

# PLANET IN PERIL

## GOD'S EARTH / GOD'S PEOPLE

by *Jana Kelly and Harold Remus*

**"The earth is the Lord's and all that is in it" (Ps. 24.1)**

*God has entrusted us humans with the care of the earth . . . and all that is in it.*

*The article and study guide that follow look at how well we have been caring for the earth, at the stewardship of creation that we as Christians are called to in a time of urgency for the planet, and at resources in our faith tradition and in our world today for exercising that stewardship responsibly.*



*Evangelical Lutheran Church in Canada*

**Be a SIGN OF HOPE for the world!**

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### HOW A CONGREGATION AND ITS MEMBERS MIGHT USE THIS ARTICLE AND STUDY GUIDE

1. Call attention to it in the church bulletin, in announcements, in committees, youth, young adult, campus ministry, and Evangelical Lutheran Women's groups.
2. Tell where it is to be found. Look for "Stewardship of Creation Initiative" on the ELCIC website ([www.elcic.ca](http://www.elcic.ca)).
3. Read – or browse – through the whole article.
4. Focus on those parts that you know the LEAST about, then move on to the others.
5. Look up and reflect on the Bible passages cited in the article, asking where you fit into what you read and how that fits into your life.
6. In study groups discuss these passages and what is written about them here, always with an eye to how they apply to your congregation and to yourself.
7. Take note of the many suggestions in the article (and the references to the books and websites) concerning what you as a congregation and/or as members of the congregation can do to serve and preserve God's creation, in and through worship and your education programmes, in your church building and your home, in your daily life, in advocacy of government legislation that will help to preserve the earth that God has entrusted to us.

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**PLANET IN PERIL**  
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*Jana Kelly and Harold Remus*

*Those of us who love the sea, who recognize the blood relationship of all earth's beings,  
who see on this Water Planet a growing threat to our most fundamental biological machinery,  
do not command the money and power of even a single major multinational corporation.  
But we can wield the formidable power of our numbers, the strength of a great unified crowd  
of citizens of the planet. . . . It is the weaponry of the peacemakers and  
the common people throughout history.*  
Jacques-Yves Cousteau

**1. PARADIGM SHIFTS: CLIMATE CHANGE / GLOBAL WARMING**  
by *Jana Kelly and Harold Remus*

*NOTE: The names, dates, page numbers, and websites embedded in the article refer to the References sections on pp. 18 and 20, for example: (Clayton 2007: 23).*

MELTING POLAR ICE CAPS and rapid receding of glaciers, extreme temperatures, heat waves, droughts, and extraordinary storms like Katrina: Are these signs of a naturally occurring “climate change,” or (rather) of “global warming” caused by humans – anthropogenic, as the scientists say? Until recently, public opinion was torn between these two views, thanks in large part to the standard journalistic premise of getting two sides on every issue – a “he said/she said” approach no matter the scientific credibility of the “he” or the “she.”

“Climate change” and “global warming” are in fact equivalent terms for what our planet is experiencing. Ongoing scientific publications and reports from the United Nations Intergovernmental Panel on Climate Change (IPCC) as well as the vast majority of scientists and their institutions now agree that it is we humans who are “the weather makers,” as the title of Tim Flannery’s 2005 book puts it. We are producing greenhouse gases in unprecedented quantity from such diverse activities as widespread use of fossil fuels and conversion of forests to agricultural uses. We are consuming unrenewable resources at an unsustainable rate. Our excessive energy consumption is already causing major changes in livability on the planet. IPCC reports, most recently in February, April, and May 2007, underline the gravity and urgency of the situation.

It seems clear that there has been a “paradigm shift” (Kuhn 1962, 1996) – a basic change in scientific consensus about climate change and its causes. Public opinion, too, has shifted markedly. An Angus Reid poll conducted between March 6 and 19, 2007 showed that 77% of Canadians saw global warming as real.

Politicians have been vying with one another to be the first with the “bestest” and the “mostest” on the environment. Various states in the USA, dissatisfied with what their federal government is doing, are moving ahead on environmental matters on their own as are hundreds of cities. In Canada, while provincial and municipal governments are moving ahead in various ways, indecision and inaction have been more in evidence at the federal level.

Business leaders are increasingly attuned to what’s happening to the environment and its consequences. Prior to George W. Bush’s 2007 State of the Union Address, the “chief executives of 10 major corporations urged President Bush to embrace mandatory ceilings on U.S. greenhouse gas

emissions in order to stem climate change” (Mufson 2007). The multibillion dollar sale of a Texas utility corporation was premised on dropping plans for eleven new coal-fired plants as well as on supporting a federal cap on carbon emissions. “If you're going to do an energy investment today,” said one of the deal-makers, “you have to take into account the concerns people have about climate change” (Booth Thomas 2007). Greening of various sorts is gaining prominence on the agendas of well-known corporations (Deutsch 2007), and a new title, Chief Sustainability Officer – CSO – is beginning to appear on company charts.

What about us? How do we, as Christians, see and live our relation to God’s good earth, this bounteous planet on which we live? That would include our relation, as citizens of a rich country in the Global North, to the poor in our nation as well as to the poor nations of the Global South which have contributed the least to the buildup of carbon dioxide and other gasses that are causing global warming but yet will suffer the most from it. Armed conflicts over scarce and ever shrinking resources are already making life difficult in those nations (Perry 2007). Closer to home, we are – depending on our age group and our circumstances – looking at our own not-too-distant future or that of our relatives, friends, neighbours . . . other species . . . and the earth itself.

In what follows we look at these issues, our roles as individuals and as a people of God in global warming, and the opportunities and difficulties of “doing something” in a globalized, interconnected world where what we do affects others near and far. In a dialogue between the *planet* and our *faith*, we will look at the big picture and the small, and offer suggestions for study and action as well as three case studies that pose the issues in story form and invite your reflection and response.

## 2. A PLANET IN PERIL: HOW PERILOUS IS THE PERIL?

by *Jana Kelly*

*Nature too mourns for a lost good.* / Schelling

### 2.1 Overview

WHETHER in the print, electronic, or broadcast media, scarcely a day passes without a piece on global warming, reporting record temperatures, record rainfall, record droughts, record hurricanes and tornados. Other reports warn that life on the planet is seriously threatened by the steady reduction of bio-diversity – extinction of species of animals, sea life, plants and their seeds, microorganisms and their ecosystems at a rate greater than at any other time in human history – through destruction of habitat, overfishing of waters, overuse of land and of chemicals, and monocultural agriculture. With the rate of global warming accelerating, as warming builds upon warming, the point of irreversibility is now much closer than had been projected (Flannery 2005). We are, reported *Time* magazine’s cover story over a year ago (April 3, 2006), at “The Tipping Point.”

The impact of global warming, of what we have already done to our planet, is startling (Gardiner 2004). For example, global warming is putting increasing pressure on sea life at a time when fish stocks are already threatened by human activity:

- Sea levels are rising due to melting glacier ice and the expansion of seawater as it warms, threatening the millions of people who live near the coasts and wetlands.
- Sea-surface temperatures are warming, threatening animal species such as corals, which cannot survive the warmer water. Already about a quarter of the world’s coral reefs have died.

- Sea life is in trouble. In 2004 the United Nations Food and Agricultural Organization reported that 52% of our oceans' wild fish stocks are fully exploited, 16% are over-exploited, 7% are depleted, with only 1% recovering. Are oceans of nothing in our future?

More recent projections are that things on our planet will steadily worsen unless we take action now to reduce carbon emissions. The February 2007 report of the UN Intergovernmental Panel on Climate Change projects increasing global temperatures if profound effort is not made to reduce such emissions. The IPCC's April and May 2007 reports make clear that the worst consequences of global warming can be avoided, but only if we mend our ways. Otherwise, warn the scientists, we face a horrifying scenario (PlanetArk 2007; IPCC 2007):

- Up to 30% extinction of plant and animal species, especially already endangered species such as coral reefs and polar fauna such as penguins, polar bears, and seals.
- Negative impacts on North American forests from pests, fires, and diseases.
- At least one billion more people in Asia and up to 250 million Africans suffering from water shortages.
- The eastern Amazon's tropical forest gradually replaced by savanna grass land.
- At least one million more people dying annually from malnutrition.
- As much as a 50% decline in rain-fed crop yields in tropical Africa.
- Millions more people exposed to malaria in Africa, and malaria spreading to new areas.
- Serious droughts once every ten years in southern Europe.
- Potentially millions of coastal dwellers displaced by encroaching sea waters.

