Gaia*, 2, 172.

34. Lovelock, *The Vanishing Face of Gaia*, 128. Elsewhere, Lovelock warns: "if we fail to take care of the Earth, it will surely take care of itself ['according to its internal rules'] by making us no longer welcome." See Lovelock, *The Revenge of Gaia*, 3, 9.

35. Thomas Berry, *The Great Work: Our Way into the Future* (New York: Bell Tower, 1999), 27.

… was orbiting the Sun" and that "there was a purposefulness of flow, of energy, of time, of space in the cosmos."[36] As Berry has paraphrased it, "this radiant blue-white planet hanging in the sky [is] swirling upon its axis in the light of the sun each day [and is] swinging in its solar orbit each year."[37] Apparently, this description would make sense only if we contemplate the Earth photographs from the dynamic perspective of the emerging cosmological (Big Bang) theory.

For Berry, the Earth photographs may serve as a powerful visual aid for telling the story of an evolving planet in the light of the best available insights offered by contemporary astronomers, physicists, biologists, cultural anthropologists, historians, and religious scholars.[38] In contrast with the creation story in *Genesis*, which elaborates on the Jewish religious and moral view in the context of the ancient Near East traditions, the New Story proposed by the Earth photographs attempts to give an empirical account of the emergence of the world, as well as our place and role in it, from the perspective of the Earth sciences which give a more dynamic and evolutionary understanding of the universe. In other words, the New Story offers us a deep insight into the nature of life, including human life, within the context of the comprehensive story of an evolving universe and Earth. As Berry puts it, "The primordial emergence was the beginning of the Earth story, as well as the beginning of the personal story of each of us, since the story of the universe is the story of each individual being in the universe."[39] This implies that every earthly creature expresses in its own way some special story about the Earth, which must be "heard" in the context of the more encompassing story of the emergent universe.

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36. Quoted in Kevin Kelley, *The Home Planet* (New York: Addison-Wesley, 1988), 138; see Thomas Berry, *The Sacred Universe: Earth, Spirituality, and Religion in the Twenty-First Century* (New York: Columbia University Press, 2009), 107.

37. Berry, *The Great Work*, 21.

38. On this account, see Thomas Berry and Brian Swimme, *The Universe Story: From the Primordial Flaring Forth to the Ecozoic Era—A Celebration of the Unfolding of the Cosmos* (San Francisco: Harper Collins, 1992). For a popular version of this book, see Sean McDonagh, "The Story of the Universe" (March 23, 2011); available from http://earthcaremission.wordpress.com/2011/03/23/the-story-of-the-universe-draft-sean-mcdonagh-ssc/ (date accessed: June 15, 2011).

39. Berry, *The Great Work*, 27.

The Earth photographs are telling us that the Earth is the common home, not only for humans but, for all creatures in it. In the language of today's Earth sciences, the Earth is an "ecological community"[40] of creatures that are genetically related to one another in the web of life. Indeed, as Berry has repeatedly emphasized, human beings may be seen as "species among species"[41] on Earth. Like any other species, human beings are also "participating members" in the ecological community of living species. Thus, from Berry's non-anthropocentric perspective,

> The human emerges not only as an earthling, but also as a worldling. We bear the universe in our beings as the universe bears us in its being. The two have a total presence to each other and to that deeper mystery out of which both the universe and ourselves have emerged.[42]

This human intimacy with the Earth reminds us of our cosmic identity: that we are not independently or separately created outside the process of *cosmogenesis*. Individual creatures, including human beings, were not simply inserted or added later on into the history of the Earth's finished physical form. On the contrary, as Berry has proposed, we are "quintessentially integral with the universe",[43] as we naturally emerged from within the creative earthly processes. And because we are truly earthlings, we always depend on the life-support systems of the Earth. To put it metaphorically, the Earth is like our mother who continually provides us with the air we breathe, the waters we drink, and the foods we eat.[44]

Let us highlight the fact that human presence on Earth is not

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40. As the American ecologist Eugene Odum has explained, "Community, in ecology, is used in the sense of biotic community to include all of the populations living in a designated area. The community and the nonliving environment function together as an ecological system or ecosystem." See Eugene Odum, *Ecology: A Bridge between Science and Society* (Sunderland: Sinauer Associates, 1997), 30.

