CES Musings
Chronicling the Transition from Economic-Industrial To Ecological-Cultural Societies
(March-April 2014)

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- **RENEW OR BECOME A MEMBER OF CES FOR 2014**
Perhaps the most important news event of spring 2014 was the release of two new reports from the Intergovernmental Panel on Climate Change (IPCC). Working Group II (Adaptation – this group assesses the vulnerability of socio-economic and natural systems to climate change, negative and positive consequences of climate change, and options for adapting to it) published an update in March, and the report from Working Group III (Mitigation – this group assesses options for mitigating climate change through limiting or preventing greenhouse gas emissions and enhancing activities that remove them from the atmosphere) was released in April. These followed on the Working Group I (Science – this group assesses the physical scientific aspects of the climate system and climate change) report, which was issued in September 2013. Together these reports detail the impacts of climate change to date, the future risks from a changing climate, and opportunities for effective action to reduce risks. See http://www.ipcc.ch/.

Ottmar Edenhofer, Co-Chair of Working Group III, the 2000-page report of which was adopted on April 12, 2014, offered this comment: “Global emissions continue to rise further and this is in the first place due to economic growth and to a lesser extent to population growth. To achieve climate protection, fossil power generation without CCS [(carbon capture and storage)] has to be phased out almost entirely by the end of the century. The mitigation of climate change constitutes a major technological and institutional challenge. But: It does not cost the world to save the planet.”

This remark is included in a guest commentary on the RealClimate website at Summary Working Group III. Writer Brigitte Knopf states,

For the first time, a detailed analysis was performed of how the 2-degree [Celsius] limit can be kept, based on over 1200 future projections (scenarios) by a variety of different energy-economy computer models. The analysis is not just about the 2-degree guardrail in the strict sense but evaluates the entire space between 1.5 degrees Celsius, a limit demanded by small island states, and a 4-degree world. The scenarios show a variety of pathways, characterized by different costs, risks and co-benefits. The result is a table with about 60 entries that translates the requirements for limiting global warming to below 2-degrees into concrete numbers for cumulative emissions and emission reductions required by 2050 and 2100.
Another point the new report makes concerns the rate of growth that can be expected with appropriate mitigation. It estimates that instead of a growth rate of about 2% per year, we would see a growth rate of 1.94% per year. Thus, the Working Group concluded that economic growth could continue at a slightly slower pace.

The sobering and practical IPCC Working Group reports elicited a variety of responses, as might be expected. The American Association for the Advancement of Science (AAAS), with a membership of 121,200 scientists and science supporters around the world, plans a broad outreach campaign to make the science understandable for policy makers and the public.

“We’re the largest general scientific society in the world, and therefore we believe we have an obligation to inform the public and policymakers about what science is showing about any issue in modern life, and climate is a particularly pressing one,” said Dr. Alan Leshner, CEO of AAAS. “As the voice of the scientific community, we need to share what we know and bring policymakers to the table to discuss how to deal with the issue.” See AAS-Initiative. The report emphasizes that the experts have come to a consensus, with only a few dissenters. “Based on well-established evidence, about 97 percent of climate scientists have concluded that human-caused climate change is happening.” At the heart of the AAAS Initiative is the What We Know report and videos, which are currently available

Seventy large companies joined the call to step up efforts to tackle climate change, among them Unilever, Shell, BT, and EDF Energy. The companies, which have a combined turnover of $90bn, say the world needs a “rapid and focused response” to the threat of rising global carbon emissions and the “disruptive climate impacts” associated with their growth. The communiqué issued through The Prince of Wales’s Corporate Leaders Group was addressed to governments across the globe.

Exxon Mobil was not among the seventy. Instead, the corporate office issued a statement denying that climate change would pose any risk to company profits. While the press release acknowledges the need to adopt policies to address climate change, it states that because oil and gas are so critical to global development and economic growth, governments are “highly unlikely” to adopt policies that cut emissions so sharply that fossil fuel consumption would be severely restricted.

Leading climate activist and educator Bill McKibben called that response “consummate arrogance.” Writing in The Guardian three days later, McKibben classified the Exxon Mobil statement as “probably at least as important in the ongoing battle over the future of the atmosphere” as the IPCC report.

Head of the World Bank Jim Yong Kim called for activists and scientists to work together to form a coherent plan in the fight against climate change. Predicting that battles over water and food will erupt within the next five to 10 years as a result of climate changes, he urged those campaigning against global warming to learn the lessons of how protesters and scientists joined forces in the battle against HIV.
Not surprisingly, on March 31, the Nongovernmental International Panel on Climate Change (NIPCC) issued its own report. As quoted in an opinion editorial in *Forbes*, that document states, “Flood frequency and severity in many areas of the world were higher historically during the Little Ice Age and other cooler eras than during the twentieth century. Climate change ranks well below other contributors, such as dikes and levee construction, to increased flooding.” For a critique of a past effort of the NIPCC, click here.

**POLLUTION**

**Story 2: US Supreme Court Upholds Authority of the EPA to Regulate Cross-State Coal Emissions**

On April 29 the Supreme Court “upheld the authority of the Environmental Protection Agency to regulate the smog from coal plants that drifts across state lines from 28 Midwestern and Appalachian states to the East Coast.” The 6-to-2 ruling allows the EPA to enforce regulations based on provisions in the Clean Air Act.

Industry and pro-business lawmakers, fighting aggressively to undo the rules, have characterized the policy as a “war on coal.” The industry has waged an aggressive legal battle to undo the rules. It can be seen as a serious setback for those interests, since, as stated in a *New York Times* article, “the decision, written by Justice Ruth Bader Ginsburg, signals that the Obama administration’s efforts to use the Clean Air Act to fight global warming could withstand legal challenges.”

The EPA is expected to propose sweeping new Clean Air Act regulation to cut emissions of carbon dioxide in June 2014. Coal plants are the largest source of U.S. greenhouse gas emissions.

**Story 3: Fourth Anniversary of the Deepwater Horizon Oil Spill**

April 20 marked the fourth anniversary of the Deepwater Horizon oil spill in the Gulf of Mexico. An editorial in the *Pensacola News Journal* reads, “Dolphins still die and lie on Mississippi shores. Fishermen’s catches are brought in bearing strange lesions. Men and women from oil spill cleanup crews still claim dermatological and respiratory suffering. Barefooted beach-goers still find tarballs and tar mats on the shores and shallows of Pensacola Beach. Scientists are showing, under the unflinching gaze of microscopes, that BP’s oil slows, sickens and kills some of the Gulf’s smallest and most fragile species, racking the Gulf Coast down to the depths of its food chain.”

**Story 4: New BP Oil Spill in Lake Michigan**

On March 24, 2014, BP announced a much smaller but nevertheless significant oil spill, 39 barrels or 1,638 gallons of oil that went into Lake Michigan. The source of the spillage was a
Whiting, Indiana, distillation unit that came online in July 2013. An article in the Chicago Tribune called the unit “the centerpiece of a nearly $4 billion overhaul that enabled the nation’s seventh-largest refinery to process more heavy Canadian oil from the tar sands region of Alberta.”

BP said the unit performs one of the first steps in the refining of crude oil into gasoline and other fuels. Mayor Rahm Emanuel and U.S. Sens. Dick Durbin and Mark Kirk expressed concern about the long-term safety and reliability of BP’s new, expanded production at Whiting. Durbin and Kirk wrote in a letter to John Minge, the top US official for the London-based oil company, “It is in all of our best interests ... to ensure that this greater processing capacity will do no harm to Lake Michigan.”

Story 5: Progress or Delay or Deception on the Duke Energy Coal Ash Spill in the Dan River?

Following the coal ash spill on the Dan River in February, it appeared that Duke Energy would be required to take immediate action to clean up its North Carolina coal ash ponds. The state’s Governor, the Department of Environment and Natural Resources (DENR), the Attorney General and legislative leaders all came forward in support of public health and even public pocketbooks, placing responsibility on the giant energy corporation. But the actions that have followed their words, taken together, create a tangle that may postpone the cleanup for years to come.

An April 21 article by Senior Staff Writer John Downey in the Charlotte Business Journal states that N.C. Governor Pat McCrory’s proposed legislation to tighten coal ash regulation “could blunt or even gut a recent court order that requires Duke Energy to immediately stop groundwater contamination from its ash ponds.”

The new legislation was developed by DENR and characterized by Gov. McCrory as a tightening of regulation, closing loopholes in current law regarding coal ash waste. While it would eliminate the practice of storing coal ash in waste ponds like the one that leaked at Duke’s Dan River Steam Station, the article says it contains “provisions that appear to conflict with the March court order on groundwater leaks. Those provisions would write into the law several steps that had been the practices of DENR and the Environmental Management Commission that Judge Paul Ridgeway ruled against. He said those practices circumvented the state’s clear legal requirement that leaks be stopped once they are discovered.”

