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Reading for Dinner Dialogue #3
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"The Comforting Whirlwind"
by
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CHAPTER

3

Glory surely shone round on every side, and for Job, this glory was enough. It seemed quite literally to fill him up, to leave no breath for the bellowing that had been his trademark throughout the story. “I am speechless: what can I answer?” he said. “I put my hand on my mouth. / I have said too much already; / now I will speak no more.” It is not simply his smallness in the face of the infinite that shuts him up, it is his sense that that infinity is somehow sufficient. “I had heard of you with my ears; / but now my eyes have seen you. / Therefore I will be quiet, *comforted* that I am dust” [emphasis added].

In times previous, this was enough. The answer of God to Job represented a timeless message for human beings about who we were. And because it was timeless, it was easy to ignore its most obvious and plain meaning in practice. It was all right to kill the lions where we were—there were more lions somewhere else to roar God’s glory. But now we come to a wickedly hard moment when the message is not self-evident—when it is no longer clear that we will always be smaller than God, at least in physical terms. We have about run out of lions. We must make stark choices, and depending on how we choose it is possible

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that the earthy, breathing voice from the whirlwind will become at best metaphysical, and at worst an odd echo from some earlier "primitive" time.

To feel in one's gut the dimensions of this tragedy, it is necessary to return to the beginning of God's speech, which consists of a series of questions the answers to which in all other times must have seemed self-evident. Grand, booming, sarcastic questions, designed to make Job feel small. And successfully. What could he say when God asked,

Where were you when I planned the earth?

Tell me, if you are so wise.

Do you know who took its dimensions,
measuring its length with a cord?

What were its pillars built on?

Who laid down its cornerstone,
while the morning stars burst out singing
and the angels shouted for joy!

Job had to stand silent, to admit that he could not answer. And so must we—even our grandest science seems destined not to penetrate that first morning, to understand the pillars and the cornerstone. We stand in awe before that dawn when the very stars sang out in wonder—so far so good. But God continues,

Were you there when I stopped the waters,
as they issued gushing from the womb?

when I wrapped the ocean in clouds
and swaddled the sea in shadows?

when I closed it in with barriers
and set its boundaries, saying,

"Here you may come, but no farther;
here shall your proud waves break."

Again Job must stand in mute silence. But what about us? As I explained earlier, we as a civilization are on the verge of changing the boundaries of the ocean, the place where the proud waves break. Any increase in global average temperature will likely raise sea level. Researchers do not expect a science-fiction surge—the Antarctic ice shelves are actually quite stable, reducing the possibility that the Empire State Building will be immersed to the fortieth

floor. More likely, a little melting of polar ice and glaciers will combine with the thermal expansion of warm water (which takes up more space than cold) to raise the sea level two or three feet. Increases of this magnitude might well be enough to wipe out half the coastal marshes and wetlands on this continent, the most biologically productive parts of the ocean. These marshes won't be able to migrate inland both because the rise will happen too quickly, and because inland on this continent and many other places we have built strings of highways, chains of beach houses. A rise of one foot on a beach of average slope brings the ocean ninety feet inland, which in some cases is right to the road. Plans are already in the works for dikes to protect these structures. But there are some things we can't build dikes for. I was recently in the Maldiv Islands, an archipelago in the Indian Ocean. They are absolutely beautiful islands, more than fifteen hundred in number, most no bigger than the size of a football field. They are ringed by gorgeous reefs, and the people who live there are traditionally ecologically conscious—they fish with handlines instead of nets, for instance, to avoid depleting marine stocks. The only hitch in this paradise is that the highest point in the whole archipelago is about six feet above sea level. A rise of a meter would mean that every storm would wash across the inhabitants—the islands would be unoccupied. This is not God's power—this is our power: our cars, our factories, our burning rain forests.

If you shout commands to the thunderclouds,
will they rush off to do your bidding?

If you clap for the bolts of lightning,
will they come and say "Here we are"?

Who gathers up the stormclouds,
slits them and pours them out,
turning dust to mud
and soaking the cracked clay?

