

**Boston College**  
SCHOOL OF THEOLOGY AND MINISTRY  
**Continuing Education Encore Events**

**Transcript of “Hope in a Time of Climate Change:  
A Conversation Between Religion and Science”**

**presented on April 6, 2017 by  
Dr. Carol A. Newsom**

**Melinda Brown Donovan:**

Now for tonight’s lecture. This annual Scripture lecture is offered in honor of Father Richard J. Clifford, S.J., a beloved professor of Old Testament at the Weston Jesuit School of Theology and the School of Theology and Ministry since 1970; 47 years. Father Clifford was the founding dean of the STM and our School is the richer for his continued teaching here as Professor Emeritus of Old Testament. Father Clifford, would you stand, please?

[applause]

This lecture is made possible through the generosity of Richard and Jeanne Kitz, who donated this annual lectureship at their way to recognize Father Clifford’s fine teaching and mentorship of their daughter, Ann Marie. We are ever grateful to the Kitz family for making this annual event possible.

Now Father Thomas Stegman, S.J., Dean of School of Theology and Ministry and Associate Professor of New Testament, will introduce our speaker.

**STM Dean Thomas Stegman, S.J.:**

Good evening. It is my honor to introduce our speaker, who’s a former teacher of mine, Dr. Carol Newsom. This is slightly off script, but Dr. Newsom combined a Southern elegance with a great high demand of her students, and pulled it off. She had a few of us New Testament folks venture across the chasm to study the Book of Job in a seminar. Talk about diving into the deep, but we learned a lot and you were very patient with us.

Carol A. Newsom is a native of Birmingham, Alabama. She holds a Master’s of Theological Studies and a Ph.D. from Harvard University. She has been awarded three honorary doctorates from her alma matter, Birmingham-Southern College, from Virginia Theological Seminary and from the University of Copenhagen.

Since 1980, Professor Newsom has taught Hebrew Bible at the Candler School of Theology and the Graduate Division of Religion at Emory University in Atlanta. In 2005, she was named the Charles Howard Candler Distinguished Professor at Emory in recognition of excellence in research and teaching. She served as the director of the Graduate Division of Religion from 2012 through 2015.

A past president of the Society of Biblical Literature, in 2016, she was elected to membership in the American Academy of Arts and Sciences. Dr. Newsom was the first woman to be named a member of the International Team of Translators of the Dead Sea Scrolls, and she has served on this team since the mid-1980s.

Her work has included editing and translating the Songs of the Sabbath Sacrifice, the Apocryphon of Joshua, as well as other texts. Most recently, she prepared the translation of the Qumran Thanksgiving Psalms for the official publication of the Dead Sea Scrolls by Oxford University Press, in the Discoveries in the Judean Desert series.

Her work on the Dead Sea Scrolls also includes her monograph, *The Self as Symbolic Space: Constructing Identity and Community in the Dead Sea Scrolls*, published by Brill in 2004. A school of the wisdom literature, Professor Newsom published a commentary on the Book of Job in The New

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Interpreter's Bible Commentary series with Abingdon Press and a monograph, *The Book of Job: A Contest of Moral Imaginations*, published by Oxford University Press in 2003.

Professor Newsom has been concerned with the ways in which women are portrayed in the Bible and the ways in which the Bible has come to be interpreted by women. With Sharon Ringe and Jacqueline Lapsley, she is coeditor of *The Women's Bible Commentary*, which has sold over 100,000 copies. A revised and expanded twentieth anniversary edition of *The Women's Bible Commentary* was published five years ago. This and some other selected titles are available for sale at the bookstore table at the entrance, so if you did not see those, please stop on your way out.

Most recently, Dr. Newsom has completed a commentary on the Book of Daniel, published in 2014 as part of the Old Testament Library Series by Westminster John Knox Press. She is currently at work on a new book entitled *Constructing the Moral Self: Moral Agency in Biblical and Early Jewish Thought*, for Yale University Press.