A story by Bruce Henderson in the Charlotte Observer adds to the complex picture by describing the widespread storage of dry ash—the same coal waste but in dry form. State records don’t reveal the full extent of these ash-fill sites in North Carolina, partly because some were built before 1994, when the state began regulating them as solid waste. What the records do show is that 11 million cubic yards of ash has been buried in 77 structural fills throughout North Carolina since 1994.
Much of the dry ash was taken from ponds, sold by Duke from the early 1990s, “when ash began to accumulate in the ponds where it had settled for decades. Most of the ash disposed outside its power plants was in dry form, said spokeswoman Lisa Hoffmann. State records of the 23 Charlotte-area sites include photos of badly eroded fill sites and uncovered ash deposits. Solid-waste inspectors reported a stream running through one site and an undisclosed well at another. Their reports don’t show any follow-up action.”

The article states that DENR recommended stronger standards for fill sites in 2010, as the Environmental Protection Agency began evaluating the first federal standards for coal ash—new rules due to be released by EPA in December.

Paul Crissman, a former state solid-waste director, is quoted as saying the fills deserve more attention and the public more notice. He attributes the relative lack of regulation of structural fills to “the power of a coal industry that pretty much could get its way and an agency that couldn’t do any more work than it was already doing.”

COMMUNICATIONS - PRIVACY

Threat to net neutrality, bulk information collection by NSA, and gaps in internet security almost force users of mass communications technologies to take note. Most readers of CES Musings, like those who write in it, are so dependent on the web and our phones that news in March and April pertaining to information access seems an appropriate topic for us to discuss in this issue.

Story 6: Threats to Net Neutrality

On April 24 Federal Communications Commission chairman Tom Wheeler defended the practice of allowing tech companies to pay for a “fast lane” to consumers’ homes, as reported by The Guardian. The FCC proposes to allow services that take up a large amount of bandwidth to pay for preferential treatment, but in a blog post Wheeler is quoted as writing: “To be very direct, the proposal would establish that behavior harmful to consumers or competition by limiting the openness of the internet will not be permitted.”

Wheeler’s defense rests on three proposals he said would ensure that consumers were protected: (1) All ISPs must transparently disclose to their subscribers and users all relevant information as to the policies that govern their network; (2) No legal content may be blocked; (3) ISPs may not act in a commercially unreasonable manner to harm the Internet, including favoring the traffic from an affiliated entity.

Consumer advocates fear that internet giants such as Netflix, Google and Facebook will be able to out-compete startups because they can pay to ensure faster connections and clearer, uninterrupted video. The result could be higher prices for consumers.
Story 7: Overhaul of the NSA’s Domestic Phone Records Surveillance Program

Ten months after Edward Snowden revealed that the National Security Agency was collecting US telephone records in bulk, the Obama administration is preparing to unveil a legislative proposal for a far-reaching overhaul of the National Security Agency’s once-secret bulk phone records program in a way that, if approved by Congress, would end the aspect that has most alarmed privacy advocates since its existence was leaked last year.

On March 27 Reuters outlined key points in the Administration’s plan. “Instead of telephone metadata being collected and stored in bulk from telephone companies by the National Security Agency, companies themselves would hold the data and be required to respond to specific, court-approved queries about it from the NSA.” The article states that officials familiar with current laws and regulations governing how telephone companies handle such data said that Obama’s plan raises, but does not answer, significant practical questions about how companies would collect and store such data.

Story 8: Internet Privacy - NSA

Andrea Mitchell aired an interview with former President Jimmy Carter on “Meet the Press” on March 24.

Andrea Mitchell: There’s been a lot of criticism about (President Obama’s) policy regarding drones and the NSA surveillance. And the NSA, it has argued that this kind of intelligence gathering is critical to try to protect the American homeland.

President Jimmy Carter: That is being extremely liberalized. And I think abused by our own intelligence agency. . . . As a matter of fact you know, I have felt that my own communications were probably monitored. And when I want to communicate with a foreign leader privately, I type or write the letter myself, put it in the post office and mail it.

Andrea Mitchell: Old fashion snail mail.

President Jimmy Carter: Yes, because I believe if I send an email it would be monitored.

Story 9: Internet Privacy - Commercial and Other

Internet privacy is another concern related to communications. According to the Pew Research Center, half of Americans—up from 33% in 2009—are worried about the amount of personal data on the Internet. And according to the same Pew survey, 86% have taken steps to prevent inspection of their online behavior. The study is mentioned by Elizabeth Dwoskin in the online Wall Street Journal dated March 23. The article’s focus is on tools that let people “cover their footsteps online or let them know who’s watching them.” Dwoskin offers the following list:

- Ad-blocking tools, which keep ads off your screen and prevent the ad companies from getting data about you
- AVG PrivacyFix, a free program that pings users with a small red exclamation point if their privacy settings are weak and sends an alert when a website users have visited in the past 50 days makes relevant changes to its privacy policies
- Privowny, a free privacy toolbar for Firefox and Chrome, that can show users which companies have their credit card, phone number and email
- Abine Inc.’s $129 DeleteMe software that can remove someone’s public profile and contact and personal information from leading sites that gather data about people from around the Web
- The monitoring of cookies, the tiny files that marketing companies place on sites and browsers to track people’s interests and habits, some of which gets sent to firms that maintain lists of people who fit marketing patterns
- Programs that monitor and manage cookies for the user, downloaded by 8% of all Internet users, according to the Forrester survey, have downloaded.
- Encrypted and so-called ephemeral messaging—texts that disappear seconds after you send them—that have become explosively popular among teens, and have long been used by security professionals
- WhisperSystems’ free encrypted messaging service, which reports a 3,000% surge in installs since the Snowden revelations. The service scrambles users’ communications so their Internet carrier—and the messaging service—can’t read them.

Because Wi-Fi-enabled smartphones are beaming people’s location to any number of companies that track how they move, and smartphone apps collect reams of personal information, in recent weeks, a new crop of phones designed to keep user data away from the prying eyes of government and corporations have come on the market. The $189 FreedomPop Privacy phone encrypts a person’s text messages and emails, and blocks companies from tracking Web browsing and searches. The Wi-Fi signal is also automatically turned off.

Microsoft has tightened up its privacy policy after admitting to reading emails from a journalist’s Hotmail account while tracking down a leak. (Microsoft’s Hotmail has now been replaced with Outlook.com.) The new rules prevent the company from snooping on customers’ communications without first convincing two legal teams, independent of the internal investigation, that they have evidence sufficient to obtain a court order were one applicable. The company did not apologize for the search.

Microsoft has also revealed a security gap in Internet Explorer that could allow an attacker to take complete control of a computer if the user clicks on a malicious link. The vulnerability affects versions 6 through 11 of the Web browser. Microsoft Corp. said Saturday that it was aware of “limited, targeted attacks” that tried to exploit the security gap. The company is working on a fix which it plans to provide in a software update on May 13.

The same article reports that AOL admits a security breach may have exposed the private information of a “significant number” of its email users’ accounts. The company said Monday that the email addresses, postal addresses, address books, encrypted passwords and encrypted
answers to security questions of users may have been exposed, along with some employee information. AOL believes spammers used this contact information to send “spoofed” emails. Spoofing is a tactic used by spammers to make an email look like it is from someone the recipient knows to trick him or her into opening it.

Yahoo has announced major steps to encrypt its users’ data, according to Alex Stamos, Yahoo’s recently appointed chief information security officer.

The company set out details of its moves in a blog post. They include:

- Traffic moving between Yahoo data centers is now fully encrypted.
- Yahoo has enabled encryption of mail between its servers and other mail providers.
- The Yahoo homepage and all search queries that run on it have https encryption enabled by default.
- Yahoo News, Yahoo Sports, Yahoo Finance, and Good Morning America on Yahoo can be encrypted by typing “https” before the site URL in their web browser.
- A new, encrypted, version of Yahoo Messenger will be deployed within months to stop mass government spying on webcam chats.

Let’s cap this discouraging discussion by including a problem with an attention-getting name: Heartbleed. Heartbleed is a flaw found in OpenSSL, an open-source tool that is “used by so many website owners and hardware makers that it has become the de facto spine of Internet encryption,” according to the website CNET. OpenSSL (Secure Sockets Layer) is used by websites and hardware manufacturers to protect the data transfer of important customer information such as usernames, passwords, Social Security numbers, and credit card numbers. Hence the “https” in the URL of SSL-enabled sites like Gmail, instead of simply “http.”

