



Tending the Garden

Shawn Michelle Smith

Meridel Rubenstein's *Eden Turned on Its Side* is about human relationships to the environment. It develops a theme that has long inspired Rubenstein, namely our intimate connection to the land, but it extends the line of inquiry temporally back into geological time and spatially out into a global expanse. The work consists of large-scale photographic images that tend toward installation pieces, as is characteristic of much of Rubenstein's art. It comprises three parts, *Photosynthesis*, *Volcano Cycle*, and *Eden in Iraq*, which explore ecologies on the scales of human time, geological time, and mythical time. The work resonates with current conversations about the Anthropocene, a newly named geological period in which the earth registers indelibly the mark of human industry, and especially the effects of fossil fuels. This is literally an "age of man" in which human life on the planet has inexorably transformed it, leading to the current crisis of climate change. Rubenstein's *Eden Turned on Its Side* engages this enormous transformation but asks viewers to consider their own place in this ongoing dynamic and their own relationship to the natural world. Entering into conversations that tend to universalize as they take a global view, Rubenstein's work invites one to look at the problem up close as well as far away and to consider what one might do, in even the smallest way, to repair the damage done. *Eden Turned on Its Side* locates viewers in the Anthropocene as agents rooted in particular landscapes that are connected on a global scale. It asks one to consider one's relationship to place and plants and people, both intimately and planetarily.

Photosynthesis

Photographers, like plants, turn to the sun—and photography, like photosynthesis, is a chemical process

initiated by sunlight. Rubenstein's *Photosynthesis* focuses on the cycle of the seasons, the patterns of transformation in sky and earth that occur as spring grows into summer, summer shades into fall, fall collapses into winter, and winter thaws into spring. Some of the photographs focus on dazzling cloudscapes, while others piece together seasonal views around stately trees, and still others show people engaged in rituals of restoration and repair.

The earth that has sustained human life began with photosynthesis. Three billion years ago blue algae transformed the planet. According to Christophe Bonneuil and Jean-Baptiste Fressoz, "As the first living creatures to practice photosynthesis, they fixed carbon from the atmosphere into sediment in the ocean depths and released oxygen into the air, making it possible for the animals that appeared later to breathe, and forming the ozone layer that protects the planet from highly mutagenic ultraviolet radiation."¹ The very possibility of human life on earth began eons ago with photosynthesis, and this chemical process continues to generate the air we breathe.

The Anthropocene might also be said to have its roots in photosynthesis. Once again the term names a new geological period in which the earth has been permanently transformed by human production. Although attempts to date the advent of this new epoch remain contested, many historians propose the invention of the steam engine in 1784 and the subsequent industrial revolution of the nineteenth century as important beginnings. The fossil fuels that fed the industrial revolution, namely the coal, oil, and gas used for heating and manufacturing, were derived from carbon produced over millions of years of photosynthesis.² The chemical process that has sustained life on earth



from left to right:
Respiration, 2009–2011
Fall Seasonal, 2009–2011
Cousin of Methuselah, 2000

also created the stores of energy humans have used to endanger that life as we know it.

Rubenstein's *Photosynthesis* explores our physical dependence on plants to transform carbon dioxide into oxygen, and a few of the large-scale photographs envision this relationship directly. In *Respiration* a white-haired woman stands in the shade of a grove of trees. With one hand she holds an oxygen mask to her face, and with the other she reaches out to touch the trunk of a cottonwood tree. Looking closely one sees that the tubing of her oxygen mask is attached to the tree, which provides her life support. The photograph is disquieting in its directness. But the discomfort it generates is also instructive because the image asks one to consider questions that are uncomfortable, questions about our dependence on and integration with the natural world. *Respiration* underscores that as the earth ails, we do too.

In a number of Rubenstein's *Photosynthesis* images, trees function as pivots around which ecosystems revolve and coalesce. Deciduous trees mark the seasons as leaves bud, turn from green to yellow, and eventually fall from branches. In *Fall Seasonal*, nine rectangular images cohere around the trunk of a tree arrayed with golden leaves. Small images on the top and bottom present a variety of plants in fall foliage. The images are held together in a circular frame that recalls the

revolving cycles of the seasons and the shape of the earth. The orb is situated within a larger rectangular frame of dramatic clouds that gestures to the atmosphere of the planet and the cosmos beyond.