## 2.2 *Where Do North American Christians Fit In?*

IN NORTH AMERICA we have been slow to acknowledge the limits of our planet's resources and the limits on its capacity to regenerate in the face of overuse and abuse.

We have tended to explain rising temperatures, failing crops, and ongoing drought in ways that deflect attention from our own role in climate change. We have been inclined to think that poverty continues around the world primarily because of over-population, primitive farming techniques, religious zealotry, and lack of education, while ignoring the role that our lifestyles, reflected in climate change, play in that poverty. And even as we have become more aware of our role in global warming, we have for the most part continued to live as if the serving and preserving of God's creation would take care of itself.

Public opinion polls show that many are now beginning to think otherwise and want to change. Where to begin? There is a widely-used way each of us can measure our personal impact on the health of the planet. Called the *Ecological Footprint*, it was developed by Mathis Wackernagel and William Reese (1996) at the University of British Columbia. It measures the number of biologically productive hectares of "land and water area an individual or human population requires to produce the resources it consumes and to absorb its wastes under prevailing technology" (Global Footprint Network 2007a).

Individual Ecological Footprints are easy to determine with a short questionnaire that takes into account the country in which one lives, the size and type of one's home and the energy used to maintain it, one's methods of transportation, how far one goes and how often, the food one eats, and the waste one produces.

You can find the questionnaire at <http://www.myfootprint.org>. You may be surprised, as I was, by

just how big your Footprint is. Globally there are 1.8 biologically productive hectares per person. That means that, to live within the means of our earth, we would each use no more than the resources of 1.8 hectares.

Each year, the Global Footprint Network calculates the day on which humanity will have already consumed all of the new resources the earth will produce in that calendar year. They have dubbed that day “World Overshoot Day.” In 1987, when it was first calculated, World Overshoot Day was December 19. By 1995, we had overshoot the earth’s capacity by November 21. In 2007, we will reach that point on October 9 – ironically, the day after Thanksgiving, when we traditionally give thanks for the earth’s bounty. Humanity is using 130% of the earth’s capacity. “In other words, it now takes more than one year and three months for the Earth to regenerate what we use in a single year” (Global Footprint Network 2007b).

But all is not equal when it comes to consumption. According to the Global Footprint Network, the average North American uses over *nine* biologically productive hectares. Compare that with the average European who uses just under *five* hectares and the average African who uses about *one* (Global Footprint Network, 2007c).

Measuring our Ecological Footprint shows quite clearly that we, in North America, are consuming resources and producing waste far out of proportion to the rest of the world’s people. And we are doing it at the expense of those people and of the plants and animals whose habitats we share. We with the largest Footprints have air-conditioners to keep us cool in scorching hot summers, we have drought-resistant crops to feed us when the rains fail, we have desalination plants when freshwater supply runs low, and we can buy carbon offsets to ease our consciences – what someone has dubbed a modern form of indulgences. Those people with the smallest Ecological Footprints – generally the poor of the Global North and most nations of the Global South – do not have those resources, leaving them most at risk.

Does stewardship of creation mean developing ever more sophisticated technologies to protect us from our warming globe – or are we being called to do something new? What is required of us in our relationship with our fellow human beings and the other species with which we share this planet?

This picture of our planet and the questions surrounding it point to the urgency of what we and our planet face. We might be tempted to turn away, wringing our hands and despairing of the future. But our faith calls us instead to ask, How, starting now, can we live responsibly on the earth on which God has placed us, creating with God a future in which our planet and “all that is in it” survives and thrives? To help us with that question, we now look back in order to move forward.

### 3. “PLANET”

#### WHAT’S IN A NAME, AND HOW DID WE GET HERE FROM THERE?

by *Harold Remus*

*Earth and all stars! Loud rushing planets! / Sing to the Lord a new song!*

Herbert Brokering, *Earth and All Stars! Evangelical Lutheran Worship*, hymn 731

WE TAKE FOR GRANTED today that the earth revolves around the sun. It was not always so. Before what became known as the Copernican Revolution, it was thought that the sun revolved around the earth. It was a geocentric universe.

Theology was likewise geocentric but also anthropocentric as well. That is, the focus was (and usually still is) on humans and their relation to God and to one another. Little attention was (or is) paid to the other species or to the earth itself. This section looks at the kind of world-view that underlies such theology. The following section then turns to another kind of theology – *ecothology* – a sort of Copernican Revolution in itself that, in response to environmental concerns and with a fresh reading of the Bible, broadens the scope of theology beyond humans to encompass those other species as well as the earth itself – the *planet* in its fullness and complexity.

### 3.1 “Planet”

A NAME can sometimes encapsulate a whole world view. So with “planet,” a word meaning “wanderer” (from the Greek verb *planān*, “to wander”), so named because, unlike the fixed stars, planets were observed to be in motion, revolving around the earth.

“Planet” is not a word found in the Bible because it comes from a world-view quite different from and later than that of the Bible. Around the year 150 C.E., Ptolemy, a noted Greek mathematician, geographer, and astronomer, published a textbook of astronomy, the *Almagest*, that combined theory and astronomical observations ordered mathematically to produce models of the sun, moon, fixed stars, and planets which dominated the field for nearly a millennium and a half in both the eastern and western Christian empires as well as in the Islamic world (details in Toomer 1998: 89-92). It is rendered schematically in Figure 1 on page 27 below.

At the centre of this universe is the earth – it’s a geocentric universe. Enfolding the earth and revolving around it are concentric spheres, each containing a planet. You cannot see the spheres because they are crystalline and therefore transparent. Nor can you hear the music the spheres produce as they revolve, because humans, being fallen creatures, are deaf to it, as Shakespeare’s Lorenzo explains to Jessica (*Merchant of Venice* 5.58-65):

Sit, Jessica. Look how the floor of heaven  
Is thick inlaid with patines of bright gold:  
There's not the smallest orb which thou behold'st  
But in his motion like an angel sings,  
Still quiring to the young-eyed cherubins.  
Such harmony is in immortal souls;  
But whilst this muddy vesture of decay  
Doth grossly close it in, we cannot hear it.

Lorenzo’s reflections presuppose the medieval theologizing of the Ptolemaic schema illustrated in Figure 2 on page 27 below. The Latin running around the highest (heavenly) sphere tells us that that sphere is the habitation of God and all the elect. By contrast, the earth, at the centre, is transitory and imperfect – a fallen world despite the idyllic depiction of trees, mountains, and water, with air and fire surrounding it (intrinsic to the picture are the four primal elements: earth, air, fire, water). Missing are humans, but it is clearly a human-centred – anthropocentric – picture, with earth, their dwelling place, at the centre, and heaven above their goal. In this schema, Ptolemaic science and Christian theology sit comfortably side by side, mutually affirming each other.

### 3.2 Copernicus

IMAGINE THE SHOCK to the system when a Polish mathematician and canon law lawyer named Copernicus published a treatise in 1543 entitled *The Revolution of Celestial Spheres* in which the sun is

the centre of the universe with the planets, including earth, revolving around it. Revised and refined through subsequent work by Tycho Brahe and Johannes Kepler, confirmed by various of Galileo's observations using the telescope he had constructed, and leading eventually to Newton's laws of motion, the Copernican heliocentric universe became standard doctrine. So upsetting was it to ecclesiastical authorities in Rome, however, that in 1611 they banned its teaching and put Galileo on trial for defending it. Not till 1992 did the Vatican lift the ban.

Rome's reaction to the new system was not surprising. In place of the earth at the centre of everything, with humans on that earth the focus of God's care and concern, earth was now just one of those orbs circling the sun. Still, earth was where people lived, moved, and had their being. For them it was still the centre, even as it is today for our everyday lives and even though the universe we now know has expanded to dimensions that defy human comprehension and reduce our earth to a nano-speck and humans but specks on that speck. Some well-heeled individuals are now beginning to take brief joyrides into space, while others, prominent scientists among them, speak of colonizing space. But those colonists would be a minuscule minority. For the rest of us this earth is "home," but a home in peril. The next section looks at how and why some Christians thinkers have responded to the peril by bringing together *ecology* and *theology*.