In response, the Linux Foundation has organized the Core Infrastructure Initiative to address the problem. Google, Facebook, Microsoft, Amazon Web Services, Rackspace, Cisco, Dell, Fujitsu, IBM, Intel, NetApp, and VMware are all contributing money and expertise to open-source projects such as checking code for security. The hope is that the new level of attention will prevent future bugs. Code libraries are largely maintained by unpaid volunteers.

SHORTS

Story 10: How the World Looks in Proportion

The Mercator-projection world map seen on classroom walls, in books and even on Google Maps has come to be almost ubiquitous since its creation by the Flemish cartographer Gerardus Mercator in 1569. But according to an article in The Guardian entitled google-maps-gets-africa-wrong, the main reason Mercator’s projection became so popular was because of its navigational usefulness. Straight lines represent lines of constant compass bearing. In manipulating the map to make it navigationally helpful, though, “the sizes of countries become
hugely distorted. In particular, the southern hemisphere appears much smaller than it is in reality.”

Here’s how the world looks using the Gall-Peters equal projection map, giving the correct proportion of land mass to the continents

![Map](image)

**Story 11: The International Court of Justice Rules Against Japan’s Annual Slaughter of Whales**

The International Court of Justice has ordered a temporary halt to Japan’s annual slaughter of whales in the Southern Ocean after concluding that the hunts are not, as Japan claims, conducted for scientific research.

The UN court’s 12-4 decision threatens Japan’s controversial whaling program and marks a victory for the Australian government, “whose four-year campaign to ban the hunts rested on whether it could convince the court that Japan was using scientific research as a cover for commercial whaling.”

**Story 12: Little Things Mean a Lot – Turn Your Computer Off**

According to experts quoted on the website dailyfinance.com, “The sleep mode on your computer is designed to keep the machine on while drawing a small amount of power. This only costs about $50 more per year on your electric bill, which seems low, but the true cost of leaving it in this mode may actually be higher. You shouldn’t leave your computer on standby if you’re going to be away for more than an hour.”

Because the memory is still fully functioning, overheating may result, reducing the life expectancy of the machine. We are assured that “turning your computer on and off won’t
cause damage. These days, laptops and desktops are designed to withstand 40,000 power-ups and shutdowns before failure. That’s the equivalent to turning your computer on and off 15 to 22 times per day for up to 7 years.”

A bit less coal may be burned when the computer is off, too.

CONSIDERING THE LEGACY AND FUTURE OF THOMAS BERRY’S WORK ON THE FIFTH ANNIVERSARY OF HIS DEATH
By Herman Greene

It seems there are multiple ways to appropriate the work of Thomas Berry. Common ways are in terms of the Universe Story, meaning the scientific account of the evolutionary development of the universe; eco-communalism, meaning low-tech, organic, localism and sharing economies; spiritual ecology, meaning intimacy with the natural world and the sacredness of the universe, Earth and all its beings; and an imperative to care for Earth/save Earth now! Another common way is reverence for Thomas Berry as an exemplary life and as a spiritual companion. For some, Berry’s work stands for the marriage of religion and science.

Thomas Berry’s influence has spread throughout the world and has given birth to many initiatives, yet he and his work remain very well known in a small circle but little known in the world at large. He is most associated with spiritual ecology and the Universe Story and, perhaps next, Earth jurisprudence. Some feel his work has been most widely received by Catholics and especially Catholic religious women’s orders. This is difficult to know and it is unclear how any survey could be conducted.¹

¹Some sense of where Thomas had his impact can be gained by considering which institutions gave him degrees and awards:

Among Thomas’s awards are eight honorary doctorates; the US Catholic Mission Association Award (1989); the 1992 James Herriot Award of the Humane Society of the US; Honorary Canonship of the Episcopal Cathedral of St. John the Divine (1992); the 1993 Bishop Carroll T. Dozier Medal for Peace and Justice; the Catholic University of America Alumni Award for Research and Scholarship (1993); the 1992 Prescott College Environmental Award; annual Thomas Berry Lecture Awards established by Mt. St. Vincent College on the Hudson, and, in Washington, DC, by the Center for Respect of Life and Environment and the Humane Society of the US; and a Thomas Berry Hall and Thomas Berry Seminars at Whidbey Institute, Whidbey Island, near Seattle, Washington.

Margaret Berry, Thomas Berry Obituary, The Ecostoic, No. 2 (2009), 303.

Berry’s honorary degrees were as follows:

- 2003 Honorary Doctorate of Theology. The Catholic Theological Union at Chicago, Illinois
- 1997 Honorary Doctorate of Humane Letters. Loyola Marymount University, Los Angeles, California.
June 1, 2014, will be the fifth anniversary of Thomas Berry’s death and November 9, 2014, will be the hundredth anniversary of his birth. Over the remainder of this year, we invite our readers to submit comments, short or long, for potential publication on the legacy and future of Thomas Berry’s work. In addition, we are co-sponsoring two events discussed below, the Thomas Berry Colloquium, May 28-30, 2014, and the Piedmont Bioregional Festival, May 30-June 1, where consideration of the legacy and future of Thomas Berry’s work will be central.

I would offer as a focus for this consideration the adequacy of his framing of the Great Work, that is the task of bringing about the transition from a terminal Cenozoic to an emerging Ecozoic era in the history of the planet Earth, and how his work has and may contribute to that task.

This is a bit difficult to express—Thomas Berry’s work no longer belongs to him. While most of his copyrights are owned by the Thomas Berry Foundation, neither his work, nor the interpretation of his work belongs to this foundation or to any other person or entity or group of persons or entities. His work belongs to the world and to history. In evaluating his work and its potential future contribution, it should stand and be studied and interpreted on its own merits. A consideration of its potential for the future should include, in part, a review and critique of how his work has been appropriated to date.

Further, understandings and applications of his work should not be limited to what he intended or how he understood his own work. His work does not need to be tied to his persona, though certainly it must be tied to his person. Great texts become living texts that are re-understood and re-interpreted continually. It is this ongoing ferment that keeps them alive and influential.

From the first time that I read Thomas’s work I felt he was a seminal thinker. At the time, I understood the word “seminal thinker” as a thinker who wraps things up . . . gives the final word on things. Now I realize such a thinker would better be called a “terminal thinker.” The word seminal comes from the word semen and connotes origination and creativity that is a seed for further development. This meaning better fits my original intuition and how I think we should come at Thomas’s legacy.

Thomas’s work is not contained within how it has been appropriated thus far. It is a living legacy, one subject to free and open inquiry and further development.

THOMAS BERRY, WHITEHEAD, DE CHARDIN, BEING, BECOMING, PROCESS AND ONTOLOGY

By Herman Greene

Not always appreciated is the fact that Thomas Berry was the consummate scholar. As a Catholic Priest and a member of the Passionist Religious Order he received a classical education in philosophy and theology and earned a doctoral degree in history from Catholic University of America. He read the complete works of St. Thomas Aquinas in Latin. (Try this yourself here) And he read the complete works of St. Augustine in Latin. He studied original Indic texts in Sanskrit and original Chinese texts in Chinese. He studied numerous indigenous traditions and later contemporary science. He was a historian of cultures, a teacher of comparative religions and a self-professed geologian. He had a personal library of over 10,000 books covering many subjects and cultures.

His work was synthetic blending many cultures, traditions and philosophies, yet it had a disciplined structure. Two influences on his thought stand out, St. Thomas Aquinas and Teilhard de Chardin.

His writing was clear, often lyrical, filled with references, yet mostly devoid of footnotes. It appealed to and influenced people in many different ways. For some his writing was inspirational leading to greater connection with and care for the natural world. For some it was mystical offering greater connection to and devotion to the divine. For many who took to his work, it guided their actions and changed their lives. It is truly a credit to him that hundreds if not thousands of people changed the direction of their lives in substantial ways to live out the vision and understanding he gave them.

While Thomas’s work has been the subject of study at many universities, it is not often characterized as a major intellectual work. This is, however, how I have always understood his work. My personal orientation is to the intellectual, but this does not account for my high regard for his thought as a major intellectual work. This came because of my background in Whitehead’s process philosophy. The first paper I read by Thomas was “The Spirituality of the Earth—the original version.” I saw in Thomas’s work the practical manifestation of a universe understood as organic and continually in process, what some would call evolutionary. I immediately recognized his work as brilliant.

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2The original version of this paper is very different from the edited version that appears in Thomas Berry, *The Sacred Universe*, ed. Mary Evelyn Tucker (New York, Columbia University Press, 2009)
The consonance of Berry’s work with process philosophy in The Riverdale Papers[^3] and in The Dream of the Earth[^4], The Universe Story[^5], Befriending Creation[^6], and The Great Work[^7] was transparent to me from the time I first began reading it in 1982 and through monthly conversations with him from 1995 until he had his stroke in 2003. After his stroke and in the edited books beginning with Evening Thoughts[^8] consonance with this set of understandings became problematic.