Who indeed. By altering the global average temperature we will alter the circulation patterns of weather, changing dramatically the places and amounts of rain that fall. In general, there may be increased precipitation, because warmer air can hold more water vapor. However, most of the computer models indicate that this decrease will be more than offset by increased evaporation from

the warmer temperatures. The numbers are staggering—virgin flows along the Colorado, for instance, could fall fifty percent by the middle of the next century on a river that is already overstretched by the demands of Westerners. Or consider this: A study described in *Nature* magazine by a team of Canadian researchers focused on three lakes in northern Ontario. Over the last two decades the average temperature of those lakes had climbed 3.5 degrees—not necessarily because of the greenhouse effect, but at the very least a vivid analogue of what we can expect. Around those three lakes, evaporation had increased and therefore the flows of the streams that fed them fell—with less organic material coming into the ponds, they became much clearer, meaning sunlight could penetrate further, warming the water. At the same time, increased forest fires had decreased tree cover around the area, which in turn meant higher winds—these too drove the cold water layer much deeper into the lake. Together, these pushed cold water fish like trout to the brink of extirpation. God did not do this—we did this. And we're doing more of it all the time. The latest numbers from the CO₂ recorder on the side of Mauna Loa shows that annual increases in carbon dioxide are now pushing two parts per million, the highest ever recorded. Some scientists think it's a sign that the forests of the northern hemisphere are losing their capacity to serve as a carbon sink.

Have you seen where the snow is stored
 or visited the storehouse of hail,
 which I keep for the day of terror,
 the final hours of the world?

Where is the west wind released
 and the east wind sent down to earth?

If anything seems like an act of God it is a hurricane—Job, of course, has no idea how to answer this set of questions. We, unfortunately, are learning more. The strongest winds on earth are in essence stored in the heat in the upper layers of the world's oceans—the warmer those layers, the stronger hurricanes can come. At current temperatures—at God-set temperatures—the winds of a hurricane like Andrew were about as strong as physically possible—a little over two hundred miles per hour. If you

raise sea surface temperatures even a few degrees, though, top winds might increase by as much as fifty miles per hour—and since the destructiveness of hurricane winds is geometrically, not linearly, related to their speed, this would mean hurricanes perhaps twice as dangerous. This is not God's doing—we are doing this, every time we press on the accelerator or turn up the thermostat or consume something we don't require.

What we are doing is very simple—we are taking over control of the physical world around us. The most basic laws remain beyond our grasp—gravity still causes objects to fall, atoms still repel at close distances, the sun still revolves around the earth. But nature on the scale immediately and constantly visible to us—the world of animals, of rainfall, of trees, of waves—may soon answer to us, as our crude alterations of atmospheric chemistry begin to guide the most fundamental processes of terrestrial life. Forgive me if I describe an experience that I described once before, in my book *The End of Nature*. It takes place during a walk down the creek that runs by my house, a lovely stream that falls through the woods for about fifteen miles before it flows into the widening Hudson. This passage was written at the foot of the biggest waterfall along the way: “Changing socks in front of the waterfall, I thought back to the spring before last, when a record snowfall melted in only a dozen or so warm April days. A little to the south, an inflamed stream washed out a highway bridge, closing the New York Thruway for months. Mill Creek filled till it was a river, and this waterfall, normally one of those diaphonous-veil affairs, turned into a cataract. It filled me with awe to stand there then, on the shaking ground, and think, This is what nature is capable of.

“But as I sat there this time and thought about the dry summer we'd just come through, there was nothing awe-inspiring or instructive or even lulling in the fall of the water. It suddenly seemed less like a waterfall than like a spillway to accommodate the overflow of a reservoir. That didn't decrease its beauty, but it changed its meaning. It has begun or will soon begin to rain and snow when the particular mix of chemicals we've injected into the atmosphere adds up to rain or snow—when they make it hot enough over some tropical sea to form a cloud and send it this

way. I had no more control, in one sense, over this process than I ever did. But it felt different, and lonelier. Instead of a world where rain had an independent and mysterious existence, the rain had become a subset of human activity: a phenomenon like smog or commerce or the noise from the skidder hauling logs out by the road—all things over which I had no control either. The rain bore a brand: it was a steer, not a deer. And that was where the loneliness came from. There's nothing there except us.

“The walk along Mill Creek, or any stream, or up any hill, or through any woods, is changed forever—changed as profoundly as when it shifted from pristine and untracked wilderness to mapped and deeded and cultivated land. Our local shopping mall now has a club of people who go ‘mall walking’ every day. They circle the shopping center en masse—Caldor to Sears to J.C. Penney, circuit after circuit with an occasional break to shop. This seems less absurd to me than it did at first. I like to walk in the outdoors not solely because the air is cleaner, but because outdoors we venture into a sphere larger than ourselves. Mall walking involves too many other people, and too many purely human sights, ever to be more than good-natured exercise. But now, out in the wild, the sunshine on one's shoulders is a reminder that man has cracked the ozone, that, thanks to us, the atmosphere absorbs where once it released. The greenhouse effect is a more apt name than those who coined it imagined. The carbon dioxide and trace gases act like the panes of glass in a greenhouse—the analogy is accurate. But it's more than that. We have built a greenhouse, *a human creation*, where once there bloomed a sweet and wild garden.”