#### 4. THE GREENING OF THEOLOGY: ECOTHEOLOGY

by Harold Remus

*"Environment" means that which surrounds us. . . . [But] the world is also within. . . .  
We are made of it; we eat, drink, and breathe it. . . . Earth is bone of our bone and flesh of our flesh.  
This is not "environment" so much as the holy mystery of creation,  
made for and by all earth's creatures together.*

Larry Rasmussen, *Earth Community, Earth Ethics*, p. xii

THE PERIL to our planet has led to a greening of theology that has come to be called *ecothology*. It is theology that includes in its purview "the earth . . . and all that is in it" (Ps. 24.1) – plants, animals, land, sea, and air, and how they relate to each other. In other words, *ecology*, "the science that studies these relationships and the processes linking each living thing to the physical and chemical environment. . . . the science of planetary housekeeping" (Commoner 1971: 32).

In the creeds we recite in church on Sundays we confess God as creator, but beyond that there is no hint of ecology. Not surprisingly, because the creeds come from a time when numbers of people on the planet were small and the environment, though sometimes exploited to the point of destruction (Wright 2004), was not affected on a scale to threaten life in the world known to the formulators of the creeds. There were other lands to which people could migrate, even as many centuries later North America was the *new world*, with its frontier then becoming the garden of the world, the *Virgin Land* (Smith 1950), to which one could go to begin afresh.

What concerned the formulators of the creeds, on the other hand, was to confess a God distinct from the polytheism of the day and in the face of pressure to worship the Roman emperor (Remus 2002; 2004). At the same time, they needed to confront accusations that they themselves worshipped three deities, a father, a son, and a spirit (Kelly 1960; Fortman 1982). The creeds give us the distillations of the formulators' wrestling with these fundamental issues over the course of several



centuries. The Lutheran Reformers, facing other issues, found it necessary to re-think and re-interpret them in additional confessions of faith, gathered together in *The Book of Concord* (Kolb and Wengert 2000). Today is another such time of fundamental re-thinking and re-interpretation.

“Greening” how we think about the world as Christians means going back to the Bible and to our theological and liturgical traditions, reading them afresh in light of our place in a world that includes much, much more than just us humans. Already back in 1970 Lutheran theologian H. Paul Santmire published *Brother Earth: Nature, God and Ecology in Time of Crisis*, followed by other, similar titles on ecotheology: *The Travail of Nature: The Ambiguous Ecological Promise of Christian Theology* (1985) and *Nature Reborn: The Ecological and Cosmic Promise of Christian Theology* (2000). There followed works by other Lutheran scholars, for example, *Earth Community, Earth Ethics* (Rasmussen 1996) and *Christian Environmental Ethics: A Case Method Approach* (Martin-Schramm and Stivers 2003), as well as volumes by a host of theologians from other traditions.

The titles of some of these suggest their concerns, which now extend to the effect of mainstream lifestyles in the Global North on the poor of the earth:

- *No Heaven Without Earth* (Metz and Schillebeeckx 1991)
- *Christian Faith and the Environment: Making Vital Connections* (Hill 1994)
- *Ministering with the Earth* (Moore 1998)
- *Caring for Creation: The Environmental Crisis: A Canadian Christian Call to Action* (Hallman 1989)
- *Ecotheology: Voices from South and North* (Hallman 1994)
- *Cry of the Earth, Cry of the Poor* (Boff 1997)
- *Sacred Earth, Sacred Community: Jubilee, Ecology & Aboriginal Peoples* (Mihevic 2000).

These books can be seen as, in effect, a response to the realization, epitomized in Rachel Carson’s classic, *Silent Spring* (1962), that DuPont’s *Better Things for Better Living . . . Through Chemistry* – a slogan I lauded in my days as a chemistry major – was not necessarily so. In 1971 Barry Commoner, the Washington University professor already well known for protesting fallout from nuclear testing, took a look at the even bigger picture and formulated Four Laws of Ecology in a book tellingly titled *The Closing Circle* (1971: 33-46):

1. Everything is Connected to Everything Else. [*That is, all living organisms occupy one ecosphere and what affects one affects all.*]
2. Everything Must Go Somewhere. [*That is, there is no “waste” in nature and there is no “away” where things can be discarded.*]
3. Nature Knows Best. [*That is, any major change humans make in a natural system is “likely to be detrimental to that system.”*]
4. There Is No Such Thing as a Free Lunch. [*That is, “every gain is won at some cost” because “the global ecosystem is a connected whole.”*]

It was a professor of history at the University of California at Los Angeles, Lynn White, Jr., who, one might say, set the agenda for ecotheology. In a much-cited article in *Science* (1967), anticipated in an article two decades earlier (1947), White reflected on how the marriage between science and technology in the mid-1800's began to change the planet’s ecology (a word that first appears in English around the same time). The pre-history of that marriage, said White, involved a relation of humans to their environment rooted in Christianity, which had inherited from Judaism a linear

concept of time beginning in a creation in which humans are the exemplars for which all else has been created and which they are to rule over. At least in the West, Christians saw themselves as set apart from – transcending – nature, which (now bereft of its once familiar sprites and spirits) was a neutral territory to be used and exploited for human purposes.

For White, himself a churchgoer, the patron saint of ecology would be Francis of Assisi for whom the virtue of humility – not only for individuals but for the human species as a whole – led him (as White put it) to see all God’s creatures as equal, “a democracy of all God’s creatures.” That is one of the key tenets of ecotheology, deriving from a fresh reading of the scriptures. These we look at next.

## 5. “THE STRANGE NEW WORLD WITHIN THE BIBLE” WHAT DOES THE BIBLE SAY ABOUT GOD’S EARTH (AND US)?

by *Harold Remus*

*God saw everything that he had made, and indeed, it was very good.* / Genesis 1.31

*. . . the whole creation has been groaning in labor pains until now;  
and not only the creation, but we ourselves. . .* / Romans 8.22-23

KARL BARTH’S characterisation of the world within the Bible as “strange” and “new” in a lecture he delivered in 1917 (Busch 1976: 101; translated in Barth 1928, chap. 2, and dated 1916) accords with what we see when we turn to the Bible with questions about our planet in peril and looking for a word from beyond.

We look first at the two creation accounts in Genesis. Chapter 1, a spare, sober account on a cosmic scale, is attributed by biblical scholars to the Priestly tradition (P) of the Hebrew Bible, while Chapter 2, set in a garden of limited dimensions, is ascribed to the Jahwistic tradition (J). For P, God is transcendentally distinct from the world, whereas for J the Creator is very much immanent in the world, though again distinct from it. Both accounts present humans in close, symbiotic relation to the earth and all its creatures.

### 5.1 *Genesis 1.1 - 2.4a The Big Picture: A Universe in Three Layers*

IN PLACE of “planet” and “epicycles” and the other technical terms of the Ptolemaic and Copernican cosmologies, the language of Genesis 1 is that of the familiar and everyday, based on observation of what we see around us: “earth” or “heavens and earth” and “water(s)” and “dry land” (Gen. 1).

#### *Waters, Land, Dome*

Decidedly unfamiliar, however, is a Hebrew word, *raqia*, that points to a world quite different from that of the “planets” and of our own. *Raqia* means something solid like a piece of metal hammered out to make a surface, variously translated as “firmament” (KJV) or *Feste* (Luther) or “dome” (NRSV), referring to what we call “sky” (Gen. 1.6-7; similarly, Job 37.18). The Creator commands this solid expanse to make a division of the formless primal waters, separating them into waters above the *raqia* from those below it (Gen. 1.6-7; similarly, Ps. 148.4-6). Then follows a command to let dry land appear (1.9-10).

