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Eaarth (Book Review)

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Once upon a time we all lived on a planet named Earth (with one “a”) nestled in what seemed the sweetest location in all of space, its temperature, globally averaged, between 58 and 60 degrees Fahrenheit. In our galaxy were other planets such as Mars and Venus, Mars with no carbon dioxide in its atmosphere frigid and lifeless, and Venus equally uninhabitable with an atmosphere that is 97 percent carbon dioxide (CO2) and 700 degrees warmer than Earth. Earth, with 280 parts CO2 per million (ppm) prior to the Industrial Revolution, had just the right amount of CO2 in its atmosphere making it a lovely place for all kinds of life.

Now, approximately 250 years after the beginning of the Industrial Revolution and the ever increasing burning of fossil fuels with their CO2 bi-product, we have 391 ppm,* and this change has affected Earth so drastically that, says Bill McKibben, we should no longer call it Earth. He suggests Eaarth, the additional “a” indicating a significant, though not fatal change:

The world hasn’t ended, but the world as we know it has—even if we don’t quite know it yet. We imagine we live back on that old planet, that the disturbances we see around us are the old random and freakish kind. But they’re not. It’s a different place. A different planet. It needs a new name. I am aware, of course, that the earth changes constantly, and that occasionally it changes wildly. …[But] this is one of those rare moments, the start of a change far larger and more thoroughgoing than anything we can read in the records of man, on a par with the biggest dangers we can read in the records of rock and ice. (2-3)

McKibben is a major figure in the Climate Change Movement, the founder of the environmental organizations Step It Up and 350.org, which in October 2009 orchestrated global warming awareness activities around the world in what CNN called “the most widespread day of political action in the planet's history.” Twenty years ago McKibben wrote The End of Nature, which warned of the coming dangers of global warming, but in Eaarth he shows what has already happened because of warming. The picture he paints is dire, but not without hope.

He does not spend time debating whether human activity is causing the increase in atmospheric CO2 and the concomitant warming of the earth. It’s far too late to play that game. What he does in the first chapter of Eaarth is marshal an amazing body of information—events, research findings and conditions—that validates the predictions made 20 years ago in his first book.

Of all the information packed into this book, none is more convincing than the stories of what has been happening to the ice in Greenland, the Arctic, Antarctica and glaciers all around the world. They are all melting and much faster than anyone would have imagined 20 years ago. To be specific, by the end of 2007 the Arctic icecap was 2.2 million miles smaller than it had ever been before, a decrease of 40 percent since 1968. Mark Serreze, of the National Sea Ice Data Center, says that “new data are reinforcing the notion that the Arctic ice is in its death spiral” (2-4). The Economist reported in 2008 that “temperatures on the Antarctic Peninsula were rising faster than anywhere else on earth, and that West Antarctic was losing ice 75 percent faster than just a decade before” (5). The great ice sheets of the Himalayas are shrinking fast; the rhododendrons, so profuse on the Himalayan hillsides, are in some places blooming 45 days earlier than they used to; and the Chacaltaya Glacier of Bolivia is “gone completely, melted away” (7). This loss of ice is not some temporary quirk of nature, nor will the ice be restored with a few years of colder temperatures.

But McKibben's data goes way beyond ice melt. For instance, “a U. S. government team studying the tropics recently concluded that by the standard meteorological definition, they have expanded more than two degrees of latitude north and south since 1980—'a further 8.5 million square miles of the Earth are now experiencing a tropical climate.’ As the tropics expand, they push the dry subtropics ahead of them, north and south, ‘with grave implications for many millions of people in these newly arid regions’” (5).

Or consider the effects of warming on insects. McKibben shows that warmer temperatures have extended the geographic range of mosquitoes so that more than half the world's population, mostly poor people, are now at risk of contracting dengue fever. In Latin America more than a million cases were reported in 2009 according to the Argentinean health minister (72-73). In Colorado, Wyoming, and British Columbia, millions of acres of pine trees are being decimated by...
the pine beetle. Why? Because we’ve increased the temperature sufficiently to allow the beetles to survive the winter more easily. In Wyoming, since 1994, warmer winters have reduced the winter death rate of beetle larvae from 80 percent to 10 percent (43).