I am extremely delighted to present to you a distinguished Scripture scholar, to whom we owe a debt of gratitude for her work on the Dead Sea Scrolls and for bringing to light the lens of women interpreting the Bible. Dr. Carol Newsom, speaking on "Climate Change As a Consequence of Human Presence: A Dialogue Between Anthropology and Biblical Studies."

[applause]

**Dr. Carol Newsom:**

Thank you. It's an incredible honor for me to have been asked to do this lecture, not only because Father Clifford was one of my professors, but also because he accepted the very first article I ever had published in the *Catholic Biblical Quarterly*. I thank him for graciously helping me through that process.

Tonight the topic that I wanted to talk about is one that I think that has been on our minds a great deal. If we were to turn back though, turn back the clock for about a century, say to about the time of the first season of *Downton Abbey*, just to put us in perspective, we'd be surprised at how differently people saw their relationship to the earth and its systems.

The relationship between humankind and the earth not only felt different, it really was different. Now that's not to say that in 1917 people weren't aware of the transformations that were taking place. After all, steamships and railroads were making it possible for people to travel far greater distances. The automobile and the airplane were just beginning to make their impact, and the telephone was magically bringing distant people together. Radio and motion pictures were also transforming entertainment.

There were also reasons to be anxious about technology. After all, the Great War was showing the destructive power of industrial technology, but even that experience was generally enfolded within an optimistic narrative of human progress. The world itself still felt enormous. The romance of the Victorian-age explorers, who journeyed through tropical Asia and Africa and South America, was still recent. The very first expedition to reach the North and the South Poles had just happened. Quite literally, no one in 1917 could envision that human actions could put in jeopardy the very systems that sustained life on this planet.

But today, in 2017, it's all too evident that we not only can, but have put them in jeopardy. As we look forward toward the next century, we have to contemplate the near certainty that our collective actions are rapidly altering the climate of the earth in ways that are going to require thousands, if not tens of thousands, of years to repair.

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Some of the changes, like the extinction of species, are going to be permanent. In fact, scientists, as you probably know, are seriously considering whether humankind's impact on the planet and its systems has been so profound that the current geological age should not be called the Holocene, the recent epoch, but rather the Anthropocene, the human epoch.

We have to respond to this situation with all the resources we have—scientific, political, economic—but I think also with theological resources. Too often, conversations about climate change make religion and especially the Christian religion, figure as one of the problems, offering a narrative about humans and the earth that's opposed to the one that science gives. But in my opinion, there's actually a much more interesting and a much richer conversation to be had between science and the biblical narratives.

Now it's not my intention tonight merely to depress you, but it is important to begin by making clear the situation in which we find ourselves, and it's a frightening story, although I don't see it as story of doom. Over the past several years, there are several important reports that have come out—one by the Intergovernmental Panel on Climate Change, one by the World Bank and one that surprised me by the Pentagon—that have looked at the basic science of climate change, the effects of climate change on agriculture, and the struggle to end poverty and the relationship between climate change and geopolitical instability.

Their conclusions are deeply sobering. First of all, as I think we would all agree, climate change is not something that may happen in the future. We recognize it is something that is happening right now. We see its footprint in extreme weather events, and although scientists are rightly cautious about tying any particular incident to global warming, what is scientifically clear is that we have already reached the increase of 0.8 degrees centigrade above preindustrial levels, and that this has clearly related to the frequency and intensity of extreme weather events.

These include the hurricanes and floods, the heat waves and prolonged drought and the devastation of our environment is not just from these extreme events. What seem to us to be relatively small changes are also having dramatic effects. If you've been out West anytime in the past few years, you've probably seen the dead forests that are spreading in different areas, from Mexico all the way to Alaska. Winter temperatures have no longer been cold enough to kill off the pine beetles that destroy these trees, and the enormous quantity of dead biomass leads to fears of catastrophic wildfires.

Moreover, an increase of temperatures to 1.5 degrees centigrade, nearly twice what we've already experienced, is actually already locked into our future and that's if we do everything right. Now what does the future of our climate hold? We've got the scientific knowledge to know what we need to do. The economic impacts of addressing climate change will certainly be far less than will result if we ignore it, but we clearly seem to lack the political wisdom and will to address the problem.