These and other passages make clear that various biblical writers saw the land on which they

walked as resting on water: Ps. 24.2, “founded it [the earth] *upon the seas*, and established it upon the *rivers*” (NRSV; “the *waters*,” NIV); Ps. 136.6, “who spread the earth upon the *waters*”; Gen. 7.11, “on that day all *the fountains of the great deep* burst forth” (cf. Gen. 49.25); Exod. 20.4, “You shall not make for yourself an idol, whether in the form of anything that is . . . in *the water under the earth*.”

Here “creation” is not a one-time thing. It is, rather, a continuing “creating” in which the creation – humans included – depends on God for stability and functioning (cf. Job 7.12; Ps. 104.5-9). The Book of Job gives eloquent voice to this *creatio continua*, with God sending thunder, lightning, snow, rain, whirlwinds, and the cold that turns water into ice (37.1-13) while, in the heavens, God guides the constellations (38.31-32) and, on earth, provides for the young of lions and ravens (38.39-41).

Luther’s explanation of the First Article in the *Small Catechism* perceives this clearly: “God has created me together with all that exists. God has given me and *still preserves* my body and soul . . . .” Arthur Peacocke, the noted British biologist-theologian, wrote shortly before his recent death that “the laws and regularities discovered by the natural sciences, are themselves actions of God, who continuously gives them existence” (2007: 17) and is “creating at every moment of the world’s existence in and through the perpetually-endowed creativity of the very stuff of the world” (p. 19).

### *Deities and Deity*

In the solid dome – the *raqia* – the Creator places “lights” to mark day from night (Gen. 1.14-18). These verses make no reference to the sophisticated Babylonian astronomy of the time (on which see Farrington 1969: 11-14). But implicit in them is a polemic against the polytheism associated with such science: The heavenly bodies are not the deities they were assumed to be in the world of that day (cf. Deut. 4.19; Isa. 47.13). Rather, they are “lights” – mere lamps placed in the dome by command of the Creator to carry out the Creator’s purposes. Therefore they are not to be worshipped. Instead, as St. Francis’s Canticle of the Sun puts it, it is God who is to be praised for what Francis calls Brother Sun and Sister Moon along with Brothers Wind, Air, and Fire, Sister Water and Sister Earth our Mother (see *Evangelical Lutheran Worship*, hymn 835).

Inhering in Genesis 1 as a whole is a tacit, monotheistic polemic against the polytheism of certain ancient Mesopotamian traditions with similarities to the Genesis account. These can be found in the Babylonian creation epic, the *Enûma Eliš* (pronounced *Elish*), recorded in Akkadian on clay tablets unearthed by archaeologists in the 1800s at ancient Nineveh (present-day Mosul, Iraq). In this epic (available in translation in Pritchard 1955; Heidel 1972; Dalley 1989), deities surge back and forth in the primal waters, in confusion and conflict, until a champion, Marduk, emerges to bring order by slaying rival deity Tiamat and slicing her in two to form the heaven above and the earth beneath. In Genesis 1, on the other hand, there is no such welter of deities, all part of the material world. Rather, there is only one deity, and this One God stands apart from the material world, relating to it by words of command that bring the world we know into being.

### *All Manner of Living Things*

Into the three-layered universe the Creator now places plants and animals. But unlike earlier verses where God speaks creation into being or “makes” it directly (1.7), in verses 1.11-13 and 1.20-33 God employs means to do the creating. The *earth* is commanded to bring forth plants and trees (1.11-13), the earth functioning in a maternal mode. The *waters* then assume that same maternal role, bringing forth “living creatures” of every kind, including “the great sea monsters” (1.20-21) in which the Book of Job delights (Job 41) even as in 40.15-24 it celebrates also the wonder of a primeval

monster, “Behemoth” – a simple transliteration of the Hebrew word *behemoth* (40.15). God made Behemoth, “just as I made you,” says God (40.15) – a democracy of creation.

Job 39 is a zoological catalogue of the habits of various species of wild animals and birds, rivalling the psalmist’s wonder at the splendour of the humans God has created (Ps. 8.3-8). Another psalmist (104.10-25) beholds with awe the whole wonder of the ecology of God’s creation where God’s concern for all its creatures is clearly manifest: streams to give drink to wild animals, trees as a home for birds, grass for cattle and plants for humans, high mountains as refuges for wild goats, the cover of darkness for forest creatures to seek their prey, the sea populated by “living things both great and small” (104.25). “O Lord, how manifold are all your works!” (104.24).

God’s concern for domestic animals is seen in a passage like Deut. 25.4 where the owner of an ox is not to squeeze the last bit of grain out of the harvest by muzzling the ox treading out the grain from the chaff, thus preventing the ox from eating any of the grain.

### *Earthlings and “Dominion”*

Lastly, the Genesis 1 account turns to humans. They are special in that they are created in God’s “image,” according to God’s own “likeness” (1.26-27). The meaning of both of these words has been discussed, debated, expounded, endlessly worried over. Here their simplest meaning is that humans reflect God’s dominion, or rule, over creation: As God exercises that dominion, so humans, too, are to exercise dominion, and just as the monarch’s rule was signified by an image of the monarch set up in public (or on coins, a practice persisting to the present day), so humans are the visible embodiment of the divine reign over the creation (von Rad 1961: 57-58).

What kind of “dominion” is that to be? The Hebrew words in Gen. 1.28 variously translated as “subdue” and “have dominion/rule over” mean just that. In the world of Genesis 1, the population was small, close to the land, directly dependent on it for survival, and “subduing” and “having dominion/ruling over” did not place the planet in peril. That is not our world where humans, by sheer numbers and through massive and sophisticated technology, have been able to “subdue” and “dominate” the earth and the other species in a way undreamed of in the ancient world in order to satisfy consumption on a scale unknown in that world. As what David Suzuki calls “the super-species,” we have exploited the earth’s flora and fauna for *our* purposes, with little regard for the welfare of other kinds of life and for the earth and the waters that (in the Genesis account) gave birth to their many species.

It is clear from the various passages cited above that such heedlessness is not the kind of “dominion” the Creator envisages. The Creator repeatedly pronounces each new creation “good,” concluding with a pronouncement of “*good*” over “*everything* that he had made” (Gen. 1.31). It is clearly the will of the Creator that the “goodness” inhering in “everything” the Creator has created is to be preserved.

What is clear also is the intimate relation between humans and all the works of creation that precede humans: light, darkness, sun, moon, land, waters, all the species of plants, animals, fowl, and aquatic creatures. Without these, humans would never survive. Only when these have all been brought forth by God are humans brought on the scene. Humans, especially in the Global North, are very fond and protective of their pets and their plants. However, they also hold the destiny of *all* the species of flora and fauna in their hands. Those species have no say in it.

The same concerns for God’s creation occur, but now in a quite different setting, in the second creation account, in the second chapter of Genesis.

## 5.2 Genesis 2.4b-25 A Closeup Look: The Garden

IN PLACE of the cosmic three-layered universe of Gen. 1, the focus of this second creation account is earth and a specific geographical locality – “Eden, in the east” (2.8) – and what takes place there.

Here, out of earth (Hebrew *adama*), God fashions a human (Hebrew *adam*; 2.7): an “*earthling*” from “*earth*” (Speiser 1964: 16), or *humans* from *humus*. God next plants a park-like garden (2.8-9; cf. Ezek. 31.8) into which God places this earthling and, eventually, the whole array of animals and birds fashioned (like the earthling) from earth, and, lastly, a human companion made from a rib of the earthling, and thus bone of his bone and flesh of his flesh (2.18-23).

Their common origins in earth tie all the species together. But it is the earthlings who are given the responsibility of looking after the garden. Specifically, they are “to serve and preserve” it (as the Hebrew has it, 2.15). Thus here, as in Genesis 1, humans are to care for the earth and all that is in it “in a single Community of Life,” participating with God “in ongoing creation as a totally interrelated reality” (Rasmussen 1996: 231).