Trees stand as witnesses to human and natural history in *Photosynthesis* as they have in other works by Rubenstein. *Millennial Forest*, for example, puts human life into perspective relative to living things that persist for thousands of years. In this work Rubenstein photographed the oldest trees in Vietnam and the United States, finding sentinels that both predated and outlived the war in Vietnam. As Rubenstein has said of the work, "The millennial trees in these photographs were not under siege when the images were made. Time has passed; their roots have continued to grow. They are survivors, and reminders that we share a common ground."³ *Cousin of Methuselah*, for example, documents a Bristlecone Pine that grows near Bishop, California, and is roughly 4,700 years old. Rubenstein made the prints in this series on tree-bark paper coated with ground mica dissolved in gum arabic (resin), forging material connections between the photographs and their subjects. Photographs, like the ancient trees Rubenstein has studied, also endure beyond individual human lives, and Roland Barthes, one of photography's most influential commentators, found that fact startling. Indeed, in the persistence of the photograph across

time Barthes saw only death: "The photograph tells me death in the future. . . . Whether or not the subject is already dead, every photograph is this catastrophe."⁴ For Rubenstein the continued existence of the photograph beyond the life of its human subject is not so disturbing. Indeed, for her, photographs, and more importantly trees, which have lent their pulp to countless photographic prints, refer to life, not death, and to life that persists beyond the span of human hubris.

Volcano Cycle

If *Photosynthesis* is about the cyclical time of the seasons, *Volcano Cycle* is about the deep time of geology and the violent transformation of the world. *Volcano Cycle* documents the Indonesian Ring of Fire to consider environmental change on the nonhuman scale of geological time. In this series Rubenstein has photographed active volcanoes in Java, including Mount Bromo and Mount

Merapi. She has produced the images on aluminum panels, giving the pieces a material heft and metallic sheen that resonates with the pyroclastic substances they record.

In *Lelani at Dawn, Mt. Bromo* a small figure walks across an ashen landscape. She is overshadowed by a giant plume that erupts from a mountain behind her. The image is both beautiful and unnerving. The erupting volcano might be understood to signal the awesome and destructive power of Gaia, the Greek goddess of the earth. The mountain range is bathed in light, but the foreground where Lelani walks is cast in shadow. The image suggests that a new era on earth is dawning, and one that will have unknown effects for its human inhabitants.

Geological time was conceived in the nineteenth century. In the 1830s geologists proposed a radical new timeline for the earth stretching back billions of years,



Lelani at Dawn, Mt. Bromo, 2011

and they thereby set the earth on a course that diverged from human and Biblical history. According to Bonneuil and Fressoz, “Whereas the Biblical account, like many other non-Western origin myths, made it possible for a long time to view human history as closely linked to that of the Earth . . . these two domains became increasingly separated in the course of the nineteenth century, as the prehuman history of the Earth became longer.”⁵ As geologists increasingly distinguished the history of the earth from that of humankind, political theorists and philosophers of the late eighteenth and nineteenth centuries also conceived of Nature as separate from man, as a realm to be dominated and a resource to be utilized.

The invention of photography was coincident with new conceptions of the history of the earth, as Robin Kelsey has argued: “Photography arrived roughly alongside the notion of geologic time. . . . The publication of Charles Lyell’s *Principles of Geology* in three volumes between 1830 and 1833 did much to supplant the biblical account of creation with a story of geologic gradualism. A few years later, in early 1839, experimenters in France and England announced the invention of photography.”⁶

With *Volcano Cycle*, Rubenstein binds photography with the deep time of geology. *Mt. Toba Volcanic Ash* presents two mounds covered with light, powdery dust that spills onto an indeterminate dark background. Although scale is difficult to judge, the image is almost forensic in its straightforward documentation, even as it is also aesthetic in its minimal forms, dramatic lighting, and high contrast. The image points to the “Toba catastrophe theory” according to which “a massive volcanic eruption changed the course of human history by severely reducing the human population.” First presented by Stanley H. Ambrose in 1998, the theory proposes that a “mega-colossal” volcanic eruption in the Toba caldera in Indonesia approximately seventy-four thousand years ago produced massive environmental change. Pyroclastic material and gases shot into the atmosphere created a global volcanic winter that led to planetary cooling and eventually to the extinction of all other human species except for the branch that became modern humans.⁷ Although it has since been challenged, the Toba catastrophe theory stands as a dramatic figuration of mass extinction and human evolution. Rubenstein’s *Mt. Toba Volcanic Ash* encourages



Mt. Toba Volcanic Ash, 74,000 Years Old, 2010



Study for Temple of Inanna, 2011–2017

one to consider both our potential evolutionary link and our ultimate vulnerability to cataclysmic geological events. The powdery ash of Mt. Toba figures both our beginning and our end.

