The Coral Is Not All Dead Yet

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Reportage and essays are the first and most immediate way that citizens learn about climate change science, its causes and consequences, and the impacts that industry and consumerism have on ecosystems. For fifteen years, I have been reporting and writing stories on these topics. Growing up, I was drawn to the environment because I was fascinated by the diversity, the endless variety, of life on Earth. But early in my career, in my first reporting job for a newspaper in the Caribbean, I also saw the disastrous toll that contemporary civilization was taking on the natural world – specifically on coral reefs. And yet, the climate crisis was not widely reported as such in those days. That experience, and the dearth of mainstream climate reporting at the time, led me to seek out some of the leading thinkers on the subject, and made climate one of the central subjects of my work. Most often, in the field of journalism, the phrase "bearing witness" refers to war journalism, while my work, for years, had often felt like science translation, connection, and storytelling. But more recently, as the ecological and societal impacts of a changing climate have grown more extreme, widespread, and apparent, while greenhouse gas emissions continue to rise, climate journalism has, too, become a form of bearing witness.

When I was in the third grade, in 1991, I read about Biosphere 2 in a children's magazine. The idea of a monumental, glass, sun-drenched structure, in a faraway desert landscape, containing miniature versions of seven biomes – rain forest, ocean with a coral reef, desert, savannah, mangroves, intensive agriculture, and human habitat – was thrilling. The experiment, in which eight adults were to live in the biosphere for two years, surviving alone on what they produced inside, seemed like my kind of paradise. It was a fantastical bubble, a child-sized planet, where you could go from desert to rainforest just by walking, where you could live safely in the paradox of contained wilderness, where you could study plants and animals, interact with the wild in controlled experiments, where you created your own world. Not that I could articulate those inclinations at the time.

The investor behind the experiment was interested in the technology of artificial, materially closed ecological systems, or vivariums, in order to find a way for people to live and thrive on other planets. There was a strong element of whimsy, even fantasy, among the adults involved, several of whom were not academ-

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ic scientists, but came from a theater background. Many outside scientists were skeptical of the project, with good reason. I don't recall when I learned that things went wrong. But they did. There was infighting among the eight biospherians, they nearly ran out of oxygen, a few smuggled in food. Steve Bannon made an eleventh-hour appearance, to muck things up even further. I recently looked up what became of the place and found out that from the mid-1990s until 2003, Columbia University leased it. The University of Arizona took over the lease in 2007, finally buying the property in 2011. I was slightly amused to learn that both institutions have used the structure for scientific experiments: specifically, to study what happens to various ecosystems when carbon dioxide levels were raised inside the structure. In retrospect, my obsession with Biosphere 2 was the childish precursor to a future writing about climate change.

In the summer of 2005, not long after I graduated from college, in pursuit of wild places, I took my first reporting job with a biweekly newspaper in the Virgin Islands. A novelist who had been my writing professor and his wife, an artist who painted coral reefs onto silk, had left their home in Vermont and bought the paper the previous year. (They had lived in the islands when they were younger.) Two-thirds of St. John, the tiny island where the paper was located, was declared a national park in 1956. The population was small. The first night I arrived, I joined the newspapers' staff of misfits for an evening picnic in the park. In the darkness, the beach a cacophony of peepers, we went swimming, and the water glowed and sparkled, thick with phosphorescence, a sea of stars. It was the first time I had ever swum in tropical waters, the first time I was acquainted with bioluminescence. I was in heaven.

But not all was well. Later that week, I went snorkeling for the first time. It was beautiful, thrilling, but mainly because of the sea turtle I saw and followed, in a trance. The corals themselves did not look how I thought they would look, although I didn't want to admit it. There were some flashes of color – faded purples, pinks, and rusty oranges – and the fact of an underwater city, full of bright fish and architectural marvels, was mesmerizing. But most of the reefs looked gray, and were peeling or scabby. These were corals off an island that was mostly protected land, and nevertheless, they were dying. Within a month of my arrival, many of them had turned a ghostly white. A forest of elkhorn corals just off a popular beach called Hawksnest was particularly depressing. It reminded me of a boneyard, an X-ray, forgotten archaeological ruins.

