



He's Got the Whole World's Climate in His Hands

TEXT
Genesis 2:4b-9,
15-25

May 29, 2011 — Sermon by Rev. Tom Are, Jr.

Galileo looked through a telescope and realized Copernicus was right. The sun stood still and the earth moved. The earth was no longer the center of everything. It was a bit humbling.

We look back and it seems so simple, doesn't it? Galileo was right. The voice of science was right. We ask ourselves, how could it be that the leaders of the church in Galileo's day could be so blind to the instruction of science? What's to challenge?

But this was more than just a story of science versus religion. This is more than just a battle between truth we know from a telescope and truth we know from scripture. This was more than just a conversation between a scientist and a Pope. We see here what happens when science or anything else causes us to understand our world anew. It doesn't matter what the science is. If it calls on us to rethink our entire understanding of the world, then that rethinking does not come easily.

So here are some thoughts about rethinking.

My first experience of entrepreneurship was when I was in sixth grade. I would walk Woodley Road between Bear Elementary School in Montgomery, Alabama, and the Union 76 station collecting bottles. In those days, soda (which we called Coke) came in bottles. If you found a Coke bottle that someone had tossed in the ditch — a not infrequent experience on Woodley Road — you could return the bottle and get a nickel a bottle. I walked the road collecting the bottles and making a little money.

But I also knew that I was doing something for the environment. As a kid, I learned that pollution was a problem. If you're as old as I am, you will remember the commercial: Polluted waters fed into smoky skies; old tires and tossed-out appliances spoiled natural landscape. And then you saw a Native American sitting on a horse, a tear crawling down his cheek. You remember, don't you? He was a lover of the land, of nature, of the garden that God has planted. I collected bottles because pollution was a problem.

But in time, the scientists made it clear that pollution — the dirtying of things — was no

longer a big enough category. It isn't just that things are dirty; the fundamental balance of the planet that sustains all varieties of life, including human life, is shifting. The climate is warming. Pollution is easier. We can see pollution. Climate change is hard to see. There are some things that are as clear as anything Galileo could have discovered in his telescope.

I listened to Dr. Gogineni, professor not of climatology, but of electrical engineering and computer science at KU. He was part of a team who developed a radar to measure the thickness of the ice at the polar caps. In a presentation here in Kansas City in 2004, he shared that the glaciers that rim the Amundsen Sea in Antarctica — a sea approximately the size of Texas, where water from the continent drains — are discharging 60 percent more ice than they accumulate from snowfall. The pace and volume is greater than had previously been understood. This results in the raising of water levels. *Science shows it clearly, the ice caps are melting.*

I could cite theorized effects of climate change, but you know them. Storms increase in frequency and intensity. Water

resources begin to dry up, like Lake Chad in Darfur — it's no longer there. Weather patterns shift, causing droughts in some places and resulting in food shortages. Ironically, the shifts cause flooding in other places, leaving destruction in its wake. Warmer temperatures make it possible for pests and insects to claim new habitats, destroying wildlife and crops. Warming oceans bleach coral reefs, the feeders of the oceans. You know the list; there's a story about it in our newspapers every other week.

The nexus of the problem is CO₂ — or carbon dioxide — in the atmosphere. The CO₂ is essential because it allows the sunlight to stream through the atmosphere; but the CO₂ works to keep much of the heat from reflecting back out. The CO₂ is measured in how many parts per million. They say when there were 180 parts per million (ppm) in the atmosphere, the earth experienced an ice age. Geologists point to five glacial periods; the most recent ice age ended approximately 20,000 years ago. The CO₂ in the atmosphere climbed to approximately 280 ppm to end these glacial periods. Scientists tell us the CO₂ in the atmosphere has climbed to over 375 ppm. Increased CO₂ means heat cannot escape as easily, hence the warming of the planet.

These things are measurable. There are some, but very few, who will deny the realities we see in the atmosphere and the oceans. The challenge is

reading the data. There is some debate about why the planet is warming and what we should do about it.

There are some who attribute the warming to cyclical causes. They will speak of aberrations in the sun that increase heat on the earth. Or they will point to the impact that volcanic eruptions can contribute. As volcanic ash reaches the stratosphere, it alters the warming capacity of the atmosphere.¹

The significance of these explanations is that they compare the warming of the planet to things we have witnessed before. The planet has experienced shifts in climate; after all, we know there have been shifts to bring the earth in and out of perhaps as many as five ice ages. The earth's temperature is not a constant thing through history.

As scary as this may be, these voices tell us not to overreact. There's nothing we can really do about this. Pay attention to pollution; keep turning in our Coke bottles. But the climate is out of our hands. Most scientists, a growing consensus, indicate that what we are experiencing is not a recurrence of something before, but something new.

My bookshelves include writings from theologians of multiple generations and novels from mostly American storytellers, but a few years back I found myself reading the summary reports from the Intergovernmental Panel on Climate Change. It is a study produced by hundreds of scientists and climatologists. The IPCC has

theorized we are witnessing a shift that could become an uncontrollable shift in the atmosphere. The IPCC also indicated with 90 percent certainty that human factors, particularly in the 20th century, are a contributing cause.² The consistent voice declares the balance of systems that support life on this planet is shifting — and shifting more quickly than anticipated.