In The Universe Story, Swimme and Berry state: “The most significant change in the twentieth century, it seems is our passage from a sense of cosmos to a sense of cosmogenesis. . . . We have moved from that dominant spatial mode of consciousness, where time is experienced in ever-renewing seasonal cycles, to a dominant time-developmental mode of consciousness, where time is experienced as an evolutionary sequence of irreversible transformations.”[^9] This is a radical claim that the very most significant change in the 20th century is the passage of human understanding to a sense of cosmogenesis.

This usage of cosmogenesis did not follow from the dictionary meaning of the term as a branch of astronomy that deals with the origin of the universe. It was “cosmogenesis” in the sense that Teilhard de Chardin used the term to refer to a certain understanding of the universe and Earth’s geological and biological evolution. “According to Teilhard, the universe is no longer to be considered a static order, but rather a universe in process. And it is a continuing, upslope trajectory of evolution that Teilhard declares a cosmogenesis.”[^10]

Thomas Colebrook recognized this in his 1991 lecture on Thomas Berry:


[^6]: Thomas Berry and Thomas Clarke, Befriending the Earth, ed. Stephen Dunn, CP, and Anne Lonergan (Mystic, CT, Twenty-Third Publications, 1995).


[^9]: Universe Story, 2-3.

Tom Berry seldom engages in theological discourse. However there is one book *Befriending the Earth* which takes the form of a dialogue with a Jesuit, Thomas Clarke, in which he does address the main themes of Christianity. Although he does his best to voice his concerns as gently as he can, it is clear that his main criticism of mainstream Christianity is that it has not taken on board, or at least has not grasped the full implications of the concept of the time-developmental aspect of the universe. “That is why Christians are alienated people in their relationship to the present world. We cannot accept the story of an evolutionary universe as our sacred story. . . . This is possibly the most significant change in human consciousness since the beginning of human consciousness, the change in perception of the world as cosmos to its perception as cosmogenesis, *from being to becoming*.”

Marjorie Hope and James Young also wrote about this in a 1994 article where they quoted Thomas:

“Teilhard posed the greatest challenge of our time: to move from the spatial mode of consciousness to the historical, *from being to becoming*. The Church finds difficulty in recognizing the evolution of the Earth. For a long time it wouldn’t accept even the evolution of animal forms. To this day there is no real acceptance of our modern story of the universe as sacred story. As a child I was taught by the catechism that the Earth was created in seven days, 5000 years ago. There was no sense of developmental, transformative time in the natural world.”

A possible source of Berry’s phrase from “being to becoming” and his emphasis on irreversibility is from the 1992 book *From Being to Becoming: Time and Complexity in the Physical Sciences* by Ilya Prigogine.

Other sources for the concepts of “from being to becoming” and “irreversibility” in Berry’s thought would be Henri Bergson’s *Creative Evolution*, Teilhard de Chardin, and Alfred North Whitehead.

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13 See, e.g., Berry’s references to Prigogine in *Dream of the Earth*, 198 and 217.

14 Henri Bergson’s, *Creative Evolution* was originally published in French in 1907 and its English translation appeared in 1911. The original English translation was by Arthur Mitchell and was published by Henry Holt and Company. Berry cites Bergson. See, e.g., *Dream of the Earth* 22; *Universe Story*, 227.

Both Teilhard de Chardin and Whitehead were influenced by Bergson. Teilhard wrote that his reading of *L’Évolution Créatrice* (*Creative Evolution*) was the “catalyst of a fire which devoured already its heart and its spirit.” Wikipedia contributors, “Pierre Teilhard de Chardin,” *Wikipedia, The Free*
Whitehead\textsuperscript{15} and other neo-classical philosophers who based their metaphysics on becoming rather than being.

In the final period of his life, from at least 2006-2009, Berry took the position that he held firmly to a philosophy of being, rather than a philosophy of process. He made a distinction between process and ontology, which on its face is a false dichotomy because process metaphysics is itself an ontology. The distinction from process he meant to make by using the term “ontology” was “being,” and in particular in the origin of the universe in an underlying reality of goodness.\textsuperscript{16} In 2008, he wrote an unpublished essay in which he stated: “I am myself fully committed to a philosophy of being. To propose process before being makes no sense to me. It’s like starting a sentence with a verb instead of a noun. Process thought is an effort to make the evolutionary narrative the basis of our interpretation of the universe.”

It is difficult to make sense of his criticism of process thought on this basis as his earlier published work would seem exactly to be “to make the evolutionary narrative the basis of our interpretation of the universe.”

Process thought has four essential elements:

1. \textit{creativity} (including novelty, the temporal, but not ontological, priority of becoming over being, and the indeterminancy of the future);
2. \textit{organic change over time} (including irreversibility, emergence, cosmogenesis, and a teleology toward ordered-complexity, rich harmonies of experience and consciousness);
3. \textit{subjectivity} (including interiority, pan-experientialism, self-organization, identity, decision, and value, meaning and aesthetic experience in becoming); and
4. \textit{interdependence} (including the constitution of every actuality by its relations, process over substance, and coherence).\textsuperscript{17}

\textsuperscript{15}See, e.g., \textit{Universe Story}, 227: “This sense of the universe as self-organizing process was presented in its earliest forms of expression by Henri Bergson, Alfred North Whitehead, Pierre Teilhard de Chardin, and Ilya Prigogine.”

\textsuperscript{16}Drawing a distinction between a process and being ontology is also a false dichotomy because as presented in the succeeding article of this issue on “Alfred North Whitehead’s Process Philosophy in Relation to Chardin, Berry and Swimme,” process ontology also includes being, though it gives temporal, but not ontological, priority to becoming. As to there being an originating source of goodness of which the universe in all its particulars is a manifestation, there would be a true difference between process metaphysics and classical being metaphysics. In process metaphysics the divine and the particulars of the universe are co-creative from the beginning. Process metaphysics does, however, include a primordial valuation of the possibilities for realization of the particulars of the universe.

\textsuperscript{17}This definition is included in the Bylaws of the International Process Network, which states:

1. \textbf{Name.} This association shall be known as the “International Process Network,” and is referred to in these Bylaws as “IPN.” “Process” as used in these Bylaws refers to process-relational philosophies that have creativity, organic change over time, subjectivity and interdependence as fundamental aspects of
These are evident in Thomas’s published works though in the heavily edited papers of Thomas published in *Evening Thoughts, The Christian Future and the Fate of the Earth,* and *The Sacred Universe,* Berry’s consistent adherence to these process understandings is blurred.

**ALFRED NORTH WHITEHEAD’S PROCESS PHILOSOPHY IN RELATION TO CHARDIN, BERRY AND SWIMME**

By Herman Greene

Thomas Berry and Teilhard de Chardin, who greatly influenced Berry, have been impressed by the story of the universe as narrative, and from this narrative have drawn conclusions about the nature of the universe. Their reflections were based on the cosmological, geological and biological story as it has become known in modern science. Each also brought to his thought a wealth of knowledge of human cultures, and of philosophy and theology.

Whitehead came at his reflection through the world of mathematics and physics as they developed in the first part of the 20th century, and also his knowledge of Western philosophy and theology. He sought not to understand a grand narrative, but to understand the nature of reality and to explain in categorical terms how everything comes to be. In his most important work, *Process and Reality: An Essay in Cosmology,* he described his task as that of “speculative philosophy,” which he defined as “the endeavor to frame a coherent logical necessary system of general ideas in terms of which every element of our experience can be interpreted.”

The framework of ideas he developed has become known as “process philosophy” and also “the philosophy of organism.” It has been called a neo-classical metaphysics because it undertakes to frame a general metaphysical system in the manner of classical metaphysics, but does this in a new way. There are several elements of this philosophy that are of particular importance.

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1. Teilhard de Chardin’s body of work is an important contribution to the ecozoic understanding. His most important book is *The Phenomenon of the Human,* trans. Sarah-Appleton Weber (Brighton UK: Sussex, 1999).

First, reality in all of its dimensions is creative. This contrasts with the view that reality is determined by random events or change through locomotion (cause and effect determination resulting from substances in motion and controlled by the laws of motion).