Warm, calm water is ideal for bioluminescence, the light that unicellular organisms called dinoflagellates emit when moved or disturbed. But the water on my first night on island, I later learned, wasn't just warm. The ocean temperature that summer exceeded averages seen over the previous one hundred and fifty years. Prior to 2005, there had been no recorded instances of bleached elkhorn

coral – what I saw at Hawksnest Bay – in the region. The corals, stressed from the heat, expelled the algae that fed them and provided their color. The stress, and bleaching, made them more vulnerable to disease, including something called white pox. When coral reef bleaching is severe enough, the corals cannot recover, they succumb to disease and die. Ultimately, I later learned, 90 percent of that year's coral in the Virgin Islands bleached and 60 percent died.

A young coral scientist on the island told me, according to the story I wrote at the time, "Warm water temperature certainly could be a factor in the spread of disease. We do see a spike in the summer months – the white pox is more frequent." But no one called the bleaching-and-disease event global warming. (Climate change, the phrase, wasn't in common usage yet.) And yet that was, undoubtedly, my first global warming story. In 2010, another bleaching-and-disease event, nearly as bad, occurred in the Caribbean, and, in 2015, a worldwide coral-bleaching event, which lasted through 2017, included the Caribbean among its victims. The documentary *Chasing Coral*, which was released in 2017, captured this event off the coast of Australia, in real time. They caught on camera, thanks to drones and underwater cameras, a phenomenon that had previously been little documented. The corals, right before they died, fluoresced, turning vivid shades of blue, purple, and yellow. One of the film's narrators and producers said that the coral was producing a "chemical sunscreen to protect themselves from the heat." He went on, "This is the most beautiful transformation in nature, the incredibly beautiful phase of death. This is going on and no one is noticing. And it feels as if it's the coral saying, 'Look at me. Please notice.'"[1]

Looking back recently, I discovered that the 2005 bleaching event still remains the worst the Caribbean Sea has ever experienced. At the time, I thought that it seemed too coincidental that my short time in the Caribbean would overlap with a one-in-five-hundred-year event. Something else was going on. Maybe that kind of warming and coral bleaching was happening more often. At the end of that summer, I sat in a restaurant overlooking the ferry dock and watched, on TV, a monstrous spinning blob, Hurricane Katrina, bear down on New Orleans. Warmer air and seas can intensify hurricanes. Experts had already projected that global warming could lead to larger, more damaging storms. I knew these were individual events, but nevertheless, global warming – what had been an abstract concept to me up until that summer – now felt visceral, real. That Caribbean summer was a glimpse of what was to come. I had a subject.

A year later, in 2006, when I left St. John to move back to New York to attend graduate school, Al Gore's *An Inconvenient Truth* was released. I read more on the subject, including *Field Notes from a Catastrophe* by Elizabeth Kolbert, which had been published in March of that year, and *The End of Nature* by Bill McKibben, which was published in 1989.[2] My master's degree was through

two graduate schools at New York University: the journalism school (now the Arthur L. Carter Journalism Institute) and the Graduate School of Arts and Sciences' Latin American and Caribbean Studies program, which offered me a fellowship to pay for my studies. During my first spring semester, an environmental journalism course I took coincided with the publication of the Fourth Assessment Report from the United Nations Intergovernmental Panel on Climate Change (IPCC).[3] It seemed, paradoxically, like climate change was the story of the day, and yet it still wasn't really mainstream, or widely discussed among most people I knew. That made me feel, even more, that it was a subject I wanted to cover. I wrote a story about the Earth Simulator, in Yokohama, Japan: at the time, it was one of the world's largest supercomputers and a center for climate modeling. (Since then, it has been replaced by Earth Simulator 2 and 3.) Despite the dying coral reefs, despite Hurricane Katrina, *projections* of how global warming would change the climate – *in the years and decades to come* – still formed the bulk of the IPCC's report. I was fascinated by the crystal-ball nature of climate computing. And yet, while projections can fill a news article, a story they do not make.

Cynthia Rosenzweig, one of the IPCC report's lead authors and a senior research scientist at NASA's Goddard Institute for Space Studies, came to speak to our class to highlight some of the findings. I don't remember any of what she discussed, apart from Bolivia. Glaciers in Bolivia. Until that point, I had never given much thought to alpine glaciers, especially not glaciers in South America, west of the Amazon. I had only started learning about the Andes, after taking a course with an anthropology professor who had spent decades living and writing about Bolivia. What Rosenzweig said, which especially got my attention, was that in this IPCC report, one of the notable changes from the previous report cycle (the IPCC releases new assessment reports every seven years) was that scientists had actually observed that the rate of melt and retreat among Andean glaciers had increased. These were not projections; the retreat was happening now. As the pioneering glaciologist Lonnie Thompson said, again and again, subtropical glacial retreat was, clearly, the canary in the coal mine of the changes to come.