41. Thomas Berry, *The Dream of the Earth* (San Francisco: Sierra Club Books, 1988), 21.

42. Berry, *The Dream of the Earth*, 132.

43. Berry, *The Great Work*, 32.

44. We should not hide the fact that our intimacy with the natural world may not always be smooth or gentle. We recognize the wildness of nature which can be threatening and dreadful to the effect that we have to struggle to survive against its dangerous and violent forces (e.g., typhoon, hurricane, tsunami, earthquake, volcanic eruption—among others). However, in the face of these wild expressions

visible in the Earth photographs from space. What actually dominates in the big picture is our organic oneness with the Earth and with the myriad of species. Nevertheless, Berry emphasizes that the human presence on Earth is extremely significant in that it enables the universe to come to itself "in a special mode of conscious reflection"[45] and to "activate one of the deepest dimensions of the universe"—intelligence.[46] Evidently, our more developed human qualities simply prove that we have a greater role to play on Earth, even as we establish a viable niche proper to our special intellectual, emotional, and imaginative capacities. Indeed, we are an extremely important part of Gaia and our cultures attest that we have made very significant contributions to the evolution of the Earth. Nevertheless, this distinction and achievement should not lead us to an anthropocentric exaltation of the human. Berry's analogy of the "living planet" reminds us that our future is intimately linked to the future of the Earth community and that it is imperative for us to think within the context of the whole planet, "even for the sake of its own survival."[47]

2.3 The Earth as Sacrament of the Trinity: Leonardo Boff

The Earth photographs offer a new theological perspective. Brazilian theologian Leonardo Boff creatively embraced the emerging ecological perspective proposed by James Lovelock and Thomas Berry. Like these authors, Boff also contemplated on the Earth photographs and creatively embraced Lovelock's and Berry's ecological insights which radically changed his theological paradigm. Boff highlighted the worldview that "the Earth and humankind," as seen from space, "make up *a single entity*."[48]

For Boff, this worldview clearly reveals two significant ecological insights. One is anthropological: "we are Earth…and that our fate is

of nature, we have to realize that our historical mission is not to "civilize" or to domesticate the Earth. Rather, we have to learn to adopt by "dancing" with the wild "music" of nature. As Berry has emphasized, "We are here not to control. We are here to become integral with the larger Earth community." See Berry, *The Great Work*, 48.

45. Berry, *The Dream of the Earth*, 16.

46. Berry, *The Great Work*, 25.

47. Berry, *The Great Work*, 58.

48. Leonardo Boff, *Cry of the Earth, Cry of the Poor*, trans. Phillip Berryman (New York: Orbis Books, 1997), 14.

inseparably connected to the fate of the Earth and the cosmos of which Earth is a part."[49] He proposes that this worldview confirms the biblical revelation that "the Lord God formed [the human being] from the dust of the ground" (Gen 2:7). In light of the new biblical exegesis, Boff points out that "the word used for 'human,' *adam*, is intimately connected to the word used for earth (soil), *adamah*." [50] This play of words, according to him, implies the essential oneness of human beings with the Earth. Thus, being formed out of the dust (i.e., *humus*) of the Earth, *humans* essentially share both its physical and chemical elements with all other earthly creatures.

The other ecological insight is cosmological: a reaffirmation of the organismic view of the Earth. As the Gaia theory has explained, the Earth behaves as a single organism due to its intimately interrelated and interdependent living systems that function as a "whole." In the words of Boff, the Earth is "complex, diverse, contradictory, and endowed with enormous dynamism—but in the end, [it is] a single complex being."[51] In this web of relationships, the existence of one creature radically depends on the being of other creatures. In metaphysical terms, it can be said that the Earth exists as "a unity-identity-whole." The very *being* of all creatures on Earth is ontologically relational. Along this line, one philosopher proposes that "Being and community are inseparable."[52] Thus, for Boff, the Earth photographs from space perfectly serve as a visualization of the ecological principle that "everything is related to everything else in all respects."[53]

For Boff, it is not enough to affirm that all creatures are

49. Ibid., 14. Elsewhere, Boff contends: "we are not just on Earth. We are the Earth itself that in this phase of its evolution has begun to feel, think, love, reverence, and care." See Leonardo Boff and Mark Hathaway, *The Tao of Liberation: Exploring the Ecology of Transformation* (New York: Orbis Books, 2009), 333.

50. Boff and Hathaway, *The Tao of Liberation*, 319; cf. Arthur Waskow, "Sacred Earth, Sacred Earthling," *Gnosis* 33 (1997): 58-62.

51. Boff, *Cry of the Earth, Cry of the Poor*, 14.

52. William Norris Clarke, *Person and Being* (Milwaukee: Marquette University Press, 1993), 23. As one theologian claims, "It is communion that makes things 'be'; nothing exists without it, not even God." See John Zizioulas, *Being as Communion: Studies in Personhood and the Church* (New York: St. Vladimir's Seminary Press, 1993), 17.

53. Leonardo Boff, *Ecology and Liberation: A New Paradigm*, trans. John Cumming (New York: Orbis Books, 1995), 10.

ontologically relational; he wants to know the reason *why*, as creatures, they should be so. Apparently, this question goes beyond the domain of natural sciences. For this reason, Boff decidedly turns to theological and religious traditions. At this juncture, he finds the Christian doctrine of the Trinity a very useful hermeneutic mediation for understanding the relational being of creatures. Christians believe that the divine creator is a trinity of Persons—Father, Son, and Holy Spirit—whose oneness and distinction serve as the archetype of the being of creatures. For Boff, this explains why the Earth, as God's creature, reflects the trinitarian relationship.