## 5.3 God’s People and a Second Adam

THESE EARLY CHAPTERS of Genesis are not offered simply to satisfy curiosity about cosmic and human origins. Rather, they are the pre-history of a people set apart by God for God’s purposes. Frustrated by humans’ violence and disobedience, God decides to start over by sending a flood that only one special family is to survive along (be it noted) with the animals God commands Noah to take into the ark with the humans on board (Gen. 6-9). Noah’s descendants, however, prove no more satisfactory to God than those drowned in the flood (Gen. 9.20-28; 11.1-9), and so God calls Abram and Sarai to be a chosen people carrying out the divine purposes (Gen. 12). The rest of the Hebrew Bible tells their story, God’s frustration with their disobedience, and God’s repeated calls to them to return to the covenant between them and God.

Christians have found in that long narrative their own story as well. For them, it continues with Jesus at the heart of it, bone of our bone and flesh of our flesh (John 1.14; Heb. 2.14), who becomes (in Paul’s telling) the Second Adam who puts right what the First Adam got wrong (Rom. 5.12-21). Even as the First Adam’s naming of the animals points to his close ties with the other species, the Second Adam delights in the lilies of the field and proclaims God’s care for “the birds of the air” (Mt. 6.26-29). The Second Adam also sees in the sprouting and growth of seeds a likeness to the working of God’s reign (Mark 4.26-32) – a reign marked by serving, not dominating (Mark 10.35-45).

As people of God we are called to live the new relationship that God, through Christ, established among “*all* things, whether on earth or in heaven” (Col. 1.20). Today Christ comes to us in the Word proclaimed by mortals and in a vital earthly element (water) and in products of the earth (bread and wine). The eucharist, as Arthur Peacocke has noted (2007: 43), imparts to the bread and the wine “*a new significance for, and a positive evaluation of, the very stuff of the world.*” In that it is bread (and not grains of wheat) and wine (and not grapes), we experience humanity “*co-creating with God in ordinary work.*” The body broken and the blood shed express Christ’s self-sacrifice, inviting his followers to display “*the same self-emptying love*” for others and so to further the bringing in of the reign of God. “*Eucharist witnesses to the presence of God, as the transcendent, incarnate, and immanent Creator.*”

## 5.4 Luther on Nature

FOR LUTHER it is here, in Word and Sacrament, that God speaks to us clearly and directly in

contrast to how God speaks to us through nature. Nonetheless, Luther had a keen eye for nature, its products and processes. These works of God (he says) are so commonplace we fail to see how wondrous they are: The birds' blithely looking to God to provide for them; domestic and wild fowl giving birth through a mere egg; fish spawning, cows calving, a woman bearing a child; grain coming from a tiny kernel; fire heating us, the sun shining so dependably day to day (Bornkamm 1958: 180-83). And isn't it wondrous how the solid dome of heaven arches above us unsupported by pillars (ibid., 181)?

His remark that peasants understand all this better than do the professors at universities (ibid., 182) calls to mind Oscar Handlin's evocative portrait of European peasants and their intimate connection with and respect for the land that provided them sustenance (Handlin 1973, chap. 4). With 80% of the Canadian population living in urban areas in 2001, compared to 46% in 1931, it is not surprising that the closest many may come to a potato, a tomato, or a steer is at a fast food outlet.

In disputing with opponents over how Christ could be present at a thousand altars yet seated at the right hand of God, Luther posits that we cannot comprehend or confine how God occupies space. The Divine Majesty is "outside and above all that exists" yet "present in all places, even in the most insignificant leaf of a tree" as well as "in a grain, on a grain, over a grain, through a grain, within and without," and "though a single Majesty, it nevertheless is entirely in each grain separately, no matter how immeasurably numerous these grains may be" (quoted in Bornkamm 1958: 189). Yet, though God is "everywhere, in all creatures . . . in a stone, in fire, in water, or even in a rope," these are but obscure "masks" of God compared to God speaking through his Word (ibid., 191).

Luther's bold and imaginative insights into Creator and creation – an incipient ecotheology – are instructive for his heirs as we reflect on our planet in peril.

### 5.5 *If . . . Then: Justice and Idolatry*

SOME TIME at the end of the seventh century B.C.E., in the waning years of the Kingdom of Judah, the prophet Jeremiah goes to the gate of the temple in Jerusalem and delivers a warning (Jer. 7). You who enter here to worship the Lord, "Amend your ways and your doings" and the Lord will continue to "dwell with you in this place." Don't deceive yourselves into taking God's presence – and thus God's protection – for granted, going around chanting the slogan "This is the temple of the Lord, the temple of the Lord, the temple of the Lord" (7:3-4).

Jeremiah then sets up a series of conditional sentences: *If you do this . . . then . . . that will follow.* These conditions have to do with justice and idolatry (7:5-7):

For if you truly amend your ways and your doings, if you truly act justly one with another, if you do not oppress the alien, the orphan, and the widow, or shed innocent blood in this place, and if you do not go after other gods to your own hurt, then I will dwell with you in this place, in the land that I gave of old to your ancestors for ever and ever.

Following a recital of the Judahites' injustices and idolatry, the Lord delivers an object lesson (7:12-15). If you think I'll always be here in this temple, go look at where I used to dwell in Shiloh – the earlier shrine, which housed the Ark of the Covenant and was subsequently destroyed (1 Sam. 1-6; Ps. 78.60-61). Already unpopular for his jeremiads, Jeremiah is brought before the authorities and barely escapes being put to death for these pronouncements (Jer. 26).

Like Jeremiah's hearers we have conditional – *If . . . then* – propositions before us as well. They come to us – have been coming to us for decades – from scientists: *If we act now, then we can*

reverse some of what has happened. Sometimes the conditional sentences are of the *past* kind: *If* we had acted several decades ago, *then* the picture would be more hopeful for future generations of humans and other species and for the earth itself.

The April 2007 report of the United Nations Intergovernmental Panel on Climate Change also includes what various Christians theologians have been saying for some time (e.g., Hallman 1994; Boff 1997; Moore 1998: 120-32): The climate changes caused by our lifestyles in the Global North will have their greatest impact on the poor, whether in the Global North but especially in the Global South, which has contributed least to these changes and is least equipped to deal with them. That is a question of justice.

In light of the Jeremiah passage, are we also talking here about idolatry as well as justice? In explaining the First Commandment and what it is to “have a god,” Luther defines a “god” as “that to which we are to look for all good and in which we are to find refuge in all need” (*Large Catechism*, in Kolb and Wengert, 2000, p. 386:1-2). Have we – and our culture – taken “quality of life” to mean “quantity of life,” the material possessions without which we cannot live, “to which we . . . look for all good,” with “I/we want” coming to be defined as “I/we *need*”?

When it comes to the environment, a “god-of-the-gaps” theology – God stepping in to deliver us from the consequences of our actions – is not helpful. What we have sowed in the earth and its atmosphere we will reap (Gal. 6.7). Theologians and scientists versed in each others’ disciplines say that such interventions are not how God and God’s earth operates (Clayton 2007). When we are in tune with the earth – serving and preserving rather than wasting and exhausting it – then it will respond by serving and preserving us and other forms of life.

What God calls us to is to sow new seeds, even in the face of gloomy prospects, even as Jeremiah bought a field in Judah in the face of its impending doom as a sign that “Houses and fields and vineyards shall again be bought in this land” (Jer. 32.6-15). Or, as the Apostle Paul put it, “So let us not grow weary in doing what is right, for we will reap at harvest-time, if we do not give up” (Gal. 6.9).

## 6. GREENING SACRED SPACES: FAITH IN ACTION

by *Jana Kelly*

*Faith guides our actions in other arenas, why wouldn't we bring it to the environment?*

Mary Vetter, “Musings on Ice, Polar Bears, and a Call to Action,”

*The Canada Lutheran*, June 2006, p. 36

“SACRED” means set apart for God’s purposes. Churches are such spaces, and there is much that congregations can do to make them better serve the purposes of the Creator for creation:

- Pray for and celebrate the creation in worship. See, for example, hymns 730-740 in the new *Evangelical Lutheran Worship* and the discerning essays by Fred Ludolph 2007 and Paul Bosch 2007 at [www.worship.ca](http://www.worship.ca).
- In Sunday School and adult classes, in confirmation classes and with youth, young adult, campus ministry, or Evangelical Lutheran Women’s groups, study what the Bible says about the earth and human responsibility for it and the implications for living as persons freed by Christ to be stewards of creation.