I decided to go to the Andes to try and find a climate story. One of the challenges of writing about climate change – what other journalists and editors still, today, bemoan – has been that the drama is often set in the future. The stakes are abstracted. Great stories often tell us about things that happened in the past. We want to know the mistakes that people have made, and we want to know the outcome, the ending. We want to hear what already happened, not what might happen, to other people, down the road. Perhaps that is why the first entire issue that *The New York Times Magazine* devoted to climate change, published in August 2018, contained a story by Nathaniel Rich about the political *history* of climate policy, about how we (or, rather, people in power) understood everything they needed to understand, in 1979, about the coming calamity. And yet they did nothing. We

now know that this was largely due to the power of dark money, and the power of fossil fuel companies' spin machines, which some dedicated journalists and scholars, like Naomi Oreskes, writing in this issue of *Dædalus* and elsewhere, have so thoroughly and brilliantly revealed. The past is Wisdom shouting in the street, and it's riveting.

Back in 2007, a newspaper story could report the IPCC's alarming projections but would also be required to couch every future scenario in the language of possibility, of likelihood, not certainty. The journalistic tendency to report "both sides" when it came to climate science, creating a false equivalency between rigorous, widespread data, and small but powerful and well-financed factions of denialists, wasted a tragic amount of time. A recent study showed that from 1985 to 2014, "press releases opposing action to address climate change are about twice as likely to be cited in national newspapers as are press releases advocating for climate action."[4] Still, in 2007, even with the most certain aspects of climate science, time seemed relatively abundant; most of the changes were in the future, and there were years enough to prepare, to reduce emissions, to adapt. And yet, this sort of thinking was dangerous. So I was drawn to those reports from the Andes, where the future was present, where scientists were willing to link glacial melt to anthropogenic global warming, where in the cool, thin air, the mountains, and the people who lived downstream from their icy peaks, told a story. The glaciers were already rapidly retreating, altering the landscape. Agriculture and hydroenergy were affected. The growing season and microclimate were changing, affecting farmers' crops. There would be the torrents of meltwater, coming down heavier and faster than before. Floods and landslides. But then the dry-season water supply would run out sooner. Eventually, without the glaciers, the water supply for the half-year-long dry season would be gone. The high-alpine indigenous communities were already struggling.

I started reaching out to glaciologists working in South America. I got a grant. But I still felt uncertain about where to go, a specific story on which to focus my project. As the summer approached, I grew increasingly anxious; the scientists I had contacted seemed plenty interesting, but I was worried that traveling with them to take glacier measurements might not be juicy enough. I was back to the problem of reporting a story about the future. (I have since learned that the bravery of scientists, collecting field data in remote, difficult landscapes, can be plenty rich for a story.) I also worried that it might be difficult to clearly demonstrate how glacial retreat was already affecting local communities. Then, at an afternoon party for graduate students, only a month and a half before I was set to depart, I started speaking with that anthropology professor, Thomas Abercrombie, about my research into melting Andean glaciers. He told me about a religious festival that honored El Señor de Quyllurit'i, or the God of the Snow Star, which took place over the course of the week surrounding the summer solstice, in the high moun-

tains of southern Peru. The festival originated in worship for the mountains' glaciers, in particular, the Quyllurit'i glacier, where the ice's spirits, the *apus*, resided. Dancers, all men, would camp on the glacier for the week. Different troops and clans would battle on the ice, then pray. Pilgrims would approach and climb the edges of the glacier to collect chunks of ice to carry back to their villages; the melt water was preserved as holy water for the year. But these rituals had become increasingly dangerous, as the glacier, a constant for centuries, was rapidly melting and retreating. I had a story.