Now there are actually some very hopeful signs. The astonishing drop in price and the increase in efficiency in wind and solar power is enough to make you stand up and cheer, but even as environmental sciences are praising these accomplishments, they also point out that even if all our current commitments are honored, they will not be sufficient to keep global warming below the threshold of 2 degrees Celsius, that's always been considered the critical benchmark for managing the crisis.

We remain anxious as to whether or not there will be feedback loops from the dramatic warming of the Arctic regions that could cause the release of immense stores of greenhouse gases, now stored in the frozen tundra. Without aggressive action, we're headed to an increase in temperature of 4 degrees Celsius by the end of the century. Under such circumstances as those three reports concluded, we can expect the inundation of coastal cities, increasing risks for food production, dry regions becoming drier, wet regions becoming wetter, unprecedented heat waves, substantially

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exacerbated water scarcity, increased intensity of tropical cyclones, and irreversible loss of biodiversity.

In fact, that irreversible loss of biodiversity is already underway now, not just from climate change, but from the cumulative effect of our human activity. As I'm sure you know, over the history of the life of the planet, there have been five major extinction events, when the numbers of species on the earth plummeted. The most recent and most famous, of course, is the one that wiped out the dinosaurs.

The causes of these five extinction events have been various—sometimes asteroids, sometimes volcanic activity, ocean acidification—but they all have one thing in common. They produced climate change that was too rapid for species to adapt and biologists are now in broad agreement that we're actually in the early stages of a sixth major extinction event, only this one is unique in that it will not have been caused by deep Earth processes or an asteroid from outer space, but by the impact of a single species, *homo sapiens*.

Now I actually don't like beginning my talk this way. I'd rather be all upbeat, but as I did the research on this topic, it became clear to me that to tell the truth, I have to say these disturbing things. Still, I'd like to fit it all into an edifying story, in which the human race, after blundering heedlessly toward the precipice, suddenly comes to its senses, turns from its reckless course and everything is saved.

While I do think there really are some very encouraging signs that we are starting to come to our senses and making some major changes, and that there is reason to be optimistic, we have to recognize that everything will not be saved. The world that comes after this century will be very different than the one that existed before, much poorer in biodiversity and much less hospitable to many species.

At the same time, even facing that, I don't see it in dystopian terms. This is a time of immense change for the earth, but it's also a time of immense change for us as a human species. We will be different and I hope that we'll be more self-aware, more humble, more wise than we have been.

So the story that I want to tell today is not so much just a story about the earth as it is a story about human beings as a species. This is where it seems to me that the stories generated by science, especially anthropology, and the biblical narratives, can be put into a fascinating conversation.

Now you might think that the Bible—which was composed among people who literally could not imagine human technological prowess of the Industrial Age that threatens the planet—you can think that the Bible wouldn't have much to say that would be relevant, but it does. Again and again, I have been struck by the wisdom in these texts, their insight into human nature and their relevance to exactly the questions we're asking.

I think one of my first reactions when I started researching the current state of climate change and human impact in general, it was one of self-estrangement. Who are we? Who are we as a species that we could be capable of doing this? I realized I meant that in both senses of the term. How is it we have the power to do that kind of damage and how could we be so foolish?

I went back to reread the Creation Story in Genesis 2 to 3, the Garden of Eden story from the biblical writer we call the Yahwist. I read it alongside books by physical anthropologists and geneticists, who've been reflecting on the early origins of humans. These two accounts turned out to be surprisingly mutually informative. Now Genesis 2 to 3 is, after all—although the fundamentalists really don't like to hear this—a story about human evolution. It's about the birth of our species and the consequences of that evolutionary development.

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Now I doubt that the author of Genesis 2 to 3 had read Darwin, even though we do debate the date of the Yahwist, but that's probably a safe bet; but he was profoundly interested in the place of human beings in their relationship to animals on the one hand and divine beings on the other.

Now if you remember the story, God first forms the creature that is to become the human, the Adam, from the dust of the earth, the *adamah*, the soil. When God places the creature in the garden, there is one and only one condition: don't eat from the Tree of the Knowledge of Good and Bad.