Second, the essential character of reality is “becoming” or “flow” rather than “existence” or “stasis.” Creativity requires that before something can be, it must undergo a process of self-creation; and, thus, becoming has temporal, but not ontological, priority over being. Both becoming and being are ontological. This is related to the concept of “cosmogenesis,” the time-developmental character of the universe, developed by Berry and Swimme and the understanding of which, they believe, involves the most important intellectual shift of our time. In the past, according to Berry and Swimme, the universe has been seen as existing in a “spatial mode” as opposed to a time-developmental mode. The universe viewed in a spatial mode was constant, unchanging, and ever-existing. In a time-developmental universe, everything is in an evolutionary process of becoming.

Third, the fundamental element of reality is not “substance” but “experience”—everything comes to be through experience and everything has both a physical and mental (or interior) dimension. Substance means something requires nothing but itself to exist. If experience is fundamental to existence, however, then nothing exists by itself, relations with other entities are not just physical, but also involve internal feeling relations, and everything has a psychic as well as a physical dimension. This corresponds to Teilhard de Chardin’s and Berry and Swimme’s thought that the universe has had a psychic-spiritual dimension from its beginning. The mechanistic view of the universe that became predominant in the modern era has seen the universe as material only, a collection of objects for humans to manipulate. When the universe is seen as having a psychic-spiritual dimension, it becomes a communion of diverse, self-organizing subjects. Such an understanding of the universe would affect our science so that the study of organisms would not only focus on their measurable characteristics, but also on developing a feel for the organisms and their places within the larger community of life. This feel for the organisms would be of equal importance with the data one could collect about them. Such an understanding would also affect our understanding of the creative interactions of subjects that shape reality and serve as a check on our attempts to introduce manipulatory controls that would inhibit the vital dynamic processes of nature. Such an understanding also would permit a reintegration of the humanistic, cultural and religious concerns of the human community with the scientific, technical, controlling aspects as a clearer understanding was reached of the ultimate and essential nature of reality as involving both material and psychic-spiritual dimensions.

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4 Ibid.

5 Swimme and Berry, 71-78.

Fourth, every individual experience is influenced by the experience of everything else in the universe throughout its history. Other ways of saying this are that every individual experience requires the experiences of all others in the universe, and individual experiences are constituted by their relationships. This is the philosophy of organism, which means that the universe has an organic character and everything is interrelated, experienced and remembered (valued). This corresponds to Berry’s and Swimme’s thought that the universe has a narrative dimension in which every particular reality is a part of a cosmic drama.

Fifth, reality is a pulsating sequence of experience-events each building on the other, thus experience-events do not occur in time, rather they create time. In Whitehead’s understanding, each new event in actualizing itself apprehends those events which precede it and takes into account novel possibilities of the future in deciding its final form, at which time the event becomes a being for apprehension by new emergent events. The present is perpetually emerging out of the past, but is never merely a repetition of the past. It is the emergence of these events that give time its sequential character, and thus it can be said that the events create time and time is a measure of a period of the sequential transformations resulting from the occurrence of such events. It follows that time is necessarily uni-directional from past to future. This thought is consistent with the Berry and Swimme’s observation in that the universe is emergent, an evolutionary sequence of irreversible transformations. Irreversibility has important implications for our actions. We cannot go back in time to recapture a lost opportunity and our actions in the present are of lasting significance. For example, when a species vanishes, it cannot be recovered. Note also that Whitehead’s understanding of reality as creative process (a sequential occurrence of events building on each other) has philosophical significance for understanding that perishing and death are necessarily a part of reality, just as succession and new life are.

Sixth, societies of individual experience-events are synergistic. Societies endure (though they may undergo evolutionary changes), but the event-experiences within the societies pulse into being, perish and are succeeded by new event-experiences, just as, for example, a liver (an ordered society) endures but the cells within the liver change. This is the sociality principle and is consistent with Teilhard de Chardin’s observation that the universe is moving in its evolutionary sequences toward greater complexity (toward more complex societies of individuals) and this in turn is leading toward greater capacities for consciousness. Berry and Swimme also have observed there is a tendency in the evolutionary journey of the universe to increasing complexity and consciousness.

Seventh, every creative experience of becoming is also influenced by novel possibilities and each individual event-experience exercises a choice in realizing those possibilities. As a completed experience-event, it becomes a being influencing every subsequent becoming. Thus, each new event-experience and consequently each organism (or society of individuals) has some freedom and is in part self-determining. This corresponds to the concepts used by Swimme and Berry of the differentiation of individuals and also the self-organizing characteristic, or autopoiesis, of

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7 Swimme and Berry, 70-71.
individuals. While there is a dynamic tension between part and whole in the universe, each individual in the universe is unique, ultimately significant and of intrinsic value, and the health of the universe and every society rests on the health of the individual.

Eighth, the future, while causally influenced by the past, is undetermined and open and exists only as a set of possibilities that are not realized until chosen. In this understanding, the future is not mapped out by either physical causality or divine causality, but is open to creative activity. Thus, there is always cause for realistic hope and always the call for conscious, responsible, creative participation of all individuals.

Ninth, the character of existence is adventure and a quest for beauty, complex order and harmonization of contrasts of feeling. The ideal state of being then is not changelessness or being at rest, but creative adaptation and participation in a quest for beauty and harmony. Thus, the universe has a teleological, or future/end-seeking dimension.

Tenth, the universe is guided by a pervasive, integral cosmic intelligence or consciousness or compassion that has both a primordial character of love by which everything is valued, and a consequent nature by which everything that comes to be influences this intelligence and becomes a new source of possibilities within the limits of the universe as it has come to be at any given time. Thus, in this understanding, the guiding intelligence of the universe is not conceived as something that exists independently of the universe, but rather as pervasive reality within which every part of the universe exists and which brings unity and purpose to the universe in its cosmogenetic journey. This cosmic intelligence has had a variety of names from the Tao, to the Buddha nature of the universe, to God, and many more.

Eleventh, the cosmic intelligence does not act through coercion, but through persuasion and lure of feeling. Thus, the cosmic intelligence does not control the universe, rather it and each individual are co-creators, and individuals have a capacity for free choice for good or ill.

Twelfth, spirituality and creativity are related concepts and they always occur in actualizing events. Therefore, the locus of spirituality is in the creativity of actual existence not in some higher realm; spirituality is not disembodied, rather it exists in the process of things coming to be; and the cosmic intelligence is ultimately grounded in the evolutionary, creative adventure of the universe.

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8 Swimme and Berry, 75-78.
THE WHITEHEADIAN CENTURY: A LOOK AHEAD
By Herman Greene

This paper was originally presented as a plenary lecture at the Ninth International Whitehead Conference in Krakow, Poland on September 10-13, 2013

Those involved in the founding of the International Process Network (IPN) in 2001 warrant a place in the history of process thought.¹ IPN had a role in the explosion of International Whitehead conferences beginning in 2002 in Beijing, Peoples Republic of China, then Seoul, Korea (2004), Salzburg, Austria (2006), Bangalore, India (2009), Tokyo, Japan (2011), and now this Ninth International Whitehead Conference in Krakow, Poland (2013). At this conference we have participants from Iran, Nigeria, China, Korea, Japan, the Philippines, Canada, the United States, Australia, Austria, Belgium, Bulgaria, the Czech Republic, France, Germany, Hungary, Ireland, Italy, Lithuania, the Netherlands, Poland, Portugal, Spain, Switzerland, Turkey, and the United Kingdom. What draws people from such diverse places to study Whitehead and what does it portend?

We may find important answers to these questions in David Ray Griffin’s 2002 article “Being Bold: Anticipating a Whitehead Century,” published in Process Studies;² John B. Cobb, Jr.’s 2004 paper, titled “Why Whitehead?”,³ given at the Fifth International Whitehead Conference in Seoul, Korea; and Isabelle Stengers’ 2011 book, Thinking with Whitehead;⁴ and further in Whitehead’s own books, Modes of Thought⁵ and Process and Reality,⁶ often cited by Stengers. They present compelling arguments why, in philosophy, this may be the Whiteheadian century. Further, we can see in their work strategies for bringing this about. To say that this will occur “in philosophy” is not to narrow the potential impact of this eventuality for they offer a sense of how a way of thinking and understanding the world may infect both the academic and popular mind and lead to high adventure, transformative change, and the production of new truths.

¹The author was the Founding Executive Director of the International Process Network and continues to serve on that Board. The first meeting of the Board portentously occurred on September 11, 2001.


Before beginning, however, I extend fair warning from Isabelle Stengers to those who would enter the territory of Whitehead’s work because it demands “that its readers accept the adventure of the questions that will separate them from every consensus.” By every consensus, she means every modern, postmodern and ancient consensus, for Whitehead, even 75 years after his last book, *Modes of Thought*, was published is still offering something that is radically new and different. With full awareness of this, David Ray Griffin in his 2002 *Process Studies* essay admonished process adherents to “be bold, really bold” in anticipation of a radical shift to process thought by the time this century ends.