The reporting was remarkable. The festival of Quyllurit'i was spectacular and beautiful and sad – a syncretic dreamscape. There were men in spectacled bear costumes – the *ukukus* – guarding the glacier from pilgrims who hoped to retrieve a small chunk of ice to take home; the removal of ice was now prohibited. There was a Catholic chapel, built on the exact site where, in the late eighteenth century, after Spanish colonizers had arrived, a White, well-dressed child named Manuel had mysteriously appeared and befriended a young indigenous shepherd named Mariano. When the little shepherd brought local Catholic officials to meet his friend, the boy emanated a bright white light, then transformed into a momentary vision of the crucified Jesus Christ. There were Peruvian alpine soldiers, watching to make sure no one fell into a crevasse. There were mixed ideas on global warming, although some people certainly knew that rich countries were to blame. The strangest aspect was, however, something I had not anticipated. In the valley, pilgrims were constructing fantasies, almost like dollhouses, out of the glacial erratics, gravel, and pebbles that covered the mountain slopes. One pebble might represent a flat-screen TV, another might represent a truck, another, a new house. Each family had their small, make-believe world, and they prayed for these things over the course of the pilgrimage. The tradition had developed over the preceding decades. A lot of it was fun and games: a playful part of a long, ritualized week. And yet the pebble world threw everything into relief. Reporting on climate change should require not just understanding and conveying the science, but understanding the culture of a place, the stories that a culture tells itself about itself, how historical and contemporary influences and oppressors change those stories. These stories would always be tied to a landscape, and a place, they would always, in a sense, be local. And yet the consequences of the suburban American culture of consumption were also clearly here, changing the landscape and the people. By the time I filed my story about the festival, I had read many anthropologists' descriptions of Quyllurit'i, and the disappearing glacier. None of them referred to climate change. But this quote, from the Australian archeologist V. Gordon Childe, seemed to sum up what I had seen: "The environment to which a society actually adjusts itself is not the material environment that natural science can reconstruct and observe as an external object, but the society's collective representation of that environment – that is, part of its culture."[5]

In order to better fund the reporting trip to the Andes, I had applied for a new fellowship in environmental journalism, offered by Middlebury College, where I had attended undergrad. Bill McKibben, a Middlebury College scholar-in-residence, was the leader of the program. One night, at a retreat for the ten new fellows, in a cabin in Ripton, Vermont, he spoke about a group of undergraduate students with whom he was working to form a nonprofit climate organization. I remember him saying that the time for political action had come; he had been banging the drum with books and articles about climate change since the 1980s, and yet policies were not changing. The fossil fuel companies were as strong as ever. Atmospheric greenhouse gases continued their steady rise. The group had chosen a number for their name – the amount of atmospheric carbon dioxide, in parts per million, necessary to maintain a stable climate – so that its meaning would be universal: 350. (The current count is 413.22 parts per million.) McKibben's ability to clearly articulate the existential threat that climate change posed, in 2007, had a significant influence on me. I admired the movement he was beginning. He also gave us, a crowd of young reporters, some advice. We were clearly there because we cared about the environment, about the natural world, about social justice. But even as he was moving into activism, he told us to stick with journalism. Activism was crucial, but our task, at this point in our lives, early in our careers, was to find and tell stories, to hold powerful interests accountable, to write the facts, to furnish proof that the climate was changing because of human activities. Nothing could be more powerful. (He also reminded us, with a laugh, that journalism is a quantity business.) The journalist Ross Gelbspan was another teacher and mentor during that retreat. At that point, he already had had a long career chronicling the deceptions of the fossil fuel industry and their political allies. In 1998, he published *The Heat Is On: The Climate Crisis, the Cover-Up, the Prescription* and, in 2004, he published *Boiling Point: How Politicians, Big Oil and Coal, Journalists, and Activists Have Fueled the Climate Crisis – And What We Can Do to Avert Disaster*.[6] By late 2007, the facts were out there. We had to continue reporting them. (For anyone who has worked on climate change issues for a long time, it's painful to look back.)

The following spring, I audited an introductory climate science course at Columbia University's Earth Institute with a young Solomon Hsiang, who now runs the Global Policy Lab at Berkeley, investigating subjects like the economic consequences of climate change. He was, back then, an inspiring, brilliant teacher. He helped me to connect the dots on another story I had written while I was working in the Virgin Islands: about Saharan dust storms that traveled across the Atlantic, sometimes carrying insects, and fell across the Caribbean. Perhaps the changing climate, as well as land development, were fueling increased desertification on the edges of the Sahara, which then fueled larger dust-storm systems, which made their way to the Caribbean, leading to bad air quality and wildly high rates of asth-

ma on islands like Trinidad and Tobago. We were making some (okay, many) assumptions, and yet the conversation was thrilling, and has stuck with me ever since. I wanted to try to always find the connections between events, to see the whole of the moon. In writing about climate change, it was inevitable.