There are at least two factors that contribute to the theory that human beings are the cause of this shift in the planet. The first is the growth in human population. It took the history of the human family until 1800 to reach one billion people on earth. But that first billion grew to two billion in only 123 years. That was reached in 1927. This year, 2011, it is expected global population will reach seven billion, having taken only 12 years to grow from six billion.

More people consume more resources — not equally, you understand. In 2008, the World Bank reported that 1.4 billion people live below the global poverty line, which for the World Bank is \$1.25 a day. Nevertheless, more people consume more resources, and the CO₂ in the atmosphere is related particularly to the consumption of fossil fuels. The burning of fossil fuels releases CO₂ into the atmosphere: our factories, our cars, every time we plug in anything.

If this is true, then what we are experiencing is not a normal reoccurring climate cycle that will work its way through, but rather a dramatic change in

the way the planet is working. Bill McKibben, in his book *Eaarth* (spelled EAARTH), respells the name because he believes we no longer live on the planet we have always lived on. The effects of climate change have already influenced food supplies, polar ice caps and rising seas to the point that we are no longer in control of these matters.³

I am not a scientist. And it is hard to hear the scientists — because like most everything important, and many things not in our culture, climate change has become a political issue. In 2009, when Congress was considering climate change legislation, there were over 2300 lobbyists registered for this issue alone. That's six lobbyists for each congressperson. The largest contributor was the "American Coalition for Clean Coal."⁴ So for science to get their voice heard is no easy thing.

While I am no scientist, I am a theologian, and I think that there is a word from our faith that is on target here. In Genesis, the creation story is that God fashioned *Adam*; it's the Hebrew word for "humankind," out of the earth. The Hebrew word for earth is *Adamah*. So *Adam* comes from *Adamah*. Both are creatures.

All creatures share this in common: Creatures are finite. People (Adam) have a beginning and an end. Stars are born and stars die; they have an end. The earth is creature; it is finite. It has a beginning and an end.

Science is telling us we are accelerating the conditions that

make it no longer possible to sustain the human population on the planet. Is that even possible? We know that human beings can adversely influence the environment.

Have you ever heard of Easter Island? It is a tiny island in the Pacific that was inhabited by Polynesian peoples. In 1722, Dutch explorer Jacob Roggeveen "discovered" the island. It was Easter day, hence the name, Easter Island. Roggeveen was astonished to find on this tiny island statuary cut from the rock of the island. There were hundreds of statues. A volcanic crater some 600 feet in diameter contains 397 such statues, some standing 15 to 20 feet high — but the largest are over 70 feet high and weigh over 250 tons.

It was assumed that the islanders used large tree trunks to roll these statues into place. But on Easter Island, there are no trees that grow any higher than five or six feet. At least there aren't any now. But palynologists (these are scientists who study pollen; did you know such a thing existed?) have determined that at one time the island was covered with the largest palm trees in the world — with trunks often seven feet in diameter. There are none left because they have all been harvested for fuel, for religious purposes and for transportation of these huge statues.

There were most likely other factors, in addition to consumption, that led to this dramatic deforestation. But what we know is that once the

trees were gone, the society began to crumble because of starvation, resulting in population crash and a descent into cannibalism.⁵

Why does this matter? We tend to think that resources and capacity to grow in consumption are endless. We face any problem with a sense that growth is the answer. I read recently that human beings have consumed more since 1950 than we did up until 1950. There are billions more consuming. China and India are developing the capacities for greater consumption, only further tipping the environmental distress.

What is so difficult is that, if the science is accurate, then just like when Galileo stood before the church and proclaimed that the world is not as we used to think, so again scientists are telling us the world is not what was assumed because the planet is under duress. And our assumption that there would be no end to growth and that resources could be consumed at an infinite pace was wrong — or at least paid no attention to its full costs.

The Genesis story points to this unavoidable reality of finitude: One of the few things God tells Adam is: "You can't eat everything. If you eat everything, you will die." An unchecked assumption of growth ignores the unavoidable reality of finitude.

I can't tell you with certainty the causes or even the degree of climate change. I can say it seems both prudent and faithful to pay attention. Let's not make the mistake that was

made with Galileo; let's let the scientists speak.

What I do believe, without question, is that finitude is a law of the planet. And it seems to me that the voice of science is telling us, in a revolution as significant as the revolution of understanding when Galileo stood before the Pope, that the world is not what we thought. It doesn't revolve around us. We have to rethink.

¹The Browning Newsletter draws this conclusion. Browning is a climate newsletter for investors.

²Intergovernmental Panel on Climate Change Summary Reports. These are available online.

³Bill McKibben. *Eaarth* (2010)

⁴McKibben, p. 56

⁵Jared Diamond. *Collapse* (2005), pp. 80–119

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The sermon can be read, heard or seen on the church's Web site: www.villagepres.org/sermons.