

The Building Blocks of Ecological Civilization: Five Fundamental Harmonies between Nature and Humanity

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Abstract: This article argues that the Anthropocene should be understood as an ongoing event of planetary disharmony caused by humanity's disruption of the biosphere. In response, it proposes five fundamental harmonies as building blocks of ecological civilization: human and planetary health, culture and nature, part and whole, receiving and giving, and humanity and the biosphere. Together, these harmonies point toward the Great Turning from industrial growth society to a life-sustaining civilization.

Keywords: *Ecological civilization; Anthropocene; harmony; planetary health; biosphere; Great Turning*

“The Anthropocene discussion focuses attention on a fundamental observation: humanity and nature are deeply intertwined... Nature would persist in the absence of humanity, but humanity cannot exist without nature.” (S.T. Jackson¹)

“The Anthropocene represents a new phase in the life of both humankind and the Earth, when natural forces and human forces become intertwined, so that the fate of one determines the fate of the other.” (J. Zalasiewicz et al.²)

¹ Stephen T. Jackson, “Humboldt for the Anthropocene,” *Science* 365 (6458): 1074–1076, published September 13, 2019. DOI: 10.1126/science.aax7212.

² See J. Zalasiewicz, M. Williams, W. Steffen, and P. Crutzen, “The New World of the Anthropocene,” *Environmental Science and Technology* 44:7 (2010): 2228–31. DOI: 10.1021/es903118j.

Introduction

Scientists tell us that the summer of 2024 was the hottest summer in the northern hemisphere in 2000 years. September 2024 alone was an astounding 0.5 degrees Celsius hotter than the summer of 2023 (that is, almost a full degree Fahrenheit hotter) and more than 1.5° C above average. We heard climate scientists struggling to find words for the staggering rate of global warming: “Unnerving.” “Mind-boggling.” “Absolutely gobsmackingly bananas.”

Human choices are having devastating effects on ecosystems around the world. Greenhouse gases are at their highest levels in four million years; average temperatures are higher than they’ve been since before the Stone Age; ecosystems are rapidly being destroyed by climate change and human encroachment; and species are going extinct at a faster rate than in hundreds of thousands of years. Psychologists have a new name for the fears that arise as people begin to realize the seriousness of this situation: “*eco-anxiety*.”³

This is the first time in history that humanity has faced a truly global challenge of this kind. To respond appropriately, two things are required. First, we have to grasp what it means to have “the whole world in our hands” in this way. Then we have to learn to think and feel in new ways in order to act appropriately.

What is the root cause of this crisis? In the following pages I would like to defend one specific answer: *our species has disregarded the harmony of nature, and the need to harmonize our relationship with nature*, leading to the growing instability of parts of the biosphere and to the growing danger of ecosystems collapse.

If this thesis is correct and disharmony is at the root of environmental collapse, then *reestablishing harmony* is the only pathway to a sustainable, genuinely ecological civilization. Many lines of argument support this thesis. In the following pages I would like to explore the idea that *five specific harmonies* are the building blocks of an ecological civilization.

The Anthropocene changes everything

For decades scholars have been saying that we have entered a new geological “epoch,” the Anthropocene—a new period when the human species has become the dominant

³ Maxime Boivin, Anne-Sophie Gousse-Lessard, and Nicolas Hamann Legris, “Towards a unified conceptual framework of eco-anxiety: mapping eco-anxiety through a scoping review,” *Cogent Mental Health* 4:1 (2025), 2490524. DOI: 10.1080/28324765.2025.2490524.

influence on the planet. This proposal was developed by a group of leading geologists, known as the Anthropocene Working Group, who worked for 15 years to defend this view. A geology sub-commission rejected the proposal, and on March 20, 2024 the International Union of Geological Sciences (IUGS) voted against the idea that the Anthropocene is a new geological epoch.