Over the next few years, I moved around a lot, took multiple jobs, kept writing. I wrote a novel, set partly in the future, about siblings who owned a cemetery on an island and watched it wash away over the course of their lives. I lived on Hatteras Island, in North Carolina, which has an old seafaring culture and will likely be underwater by the end of the century, and I lived in the high Colorado Rockies, where the pine beetle, which could now survive the winter, was destroying vast conifer forests. I eventually got a job as a fact checker at *The New Yorker*, which might be, apart from another stint working in a bookstore, the best job I've ever had. I learned so much about editing, writing, and how to parse the truth when uncertainty abounds. I was surrounded by smart, curious people who cared, obsessively, about getting it right. Soon, I started writing in my spare time for newyorker.com, sometimes about climate change. One of my first pieces, in 2013, was about climate change in fiction, the emerging genre of cli-fi, and how in no time, cli-fi would seem an anachronism, since every novel that described the world as it was would describe a world with a destabilized climate. "This liminal moment, when the signs are everywhere that the climate in which human civilization developed is gone," I wrote,

> seems a natural subject for fiction, and a number of recent novels have grappled with it – Nathaniel Rich's 'Odds Against Tomorrow,' Barbara Kingsolver's 'Flight Behavior,' and Ian McEwan's 'Solar' among them. These books have been labelled 'cli-fi,' but chances are that the name won't stick. It makes the genre sound marginal, when, in fact, climate change is moving to the center of human experience.[7]

In 2014, I covered the New York City climate march, when three hundred thousand people took to the streets, representing a turning point in the global movement that Bill McKibben and 350.org had helped begin, back in Middlebury, Vermont, in 2007. Climate change still seemed to me the only story, and at last, there were signs of momentum. The Paris Agreement in 2015, the Keystone Pipeline defeat, Obama's Clean Power Plan: it was not enough, but it gave one hope. Renewable energy technology was rapidly advancing, costs were plummeting. There was great promise that the leaders of the world could and would transform the global energy economy. Then came November 8, 2016.

Since Donald Trump was elected, I have written a lot of climate stories. I became a staff writer at *The New Yorker* in 2018. Until recently, for most of my career, I never thought of the work I did as witnessing. Most often, in the field of journalism, the phrase – *bearing witness* – refers to war journalism, to docu-

menting atrocities, particularly for photojournalists. My work, instead, has often felt like translation and connection. The translation of climate science for the general public, and the connection of that science to places, particularities, and stories that illustrate why fossil fuel combustion must end, and what endlessly rising greenhouse gas emissions are doing to our planet. More recently, in the last couple years, and especially while reflecting on this essay, my perspective has somewhat changed. A witness is "one that gives evidence." To witness is "to testify to," or "attest," or "to furnish proof of, betoken." In writing about global warming, and its growing consequences, what else have I been doing? My job as a climate writer has increasingly changed from translating scientific projections, explaining greenhouse gas emissions, and documenting the early signs, to witnessing the Trump administration's active climate denialism as the impacts of a warming planet unfold. In the end, I am now, too, documenting atrocities, and their perpetrators.

Decades of climate projections – such as those made by the Yokohama Earth Simulator – have come true. A study published in January 2020 in the journal *Geophysical Research Letters* found that among seventeen temperature models developed between 1970 and 2007 to predict future warming, *fourteen* closely matched actual temperature observations through 2017.[8] A 2017 report from the Royal Society warned that in many cases, scientists likely have been underestimating the risks of warming rather than overestimating them.[9] Although the international scientific community, and the Paris Accord, established the safe upper limit of warming at 2 degrees Celsius, a landmark 2018 special report from the IPCC concluded that the impacts and costs of just 1.5 degrees Celsius (2.7 degrees Fahrenheit) of warming – from, for instance, sea level rise, record-breaking storms, increased frequency of heat waves, and wildfires – will be far greater than expected.[10] The planet has already warmed about 1.2 degrees Celsius since pre-industrial times (the global land temperature has warmed an average of 1.8 degrees Celsius). There is no room for uncertainty about climate impacts now. Attribution science – or researchers' ability to directly link the annual horror show of extreme weather events to human-caused climate change – is commonplace, and a rapidly growing field. And yet the U.S. president has rolled back every policy to reduce greenhouse gas emissions that he could, and fossil fuel companies – mainly oil and natural gas – continue apace.