Rubenstein grounds her volcanic imagery in the material of the earth by printing the images in *Volcano Cycle* on aluminum, the most abundant metal in the earth’s crust.⁸ She also encourages one to think about the material makeup of photography—its basis in chemistry and geology—even in the digital age. The aluminum plate of *Mt. Toba Volcanic Ash* might recall the copper plate of the daguerreotype, one of the first photographic technologies, or perhaps the less expensive plate of the slightly later tintype. Pursuing for photography what Jussi Parikka has called “a media history of matter,”⁹ one might further contemplate the silver nitrate of early developing processes, the silver embedded in twentieth-century gelatin-coated papers, and the metallic and chemical composition of screens in the digital age.¹⁰ In other words, one might consider photography’s own geology.

Today, with the naming of the Anthropocene, human history and geological time are being reunited.¹¹ Nature can no longer be considered separate from human endeavor. Indeed, the nineteenth century, the very period in which geologists began to separate the two timelines, has been identified as a possible origin

point for their conjoined trajectories. The escalating use of fossil fuels during the industrial revolution produced accelerating concentrations of atmospheric carbon dioxide, one of the chemical signatures scientists measure to mark the advent of the Anthropocene. Photography entered into these diverging and converging histories in the nineteenth century with its own geological formations.

Eden in Iraq

The Garden of Eden is the place from which Rubenstein renarrates the conjoined histories of earth and humanity. She takes us back to a Biblical conception of the earth created coterminously with humankind. Returning to a religious understanding dominant before the conception of geological time in the nineteenth century, she asks viewers to imagine the convergence of mythical, historical, and geological time. But in her work, Eden has been turned on its side. This is not the Garden conceived by a divine being, but the Anthropocene, the world that man has made.

The series *Eden in Iraq* explores environmental devastation and renewal in the marshes of southern Iraq, where the Tigris and Euphrates rivers meet, near the site of Biblical Eden on earth. In 1991, after popular uprisings that emerged during a cease-fire of the Gulf War, Saddam Hussein drained the Iraq wetlands in retaliation,



turning it into a desert and displacing the Marsh Arabs. Twelve years later, the US war in Iraq, which many critics deemed a “war for oil,” wrought military destruction across the land and reinvigorated the demand for fossil fuels in the United States. Rubenstein’s *Temple of Inanna* evokes this double history of environmental devastation in Iraq, mirroring bullet shells with the shells of marsh snails. These two different kinds of casings flank an image of a woman who represents the goddess Inanna, set in the grasses of a renewed marshland. Inanna, goddess of love and war, was patron deity of the city of Uruk and the most revered goddess of ancient Mesopotamia.¹² Responsible for “the redistribution of resources and fertility of the earth,”¹³ Inanna serves as an appropriate symbol for the regreening of the Iraq marshlands in *Eden in Iraq*. In *Temple of Inanna* Rubenstein presents Inanna in negative, as if she is a latent power waiting to reemerge and restore the marshes.

War has historically been one of the destructive vehicles through which the world is conceived globally, and US invasion in wars of aggression has been a central theme in Rubenstein’s work. In addition to the



US war in Iraq, she has produced art about Vietnam as well as the Cold War. Indeed, the Cold War figures prominently in Rubenstein’s *Oppenheimer’s Chair* (1995), an installation and video piece that refers to J. Robert Oppenheimer, the physicist who was a key figure in designing the atomic bomb at Los Alamos National Laboratories in New Mexico, not far from where Rubenstein lives. The atomic bomb has left its own indelible mark on earth systems, and as Joseph Masco has argued, nuclear fallout functioned as an important register through which the earth was conceived globally during the Cold War. “By tracking the distribution of radioactive elements produced by atomic testing through the atmosphere and across plant, animal, and human populations, Cold War scientists were able to document the integration of the global biosphere.”¹⁴

As Rubenstein considers the ways in which military offensives and scientific efforts have linked people globally and effected the environment planetarily, she also tacks back to the local scale, grounding some of her investigations in the lived space of the home. In *The Green Kitchen* the lime-green cabinets of a kitchen are

from left to right:
The Green Kitchen,
2014–2017
Oppenheimer’s Chair, 1995

framed by images of dry, baked earth. These images are framed again by images of the regreening marshes. The bright green of the kitchen cabinets recalls the renewing landscape of the marshes outside, and the piece subtly links daily sustenance to ecological regeneration. Produced on linen to suggest a tapestry, the work implies that daily human needs are literally intertwined with larger earth systems.