Griffin was writing to Whiteheadian scholars who, in many cases, felt beleaguered for standing outside consensus views. An objective survey of the philosophical and scientific communities and the intellectual world in general, he felt would provide little evidence that a turn to Whiteheadian thought was likely. He said we must, nevertheless, anticipate such a turn because of the ability of Whiteheadian thought to resolve philosophical contradictions of our age and offer a cosmology that provides a new basis for intellectual life. He said we think of Whiteheadian thought as an alternative, but we could imagine that it will be mainstream. Whether this occurs would depend on the actions of process thinkers, who should not be paralyzed or silent in the face of current orthodoxy, but should advance those ideas that may be most offensive to this orthodoxy for these ideas are the ones that have the greatest power to resolve problems in current thought.

It might be well to recall at this point that Whitehead himself observed:

> A system of philosophy is never refuted it is only abandoned. The reason is [generally not because of logical contradictions which are usually trivial. Rather it is because after criticism the system suffers from] inadequacy and incoherence. Failure to include some obvious elements of experience in the system is met by boldly denying the facts. . . . After a system has acquired orthodoxy, and is taught with authority, it receives a sharper criticism. Its denials and its incoherencies are found intolerable, and a reaction sets in.\(^9\)

So if this is to be a Whiteheadian century, we should not expect that this way of thinking will triumph by refuting orthodoxy, but rather by advancing ideas that overcome the denials of fact and incoherencies in orthodoxy until that unknown and perhaps sudden moment in the future when current orthodoxy is abandoned in favor of process philosophy.

Griffin held up two aspects of Whiteheadian thought as being particularly significant, the first being its nonreductionistic naturalism and the second being its ability to reconcile opposing

\(^7\)Stengers, 7.

\(^8\)Griffin, 3

points of view on specific contemporary philosophical problems. With regard to the first, by naturalism, Griffin means “the exclusion of appeals to occasional supernatural interruptions of the world’s fundamental causal nexus.”\footnote{Griffin, 5.} This limitation process thought can accept along with the reigning orthodoxy. He also says process thinkers can accept “domain uniformitarianism, the doctrine that all phenomena should be explained in terms of one . . . set of causal categories.”\footnote{Ibid., 6.} What he objects to is the reductionistic categories employed in this orthodoxy, namely the sensationist theory of perception, atheism and materialism, what he calls “naturalism\textsuperscript{sam},” These, if he were to use Whitehead’s language, are what lead to denials of fact and incoherencies, and for which process thought offers a better alternative.

Naturalism\textsuperscript{sam}, according to Griffin, assumes that its limited causal categories are adequate for physics and chemistry and ultimately adequate for all fields of inquiry including biology and the humanities. That these causal categories have not yet provided explanations in these wider fields is taken to be “merely epistemic, due to the complexity of the world and the finitude of human knowledge.”\footnote{Ibid.} A corollary of this is “ontological reductionism, the doctrine that all the activities of complex organisms are \textit{in principle} wholly explainable in terms of the interactions of their micro-constituents.”\footnote{Ibid., 6-7.}

While this is the dominant orthodoxy in the academy, a notable reaction to it involves \textit{methodological dualism}. In general, this view accepts reductionistic naturalism as providing the real causal explanations for the world, but acknowledges its current inadequacy in dealing with the humanities. In the humanities, therefore, “methodological dualists say that human experience is to be ‘interpreted,’ and not explained.”\footnote{Ibid., 7.} This divides the academy in two, with “reductionistic explanations being the method of the sciences, [and] interpretation (or hermeneutics) the method for the humanities.”\footnote{Ibid.}

Griffin observes that Whitehead also sought domain uniformity, explanation by one set of causal categories, but when he, an accomplished scientist, pushed reductionistic science to the limits, he found it lacking. Whitehead developed a different form of naturalism by “replacing sensationism with nonsensationist theory of perception, atheism with naturalistic panentheism, and materialism with panexperientialism.”\footnote{Ibid., 8.} Each of these replacements demands its own
explanatory essay, but I will, with Griffin, simply make note of them here. The result of these replacements, Griffin argues, is that Whitehead provides for an integrated worldview that discloses genuine moral, aesthetic, logical and religious experience as being intrinsic to the evolutionary processes of the universe.

The second issue Griffin covered in his essay was process thought’s ability to reconcile opposing points of view on specific contemporary philosophical problems. He gave two examples. His first example concerned the mind-body problem. Griffin describes three dominant approaches to this problem, the first being materialism, covered above as reductionistic naturalism. Advanced when discoveries showed the mechanistic science of early modernity could provide explanations in biology, botany and astronomy that were previously thought impossible, this position is now on steroids as contemporary discoveries in physics, chemistry, neuroscience and computer science seem to place humankind on the threshold of at last unravelling Schopenhauer’s “world-knot” on materialist terms. The second approach is that covered above as methodological dualism, especially those based on Kantian notions. The third approach is the study of language, analytic philosophy, to determine if this problem can be resolved by providing more adequate language to address the issue. Each of these approaches Griffin says fail to resolve the mind-body problem.

Griffin argues that Whiteheadian thought does resolve the problem through “panexperientialism with organizational duality.” Through this Griffin says Whitehead affirms the materialist who insist that there is only one kind of actuality while making experience, rather than matter, the basis of that actuality, and he affirms the dualists by accepting their distinction between mind and body but without adopting their position that the mind is ontologically different from the physical brain. With regard to “organizational duality” Griffin notes Whitehead’s distinction between “compound individuals, which have a higher-level dominant member, and mere aggregational clusters of actualities.” He says this explains why humans are structurally different from sticks and stones and why humans and animals with dominant level members are able to exert mental causation.

While my main purpose here is to summarize arguments given by Griffin for why this may become a Whiteheadian century, I take some exception to the term organizational duality. Griffin states that the common refutation of panexperientialism, that “it is absurd to attribute even a slight degree of experience and freedom to rocks and telephones, is avoided by the doctrine of organizational duality, which explains why rocks and telephones as such have no experience and no capacity for self-determination.” I believe this overstates the case and is an example of being paralyzed or silent in the face of current orthodoxy. Griffin inconsistently offers, in the same essay, the position “all actualities besides having experience, also have a

17Ibid., 11.

18Ibid., 10. The source in Whitehead’s work for these distinctions is found in Modes of Thought, 27-28, 157, and 167-68.

19Ibid., 11.
degree of self-determining spontaneity,”20 Each actual entity comes into being through its own unique subjective form, and each completed occasion may enter into the experiences of succeeding events and contribute its intensity to those events as they too come into being through their unique subjective forms. Whitehead states that the “key notion [on which to base a metaphysical cosmology] is that the energetic activity considered in physics is the emotional intensity entertained in life.”21 I feel there must be some enjoyment in being a rock, that Julie Andrews was right when she sang “The hills are alive with the sound of music,” and not that I see the hills and I project music on them. With such an understanding Thomas Berry could affirm that the universe is a vast cosmic liturgy celebrating itself in every mode of being, and people through the ages could experience the presence of holy mountains and, in many cases, declare “Earth is alive.”

Griffin also discussed how Whiteheadian thought could resolve problems in evolution. He addressed the problem that punctuated equilibrium in evolution posits for Darwinian gradualism, the idea that the complex forms we see in nature are the result of incremental changes over successive generations each of which change is simple enough to have come into being by chance. Griffin says Whitehead’s notion of eternal objects “existing in the primordial nature of God, provides a basis for understanding how the kinds of leaps suggested by the fossil record would have been possible because such forms could have served as final causes or attractors, luring creatures from one coherent form to another.”22 While having some merit, I fear that this explanation is subject to the objection that Griffin has substituted an enigma for a conundrum. I believe there are better ways to state the contributions Whiteheadian thought can make to evolution including, without limitation, experience, mentality, teleological causation, intensification of experience, self-creation, will, aesthetics, creativity, concresence, passage, and societies of occasions, all of which provide the basis for reformulating the scientific investigations and understandings of evolution.

Griffin also attends to the reality of time. He contrasts the Whiteheadian notion of time as successive occasions of experience, in which each occasion is dependent on antecedent and not contemporary occasions, as contrasted with the entropic version of time. He highlights the difficulty the entropic view has in dealing with the buildup of complexity in the early universe. In contrast, the Whiteheadian view of time as successive experiences encompasses the full development of the universe including both decay and buildup of complex forms throughout its history.