There is an element of passivity attached to the word witness. The word can conjure up the idea of a neutral bystander, someone who happens to be present at the scene of a crime. I have been present at the scene of a global crime for my entire adulthood. But journalism and writing are never passive. Every sentence, every character, every quote is a choice. One seeks out the facts, the data and science, and investigates, in particular, those powerful actors who stand to benefit from the suppression of those facts: fossil fuel companies, the bankers and insurance companies that keep them going, and the politicians whose pockets they line. In a

way, my job is to actively be a witness to every side: those behind the fossil fuel industry and their methods, as well as the devastating consequences of this industry on communities, livelihoods, ecosystems: "to furnish proof of" their actions, to be there to witness the disasters, the extinctions, the destructions of ecosystems.

I recently interviewed a young woman and scientist, Corina Newsome, who is on the steering committee of a group called Young Evangelicals for Climate Action. She is finishing a master's degree in avian ecology. She is studying seaside sparrows that nest on the Georgia shore, which are vulnerable to both predators and sea level rise. We spoke at length about how science, for her, is a form of worship, and she gave me another insight into the idea of witnessing. I had asked her what she thinks when evangelical Christians deny climate science and say that everything is in God's hands. "To me, it's a cop-out to protect their own privilege and to protect their own comfort," she said. "People who I hear say that are the people who are not worrying about what they're going to do when the next hurricane comes through. They are not the people who have food insecurity, they are not the people who are one catastrophe, one financial setback, from losing everything." She went on, "To have the perspective that you are not going to do anything, and you don't think anyone else should do anything, because God's got it? That's ungodly. You're a bad witness."

Witness, again, from Merriam-Webster: "a public affirmation by word or example of usually religious faith or conviction," or, "to bear witness to one's religious convictions."[11] What she said reminded me that witnessing can and must be a constant, ongoing act. It is one reason why I still have hope after reporting on this topic for fifteen years, seeing so little change, and seeing the election of a climate denialist, while nearly everything that the scientists warned has come true. I even have hope despite the fact that, according to the IPCC report from late 2018, "coral reefs, for example, are projected to decline by a further 70 – 90% at 1.5°C," with more than 99 percent loss at 2 degrees Celsius.[12] As grim as these projections are, the coral is not all dead *yet*. Much still can be done and must be done, and the work of a writer or journalist helps convey the urgency and the details. (Scientists, for instance, are replanting and breeding corals in damaged reefs; growing the most resilient species of coral in nurseries and transplanting them to the sea in ways that might increase their survivability; and developing corals resistant to climate change through accelerated natural-evolution processes.)[13] Although I often get down, and I am not optimistic about the immediate situation, the state of our democracy, or the climate-caused loss, suffering, and grief that is already baked in, I also have hope because I see so many people, like Newsome, and other young activists, scientists, and organizers like her, who are out there fighting. Becoming a hopeless cynic is no different from being a "bad witness." There is always more to write about, more voices to amplify, more wrongdoing and harm to document, more art to make. There is always more to do to make things better.

In 2018, I interviewed a scientist named Max Holmes, who studies Arctic permafrost and rivers, and who has testified before Congress about dangerous tipping points in our climate. He told me that for many scientists, if the evidence they gathered was not so devastating, it would be absolutely thrilling. Sending endless tons of greenhouse gases into the atmosphere, and thereby dramatically altering the climate is, in a sense, the biggest, greatest experiment the biosphere has ever seen. Scientists alive today are watching the data come back in real time. His comment struck a nerve, reminding me of Biosphere 2. This, of course, is not an experiment we should be running. There is no second planet. There is no escape to outer space. Bisophere 2 captivated my childish imagination because it was, in its initial conception, a fantastical exercise in turning away from the world as it is. It was a simulacrum of ecosystems: Disney World for the nature lover. Perhaps the joy of the fantasy came largely from the fact of reality, my overwhelming sense, at the time, that the planet I lived on was a stable place. That sense was destroyed in the course of my education, and in my first job as a reporter. I have set out to document the nightmarish experiment underway on the actual biosphere. At the same time, the wonder I feel when I consider life on Earth – in all its complexity, diversity, vulnerability, and tenacity – has only grown. That, too, gives me hope. I can now say that witnessing, in my work, is not just the act of describing what happened, or furnishing proof of the changing climate and its perpetrators, but a form of devotion – a never-ending act to affirm my belief in the grace of life.

ABOUT THE AUTHOR

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