Boff emphasizes that it is not only human beings but the whole creation that "reflects the trinity."[54] In that sense, the whole Earth, as God's creature, mirrors in some characteristic way the being of the Creator-Trinity. Because all creatures bear the marks of and point toward the triune God, Boff proposes to regard the whole of creation as "a majestic sacrament of the Trinity."[55] From this theological perspective, the evolving cosmos—as God's creation—somehow serves as ongoing revelation of the Trinity. Thus, in Boff's sacramental vision of creation,

> Things are not just "things." Each possesses an additional dimension—they are symbols and metaphors of another reality that transcends them and which they remember, make present, and point to. . . Therefore, the mountain is not just a mountain. In being a mountain, it also transmits the meaning of majesty. The sea evokes grandeur, the starry sky conjures immensity, and the deep eyes of a child speak of the mystery of life.[56]

3. Some Critical Proposals

Let me give three interrelated proposals based on the ecological perspective offered by the Earth photographs. First, let us be aware of the competing ecological perspectives. Our contemplation of the Earth photographs in light of the new cosmology has enabled us to highlight the superorganismic ecology which transmogrified

54. Leonardo Boff, *Trinity and Society*, trans. Paul Burns (Oregon: Wipf & Stock, 1988), 221.

55. Boff, *Trinity and Society*, 223.

56. Boff and Hathaway, *The Tao of Liberation*, 313.

into Gaia theory. We have indicated the potential of this theory to explain the interrelationship of creatures in the web of life. It should be noted, however, that the superorganismic ecology is just one of the ecological perspectives and that its earlier versions (e.g., the Clementsian superorganismic paradigm) has been seriously criticized in the early 20th century due to its tendency to maintain the idealist and teleological presumptions.[57] As we know, there are other ecological perspectives—such as the ecosystem ecology advanced by Eugene Odum—which also offer valuable scientific understanding of the web of interrelationships and interdependence in nature.[58] Let this alternative serve as a caveat whenever we speak of "ecological" theology.

Moreover, to broaden our ecological perspective, perhaps a good mixture of superorganismic and ecosystem ecological perspectives is helpful. The former pays attention to the global scope; the latter emphasizes the local context. We should, therefore, be interested both in the immediate context and the planet as a whole. The advantage of this broad perspective is that the ecosystem perspective does not only promote a more localized approach to ecology but also overcomes the ambitious goal of studying at once the global-whole integrated systems. This challenges photography to be interested in both local and global aspects of the reality. We need to see the Earth both from long distance and close-up views.

Lastly, we have already pointed out the limitations of merely contemplating the Earth photographs, especially in view of knowing the real situation in the ground. This warns us not to analyze the Earth based mainly on Earth photographs or other technically simulated images of the Earth. Needless to say, the real Earth—which is in crisis today—can never be fully shown in its photographs. Thus, to have a more balanced picture of the reality, the Earth should be viewed both from "above and below" perspectives. Both perspectives are complementary.

57. On this account, see Henry Gleason, "The Individualistic Concept of the Plant Succession," in *American Midland Naturalist* 21 (1939): 92-110.

58. See Eugene Odum, *Fundamentals of Ecology*, 3rd edition (London: Holt, 1971).

Conclusion

We have argued in this paper that the famous Earth photographs from space enable us to see the Earth from the external or outsider's perspective. We recognized the power of these photographs to inspire people to embrace a holistic vision of the Earth in the face of the ongoing debate on the reliability and objectivity of photography. In any case, we affirm photography as an art. Photography provides us with "imaginative experience"[59] of reality which powerfully communicates relevant ecological worldviews that we urgently need today. The mediation of the ecological sciences has deepened our contemplation on the ecological "revelations" of the Earth photographs.

We have tried to establish the connection between the publication of the popular Earth photographs and the emergence of ecological consciousness, including ecological theology. To demonstrate this, we explored the influence of Earth photographs on the emerging ecological worldviews of the three leading contemporary thinkers in the fields of science, culture, and theology. The Gaia theory of James Lovelock proposes the Earth as a living planet. Thomas Berry conceives the universe as a story. And Leonardo Boff looks at the Earth as a sacrament of the Trinity. Significantly, these three authors were greatly influenced by the ecological perspective offered by the earth photographs. Thus, it can safely be said that the Earth photographs have crucially contributed to the development of ecological theology.

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59. Dutton considers the "imaginative experience" as one of the most important characteristics of an artwork. See Dutton, *The Art Instinct*, 58-63.