20Ibid., 10.
21Modes of Thought, 168.
22Ibid., 12.
Griffin’s assessment of time is no doubt meta-physics, in other words beyond the power of empirical science to confirm or deny. It is an example, I think, of what E. Maynard Adams meant when he wrote:

> Although much of what is taken for granted in our efforts to know and to cope with reality is no doubt subject to empirical confirmation or correction, the most fundamental assumptions and beliefs that constitute the mind of the culture are not. They pertain to the categorial features and structures of experience and thought as well as to the basic constitutive features and structures of whatever the subject matter of our experience and thought may be, including a comprehensive view of the world. We do not discover these features and structures of things by an empirical investigation of them in the way in which we discover contingent features and structures; rather, the way we empirically investigate and think about any subject matter presupposes commitments about its categorial features and structures. These presuppositions govern the outcome of empirical investigations rather than being the products of such investigations. This is not to say that our empirical findings may not generate problems that call into question our categorial commitments, but these problems are of a different order from the logical problems among empirical beliefs that force revisions to keep them faithful to reality.  

That metaphysics precedes science by determining the subjects and manner of its empirical investigations is essential for understanding Griffin’s concluding statement on why this may become a Whiteheadian century. He said that Whitehead boldly developed a “new cosmology—one that by challenging several modern dogmas, would integrate science with our ethical, aesthetic, and religious intuitions, so that these intuitions . . . would no longer be undermined by the view that science shows them . . . to be illusory.”

One might say that Whitehead re-presented what is real and thus opened up new fields of inquiry and action essential to the advance of civilization in our time.

John Cobb’s arguments in his paper, “Why Whitehead?”, were, not surprisingly, for those who know him, more practical, even pastoral. Cobb began his paper on this subject, as is not uncommon, by being apologetic for the apparent insignificance of Whitehead to the academic community as a whole. Admittedly I am not a part of that community in the sense of being employed by the academy, but if indeed this is to be a Whiteheadian century, step one is to stop speaking of the “apparent insignificance” of Whitehead. After all, what other 20th century philosopher has more than a thousand scholars spanning the globe devoted to her or his work, and what other 20th century philosopher shows up as an unavoidable reference in so many important contemporary articles and books, some by authors who come back to Whitehead

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24Griffin, 14.
while claiming to have gone beyond him . . . which is actually good, as we will see when we consider Stengers.

Cobb’s argument for the importance of Whitehead begins with the question, “What kind of thinking and understanding does the world need?”25 His answer is “The world urgently needs a convincing synthetic vision—a way of thinking that brings the many fragments of knowledge into a generally coherent unity.”26 Cobb then appeals to religion as the reason for his answer. The root word of religion, religio, he points out, means to bind together. In their periods of greatest importance, the religious traditions sought to offer a comprehensive vision, to bind together, their respective civilizations. Today only Islam, on a grand scale, seeks to do this, but on the basis of an ancient synthesis that is not adequate for the knowledge and claims of contemporary life.

Cobb then goes on to trace the history of the Western tradition, where philosophy split in the early modern period from the teachings of the church and then sought a synthesis based on reason alone. This brought about further splits of mind from matter, the phenomenal from the noumenal, the real from the ideal, and, while not mentioned by Cobb in his paper, the many other dualisms of modernity, human and nature, objective and subjective, faith and reason, fact and value, science and the humanities, the division of the university into disciplines each with their own methodologies and presuppositions, and so on. As a result Western philosophy “as a whole [has become] analytic or phenomenologically descriptive rather than synthetic. Far more effort is devoted to taking apart inherited modes of thought than to offering anything to take their place.”27

Cobb says the effort to achieve synthesis of science, society, morality and spirituality has largely been abandoned in Western thought. To even consider such synthesis puts one out of touch with the dominant currents. Nonetheless, the ecological situation, the dominance of economism and reductionistic science, and the conditions of inequality in the world require, if they are to be addressed, a synthetic vision. Further, he believes the need for such a vision comes from virtually every field, “for starters,” he says, “existential, psychological, sociological, political, cultural, ethical, and spiritual.”28

Cobb then offers the judgment that of all the thinkers of the 20th century, Whitehead comes the closest to offering such a vision. Surprisingly, Cobb views his judgment that Whitehead stands out in this way as less controversial than his judgment that a synthetic vision is needed. The reason, he argues is that when one surveys the literature there simply is no other

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25 Cobb, 1.
26 Ibid., 2
27 Ibid., 2-3.
28 Ibid., 4.
outstanding contestant for the status of being the leading 20th century thinker offering a synthetic vision.29

In the second half of his paper, Cobb describes hopeful signs in various fields of how Whiteheadian thought is accomplishing its synthetic purpose. The most important, he believes, is the work of integrating science and the world of human values by process physicists, process interpreters of evolutionary biology and process commentators on religion and science and on ecology and human-animal relations. In religion he speaks of how Whiteheadians offer a new basis for catholicism with a small “c” and even for Biblical hermeneutics. He also highlights the work of process thinkers in economics, and he could have spoken of their work in law and political theory. He praises process eco-feminists. And he says the most exciting and promising development is the rapidity with which Whitehead’s influence is spreading in the East, especially China, where it is providing a constructively post-modern alternative for the future.

The arguments of Griffin and Cobb for a Whiteheadian century are powerful, yet Isabelle Stengers’ argument presented in Thinking with Whitehead may be the most powerful of all. She gives me a new and exciting way of understanding the significance of Whitehead.

Her argument is that Whitehead restores zest and adventure, it is the antidote to the nihilism and flatness of spirit in our time. Now this will come as a surprise to those who have scratched their heads at the complexity and, perhaps even for them, the opacity of Whitehead, but I would like to explain as best I can drawing on Stenger’s book and, in part as cited by her, Modes of Thought and Process and Reality.

Stengers observes that Whitehead has turned the common understanding of metaphysics, that of a logical scheme beginning with a set of first principles by which everything can be deductively explained, on its head. For him, she writes, metaphysics is a flight of experience. Whitehead seeks not the mastery of thought but the adventure of reason, the quest for a general theory or set of principles by which everything that we find in experience will be capable of exhibition as examples.30 This is an ideal seeking satisfaction, “the adventure of hope [where] metaphysics—and indeed every science—gains assurance from religion and passes over into religion.”31 This project of building these general principles, which “[must] never fail of exemplification,”32 is never finished because it can omit nothing, nothing in our experience.

29Ibid., 5.
30Stengers, 245.
31Process and Reality, 42.
32Ibid., 4.
Whitehead writes:

Philosophy can exclude nothing. Thus it should never start from systematization. Its primary stage can be termed *assemblage.*\(^{33}\)

Philosophy illustrates the fact that understanding is not primarily based on inference. Understanding is self-evidence.\(^{34}\)

In philosophical writings proof should be at a minimum. The whole effort should be to display the self-evidence of basic truths, concerning the nature of things and their connections. . . .

Philosophy is the attempt to manifest the fundamental evidence as to the nature of things. Upon the presupposition of this evidence, all understanding rests. A correctly verbalized philosophy mobilizes this basic experience which all premises presuppose. It makes the content of the human mind manageable; it adds meaning to fragmentary details; it discloses disjunctions, consistencies and inconsistencies. Philosophy is the criticism of abstractions which govern special modes of thought. . . .

. . . The aim of philosophy is sheer disclosure.\(^{35}\)

The generic aim of process is the attainment of importance, in that species and to that extent which in that instance is possible.\(^{36}\)

The notion of the unqualified stability of particular laws of nature and of particular moral codes is a primary illusion, which has vitiated much of philosophy. . . .

Morality is the control of process so as to maximize importance. It is the aim at greatness of experience in the various dimensions belonging to it. . . .

. . . Morality is always the aim at that union of harmony, intensity, and vividness which involves the perfection of importance for that occasion. . . . Our own direct immediate insights [into importance for various occasions carry us beyond our codifications].\(^{37}\)

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\(^{33}\) *Modes of Thought*, 2.

\(^{34}\) Ibid., 50.

\(^{35}\) Ibid., 48-49.

\(^{36}\) Ibid., 12.