Now as you probably know, these terms don't simply mean moral good and moral evil, but rather more broadly, to the capacity to discriminate, make decisions in any matter concerning what's good and what's bad. It refers to the capacity for rational, deliberative choice. As the story later makes clear, that capacity to make deliberative choice is one of the things that characterizes divine beings and whatever the *Adam* is, it's not a divine being.

In fact, the Adam is created to be simply what we would call an animal. Now I say this because when it occurs to God that the creature might be lonely, God attempts to make a helper corresponding to it, and what does God make? Other animals and birds. From God's perspective, the Adam and the other animals are of the same nature, all of them made from the dust of the earth.

Well, this is also what we discovered in scientific terms in the nineteenth century, with the theory of evolution. Our ancestral species is that of the apes, which appear approximately 23 million years ago. The earliest hominid, *homo erectus*, appears about two million years ago and our own species, *homo sapiens*, a bare 150 to 200,000 years ago. We're that young.

Now in the Yahwist's imagination in Genesis 2, we start out with two kinds of beings in the world, animals and divine beings. But by the end of Genesis 3, there are going to be three kind of beings: animals, humans, and divine beings. How does it happen? Well, as you know, it involves that Tree of the Knowledge of Good and Bad, the image that represents the capacity for rational discrimination, rational deliberation and discernment.

One of the Yahwist's profound perceptions is that this is a feature that does not characterize animals. Now today of course we probably have a slightly more nuanced view of animal cognition, but the Yahwist's perception is basically on target. Animals are more hardwired than are humans with the instincts that they need to live. They don't have to draw on rational processes in quite the same way that humans do. Animals don't need to create culture to the extent that humans do. They don't have or need the capacity for complex, symbolic thought or developed full language.

So the Yahwist claims that this ability to make rational, deliberative choice is a characteristic of divine beings, not animals, and as the wily talking snake, the trickster figure of the story, says to the woman, "You know, as soon as you eat of the fruit of the Tree of Knowledge, your eyes are going to be opened and you're going to be like divine beings, who know good from bad." When the human beings eat of it, what happens? It's a funny scene. "Their eyes were opened and they saw that they were naked."

Now that hardly seems like divine knowledge, and I think the scene is intended to be funny, but it is a shrewd observation. The term "naked" is one you cannot use intelligibly of animals. You don't say that a deer or a lion is naked. You only use that term meaningfully of humans. When they recognize they are naked, they are no longer animals.

The concept of nakedness is one of the sharpest dividing lines between humans and other animals. Now why is that? Well, it's because our capacity for reflective self-consciousness, which underlies our sense of bodily self-consciousness and shame, is dependent upon the large developed brains that humans uniquely have. So what the Yahwist depicts in this economical image is the birth of the

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human as an animal who's somehow gotten hold of divine characteristic, a complex cognitive capacity, and so is no longer like the other animals. Homo sapiens.

But why would the story present this as a quality that was somehow off limits to us? Why doesn't God want us to have that capacity? Well, actually the story's kind of ambivalent about that. The tree is off-limits, but it was right there within reach. Narratives of this type that begin with a prohibition, have a plot structure that requires that the prohibition be breached. Pandora is going to look in that box. Adam and Eve are going to eat from that tree.

But the prohibition has a serious function in the story. The divine capacity was marked as off-limits to us because we are not in fact gods. We're not equipped to handle that capacity wisely. We are an anomalous creature. We're both very splendid and very, very dangerous.

So if we turn back from Genesis to the story of our evolution that anthropologists and geneticists have uncovered, our Eden was in Africa. Relevantly to our concerns here today, the story of our evolutionary development was deeply connected with climate change, and more than once. Most relevant to our concern, around 70,000 years ago, we nearly went extinct as a species and probably the reason was climate change, that time likely induced by a super-volcano.