This finding should not be misinterpreted, however. It means that the IUGS does not believe that the Anthropocene meets geologists' criteria for a new "epoch" in the geological history of our planet. Instead, many geologists now agree, the Anthropocene should be understood as an "event."⁴ As the well-known geologist Mark Maslin has argued in a new publication, "the Anthropocene is better understood as an intensifying, ongoing planetary event." He continues,

The Anthropocene is now an informal term used to mark when human actions began to have a global impact on Earth's environment. It powerfully expresses the fact that human activity is having geological-scale impacts on Earth, which could last millions of years.⁵

Humans have torn down a large percent of the global forests, have reduced complex biosystems to billions of acres of cropland, have built dams and diverted waterways, and have covered the face of the planet with cities. Since the Industrial Revolution began (roughly 1840), human activities have been increasing planetary temperatures.

The damage increased after 1950. These are the years when nations began test explosions of nuclear warheads. More than 2000 hydrogen bombs were exploded by eight countries, about half of them by the US.⁶ For example, a single nuclear warhead detonated by the United States——on an atoll in the Pacific Marshall Islands in 1952——produced a blast 700 times more powerful than the bomb the United States dropped on Hiroshima in

⁴ This proposal was first made by a group of geologists in 2021 and has been widely accepted since that time. See Philip L. Gibbard, Andrew M. Bauer, Matthew Edgeworth, et al., "A Practical Solution: The Anthropocene Is a Geological Event, Not a Formal Epoch," *Episodes Journal of International Geoscience* 45: (2021): 349–57. Doi.org/10.18814/epiugs/2021/021029.

⁵ Mark A. Maslin, "Anthropocene: How humanity created the current global environmental crisis, and how we can overcome it," in Philip Clayton and Jaeha Woo, eds., *Climate Change: What Must Be Done* (London: Routledge, 2026), 61.

⁶ For more data on nuclear testing, see the United Nation report, online at <https://www.un.org/en/observances/end-nuclear-tests-day/history#:~:text=The%20United%20States%20conducted%201%2C032,tests%20between%201960%20and%201996>.

1945.⁷ Today, after thousands of these explosions, radioactive trace elements have been distributed across the entire globe, from the highest mountains to the deepest ocean floors.

Clearly that is a global impact. It's also an impact that can be measured by scientists. It's only been in the last few years that precise empirical evidence of humanity's global effects have been discovered. Crucial evidence comes from Crawford Lake, a small lake that lies one hour west of Toronto in eastern Canada. Because of the highly unusual features of Crawford Lake, when samples of the chemical composition of the atmosphere settle to the bottom of the lake, they are sealed into distinct layers for each summer and winter and preserved for hundreds of years. This means that each layer in the lake can be precisely dated.

Core samples have now been removed from the lake and analyzed. They provide a precise history book of the chemical composition of the atmosphere that goes back for centuries. Crawford Lake reveals close to 1,000 years of human impact, year by year. What the geologists discovered is that the effects from the last 70 years are so radically out of line with anything in the past that the Canadian Geographic describes this new period as

“the Great Acceleration.” That's the period after the Second World War when human activity began to overwhelm Earth's operating systems. Population surged. So did industry, driven by burning fossil fuels, which loaded the atmosphere with carbon dioxide. Add to that plastics, nuclear tests, nitrogen-based fertilizers and species depletions.⁸

Commenting on the data, Professor Waters, a geologist at the University of Leicester, writes, “When you combine [the data points] and read the stories that they tell you, [they] show you that there is this very significant and very rapid change to the environment in a very short period of time.” The Canadian Geographic journal summarizes the concrete results, “By 1950 or so, a rapid, dramatic increase of carbon-based particles shows up from industrial processes, including coal-fired steel-making in a nearby Hamilton foundry, as

⁷ The Arms Control Center publishes a fact sheet on its website; see <https://armscontrolcenter.org/fact-sheet-thermonuclear-weapons/>.