Such changes may not be “unnatural,” in the sense that we are part of nature. But they clearly mark theological and philosophical differences that all of us intuitively recognize. If you are camped by some wilderness lake watching the sunset and you look down at the shore and see a collection of McDonald's sacks and beer bottles bobbing in the waves, you do not think to yourself, “This is just like deer droppings.” You feel—unless you are the cretin that put them there in the first place—less like you fit in. You feel like a part of a race that has not learned enough about humility. And in the decades ahead those McDonald's sacks and

beer bottles may be *everywhere*—invisible, it is true, but carbon dioxide is litter even more profound than a Pepsi can.

Furthermore, we are challenging God's control over creation in deliberate as well as inadvertent ways. At the same precise moment that we are stepping over the greenhouse threshold, we are crossing another barrier—the wall of genetic integrity that had always severely limited our ability to modify the life forms around us.

Is your arm like the arm of God?
Can your voice bellow like mine? . . .
Look now: the Beast that I made:
he eats grass like a bull.
Look: the power in his thighs,
the pulsing sinews of his belly.
His penis stiffens like a pine;
his testicles bulge with vigor.
His ribs are bars of bronze,
his bones iron beams.
He is first of the works of God,
created to be my plaything.

Or consider the other brute animal God describes:

He sneezes and lightnings flash;
his eyes glow like dawn.
Smoke pours from his nostrils
like steam from a boiling pot.
His breath sets coals ablaze;
flames leap from his mouth.
Power beats in his neck,
and terror dances before him.
His skin is hard as a rock,
his heart huge as a boulder.

I do not mean here to enter the age-old debate over the identity of Behemoth and Leviathan—they are clearly designed to give the impression, among others, of a deity who can create as he pleases. What is important for us to understand is that as a species our arms *are* increasingly like the arms of God. Our fields are now filled with transgenic corn and soybeans and cotton, and

our labs boast cloned sheep, “smart” mice, even rabbits crossed with jellyfish genes so they glow green in the dark. My 2003 book *Enough: Staying Human in an Engineered Age* catalogues such curiosities, and catalogues as well the desire of some researchers, like the Nobelist James Watson, to extend the work to humans, improving human embryos so they wouldn’t be “stupid” or “ugly” or “shy.”

Some have said that such work is merely an extension of selective breeding, a practice almost as old as human beings. But this is not the case. Selective breeding could be carried on only within narrowly defined limits. You could not induce a pig to share genes with a pine. The limits of selective breeding helped define the boundaries of any species. What we are now engaged in is something different—a process of ending all limits. Researchers peering ahead a few decades were talking about “growing” chickens on assembly lines fed with nutrient broth with no need for the “inefficient” heads and wings. Eventually, said one writer, all plants might “become unnecessary,” replaced by artificial leaves that would “waste” none of the sunlight they receive on luxuries like roots and flowers but instead use “all the energy they trap to make things for us to use.” Instead of being used in the most limited of ways—to treat childhood diseases, say—genetic engineering will, in the words of one British author, soon “enable us to turn the working of all living things on earth—the entire biosphere—to the particular advantage of our own species.” Listen to that phrase again: “turn the working of all living things on earth—the entire biosphere—to the particular advantage of our own species.”

The problem is not that some monster is going to escape from the laboratory and kill us all—the problem is that the monster of our own egos is going to be reflected in everything around us. The world will become a shopping mall, everything designed for our delectation. Like God we will build creatures to be our “play-things.” But I doubt if they will be as wonderful, as variegated, or as wild as the creatures of the first creation. The characteristics we want—efficiency, cheapness, standardization—would never produce the exuberant abundance we find around us. Peacocks don’t come from planners, nor armadillos from accountants. If we leave our footprints over every inch of the planet, if we

redesign its plants and animals solely to suit us—than we spit in the face of God. We can match his sarcasm with ours. “Were you there when I stopped the waters / as they issued gushing from the womb? / . . . when I closed [the ocean] in with barriers / and set its boundaries. . . ?” won’t sound so mighty. It will sound like some old geezer. Screw off, Grandpop—we do all that stuff now, and more. We set the boundaries of the forests—no more beech trees in the lower forty-eight. That coral you’re always talking about—we got rid of that. Behemoth? Leviathan? Give me a break—we’re building them twice as big now. The drive for human power and control that began in Eden is gaining an unstoppable momentum, and we are making that same choice with each day that passes.