It's been estimated that there were no more than 2,000 humans left in the world and probably fewer. We certainly would've made the endangered species list, but we did survive, and going through the eye of that evolutionary needle was the catalyst of extraordinary change. Approximately 60,000 years ago, there was not only a population explosion of humans, but a geographical explosion into new territories. Not only did humans fan out within Africa, but also out of Africa to Australia by 40,000 years ago and by 20,000 years ago, into the Middle East, to Asia, to Europe and to the Americas. By 35,000 years ago, and perhaps longer, humans were producing cave art of extraordinary beauty and sophistication and spiritual depth.

There's evidence at this time of musical instruments and intricate flint tools and probably many other arts that have not been preserved. So how can we look at that extraordinary development without tears of wonder, that living creatures of any species could have developed self-consciousness, that they could be capable of speaking and singing and making art and experiencing spiritual awe?

Truly something God-like happened. These humans had eaten from the Tree of Knowledge, and who among us would wish that they hadn't? Our more cynical friend, the Yahwist, however, would remind us that this birth of the human, though truly marvelous, was not necessarily benign, certainly not for the earth itself. The Yahwist depicts God angrily confronting the first couple. God curses the woman with the pain of childbirth, a particularly telling punishment, since it's the large brains and consequently the large skulls of homo sapiens that make human birth giving so much more painful and dangerous than that of other animals.

But even more chillingly, God says to the man, "Cursed be the earth on account of you." The Yahwist draws attention specifically to agriculture. By painful toil, you will eat from it. Now, not only is agriculture back-breaking work for humans, says the Yahwist, but in fact it leaves the earth itself depleted and worn out, no longer yielding rich biodiversity, but thorns and thistles.

Now in the light of where we stand, it's hard to argue with the Yahwist. In fact, our curse upon the earth goes back even before agriculture. Even our upper Paleolithic hunter-gatherer ancestors played a large role in driving the megafauna of the early Holocene into extinction. Whenever we went, the largest prey species disappeared, and consequently, so did the predators.

But this was not a story of greed and foolishness. I actually wish it was, because if it were, then we might learn our lesson, but humans did not hunt these animals carelessly. It was simply that our cleverness made us far more efficient hunters than anything else these prey species had evolved to

defend against. They were unable to reproduce fast enough to meet the evolutionary challenge that we presented. We imposed change too rapidly, and that's been our story ever since.

Our cleverness, so wonderful in and of itself, completely outpaced a world that had evolved to a different tempo, and the tempo of the changes we have wrought upon the earth have only increased until the past 250 years. They have become unbearable for the earth. Two-hundred-fifty years: that's a millisecond in evolutionary terms.

This is the profound irony of what the Yahwist saw. Such cleverness, such ability to distinguish between what's good and what's bad, can only be wielded wisely by divine beings, who can look on the whole vast nexus of causes and their effects. Humans see too narrowly, and so make devastatingly bad decisions that look so good at the time. See, this is beyond sin; this is a tragic structure in our very being.

Now initially, the Yahwist seems to suggest that both bad and good results occur from this decisive change that brings humans into being. The next story, tellingly, is one of murder, Cain and Abel, but there are also accounts of the creation of the arts of civilization, music, cattle raising, metallurgy, city-founding, and the institution of religion itself. And yet, in his introduction to the flood story in Genesis 6, our old cynic the Yahwist finally concludes that every plan devised by the human mind was nothing but bad all the time. He gives a resoundingly negative evaluation to our rational capacity. The fact that this is his judgement on the cause of the flood, that mythic global ecocatastrophe, is chilling. One can only imagine what he would say to us today.

The Yahwist's cynicism, however, is not the only voice that speaks about theological anthropology in Genesis. The Priestly voice that we hear in Genesis 1 is more confident that our remarkable difference from the other animals is not simply the result of an evolutionary experiment gone awry, but that this human creature, with its capacity for reflective self-consciousness, is made in the image and likeness of God by God's intention.

Now this, of course, is the basis for that controversial command in Genesis 1 to human beings "to subdue the earth and exercise dominion over its creatures." When I teach this passage in an environmental theology class, this is a hard sell. My students say, "Isn't the theology stemming from this passage the source of our distorted relationship with nature? Our sense that the earth is simply ours to use as natural resources?"

