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Special Anniversary Issue

Scale and light. That is how I will remember Antarctica. As I review six cumulative weeks' worth of intense shooting, I am awed by the raw power of nature in this surreal environment, where mankind, yet again, is dwarfed by such gigantic proportions. Towering volcanic peaks plunging precipitously into the sea; glaciers nonchalantly and inexorably pouring into the ocean, where chunks of ice the size of city blocks carry their last hurrah as they float away to their inescapable fate. Trapped in frozen air bubbles are hundreds of thousands of years' worth of environmental data.

Despite the broad areas ominously uncovered by ice and the suspiciously eroding rain, one definitely gets the sense that Antarctica holds untold amounts of geological and climatic secrets — a dynamic environment, rich in mammal and sea life, never conquered by humans.

Yet, remotely and systematically, greed and ignorance are spoiling this extraordinary place, as global temperatures threaten the ice so crucial to the climate balance of our planet. In the last 60 years, the poles have warmed up at more than twice the rate of the rest of the world, while the Antarctic Peninsula has warmed by up to 5 times the global average. I wonder if, in the future, people will even have the privilege of witnessing what I have seen; and what will they think, then, of those generations who waited so long before taking action.

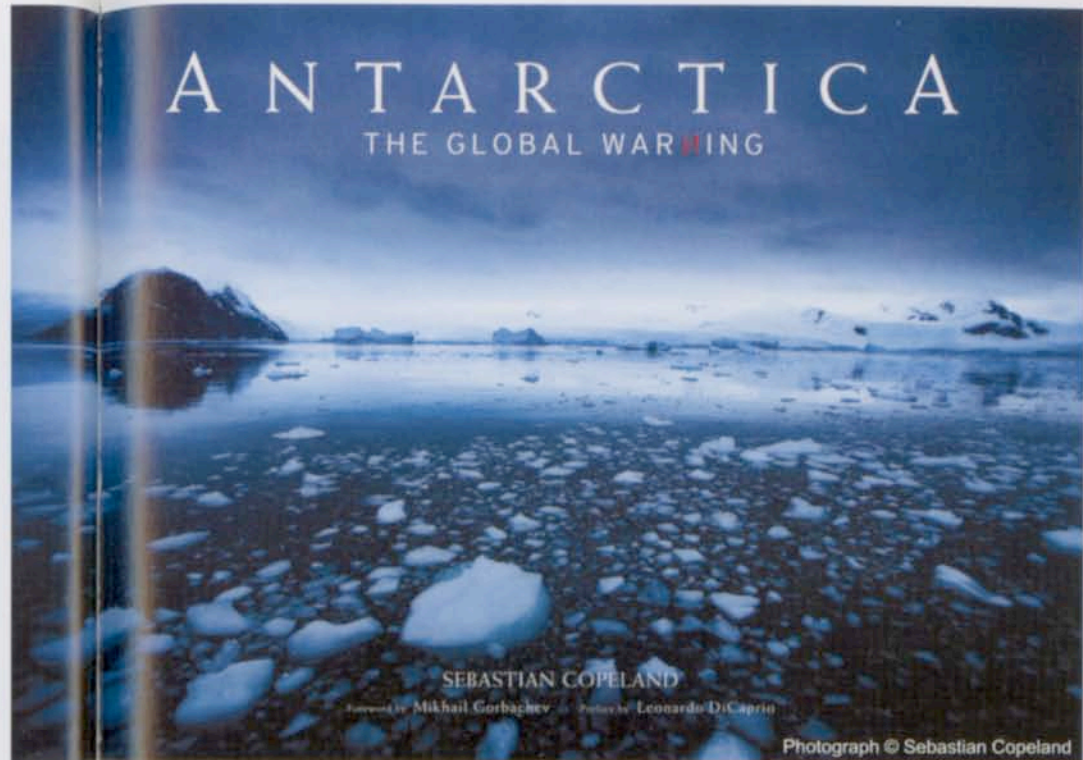
The poles hold 30 percent of the world's water, and Antarctica, 90 percent of its freshwater. Melting ice is projected to raise ocean levels by as much as 20 feet within the next couple of centuries, uprooting 80 percent of the world's population. Within as little as 80 years from today, 35 percent of the world's species will disappear. Polar bears will be extinct in the north, and many penguin species will disappear in the south . . .