Rubenstein’s series *Eden in Iraq* corresponds to a larger project in which she is building a literal garden in the town of El Chibaish, across from the new Mesopotamian Marshes National Park in southern Iraq, recently designated a World Heritage Site. Sponsored by the NGO Nature Iraq, this environmental artwork is part of a major regreening effort underway in the region. Here Rubenstein will construct a wastewater garden to process sewage from the town while providing water for the garden. As a literal regeneration of the marshes and a symbolic regeneration of the Garden of Eden, the site will be an emblem of repair in the age of the Anthropocene.

Conclusion

Rubenstein’s work asks one to imagine a new coeval relationship to the natural world that humans have utterly transformed. *Eden Turned on Its Side* underscores climate crisis and foreshadows the possibility of massive extinction, but it also holds out the possibility of renewal. The work grounds people in specific places within planetary environments and encourages one to recognize the ways in which daily life is imbricated in global forces. In doing so it also suggests that regeneration on the local level might effect transformation of the vast earth systems that one also inhabits. Although it may be impossible to right an overturned Eden in the age of the Anthropocene, at the very least one can begin to tend the garden at home.

Notes

1. Christophe Bonneuil and Jean-Baptiste Fressoz, *The Shock of the Anthropocene: The Earth, History and Us* (2015), trans. David Fernbach (London: Verso, 2016), 58.

2. Jussi Parikka, *A Geology of Media* (Minneapolis: University of Minnesota Press, 2015), 18, 50.
3. Meridel Rubenstein, *Belonging: Los Alamos to Vietnam* (Los Angeles: St. Ann’s Press, 2004), 185.
4. Roland Barthes, *Camera Lucida: Reflections on Photography* (1980), trans. Richard Howard (New York: Hill and Wang, 1981), 96.
5. Bonneuil and Fressoz, *Shock of the Anthropocene*, 27.
6. Robin Kelsey, *Photography and the Art of Chance* (Cambridge: Belknap of Harvard University Press, 2015), 7. According to Kelsey, by proposing that the earth had come into being without Divine design, geology threatened to displace God as the maker of the world. In a parallel sense, photography, for nineteenth-century commentators, threatened to displace the artist as the maker of pictures, because the camera seemed to allow nature to represent itself through sunlight. In the convergence of geology and photography in the nineteenth century, then, one might see in a photographic landscape an image that appeared to make itself of a world that also seemed to make itself.
7. https://www.sciencedaily.com/terms/toba_catastrophe_theory.htm (accessed November 10, 2016)
The theory was first presented by anthropologist Stanley H. Ambrose in his article “Late Pleistocene human population bottlenecks, volcanic winter, and differentiation of modern humans,” *Journal of Human Evolution* 34 (1998): 623–51. The theory has since been challenged. <https://anthropology.net/2007/07/06/mount-toba-eruption-ancient-humans-unsuspected-study-claims/> (accessed November 10, 2016)
8. “Aluminium is the third most abundant element in the Earth’s crust (after oxygen and silicon) and its most abundant metal.” <https://en.wikipedia.org/wiki/Aluminium> (accessed November 10, 2016)
9. Jussi Parikka, *Geology of Media*, 25.
10. According to Parikka, W. Jerome Harrison’s *History of Photography* (1887) might be read as “a story of chemicals instead of merely the inventor-experimenters such as Niepce, Daguerre, or Talbot: bitumen (in lithography); tin or, for instance, iodide; lactates and nitrates of silver; carbon processes; uranium nitrates; and chlorides of gold.” Parikka, *Geology of Media*, 55.
11. According to Bonneuil and Fressoz, understandings of the Anthropocene enable “the reunion of human (historical) time and Earth (geological) time.” Bonneuil and Fressoz, *Shock of the Anthropocene*, 32.
12. Lindsay Jones, editor in chief, *Encyclopedia of Religion*, second edition, volume 6 (Farmington Hills, MI: Thomson Gale, 2005), 3594.
13. Lindsay Jones, editor in chief, *Encyclopedia of Religion*, 3586.
14. Joseph Masco, *The Theater of Operations: National Security Affect from the Cold War to the War on Terror* (Durham: Duke University Press, 2014), 86.