⁸ Alanna Mitchell, “The Anthropocene is here — and tiny Crawford Lake has been chosen as the global ground zero,” *Canadian Geographic*, July 11, 2023; updated Mar 26, 2024. Dr. Mitchell's report is available online at: <https://canadiangeographic.ca/articles/the-anthropocene-is-here-and-tiny-crawford-lake-has-been-chosen-as-the-global-ground-zero/>.

well as a rapid rise in plutonium from nuclear testing, a change in nitrogen isotopes from fertilizer use, and the chemical fallout from acid rain.”⁹

In short, we are now in the midst of the Anthropocene Event. For better or worse, the age of human dominance of the planet has arrived.¹⁰

What kind of event is the Anthropocene?

Scientists tell us that the last 200 years have become an extended Event of imbalance in the Earth’s history. The cause is clear: our species has created disharmony in the biosphere, leading to the instability of numerous ecosystems. The environmental crisis is not something that happened to humanity; instead, it expresses a human-caused disharmony that is threatening the delicate interconnections between species on this planet.

Raymond Zhong recently published a significant article in the *New York Times* with the title, “For Planet Earth, This Might Be the Start of a New Age.”¹¹ We might call this new age the age of “Great Disharmony.” As one reader commented on Dr. Zhong’s article, “We don’t know how our end will come, but we seem to be trying our hardest to meet it as soon as we possibly can.”¹² Or, as S.T. Jackson wrote in *Science* magazine, “Humanity and nature are deeply intertwined... Nature would persist in the absence of humanity, but humanity cannot exist without nature.”¹³

In an influential book, David Korten calls the moment we are living in “the Great Turning,” using the famous term first introduced by Joanna Macy.¹⁴ The ancient notion of harmony, I suggest, is the concept that can guide us as we decide where and how to turn. After all, it is a fundamental concept in both traditional Eastern (e.g., Chinese) and traditional Western philosophies. In the remainder of this article I wish to explore the five harmonies that are required to reestablish equilibrium between nature and humanity. I suggest that each of these harmonies provides an important building block for ecology, and

⁹ Mitchell, *ibid.*

¹⁰ For an image of the Crawford Lake core sample, see: <https://www.youtube.com/watch?v=LP3sWGCiekI>.

¹¹ Raymond Zhong, “For Planet Earth, This Might Be the Start of a New Age,” *New York Times*, December 17, 2022, online at <https://www.nytimes.com/2022/12/17/climate/anthropocene-age-geology.html>. A version of the same article appeared on Dec. 18, 2022, Section A, Page 1 of the New York edition with the headline “The Next Epoch Of Planet Earth Might Be Today.”

¹² All the comments about the article quoted in the text are taken from the Comments section of the online version of the original New York Times article; see note 11 above.

¹³ See note 1, above.

¹⁴ David C. Korten, *The Great Turning: From Empire to Earth Community* (San Francisco: Berrett-Koehler; Bloomfield, CT: Kumarian Press, 2006).

no truly ecological civilization can exist without all five of them. They are therefore essential for the “Great Turning” that lies ahead of us.

Five Fundamental Harmonies between Nature and Humanity

(1) The Harmony of human health and thriving, and planetary health and thriving

A collaboration between the Rockefeller Foundation and the journal *Lancet* produced one of the founding documents of the new field of planetary health. In their Commission’s study, “Safeguarding Human Health in the Anthropocene Epoch,” Whitmee and his colleagues advanced the now-famous thesis:

The concept of planetary health is based on the understanding that human health and human civilisation depend on flourishing natural systems and the wise stewardship of those natural systems. However, natural systems are being degraded to an extent unprecedented in human history.¹⁵

When the biosphere is healthy—when it is thriving—then humans can be healthy as well. The harmony between human health and planetary health has emerged as a guiding principle for human decision-making. In fact, The Commission’s concept of “wise stewardship of natural systems” shows parallels, for example, with the traditional Chinese notion of harmony (和, hé).