Much of this genetic work is being done to solve environmental problems—or, rather, to work around environmental problems that we have no intention of solving. For instance, scientists are hard at work on crop species better able to withstand prolonged bouts of high temperatures, of the sort the computer modelers predict will soon afflict us. Others are working out technological solutions to global environmental problems—ferrying fleetloads of chemicals to the upper stratosphere in an effort to reverse the greenhouse effect, or designing satellites that might cast perfectly geometrical, enormous shadows over the planet.

It is possible that such measures might “work”—that they might stabilize certain physical systems to allow our species to survive, at least for a while longer, with our present habits and economies. They are the equivalent of building a plastic bubble over the planet—or over the rich portion of the planet, anyhow, for of course the genetically engineered plants won’t be affordable for developing world peasants, and the extensive dikes already planned to help the coastal United States cope with the sea level rise won’t do much for the residents of Bangladesh, the vast majority of them crowded onto the flood plain at ocean’s edge. Forget for a moment the issue of justice, however, and consider the proposition in purely selfish terms. Do we want to live on a space station? For that is what it would be—a human creation, where we regulate as best we can the physical systems around us, entirely for our own best interest. A *managed* world.

If we build this world that I fear—this world where every rainstorm speaks of our habits, where the oceans rise and fall reflecting our indulgence, where creatures mirror our whims and fashions—the sadness will mostly be ours, I suppose. Later generations don't remember what we know—they'll be better adjusted than I am, not so angry. They will not know what they are missing. If we manage to wipe out the grizzly bear by wiping out Yellowstone, or if, as some have suggested, we genetically alter him so he will no longer be aggressive, then no one will ever feel the peculiar and intensely alive alertness of a walk through wild North America. Soon that idea will fade, and the Disneyland mantra—safe, clean, predictable—will be absolutely unchallenged in anyone's mind.

But I have a feeling that even if later generations are better adjusted they may be less likely to go to church. I want to speak from the self-interest of religious communities for a little while, for I fear very much that this new world we are building will be even less hospitable to our religious message than the current one. It is no accident that most world religions have grown, in the beginning, from an attempt to explain the phenomena of the physical world. I was recently in Hawaii, doing some research on the largest rain forest in the United States, a rain forest that is being systematically destroyed to make way for a geothermal power plant. This rain forest was on the edge of a volcano, Kilauea, which is the largest active volcano in America. I stood and watched the lava flow into the Pacific, building a new island. And I stood and talked with the Hawaiian natives who have lived there for generations—quite understandably they believe in a volcano god Pele. Why wouldn't they? They live surrounded by smoke and sulfur. And, incidentally, that strong belief has fueled their strong efforts to save the rain forest, an effort in which the local Christian churches have not been conspicuous. We have insulated ourselves to some degree from nature. We live away from volcanoes, and even from forests and mountains. We don't grow much of our food. Still, the images of God's power that help us locate ourselves on an axis with the divine come largely from nature. It is no accident that many of the best-loved hymns of our faith draw on this emotional power—"O Lord my God, when I in

awesome wonder / Consider all the works thy hands hath made / I see the stars, I hear the rolling thunder / Thy pow'r throughout the universe displayed / Then sings my soul, my Savior God to thee / How Great Thou Art, How Great Thou Art." When Christ prays hardest, where does he go? To the temple? No—to the wilderness or to the garden. The point is, faith in some larger-than-human force requires evidence of it at work in the world—the most “rationalized” secular humanist world imaginable is the empty one I have been describing, the place where there is only us and our creations. “We plow the fields and scatter / the good seed on the land. But it is fed and watered / by God’s almighty hand. He sends the snow in winter / the warmth to swell the rain. The breezes and the sunshine / and soft refreshing rain.” We are making the world a place where the voice of God is muffled. Not drowned out altogether—the evidence of God will still be seen in the kindness of humans for each other, in self-sacrificing love. But too often this kind of evidence is left for moments of epiphany; as daily reminders, nothing matches the sunrise and the rainfall. “All thy works with joy surround thee / Earth and heaven reflect thy rays.” But do they? Or do they reflect our rays, our technology, our ways of life, our unwillingness to restrain ourselves. Aren’t we on the verge of creating a place where humility is finally and completely replaced by pride? Aren’t we on the verge of finally disconnecting deity from nature, from the one gut proof of the divine that has sustained countless people countless times? The problem with the greenhouse effect and with large scale genetic engineering is that they create a planet where God is mute—no sense insisting that God speaks from every blade of grass if it grows in a totally human-altered environment. It is too much to expect that we’ll hear God speak from the moral equivalent of Astroturf. A clear lake speaks of many and glorious things; a polluted lake speaks only of man.