- Do an energy audit of your church building with an eye to reducing garbage and the use of energy, water, and paper, and to employing alternative energy sources for heating and cooling – solar, geothermal, wind.
- Organize "Garbage Free Sundays" and "Garbage Free Lunches" aimed at zero garbage for those days.
- Use or lend part of church land for a community garden.

In some communities faith groups are now gathering together, learning how to do more in greening their sacred spaces, reporting on what has been done, sharing ideas about how to do more. See, for example, the Faith and the Common Good website (<http://www.faith-commongood.net/gss/index.asp>).

“Wherever God is at work” is another way of saying a space is “sacred.” Dwelling places are thus also sacred spaces, and some of these suggestions would apply also to them. Other suggestions will be found on the ELCIC website (elcic.ca). Typing *save money planet* into a search engine will turn up a multitude of ways to save the planet while also saving money.

In our daily life, what and how much we consume is part of living responsibly on our planet. Commoner’s Four Laws of Ecology make clear that what and how much we consume have an inevitable effect on the planet.

- When thinking about the cost of an item, think about the cost to the environment: what it cost to produce it, how far it might have travelled to the store shelf, its packaging, and the end use of the product and of its packaging.
- Eat locally produced foods as much as possible, thus avoiding the huge carbon emissions caused by transporting goods from afar, and encourage your school or college or university or place of work to do the same – “local,” meaning as close as your own garden or nearby farms, or “within 100 kilometres,” or Columbia University nutritionist Ann Gussow’s definition: “Within a day’s leisurely drive of our homes” (quoted in Cloud 2007: 3).
- Talk to siblings, spouses, companions, children/grandchildren, parents, grandparents, friends, about environmental concerns and encourage them to reduce, reuse, recycle, compost, carpool, use public transportation – and set an example for them to follow.

Earth itself is sacred space, as we have sought to show. Sometimes nuclear energy and coal or fossil fuels are posited as the only feasible sources of energy for heating and lighting our homes and the many buildings, public and private, of our world. These sources are not only non-renewable, they are polluting. Much research has been done on renewable, alternative sources of energy, and various such sources are already in use in various countries:

- Windmills are very common in certain parts of Europe and are now showing up in various U.S. states and in Canadian provinces.
- Typing *solar power* into a search engine will turn up dozens of websites offering information on the available technologies and products and what various countries and companies are already doing.
- While rivers and streams that power hydroelectric systems can be and are threatened by drought in various places, waves and tides offer sustainable energy.
- Geothermal energy (energy derived from heat in the earth’s interior ) is now being tapped in many places, Iceland being a notable example.



In Canada use of sustainable energy sources is still minuscule in comparison with use of traditional sources. Government assistance to sustainable energy comparable to that provided to traditional, non-renewable sources would change that ratio markedly and make sustainable energy much more affordable than at present. And does it make environmental sense for a government to increase taxes on property on which solar panels or geothermal systems or windmills have been installed because that property has thereby increased in value?

In addition to all that we can do as individuals to “serve and preserve” the earth (Gen. 2.15), this is where advocacy by Christians comes in. The role of governments in addressing global warming and its consequences is crucial. California, for example, has created a 10-million-hectare nature conservancy in the Sierra Nevadas, set aside thousands of hectares for ocean parks, and invested millions in fisheries management and in reducing pollution and restoring habitat. It is allocating 3.2 billion for solar roofs on homes and small businesses; the state government itself will be reducing its energy use by 20% (Kennedy 2007). South Korea has started work on the world’s largest solar power plant and Incheon City there plans to build the world’s largest tidal power plant, joining one already under construction in the country (Sang-Hun 2007; Yonhap 2007).

Our public officials need to hear our concerns, whether that is through personal contact or through traditional or electronic mail or by the way we vote or through public demonstrations. Here are just some of the changes that many – experts and non-experts, office-holders and ordinary citizens alike – are urging as essential to reducing our ecological footprint both as individuals and as a society:

- Fast-track approval of and financial support for innovation in renewable energy technology.
- Widespread adoption of renewable energy with the infrastructure to support it.
- Gradual removal of subsidy or subsidy-equivalent programmes for the oil industry.
- Fuel-efficient vehicles, including new technologies for hybrid and fuel cell vehicles.
- Extensive public transportation and programmes that motivate the public to change the way they get about.
- Conservation by individuals and “greening” throughout the public sector.
- Building codes that mandate “green” buildings.

Our response, as faithful people, to the sacredness of the earth and all its life will vary, depending on who and where we are – culturally, socially, economically, geographically – and in our journey of faith, and whether we are young or old, single or partnered, a parent, grandparent, child, or grandchild. What do you hope and pray and work for as you look to your future, or the futures of your relatives, of friends, of neighbours near and far (Luke 10.29-37), of farms and cities, land, waters, and air, of all the wondrous and manifold species of life on this planet? Those futures are at stake, and they are not far off.

Can one person, or one congregation, really make a difference? But we are not alone – only one person, one congregation. The environment is now very much a part of the public consciousness. Recall the reminder from Jacques-Yves Cousteau on page three above: We do not “command the money and power of even a single major multinational corporation. But we can wield the formidable power of our numbers, the strength of a great unified crowd of citizens of the planet. . . . It is the weaponry of the peacemakers and the common people throughout history.” And when we walk our talk, God – and God’s creation – walk with us. So do many other concerned persons

around the world some of whose efforts to save the planet are eloquently reported in David Suzuki and Holly Dressel's *Good News for a Change: Hope for a Troubled Planet* (2002). Step-by-step, in what someone has called "relentless incrementalism," we can indeed make a difference.

## 7. "I BELIEVE . . . ."

by *Jana Kelly* and *Harold Remus*

*Summer and winter and springtime and harvest, sun, moon and stars in their courses above  
join with all nature in manifold witness to thy great faithfulness, mercy, and love!*

Thomas O. Chisholm, *Great Is Thy Faithfulness, Evangelical Lutheran Worship*, no. 733

THE CREEDS, as Tom Yoder Neufeld has recently pointed out (2007: 28-30), have nothing to say about discipleship. Nor (as was noted above) is there any hint of ecotheology. Nonetheless, can we see our Sunday confessions of faith as calling us to discipleship and guiding us to think ecotheologically?

- We confess *God as Creator* of all that exists – our earth and all the species of flora and fauna with which we live in a delicately balanced symbiosis, with ourselves as the species endowed with the capacity either to care and preserve or to destroy and eradicate.
- We confess *God as Redeemer*, who frees us from bondage to sin and idolatry, so we may live redeemed lives in relation to the kind of world we have created and continue to create.
- We confess *God as Spirit*, who calls us to be a people and empowers us to live redeemed lives that work to redeem our planet.

Having eaten of the Tree of Knowledge of Good and Evil – those scientific warnings of the suffering we are causing our planet – we are now called to focus on nurturing the Tree of Life.

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# THREE CASE STUDIES

## CASE STUDY 1

### FLOWERS IN CHURCH?

by *Jana Kelly*

AT CHURCH every Sunday your congregation celebrates the beauty and bounty of God's creation by placing fresh-cut flowers in the chancel. Families sponsor flowers to mark special occasions and milestones. At funerals, flowers comfort those who mourn. At weddings, flowers celebrate the union of two people.

With what you already know and after reading and pondering the list below, should your congregation continue to use fresh-cut flowers every Sunday? Are there other options or compromises? What criteria would you use to decide?

1. Flower cultivation consumes more pesticides than any other agricultural product and replaces farmland once used to grow staple foods like potatoes.
2. Pesticide poisonings are frequent, causing health problems among flower workers, including blindness, chronic bronchitis, asthma attacks, miscarriages, birth defects, seizures, headaches, vomiting, weakness, dizziness, weight loss, and leukemia.
3. Researchers from the Colombian National Institute of Health found a higher-than-average rate of miscarriages, premature births, and congenital malformations among the offspring of flower workers. In one group of 1,320 children born to former flower workers, 222 (17 %) had congenital malformations.
4. Unlike imported food and seeds, cut flowers coming into Canada are not tested for pesticide residues "because they are not ingested," though the U.S. Environmental Protection Agency recommended setting limits following the pesticide poisoning of ten Florida florists handling imported flowers.
5. Among other flowers, almost all carnations sold in Canada are grown in Colombia. About half the roses sold in Canada are also imported, with the majority coming from Colombia and Ecuador.
6. The export of flowers relies heavily on carbon-emitting transportation: 56 cargo planes leave Colombia every week with flowers destined for North American markets.
7. 70 per cent of Colombia's 75,000 flower workers are women who earn just (US)58 cents an hour. The International Labour Organization estimates that up to 20% of flower workers in Ecuador are children.
8. Latin American flower workers do not want us to stop buying flowers. Rather, they want us to advocate on their behalf for better working conditions and fairer wages.