(2) The harmony of culture and nature

We are now in a new period. Older solutions are no longer enough. As Jürgen Renn notes in his groundbreaking book *The Evolution of Knowledge: Rethinking Science for the Anthropocene*, “In our period, the grand challenges are encountered in their aftermath... We can no longer categorically segregate culture from nature but must face the fact that these spheres are inescapably mingled.”¹⁶ It’s not enough to treat human health on an individual level; entire cultures can be healthy or unhealthy; and unhealthy cultures are the most likely to damage the natural environment around them.

In his book *The Politics of the Anthropocene*, John Dryzek expresses this point in a powerful way. He argues that living well in the Anthropocene

¹⁵ S. Whitmee, A. Haines, C. Beyrer, et al., “Safeguarding Human Health in the Anthropocene Epoch: Report of The Rockefeller Foundation–Lancet Commission on Planetary Health,” *The Lancet* 386 (2015): 1973–2028. DOI: 10.1016/S0140-6736(15)60901-1.tail. The quotation is taken from p. 1974.

¹⁶ Jürgen Renn, *The Evolution of Knowledge: Rethinking Science for the Anthropocene* (Princeton: Princeton University Press, 2020), 408.

requires a capacity to rethink what nature means, embodying that capacity in institutions, and using that capacity to shape environmental policies that cultivate conditions for flourishing into the future rather than returning to the past.”¹⁷

Wise environmental policies are clearly essential, but they are not enough by themselves. Cultures of consumption need to be transformed until they live harmoniously with their surrounding environment in that way that traditional Indigenous cultures were able to do.

(3) The Harmony of Part and Whole

Another reader of Professor Zhong’s article, quoted above, uses a dramatic analogy between ecology and medicine to describe the present situation:

... If we consider the entire planet as one big living organism, this species, the human species, is like a cancer that is killing the current ecosystem.

The harmony of part and whole is pervasive through the natural world. Consider the importance of deep harmonies throughout nature and culture, including:

- The harmony of microsystems and macrosystems.
- The harmony of an individual with her community.
- The harmony of a community with its ecosystem and region.
- The harmony of a city with its surrounding nature, expressed for example in a circular economy.
- The harmony of a nation with other nations. This means not putting its economic interests and its ambitions for power and control above the global community.
- Finally, the harmony of individual creativity and the common good.

When we learn how harmonious relationships work, as in these six examples of harmony, we begin to see that they all grow out of an even deeper, foundational harmony.

(4) The Harmony of receiving and giving

Another reader of Professor Zhong’s article employs an even more dramatic metaphor to draw attention to the danger:

¹⁷ John S. Dryzek, *The Politics of the Anthropocene*, (Oxford: Oxford University Press, 2019), 9.

Nature is dying at our hands. Our beautiful blue Earth is in the intensive care unit, mostly past the point of being saved, due to the stubborn failure of humans to admit that we are the most destructive force to hit the planet since the asteroid destroyed the dinosaurs.

Only a circular economy is sustainable, which means maintaining a harmony between what we take from the earth and what we give back to the earth. Kim Polman, the founder of the international NGO “Reboot the Future,” describes this harmony using the most universal ethical principle of humanity. Known in English as the Golden Rule, this principle is found in virtually all cultures. It draws attention to the foundational role of the harmony of receiving and giving. But instead of using the usual formulation, “Do unto others as you would have them do unto you,” Kim Polman reformulates the Golden Rule to emphasize the Earth: “Treat others and the planet as we would wish to be treated.”¹⁸

(5) Finally, the harmony between humanity and the biosphere

An ecological or “harmonious” civilization, just like a truly sustainable and ecologically sound society, will need to manifest certain basic characteristics. As Fred Magoff, the well-known environmental socialist, emphasizes, it will need to slow economic growth after basic human needs are satisfied. It will also need to promote, encourage, and reward the positive human traits of cooperation, sharing, empathy, and reciprocity. And it must operate with respect for, and care of, the environment—locally, regionally, and globally.¹⁹