Perhaps it’s just as well—perhaps we’re merely getting rid of the last shreds of paganism and druidic nature worship. But that is not what my heart tells me. My heart tells me that the environmental destruction we see around us, if we allow it to continue, will be the prelude to a similar convulsive crisis of faith even more profound than the crises of faith that we have already

experienced. When you live in a shopping mall where everything bears a human imprint, who do you worship? James Gustafson has written tellingly in recent years of a “theocentric” or God-centered ethics. Surely a life centered on God, not ourselves, is a goal of any religious seeking. But since God appears to few of us in tangible form, and since the pages of the theologians are not strong enough a foundation for many of us to erect our faith upon, building a God-centered life depends on the evidence of the divine we can find around us. Even when God spoke to Job he did not reveal himself: he revealed his works. It is theoretically possible to imagine a space-station world that speaks of the divine, but I think in practice the spirituality of such a world would soon become dry and empty, impossible to maintain. Even the most committed doubter, on the other hand, can often be shaken by the transcendent pleasure of sitting in a field of native flowers or standing on a wild beach. The sense of rightness, the intuition that the experience is more than the sum of its parts, is both profound and common. When such experiences begin to vanish (as the wildflowers grow less wild, and the beaches reflect our carbon emissions) their religious meaning will fade as well.

In some ways such a world would be the ultimate triumph of rationalism. In other ways, it would hold up to question the very idea of reason, as we pen ourselves in a sterile cell of our own invention. Such cataclysmic moments force us to face the most essential of questions: Why are we here? How *are* we to use our reason? It is easiest, of course, not to answer—to merely forge ahead as our momentum carries us. Or to answer with one of the orthodoxies supplied by each new generation of Job’s friends. But as I have tried to demonstrate, our current orthodoxies have run out of steam—they can neither prevent devastating ecological harm, nor satisfy deeper needs. The orthodoxy of individual materialism and the cult of expansion have failed precisely because they insist on placing us at the center of everything, a role inappropriate both to our habitat and to our souls. Sometimes this is hard to see, for our orthodoxy has helped create our environments—what is a suburb but a physical manifestation of ease, unreality, and human-centeredness? What is a shopping mall but a television broadcast poured in concrete? That is one reason that

the natural world is so important—it prods us to remember our place. And that is also, of course, a reason why it is so scary. I am reminded of a book by one of the ablest of John Muir’s successors, the recently deceased Edward Abbey. In his classic *Desert Solitaire*, he describes one summer spent at Arches National Monument in Utah as a caretaker. This was in the days before they paved a road through it, and it became a kind of salt lick for the great wandering herds of Winnebagos. Back then it was pretty much deserted, and Abbey was alone with the rock and the wind. He recognized its beauty, but also its alienness. “The desert says nothing,” he wrote. “Completely passive, acted upon but never acting, the desert lies there like the bare skeleton of Being, spare, sparse, austere, utterly worthless, inviting not love but contemplation. In its simplicity and order, it suggests the classical, except that *the desert is a realm beyond the human* and in the classicist view only the human is regarded as significant or even recognized as real.” And of course Abbey was right. The desert is not for human beings—if it was there would be more water. Human beings have been able to settle it in large numbers only with the grossest intrusions on the workings of the natural world—the endless diversion of rivers and draining of aquifers, for instance. In another of his books, *The Monkey Wrench Gang*, Abbey writes about his reasons for trying to disrupt this destruction. His alter ego is hiking through the sand, along the proposed route of a new highway, pulling up all the orange surveyor’s flags. He comes eventually to the stony rim of a small canyon and can see across on the other side the line of stakes marching on. “This canyon, then, was going to be bridged. It was only a small and little known canyon to be sure, with a tiny stream coursing down its bed, meandering in lazy bights over the sand, lolling pools under the acid green leafery of the cottonwoods falling over lip of stone into basin below, barely enough water even in spring to sustain a resident population of spotted toads, red-winged dragonflies, a snake or two, a few canyon wrens, nothing special.” And yet Abbey demurred; his character knelt down and wrote “a message in the sand to all the highway construction contractors: Go home.” This canyon, like so many other places, could only be paved over or left alone to no “constructive” end. Abbey

chose leaving it alone; so, at least in the book of Job, did God, who makes it rain where there is no man.