\(^{37}\) Ibid., 13-14.
‘Value’ . . . is the intrinsic reality of an event. . . . Realization is . . . in itself the attainment of value.38

Philosophy destroys its usefulness when it indulges in brilliant feats of explaining away.39

The ultimate metaphysical ground [is] the creative advance into novelty.40

Speculative philosophy is the endeavour to frame a coherent, logical necessary system of general ideas in terms of which every element of our experience can be interpreted.41

The true method of discovery is like the flight of an aeroplane. It starts from imaginative generalization; and it again lands for renewed observation rendered acute by rational interpretation.42

The primary advantage [of this approach] is that experience is not interrogated with the benumbing repression of common sense.43

In this way, the insistent craving is justified—the insistent craving that zest for existence be refreshed by the ever present, unfading importance of our immediate actions, which perish and yet live for evermore.44

Stengers, therefore, in assessing these and other passages observes

[In Whitehead] “reason” no longer corresponds to “any principle of parsimony.” . . . Deduction will never replace discovery, for the latter implies, each time, a becoming that transforms both the person doing the describing and what is described. The scheme does not dictate, but it “calls” . . . 45

39 Process and Reality, 17.
40 Ibid., 349.
41 Ibid., 3.
42 Ibid., 5.
43 Ibid., 9.
44 Ibid., 351.
45 Stengers, 249.
[Whitehead’s flight] is at the same time that of experience and that which transforms experience. . . . [R]eality becomes philosophical and philosophy becomes realization. \(^{46}\). . . “Philosophy is no longer synthetic judgment; it is like a thought synthesizer functioning to make thought travel, make it mobile, make it a force of the Cosmos.”\(^{47}\)

And Stengers encourages us, as students of Whitehead, to make each reading our own flight of experience and discovery, for Whitehead’s scheme “should give meaning to the production of new truths.”\(^{48}\) We “should not have understanding what Whitehead thought as [our] primary goal, but rather experiencing and putting to the test what it means to ‘think with Whitehead’ in our epoch which he did not know. . . . No reading of Whitehead . . . can be ‘neutral.’ All must combine experimentation and putting to the test, thereby prolonging the adventure of an ideal seeking satisfaction.”\(^{49}\)

Stengers insight is so liberating. There is no Whiteheadian system to master, no need to reconcile the inconsistencies in Whitehead’s work or apologize for them. If we are to be bold, as Griffin admonishes us to be, we should be bold, not in defending an abstract scheme, but in thinking with Whitehead for the production of new truths. We should laud those who come back to Whitehead while going beyond him. This is what we all should do. His adventure cannot be the adventure of any one of us, because each of us must take off in his or her own “aeroplane.”

I intended to end with a set of strategies for making this a Whiteheadian century. Now I realize this is unnecessary, because as we Whiteheadians grasp that we are engaged in a grand adventure, that we have a key to overcoming the nihilism and flatness of our age, a key to unlock the energies and ideas for the next stage of civilization, the strategies appear. We know what to do, but we have not believed it possible.

So I write in closing, cast your apprehensions aside. Let the fantastic voyage begin and expect great things! There are new places to explore, new worlds to discover . . . and to realize.

Be bold! Be very bold!

\(^{46}\)Ibid., 252,


\(^{48}\)Ibid.

\(^{49}\)Ibid., 253.
COLLOQUIUM ON THE WORK OF THOMAS BERRY: DEVELOPMENT, DIFFERENCE, IMPORTANCE, APPLICATIONS, MAY 28-30, 2014, UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL

On May 28-30, the Center for Ecozoic Societies and the Relationality Seminar of Carolina Seminars of the University of North Carolina at Chapel Hill (UNC-CH) will co-sponsor a “Colloquium on the Work of Thomas Berry: Development, Difference, Importance, Applications.”

For additional information, see “Update and Guidelines for Presenters and Participants.”

PIEDMONT BIOREGIONAL FESTIVAL—THE ECOZOIC SHIFT: AN EARTH FOR ALL BEINGS, MAY 30-JUNE 1, 2014, CAMP NEW HOPE, CHAPEL HILL, NORTH CAROLINA

For a period of around 15 years, Jim Berry, Thomas Berry’s brother, and his Center for Reflection on the Second Law in partnership with the Piedmont Bioregional Institute held annual conferences at the New Hope Camp & Conference Center near Chapel Hill, North Carolina. Several organizations, including the Piedmont Bioregional Institute (PBI), the Center for Reflection on the Second Law (now a division of PBI), the Center for Ecozoic Societies, Pickards Mountain Eco-Institute, Emerging Ecology and The Center for Human-Earth Restoration are now joining together to hold another conference in this line with the possibility that this will become an annual event.

The website for the Festival is http://tinyurl.com/PBF2014

Registration for the Festival is at http://tinyurl.com/PBF2014-Register

One may also contact Anne Berry, for information and registration, at ecoloicsocieties@gmail.com or by phone at (919) 968-1476

For answers to Frequently Asked Questions, click here.

The speakers at this year’s event will be Anne Marie Dalton and Dennis O’Hara. Anne Marie will speak on “Spirituality and Earth” and Dennis will speak on “Healing and Earth.” Both will focus on the reciprocity involved in Earth’s care for us and our care for Earth. (Their bios are in the Frequently Asked Questions, see link above.)

In addition to speakers, there will be many workshops and opportunities for fellowship and hiking in the woods. Here are the presently scheduled workshops:

Saturday Morning
- Soul Time/Linear Time/Thomas Berry Time (Carolyn Toben)
• Earth, Movement, Breath Continuum (Sabine Mead)
• Earth Literacy, Thomas Berry and Public Schools (Randy Senzig)
• Backyard Hens/Beekeeping (Natalie Sadler/Anne Berry)

Saturday Afternoon
• Turning Ecozoic Perspectives into Practical Action (Nelson Stover)
• Nature Walk and The New Piedmont Almanac (Dave Cook)
• Use of Black Soldier Fly Larvae to Up-Cycle Domestic Organic Waste (John Mattox)
• Yoga and Dance (Sinead Corrigan)

At the end of the Festival, on Sunday morning at 11:00 am, there will be a ceremony remembering Thomas Berry. He was born on November 9, 1914, and he died on June 1, 2009. Thus, 2014 will be both the 100th anniversary of his birth and the fifth anniversary of his death.

CREATING SUSTAINABLE COMMUNITIES—AN EARTHSPIRIT RISING CONFERENCE, JULY 25-27, 2014, GRAILVILLE RETREAT CENTER, LOVELAND, OHIO

The 8th EarthSpirit Rising Conference sponsored by Imago is an invitation to you to help create a sustainable world, community by community. Speakers and workshop sessions will look at the many ways we can approach constructing sustainable communities, both purpose-built and retrofitted, as a way to change the culture. The focus of the conference will be on adapting urban and suburban neighborhoods, using existing buildings, to create places for people to live that place Earth and ecology first by limiting human impact and by honoring the diversity of life and cultures within a community for the benefit of future generations.

The conference promotes intentional communities, and you will have the chance to experience the creation process as speaker Peter Block leads us in establishing a conference community. Many kinds of sustainable communities will be featured in presentations and discussions during the conference, which is also a call for action. You will come away with a sense of urgency and hope, ready to act to achieve sustainable, intentional communities in our neighborhoods, cities, and towns.

Keynote Speakers:

Diana Leafe Christian, author of Creating a Life Together and Finding Community
Peter Block, author of The Abundant Community and The Structure of Belonging
Jim Schenk, co-founder of Enright Ridge Urban Eco-village
Sr. Marya Grathwohl, OSF, ecology and spirituality teacher and founder of Earth Hope

To find out more about the conference or for registration information, visit www.imagoearth.org or call (513) 921-5124.
NEW BOOK/DISCOUNT AVAILABLE - THE INTELLECTUAL JOURNEY OF THOMAS BERRY: IMAGINING THE EARTH COMMUNITY, EDITED BY HEATHER EATON

“This book, edited by Canadian theologian Heather Eaton, is clearly to be the definitive work on Thomas Berry. Berry was an immensely learned man. His lifetime of study led him across many groups of religion, philosophies, cultures, and science. His vision of a new universe story synthesized these many fields of thought. This book of fourteen essays elucidates these many areas of knowledge that went into his planetary vision.” —Rosemary Radford Ruether, Claremont School of Theology.

For additional information and special 30% OFF discount offer, click here.

THE ECOZOIC ON “WHAT IS ECOZOIC?” IS AVAILABLE

Our most recent print publication The Ecozoic on “What Is Ecozoic?” is now available.

This is a book-length publication containing 41 essays, poems and statements about the meaning of “ecozoic.” It both informs and inspires. We believe it is the best and most complete treatment yet of the concepts “Ecozoic era” and “ecozoic.”

New and renewing CES members will receive a free copy. A single copy for non-members is $12 plus postage. For multiple copies the prices are 2-10 copies, $10 each plus postage; 11 or more copies, $8 each plus postage. Email CES at ecozoicsocieties@gmail.com to order.

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To become a member of CES, send a letter (or send this form) to CES at 2516 Winningham Road, Chapel Hill, North Carolina 27516, USA, with your contact information (name, address, email and phone) and dues. Dues for regular membership is US$35 (individual or family). You may become a sustaining member of CES for US$135 each year or by paying $5 or more monthly through an automatic payment service. Alternately you may become a member (and pay by credit card or PayPal) by contacting us at ecozoicsocieties@gmail.com. CES also accepts members who pay lesser dues or no dues.
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