Certain Western religious traditions have long claimed that humans somehow stand outside of nature. According to a text that is sacred for both Jews and Christians, God told Adam and Eve, “Be fruitful and multiply, and fill the earth and subdue it; rule over the fish of the sea and the birds of the air and every creature that crawls upon the earth” (Genesis 1:28). This verse is often interpreted to mean that humans are an exception to the principles of nature that apply to all other animals. When people believe that they were created to rule the earth and “subdue” it for their own wants and desires, they no longer observe the harmony between humanity and the biosphere. The global environmental crisis can be traced back to this mistaken belief.

¹⁸ For more on Kim Polman’s important application of the Golden Rule to the climate crisis, see the materials on her website, RebootTheFuture.org.

¹⁹ See Fred Magdoff, “Harmony and Ecological Civilization: Beyond the Capitalist Alienation of Nature,” *Monthly Review* 64:2 (2012); online at <https://monthlyreview.org/2012/06/01/harmony-and-ecological-civilization/>.

Summary

We now live in an age of dis-harmony, caused by the fact that the human species is out of balance with the rest of the biosphere. The crisis is not a new geological age, which would imply that it's a problem with the earth. Instead, the Anthropocene is an extended event, one that began almost 200 years ago. It's the event in the Late Modern period when one species, humanity, started to destroy the delicate harmony on which the entire biosphere depends. With every degree of temperature increase, roughly a billion people will be pushed outside the zone in which humans have lived for thousands of years. The environmental crisis is thus not something that happened to humanity; it expresses a human-caused disharmony threatening the earth's biosphere as a whole. We might call it "the Great Disharmony."

Now that we live in the Anthropocene, the ongoing "event" in which humans have become the controlling power on this planet, everything turns on what humanity decides to do with its new power. Simon Dalby frames the decision beautifully:

The Anthropocene is a key theme in contemporary speculations about the meaning of the present and the possibilities for the future... How the Anthropocene is interpreted, and who gets to invoke which framing of the new human age... matters greatly both for the planet and for particular parts of humanity.²⁰

In their important publication, Dr. Boivin and his colleagues sound a hopeful note: "The wide cultural currency of the term Anthropocene offers a rich opportunity to engage a global audience with issues that are relevant to all of us."²¹

Four fundamental human characteristics are needed for a harmonious society, or what we call an ecological civilization: cooperation, sharing, empathy, and altruism. Each of these qualities deserves our attention: Cooperation means operating together or, from its Latin root, working together. The guiding principle for cooperation is sharing: viewing the possessions that you have not as your own personal property for your advantage alone, but as resources for the good of the entire community. This priority is expressed by the famous Marxian principle, "From each according to his ability, to each according to his need."

²⁰ Simon Dalby, "Framing the Anthropocene: The Good, the Bad and the Ugly," *The Anthropocene Review* 3:1 (2016): 33–51. DOI: 10.1177/20530196156186816.

²¹ N. Boivin, T. Braje, and T. Rick, "New Opportunities Emerge as the Anthropocene Epoch Vote Falls Short," *Nature Ecology and Evolution* 8 (2024): 844–845. DOI: 10.1038/s41559-024-02392-x.

The heart of cooperation and sharing is *empathy*: feeling with and for the other. All genuine community depends on recognizing the other person as no different from oneself, having the same needs, and wanting to be treated with the same care.

And finally, the deepest principle that undergirds all of these qualities is *altruism*: thinking, feeling, and acting for the good of the other. It's true that our biology has evolved so that by instinct we seek first to protect those of our own family, tribe, or community, which means that we often view all others as potential enemies. But our philosophical and cultural traditions also call us to hospitality toward the stranger, bringing generosity to all and placing the interests of others—indeed, the interests of the biosphere as a whole—above our own interests. All five of the harmonies that we have been exploring ultimately serve altruism as their highest goal.