Overcoming the orthodoxy that places us at the center is, I think, necessary not only for our individual souls, but also for the collective future of the churches. As I have tried to show, our faith, like our planet, is incompatible over the long run with any culture that puts people forever at its core and makes their material satisfaction its only goal. Standing up to that culture will not be in any sense easy—we are all participants in it, by the very time and place of our birth. For me, however, that imprinting has lessened slightly over the years as I have spent more time outdoors and more time in church. The church, because of its professed values, is the only institution left in society that has even, shall we say, a prayer of mounting a challenge to this dominant culture. And if it did I am convinced that it would be healthy not only for the environment but for the church. Because our message need not—should not—be only negative. It should be positive—replacing the ersatz joy of the consumer society with the real joy of God and creation. This, in a sense, is our ace in the hole. The consumer society has one great weakness, one flank left unprotected. And that is that for all its superficial sugary jazzy sexy appeal, it has not done a particularly good job of making people *happy*. It has left unsatisfied some basic human needs, or has tried to satisfy them inappropriately. There was a commercial for one brand of cosmetic airing the day I was watching television, and its punch line was, “Love you have to wait for. Pantene you can just go get.” All things being equal, people would prefer love, I think. That we can offer. In the end, we need deeper answers to the deepest questions. Why are we here? At least in part, or so God implies in his answer to Job, to be a part of the great play of life, but only a part. We are not bigger than everything else—we are *like* everything else, meant to be exuberant and wild and *limited*. The very fact of the variety of life implies that—simple observation of the profusion around us should undermine our insistence on eternal primacy. Julian Barnes, in his magnificently irreverent novel *A History of the World in Ten and One Half Chapters*, describes the voyage of Noah’s Ark from the viewpoint of a stowaway termite. The trip taught the animals a lot of things, he says, but “the main

thing was this: that man is a very unevolved species compared to the animals. We don't deny, of course, your cleverness, your considerable potential. But you are, as yet at an early stage of your development. We, for instance, are always ourselves. That is what it means to be evolved. We are what we are, and we know what that is. You don't expect a cat suddenly to start barking, do you, or a pig to start lowing? But this is what, in a manner of speaking, [we] learned to expect from your species. One moment you bark, one moment you mew; one moment you wish to be wild, one moment you wish to be tame. We knew where we were with Noah only in this one respect: we never knew where we were with him."

But *what* part should we play? Even if we accept that our role is somehow to be limited, we know that our peculiar brains set us apart from the rest of creation. We have powers unique to ourselves; to refuse them would be like a bird refusing flight. Luckily, of course, there are whole huge categories of activity for which reason is utterly suited and which do not also spell destruction for the rest of the ecosystem. *Witnessing* the glory around us—that is a role no other creature can play. When God tells us we are created in his image, the only thing we know about God is that he finds creation beautiful—"Good. Very good." Perhaps that is a clue as to how we should see ourselves. Humans—the animal that appreciates. Appreciates each other, loves each other, protects each other from harm. Appreciates the rest of creation, loves the rest of creation, protects the rest of creation. These activities are deeply linked, of course—I have tried to show that any solution of our environmental problems is in large measure dependent on solving great numbers of social and political problems. Caring for the rain forest means caring for the Chinese means caring to ride bicycles means appreciating migratory songbirds means living mindful of the fourth generation down the road. All these are deeply human impulses, reflective of what is unique to our species. Most of our other accomplishments—huge dams, huge populations, huge abundance—are magnifications of the traits of all animals. They are uses of reason to do *better* than other creatures but not to do *different*. They reflect only a small percentage of the gifts we have been given as *humans*, and often they

interfere with those gifts. Excessive materialism of the type deemed normal in Western societies clearly constitutes such an obstacle; so, even more, does the poverty of the developing world. You cannot fully exercise your unique human gifts—appreciation, witness, caring—when you are bowed down by hunger. The argument that we should free people to act as humans necessarily means, therefore, that we must address the deep economic chasm on this planet. The argument that the current approach of the industrialized countries is nearly as soul-deadening as the poverty of the South means that we must pull the sides of that chasm closer together, instead of trying to provide a bridge so that they can cross to our doubtful nirvana.