For as long as I remember, I have had a deep reverence for nature. It is in my genes; instilled in me through my maternal grandfather, who, as early as the 1920s was conducting expeditions in West Bengal, India, and southern Africa. Irish-born and a tireless storyteller, his spirit framed my formative years with tales of elephant rides, tiger hunts, and camping safaris in the wilds of Botswana. He was a surgeon, but his passion was photography. And the reality he captured through the eyepiece of his Leicas would ignite the wide-eyed curiosity of a young boy whose destiny was quietly and inexorably sealed with each click of the slide projector. Unbeknownst to me then, as I sat on his lap in the living room of this suburban house in Littlehampton, Sussex, with the shutters drawn, listening to tales of the earth, his profound kinship with nature was simply passed on to me.

Entitlement, which we inherited from the Age of Enlightenment, conditioned us to a superior approach towards nature. Reason, science, and empiricism placed man, or so he thought, at the top of the pecking order; the earth a subordinate to his needs. With the industrial revolution and the explosion of hydrocarbon energy, modern societies were further conditioned to believe that more is always better; that natural resources are infinite; and that breakthroughs in technology now meant that humanity could operate independently from the natural cycle. If we fail to see our synergic

ANTARCTICA

THE GLOBAL WARNING



SEBASTIAN COPELAND

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Photograph © Sebastian Copeland

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relationship with nature, then science has taught us nothing. What we need today is an Age of the Environment.

Applying my photography skills to complement the work that I do as an environmental advocate was a natural fit: finding the right platform to do it with finally became obvious to me after my first trip to the ice. I traveled to the Arctic in 2005 for Global Green, and understood firsthand that the poles are ground zero in terms of climate change. They are the canary in the coal mine of global warming: changes there have fundamental consequences for the rest of the planet.

I learned that the poles are like great receptacles of what happens remotely: they are like the garbage destinations of the world. Sheila Watt-Cloutier, the international chair of the Inuit Circumpolar Conference, shared with me that in recent years, Inuit babies had strangely been diagnosed with health issues traced to Persistent Organic Pollutants (POP), a phenomenon highly uncharacteristic for an indigenous population whose diet relies primarily on local hunts. We know that POPs and heavy metal pollutants have contaminated U.S. soil. Studies show that agricultural fertilizer and

industrial wastewater disposal release heavy metals directly into the soil, which eventually contaminate our rivers. POPs are insoluble carcinogens — they are very difficult to break down. Once in the rivers, they get absorbed by small fish that make their way to the ocean and are eaten by larger fish. These travel north through the Gulf Stream and are eventually eaten by seals, themselves common to the Inuit diet. The babies are then unwittingly poisoned through their mothers' nursing milk or blood cord . . . They put a face on global warming.

The Arctic is, for the most part, a frozen sea. The CO₂ generated greenhouse effect prevents excessive heat from releasing in the atmosphere, melting the sea ice, and jeopardizing the habitat of its indigenous life. As we know, the polar bear population has precipitously declined . . . from drowning and hunger, a direct result of melting ice. Meanwhile, the Inuit have relied on hunting and fishing as a way of life. Fifty years ago, they mainly lived in igloos in the manner they had for a thousand years. In remote areas, that is still common. Today, their culture threatens to disappear as the hunt is migrating north from the receding ice. We may tolerate the loss of what we perceive as a quaint, holistic and sustainable culture as the price of doing business. But what may seem like a sentimental tale is in fact a cautionary one: if the Inuit are the first to go, it is critical to understand that they will not be the last.

Their loss underscores the fundamental relationship between climate and the geopolitical balance of the planet.

A common misconception is that the Earth needs our help. In fact, Earth is a constantly evolving system, and humans only one of an estimated 30 million species inhabiting it. Science tells us that over 99 percent of all species that ever existed on Earth are now extinct. Man is around 150,000 years old, to the Earth's 4.5 billion years. What is at stake today is not the Earth: it is our ability to survive on it.