One can go on and on with this kind of information culled from McKibben’s *Eaarth*. But let me move on to the rest of the book. In his second chapter he proposes that we limit economic growth in order to stop the increase in global temperature. He recalls a brief moment in the 1970s when industrialists and scientists actually considered limiting growth. But then along came Ronald Reagan, promoting economic growth as the chief end of man, and after him Bill Clinton, whose chief economic advisor Larry Summers (also, until recently, Barack Obama’s advisor), said the following: “There are no… limits to the carrying capacity of the earth that are likely to bind any time in the foreseeable future. The idea that we should put limits on growth because of some natural limit is a profound error” (95). The profound error of our time, McKibben might say, is that we have come to believe there are no limits to the carrying capacity of Earth.

The connection between global warming and the growth economy, as McKibben reminds us, is energy—oil and coal. These are the fuels of the global economy and they produce the CO2 that warms the earth. But can anyone seriously propose limiting growth? Since the crash of September 2008, our national project has been to increase economic growth. Yet McKibben insists persuasively that the only way to limit the increase in average global temperature is to limit the use of fossil fuels that energize the economy—in other words, decrease economic growth. And this, to many of us who live in the affluent West, is probably a more frightening prospect than floods and droughts and storms and acidified oceans.

In chapters 3 and 4, the second half of the book, McKibben attempts to show how we can “build durable and even relatively graceful ways to inhabit this new planet” (85). He envisions the future in this new world built around small communities, small businesses, small local agriculture, more benign forms of energy—and also the internet. In many ways, McKibben’s “new” paradigm reminds one of Wendell Berry’s essays and stories about a return to the way most people in this country lived a century ago. In other words, it is an old paradigm with a few modern tools added on. If we are to construct a culture based on an entirely different economic paradigm than our current one, thoughtful and imaginative ways of constructing it are necessary, and I am glad that McKibben and others are planning and dreaming about a dramatically different way of living than we now have. Of course, most visions of the future are by necessity conjecture. They are valuable, but only time can reveal how we will, in fact, construct our lives as the effects of global warming become more and more dire.

Even though *Eaarth* is at times painful to read—and frightening—I trust the physicists, climatologists, and biologists that McKibben cites. I know that the vast majority of biologists, physicists, and climatologists around the world, including the man considered the planet’s foremost climatologist, James Hansen of NASA’s Goddard Space Institute, agree with McKibben’s conclusions. Even though Bill McKibben, Methodist deacon and Sunday School teacher, does not address the issue of climate change from a Christian perspective, his book has sharpened my desire to be about my Father’s business as a caretaker of this sweet planet Earth. At the same time, I want to keep at the front of my mind the knowledge that God is the Master of the Universe and that he loves the world so much that he sent his son to die for it. Therefore, I need not despair.

In another fine book I recently read, *Surprised by Hope*, the author N. T. Wright states that human beings from Genesis 1 onward are given the mandate to look after creation and are to be part of the means by which God restores the entire cosmos: “That is what Paul insists on [in Romans 8:19] when he says that the whole creation is waiting with eager longing not just for its own redemption, its liberation from corruption and decay, but for God’s children to be revealed: in other words, for the unveiling of those redeemed humans through whose stewardship creation will at last be brought back into that wise order for which it was made” (199-200). Perhaps *Eaarth* can be for some Christians the stimulus to take seriously and joyfully this God-ordained task.

* For some time, scientists thought 550 ppm would be the absolute limit. By 2005, many scientists were saying that we needed to stabilize parts per million at 450. But by 2007, James Hansen of NASA’s Goddard Space Institute concluded that the safe number was—at most—350 parts per million.