As Wendell Berry once asked in the title of an essay, “What are people for?” What feels most right to us? Find that and we will find the answers to what our place is, what our limits should be. And the answers, as I have said before, are paradoxical. We really want not utter individualism but a strong sense of community, not endless luxury but a large taste of the joy of service, not a totally packaged world but a reintroduction to the gorgeousness of the physical planet. The secret weapon of environmental change and of social justice must be this—living with simple elegance is more *pleasurable* than living caught in the middle of our consumer culture. What do I mean by simple elegance? There are a hundred examples, some of which I’ve already given: riding a bike or walking, so that you can hear your body again and feel the terrain; eating a simple diet, low enough on the food chain that you cause neither the environmental damage nor the arteriosclerosis promoted by our current menus; working less because you need less money which means someone else can share your job and you can reduce the stress and increase the satisfaction of your life; when nightfall comes, instead of turning on half the lights in the house and separating to the various television sets, lighting a candle or two and watching the sunset and talking or reading aloud. (It takes one power plant the size of Chernobyl simply to provide the continuous current that allows all our TV sets to turn on instantly when we flip the switch instead of taking a few seconds to warm up. But that is not the only drain from television—television is the constant stimulus of our desire for more stuff,

and the constant wedge that prevents fellowship.) Many of us have spent time at retreat houses or monasteries, and sensed the peace that those experiences provide. But of course we're allowed to recreate that at home, to whatever extent we can. Many of us have experienced the pleasure that comes when there's a huge snowstorm in the winter and the power goes out for a day or two. Sure it's a nuisance, but it's also quiet—you can't drive and have to walk or ski. You gather with the neighbors, working and eating together. That experience too can be repeated, voluntarily, even in the middle of the summer. Instead of shopping at the supermarket for everything, we can grow more of our own food, and extra for our neighbors. Church communities provide natural places to organize some of these practices; if their members can be persuaded to try them, and if all we have been promised by God is true, then the satisfaction and joy of the experiment will begin to spread. We will find ourselves a little strengthened in the face of the vapid, empty culture we have created. That great laugh will start to spread, till with a chuckle and a shake of our heads we begin to turn our backs on the way we were and create new ways of being. We were born for community; we were born for service; we were born for joy; we were born to feel at home in this beautiful world; we were born to share certain unique gifts.

And of those gifts, the most unique and the most paradoxical is the ability to restrain ourselves. Conscious self-restraint belongs to no other creature, and for us it is the hardest of all tasks, both as individuals and as societies. Can we learn to genetically engineer plants and animals? Of course we can. Can we stop ourselves from genetically engineering plants and animals? Can we set strict limits, so that such work is okay for dealing with childhood diseases but taboo for anything else? Can we wean ourselves from cheap fossil fuel? Can we ignore the easy path? Can we muster the discipline to learn what we *really* want, and to follow that desire unwaveringly? When I said that this generation witnesses a confluence of thinking from atmospheric chemists and mystics, this is what I meant.

The easy answer, of course, is to say no. One of our current orthodoxies is to say that we are "destined" to behave in certain ways. Isn't human momentum forever forward, towards more

control and power? Isn't it "human nature" to keep growing our economies forever, to reject a humbler approach to living our lives? I don't know the answer to that—no one does, because we've never made a concerted and society-wide effort. But I do think there is one at least mildly hopeful analogue, something that gives me some comfort. Fifty years ago, with World War II at its height, one could have made a convincing argument that people were destined to keep fighting ever larger and bloodier wars—certainly history would have supported such an argument. But then, at the end of the war, the atom bomb was exploded. In a way, this invention gave us all the Godlike power I have been describing today. It gave us the right to talk back to the God of Job, to say we had ultimate and total strength. J. Robert Oppenheimer, on witnessing the first explosion at Alamogordo, quoted from the Bhagavad Gita—"We are become Gods, destroyers of the worlds." But something interesting happened. So far, having that power, we have chosen not to exercise it. Indeed, and with ever increasing strength, we have built a taboo around this power. We still have wars, of course—too many wars, bloody wars, devastating and highly technological wars. But nuclear war, which many people expected in the early days of the Cold War, has become steadily more unthinkable.