With the relentless output of greenhouse gases in the atmosphere, the projections for global temperatures are alarming. Additionally, around half of the CO₂ dissolves into the oceans, increasing its acid content. In other words, the base of the food chain, which as we know evolved from the oceans, is at risk. With global demographic growth and our dependence on commercial fishing, this carries grave consequences. As it is, the biological

productivity of the oceans has fallen by 6 percent since the 1980s.

Each year sees new temperature records, while global temperatures continue to set the longest warming trend in instrumental history: the 10 hottest years have all happened in the last 12 years. Exposed to a temperature rise twice that of the rest of the world, the Arctic's summer sea ice is predicted to be gone entirely by 2040. Meanwhile, the majority of the world's glaciers are set to disappear by 2100.

Melting ice also impacts weather patterns. Freshwater flowing into the oceans from the Greenland shelves, for instance, does not mix with salt water. Salt has more mass than freshwater, making it sink, while freshwater floats. The result is that currents, particularly in the North Atlantic, get affected. The Gulf Stream, which regulates climate temperatures by distributing cold water from the pole southward, and warm water from the equator northward, is slowing down. Its action prevents the oceans around the equator from overheating and moderates the northern latitude countries from the cold influence of the Arctic. It also regulates the marine ecosystem. Winds



Photograph © Sebastian Copeland

build in intensity with higher ocean temperatures, thereby increasing hurricane instances in the south. In the northern countries, it is likely to make winters more brutal, as well as disrupt seasonal and agricultural cycles in place since the last ice age, 10,000 years ago. Were the Gulf Stream to stop entirely, Northern Europe could be thrown into an ice age. The last time this happened, it took place inside of 15 years.

Upon leaving the coastal waters of South America, one soon starts to feel very small. The crossing of the Drake Passage alone — “the Drake Shake”— conjures mythical notions of a Lost World. An old sailor’s maxim has it that below 40 degrees latitude, there is no law; below 50 degrees, there is no God. Antarctica begins at 65 degrees latitude. Our ship was quickly reduced to the equivalent of a cork in a fountain. It is the most magnificent landscape I have encountered, bursting with animal life and otherworldly dimensions. Yet the irony of the word “untouched”, often used to describe the white continent, was not lost on me. In reality, if Antarctica sees very little human contact, it is everything but untouched. Human activities generated thousands of miles away perpetuate — remotely — what could be described as environmental genocide. Warming up by a rate 5 times the global average, its ice shelves have disappeared by an average of 185 square miles every year, releasing 250 cubic kilometers of new ice and water into the oceans, or around 125 billion tons of water. That shift in melt patterns sets up what is likely one of the gravest disruptions to international economies, and catalysts for world chaos. As ocean levels rise from melting glaciers, it destabilizes packed ice, making it more susceptible to collapse into the ocean — further accelerating the rise. New models point to an end of century global sea rise on the order of 20 feet! The damage this would incur to global communities is hard to even quantify, considering that 80 percent of the world’s population lives in coastal areas, and many of the world’s port cities were built around the low elevation of their river mouths.

We know that with human toll comes social unrest. It is not inconceivable that the territorial birthright that we have historically taken for granted would, in the future, be challenged by nations claiming their right of survival on other people’s land. The preexisting international tensions and escalation of nuclear programs in this context make an explosive recipe for human disaster.

In a culture conditioned by life on credit, it isn’t difficult to see why embracing an investment designed to prevent dramatic economic

and social downturn for the second half of the century would be met with resistance. To create a more efficient, sustainable society will eventually save money, while improving lives.

Our voracious appetite and extraordinary ability to absorb an ever-expanding consumer market require a reevaluation of the faith we have placed on modern day economics — and our approach to population demographics. Today’s model relies on a perpetually expanding market that is unsustainable.

Perhaps an idealist, I believe in our capacity to learn. But change is hard. In the story of the melting ice figures humanity’s greatest lesson: how to reposition ourselves and work in harmony with our environment . . . survival means we cannot fight nature but have to work with nature.

Welcome to the Age of the Environment.

Sebastian Copeland

Deception Island, Antarctica, February 2007



Photograph © Sebastian Copeland