Conclusion: The Great Turning

As we have seen, the Anthropocene is a crisis of disharmony. The scientists were correct: our species has ignored the harmony of nature, leading to the instability of numerous ecosystems. The five harmonies that we have examined are indispensable if humanity is to end the event of destruction that scientists are calling the Anthropocene.

We return in closing to the famous article by Joanna Macy, “The Great Turning.” As Joanna Macy writes, “The Great Turning is the name for the essential adventure of our time: the shift from the Industrial Growth Society to a life-sustaining civilization”²²—an ecological civilization. In the modern period, humans created an economic system that requires economic activity, and thus human consumption, to always be increasing. The success of modernity depends on how quickly materials can be extracted from the earth and turned into consumer products, weapons, and waste.

But that is not the last word. As Joanna Macy recognized,

²² Joanna Macy's famous article, “The Great Turning,” was made available online by the Center for Ecoliteracy; see <https://www.ecoliteracy.org/article/great-turning>, posted June 29, 2009. All of the following quotations are taken from this article. Joanna Macy began using the phrase “the great turning” in the 1990s and employed it frequently after 2000; see for example “The Great Turning as Compass and Lens,” *Yes! A Journal of Positive Futures* (Summer 2006), 44–46. Her fullest treatment of this topic can be found in her book *Coming Back to Life: Practices to Reconnect Our Lives, Our World*, with Molly Young Brown (Gabriola Island, BC, Canada and Stony Creek, CT: New Society Publishers, 1998).

A revolution is under way because people are realizing that our needs can be met without destroying our world. We have the technical knowledge, the communication tools, and material resources to grow enough food, ensure clean air and water, and meet rational energy needs. Future generations, if there is a livable world for them, will look back at the epochal transition we are making to a life-sustaining society. And they may well call this the time of the Great Turning. It is happening now.²³

This revolution, this great turning, requires three changes in our actions together, and in the formation of our inner selves as eco-persons. Macy describes the three dimensions of the Great Turning:

1. Actions to slow the damage to Earth and its beings
2. Analysis of structural causes and the creation of structural alternatives
3. Shift in Consciousness

I always encourage people to read Macy's short article, which is easily available online. She devotes an entire section of her manifesto to each of the three dimensions above. Macy also describes some of the steps that will help us develop eco-citizens and eco-communities:

- Teach-ins and study groups on the Industrial Growth Society;
- Strategies and programs for nonviolent, citizen-based defense;
- Reduction of reliance on fossil and nuclear fuels and conversion to renewable energy sources;
- Collaborative living arrangements such as co-housing and eco-villages;
- Community gardens, consumer cooperatives, community-supported agriculture, watershed restoration, local currencies....

The ecological transition is not difficult to understand, and these steps are not difficult to take. The reasons for taking them should be obvious. As Macy notes, whether the majority of humans recognize it or not,

the Great Turning is a reality. Although we cannot know yet if it will take hold in time for humans and other complex life forms to survive, we can know that it is under way. And it is gaining momentum, through the actions of countless individuals and groups around the world. To see this as the larger context of our lives clears our vision and summons our courage.²⁴

²³ Joanna Macy, "The Great Turning," <https://www.ecoliteracy.org/article/great-turning>.

²⁴ Macy, "The Great Turning."

The call to the Great Turning involves every dimension of our lives. It involves our family lives, our career, our hobbies, our philosophy and spirituality, our interpretation of our own history and culture, and our priorities as we live. It is about corporate values, of course, but also about inner transformation. As Macy concludes,

These structural alternatives cannot take root and survive without deeply ingrained values to sustain them. They must mirror what we want and how we relate to Earth and each other. They require, in other words, a profound shift in our perception of reality—and that shift is happening now, both as cognitive revolution and spiritual awakening.²⁵

The ecological civilization that is coming into being is a global partnership guided by the five harmonies.

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²⁵ Macy, “The Great Turning.”

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