One prays that this taboo will hold as nuclear weapons spread to new countries like North Korea or Iran. And it is not a perfect analogy. We have built this taboo because each of us can imagine what a nuclear explosion would be like and that imagining spurs us to act. The greenhouse effect, by contrast, results from a billion explosions of a billion pistons every second of every day around the world. Its impact is nearly invisible, much harder to build a myth around. Still the analogy gives me hope. With the atomic bomb a new physical fact came into the world, a fact so far-reaching that it is slowly changing the ways we conduct ourselves, leading us to greater restraint. And it was a new theological and philosophical fact as well—atomic war raised questions that conventional war never did. Even those comfortable with killing were queasy at the thought of such utter destruction—it seemed like more power than human beings could possibly justify, and so we have been slowly backing away from it. The greenhouse effect,

and the other global environmental problems that we face, are new facts of the same magnitude. Already there are signs that people and nations around the world are ready to take on these facts. Not enough people, not the most powerful people—but there are enough of us that we've begun to constitute a force. Perhaps, just perhaps, in the mighty words of James Russell Lowell, new occasions will once more teach new duties, and time make ancient good uncouth.

And if we can teach ourselves those new duties, then the immense recuperative power of God's creation may be enough to erase at least the most horrible of our damage. I live, as I said, in the Adirondack mountains of upstate New York. The Adirondacks are among the oldest mountains on earth and eons ago they were the tallest. Time has slowly worn them away, but they are still impressive and remote. Twenty years after Lewis and Clark returned from the West, the tallest mountain in New York State, Mt. Marcy, still had not been climbed by a European. Once settlers came, however, they came with a vengeance. The streams were dammed for power; the hemlocks were stripped so that their bark could be used for tanning; most of all the loggers attacked the woods with amazing vigor. A hundred years ago, they were largely logged off—these remote mountains, the headwaters of the Hudson River, stripped bare of their pine and hemlock. But then some very visionary New Yorkers decided to preserve them. They carved out a six million-acre park, half public and half private, and amended the state constitution so that on the public land no tree could be cut again. It is a curious place, a rare hybrid of park and settlement—a true experiment in people living near nature. A century has not been enough to restore the primeval forest but it has been long enough to create again a true wilderness, the largest by far in the eastern United States. It is wild country—bear and coyote and mink and lynx. Out my back door you can wander through several hundred thousand acres of contiguous wilderness, land without road or cabin. It has revived, this land—it's a tremendously inspiring place, a symbol of what we might be able to do if we set our minds to it. And of what nature will do on its own, given half a chance. In the last decade, moose have begun to

wander in again from the north and the east—an animal absent for a century is now taking up root again in these mountains. The first eagle chicks in nearly thirty years fledged in the park in the 1990s—and now there are dozens of nests on dozens of remote lakes. There is a re-creation going on—the world of the first chapter of Genesis is slowly reasserting itself, and many people are in fact doing their best to exercise responsible dominion over the land, to act as stewards. The state government has enacted some of the world's toughest land-use laws for the people who live in the Adirondacks. Forty-acre zoning is the rule for much of the park. You need special permits, granted only after environmental review, to make even small alterations to your home. Big projects, like golf courses, are routinely turned down. Not everyone likes it, but the voters of New York by and large continue to support the regulations—continue to say that at least in this special place the desire of human beings will not be the ultimate arbiter. It should be a model for much of the rest of the country and the world. I see each day that we do not face a hopeless task.

Merely a daunting one. It is always easier to cling to orthodoxy. Though the other world looks appealing, it is a trapeze swing away, and we fear. Often, I must be goaded to think, to realize, to try to grasp what is truly human. I was hiking in the hills behind my house last summer when I stepped on a hornet's nest. I was stung at least seventy times, and it hurt like nothing I have ever felt. And, alone, half an hour's hike from home, I was scared—I knew I was having some sort of reaction because hives were swelling across my chest. I have a good imagination, so it was not much of a stretch to believe that I might not make it back home. And yet the strongest feeling, as I ran back down the ridge, was a feeling of prayer—the simplest sort of prayer. Thank you God for those birds. Thank you God for these trees. Even, I think, thank you God for the hornets. Thank you that I am somehow linked to all of this. Never before had I felt quite so profoundly the rightness of the world around me—perhaps because it was my first experience as a potential link in the food chain. It was the least separated I had ever been, the closest to a creature. A trip to the hospital eventually erased my myriad bumps, but not the feeling of desperate at-homeness that I felt that afternoon. These

reflections are largely an outgrowth of that stumble into the hornet's nest. If they draw from the book of Job any one lesson for our time, it is this: We need to stop thinking so much in terms of our "environment." An environment is a human creation: the home environment, the office environment. It counts—we need clean air and clean water, of course. But our environment is only a small part of something much larger. A planet, filled with the vast order of creation. It is a buzzing, weird, stoic, abundant, reckless, haunting, painful, perfect planet. All of it matters, all of it is glorious. And all of it can speak to us in the deepest and most satisfying ways, if only we will let it.