*Adapted from the Sierra Club Canada <http://www.sierraclub.ca> and the US Labor Education and Advocacy Program <http://www.usleap.org>*

## CASE STUDY 2

### RUDY AND TRUDY (MOODY) GO GREEN(ER) – SORT OF . . . EXCEPT THAT . . . .

by *Harold Remus*

WELL, THEY CERTAINLY WANTED to go green. That is, greener. Because they were already somewhat green. Thanks to previous owners, there was a tall Norway pine greening their property

in the winter and two towering red maples that, along with opened windows at night and shades drawn during the day, served as their air conditioning in the summer. Chickadees flitted from branch to branch on the pine, sometimes hanging upside down, working away at something succulent. Rabbits found shelter under its bounteous boughs. Squirrels performed spectacular leaps from limb to limb of the maples.

Trudy and Rudy watched with interest as their next door neighbours, the Blazers, converted most of their lawn to various perennials, annuals, flowering shrubs, and native grasses. And no herbicides or pesticides. The property seemed to come to life, with bumblebees buzzing from flower to flower, robins carrying long strands of grass in their beaks for their annual construction project, cardinals flashing red amid all the green, and chipmunks darting here and there.

One year a family of groundhogs made regular appearances in Rudy and Trudy's backyard. Next year, no shows. After one long winter, furry skeletal remains were discovered in the garden shed lean-to. One time a raptor knifed down on an unsuspecting dove and carried it off. Survival of the fittest? Darwin's natural selection? For sure, nature red in tooth and claw

Or ecology, nature's housekeeping? That's what concerned Trudy and Rudy: How they fit into the Big Picture as humans alongside all those other species. Some people on the street had followed the Blazers' lead and greened their property, making it more "user-friendly" and more earth-friendly. Rudy and Trudy still had to do that.

But they had done a few things. They had had an energy audit of their house and got new windows and doors to replace the leaky old ones. In the winter they piled on clothes, layer upon layer, because they set the thermostat so low. They wrapped insulation around their hot water pipes and hot water tank. They bought a new energy-efficient refrigerator and a front-loading washer that used very little water and spun the clothes practically dry so you could hang them up inside in the winter (goodbye, dryer).

All those purchases! Talk about consumption! But wait a minute: Who said that greening would be bad for the economy?

But still . . . look at what was happening to the planet.

So, they did the Ecological Footprint questionnaire and found that, despite whatever they had done and were doing, their Footprint was still almost five. Living in Canada put them behind from the beginning, not only the cold and the heating bills but also because the overall Canadian footprint was big. Canadians, Rudy and Trudy among them, consuming, consuming, consuming. Even though they drove no long distances in their modest four-cylinder with low miles per gallon, just using a car around town raised their score.

They couldn't do any more. Or could they?

They explained that, one weekend when Dad and Mom Moody were visiting. Dad was a little sceptical of it all. Small cars more in evidence after the gas shortage in the 70's, he said. But now look – limo-size cars, Hummers, monster SUV's. "And in town!"

Mom Moody spoke up. People are coming around a bit now, she said. They're getting scared. And Christians find in their faith reasons to look after the planet. She tried to work through possible changes Rudy and Trudy could make.

Do you take your own bags when you shop?

"Sure do. Even though it annoys some of the checkout people."

How much garbage do you put out each week?

"Well, it rattles around in the garbage can, and even when we put out a blue box, it has, I don't

know, weeks and weeks of recycling in it.”

Move to a smaller house?

“But, Mom, we’ve got all this Stuff.”

Get rid of the car? Take the bus?

“We do. Sometimes. But if you’ve got all these errands to do, and combine them on one trip – doesn’t it kind of ‘work out’? We plan our menu for a week and shop only once a week.”

Dad spoke up: “Well, at least you’re not one of those folks who drive up to a plaza and leave the engine running while they ‘just run in for a minute to pick something up.’ More like five minutes or longer and all the while exhaust spewing into the air. Maybe in 40 below, sure. But otherwise, what’s the big deal about turning the car off? I can remember as a kid hearing old-timers tell about having to crank their cars to start them. Do some cars today come without starters? Tell me another!”

Mom asked whether they bought local produce.

“When we can. But no celery or lettuce in the winter? And no oranges ever? And if everyone shunned Mexican tomatoes, what about the workers who grow them?”

Your city here, are the parks and boulevards off drugs?

“No. We should get a delegation together to lobby city council on that one. But we can’t do that till we get our own lawn chemical-free.”

Dad pointed out the example (see [www.truthout.org/docs\\_2006/031107C.shtml](http://www.truthout.org/docs_2006/031107C.shtml)) of the physician in New England, an evangelical Christian, who said he was going to take the plank out of his own eye before he worried about the speck in his neighbour’s eye. So he and his family totted up their energy usage, found it was average for Americans. But still way higher than the global average. They sold their house, moved to one about the size of their former garage – of course, as the M.D. points out, they had a big garage.

Similar stories came up. . . .

#### QUESTIONS:

1. What do you think of how Rudy and Trudy and their parents and neighbours see “greening”?
2. Considering your own house or apartment, what kinds of things have you done, or could you do, to become greener? Would they be similar to or quite different from what the Moodies did or thought of doing? What opportunities, and challenges, does your place of residence pose?
3. Can you think of other steps the Moodies have not taken?
4. Running through the Christian tradition and its Jewish antecedents are several themes pertinent to Rudy and Trudy’s situation (Martin-Schramm and Stivers 1970: 71-76). These are outlined below. How might you apply these to their situation and to your own situation?
  - 4.1 *Justice and solidarity with the poor*: God’s liberation of Hebrew slaves from Egypt (Exodus). The prophets’ repeated calls for justice, for example, Jer. 7, discussed in Sec. 5.5 above; Isa. 1.12-17; Amos 5.21-24; Micah’s summary in 6.4-8. In the New Testament: Jesus’ ministry to the poor and marginalised.
  - 4.2 *Sufficiency expressed in rigorous discipleship*: Sell possessions and give the proceeds to the poor: Mark 10.17-31.
  - 4.3 *Riches are transitory and make it difficult to serve God and deal justly*: Mark 4.13-20; 8.34-37; Matt. 6.15-21, 25-33; Luke 12.13-21; 19.1-10; 1 Tim. 6.9-10; James 1.11, 2.1-7, 5.1-6. Possessing the bare essentials should suffice: 1 Tim. 6.6-8.

4.4 *Sufficiency expressed in responsible consumption and use of wealth to help care for vulnerable members of society*: Jer. 7. 5-7; Isa. 10.1-3; Amos 8.4-8; James 1.27.

### CASE STUDY 3

#### GRETCHEN AND GORD PONDER SUSTAINABLE AGRICULTURE

by *Harold Remus*

GRETCHEN RECALLS hearing her mom and dad talk about the years on the farm during the Great Depression with its droughts and grasshoppers and rock-bottom prices for their grain crops. You watched it grow up, dry up, or blow away. If the rains came, so would hail right at harvest time.

On the farm today Gretchen and Gord were still at the mercy of the weather and the marketplace. They had watched how their out-of-pocket money – their net operating expenses for machinery, fuel, seeds, fertilizer, pesticides, herbicides – had travelled on a steady line upward on the economic graph while their realized net income had remained flat. At the same time they learned from their farmers' organization how so many of the companies from whom they bought machinery, fuel, seed, fertilizer, and chemicals, and the grain handling companies, railways, food and meat processors, fast food chains, and banks on which they relied, had reported record profits in recent years.

Times were tough. Yes, maybe some farmers were not meant to farm, didn't have the initiative or the smarts for it. And no one said it was easy. Growing up on farms, Gord and Gretchen had learned firsthand the many and varied skills that were needed, from cooking and baking and general household and farm management, to fixing tractors to figuring out when to seed and when to combine, and when to sell what you had combined. Like Gretchen and Gord, many of their friends had gone to agricultural college to get what professionals had to tell them. All the time they were picking up new techniques, like seeding that disturbed the soil only minimally. As in other areas today, knowledge was power.

Still, even some of the savviest farmers were being forced to sell and move off the land. So far, Gretchen and Gord had survived, thanks in part to government assistance but also by taking part-time jobs off the farm.

But now a new concern had risen: *sustainable agriculture*. That is, agriculture that sustained the land, that *gave* to the land as well as *took* from it, thus making it possible to continue farming the land. Sustainable agriculture called into question the way Gord and Gretchen had been operating. Ever larger acreages. Tech-heavy, intensive farming. Monoculture that reduced biological diversity and biological functionality, drained the soil of nutrients and made crops less resistant to disease and insects, which meant adding nutrients and herbicides and pesticides.

Efficient for sure – more productivity per acre, at least in the short term. But at what cost? Factory farming, one might say. Capital intensive. Reliance on commodity prices and on external inputs (seeds, fertilizer, etc.). High risk. Focus on the bottom line. Soil a non-renewable resource, to be used as long as it held up.

How long could the biologically sensitive systems that make such farming possible be sustained? What did it all mean, not only for themselves but also for their children (who were likely not going to be staying on the farm) or whoever ended up owning the farm? Yes, there was always their bottom line to worry about, but what did this kind of farming portend for food security for the nation? And what about God's good earth that had nourished them and their parents and



grandparents for so long?

They learned about Barry Commoner's Four Laws of Ecology, and noted especially the third one: *Nature Knows Best*. When they talked to profs at their provincial agricultural college, they heard a similar message: the biological system doesn't co-operate with factory farming, it insists on diversity, farming is a bio-economic activity, Mother Nature bats last, etc.

Gretchen and Gord always rotated crops, but the profs talked about rotation that included nitrogen-fixing plantings with deep roots as well. This meant that their reliance on commercial fertilizer would be reduced. It meant polycultures: legume, cereal, and oil seed crops. They began to see that sustainable agriculture involved the environment, for sure, but also the economic context of farming. It also involved something called "community." Community meant farming communities, but also the wider community. City dwellers, for example, who were dependent on farmers for the produce and meat and cereal products and so much more that they found in the supermarkets. Also, those in public office who made important decisions on regulation of agriculture, on taxation of farms and their suppliers, the agribusinesses, on international trade agreements. Sustainable agriculture was people-centric.

Some farmers were going organic because the market for certified organic products was growing. It cost more to farm organic but the return on investment was also higher. Gretchen and Gord didn't see themselves going that way. Too big a step, at least right now. Instead they were going to look seriously at the sustainability measures outlined by the ag profs. Which of them could be implemented, on what timetable, at what costs?

## QUESTIONS

1. Gretchen and Gord are moving to sustainable agriculture, not only for their survival as a farm family, but also out of concern for the earth and for food security for the general population. If you are in farming, how might you see yourself doing what they want to do (maybe you are already doing so)? If you live in an urban area, how might you see yourself supporting Gretchen and Gord's efforts or those of others involved in growing the food you eat – through what you buy? through advocacy of sustainable food policies by our governments? or in other ways?
2. If you live in a city or town, have you or members of your congregation or the children in the Sunday School or your youth or young adult or campus ministry groups ever visited a farm or ranch or orchard and got to see firsthand where food comes from?
3. Our agricultural and food distribution and preparation systems are complex, with consequences most of us know little about. One window into that world: Michael Pollan, *The Omnivore's Dilemma: A Natural History of Four Meals* (Penguin 2006).
4. Even in the Roman Empire with its many urban centres, most of the land and the population were still rural and agricultural. The economy was agriculture-based and the calendar reflected the agricultural year. The Bible comes from that kind of world and in many places assumes knowledge of agriculture or provides regulations for agriculture or for religious observances connected with it. These are a few of those passages, for insight into the world of that day, and for reflection in relation to today's world on or off the farm:
  - 4.1 Agriculture as the presumed way of life: Gen. 3-4; Deut. 14.22, etc. Mark 4.1-20; Matt. 20.1-16.
  - 4.2 Land that needed to be cleared of stones: Job 5.23; Isa. 5.2.
  - 4.3 Importance of rain and dew: Gen. 27.28; Deut. 33.28; 2 Sam. 1.21; Prov.19.12; 1 Kings 17.1; 1

- Kings 17.1; Hos. 14.5; Hag. 1.10-11; Zech. 8.12.
- 4.4 Hot, dry wind: Ezek. 17.10; Hos. 13.15; Luke 12.55.
- 4.5 Insects: Deut. 28.42; 1 Kings 8.37; Joel 1.4; Amos 4.9.
- 4.6 Fungus: Deut. 28.22; 1 Kings 8.37; Amos 4.9; Hag. 2.17.
- 4.7 Hail: Hag. 2.17.
- 4.8 Vineyards (Gen. 9.20; Isa. 5.1-10; Amos 9.14; Zech 8.12; Mark 12.1-12); olive trees (Deut. 6.11, 8.8; 24.20; Isa. 17.6).
- 4.9 Figs: Matt. 24.32.
- 4.10 Dates: Deut. 8.8.
- 4.11 Grains: Exod. 9.31-32; Deut. 8.8 2; Ruth 3.2; Kings 4.42; 7.1, 16; Isa. 28.25.
- 4.12 Agricultural implements/instruments: plow (1 Kings 19.19; Isa. 28.24-25; Hos. 10.11); sickle (Deut. 16.9; 23.25; Jer. 50.16; Joel 3.13); threshing instruments (Judges 6.11; Ruth 2.17; Isa. 30.24; 41.16).
- 4.13 Workers: Ruth 2; 2 Kings 4.18; Matt. 20.1-16.
- 4.14 The care of the earth: Gen. 2.15 (“serve and preserve”). Lev. 25: in the year of jubilee the land lies fallow.

FIGURE 1 - Ptolemaic Universe

Source: <http://csep10.phys.utk.edu/astr161/lect/retrograde/aristotle.html>

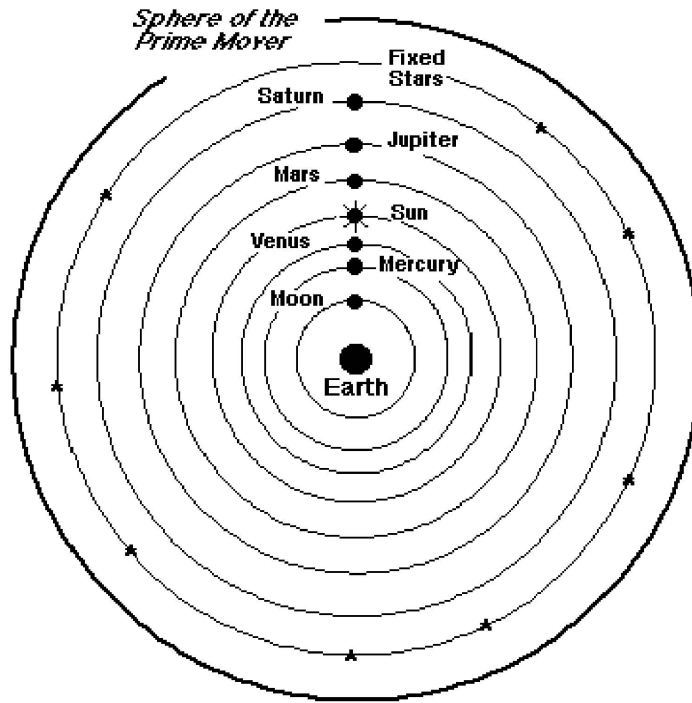


FIGURE 2 - Medieval Version of Ptolemaic Universe

Source: <http://www.luminarium.org/encyclopedia/medievalcosmology.htm>