Well, it's not difficult to find some disturbing interpretations of this passage to that effect in some of the irresponsible corners of the conservative blogosphere, but I think that proper exegesis can actually demonstrate what's wrong with that interpretation. But that's actually not my focus. My focus here is rather on the hard truth that this passage does tell, that I, along with my students, have not wanted to face. Humans subduing the earth and dominion isn't an option we can debate. It's not even a theology we can endorse or reject. It's a fact. It's a simple fact.

The typical debate over whether dominion can be interpreted in a benign fashion as stewardship, or whether subduing and dominion point to a more antagonistic relationship, I think, is too simplistically framed. Our very presence on this earth has resulted, and will continue to result in a diminishment of its pre-human biodiversity. Our presence subdues the earth, and yet ironically, the preservation of the maximum possible biodiversity now depends on our wise dominion, our decisions about the earth and its systems.

Well, one of the most disturbing realizations I had when reading Elizabeth Kolbert's *The Sixth Extinction* was that the very things that make human beings distinctive—our inventiveness, our ability to flourish in a wide variety of environments—is the very thing that is incompatible with the kind of biodiversity that preceded us. The incredible biodiversity on this planet is the product of separated environments and a very slow pace of the introduction of alien species.

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When the supercontinent Pangea broke up into distinct land masses, these new, more isolated places became grand staging areas for evolutionary differentiation. Australia, for instance, which was isolated for so many millions of years, there were no native placental mammals. So what did nature do there? All the ecological niches that were elsewhere filled by placental mammals are filled in Australia by a riot of marsupials—big ones, little ones, carnivorous ones, herbivorous ones, nocturnal ones, diurnal ones—a creative explosion of marsupials.

Now bats and rats did manage to introduce themselves into Australia without human intervention, and why am I not surprised? But all other placental mammals were brought intentionally or inadvertently by humans with devastating consequences. Many marsupial species are now endangered, because they can't compete with the introduced animals, and are otherwise losing habitat.

Human beings, by being that most migratory of species, have effectively knit all of the land masses back together again into a supercontinent, and the change that has resulted from our presence is too fast for natural adaptation as it existed in the past.

Now we've only recently begun to realize this and to recognize what's going to be required to allow healthy ecosystems, with all their rich biodiversity, to flourish. There's some really encouraging success stories, where badly damaged ecosystems have been restored through intentional human intervention.

So unlike the Yahwist, who merely gives a cynical shrug and denies that humans are capable of changing, the Priestly writer's story of the flood and its aftermath makes room for the possibility of a nondestructive future, as humans orient themselves to the transcendence of divine guidance as given in the Law and the Covenant. In the Priestly writer, what happens after the flood is the giving of laws. We are not gods and so for that very reason, we need God.

Now spending time with the theological anthropologies of the Bible and reading them in conversation with scientific anthropologies grounds us. It helps us see more clearly ourselves as a species, and our uniqueness that makes us both wonderful and dangerous and how we need to orient ourselves to the transcendent if we're to be a blessing and not a curse upon the earth.

But right now, we find ourselves in a crisis, and if catastrophe is to be averted, we have to act with great speed and with an urgency and a decisiveness that has so far eluded us. This is a time of great anxiety, great conflict, great uncertainty, and for this too, I find that the Bible offers us some interesting conversation partners. In particular, I'm thinking about the way the Bible deals with the relation of human action, divine intentionality, and the nature of time itself.

Much of the Bible, especially the Hebrew Bible, tells a long narrative story. It begins with the accounts of the Priestly writer and the Yahwist, and the rest of the story from Genesis through Second Kings could be read as a working out of their two bets about the nature of humanity: the more optimistic bet of the Priestly writer, the more pessimistic bet of the Yahwist.

Since much of this story is contained in the books that run from Deuteronomy to Second Kings, oftentimes called the Deuteronomist history, I would call this a sense of Deuteronomistic time. Deuteronomistic time is structured according to the working out of actions and their consequences. It's real world time. It's political time. It's the time of success or failure, the time of taking responsibility for one's actions. Its time horizons are relatively short, but they are intergenerational, because the actions of the parents do have consequences for the lives of their children.

Now our time of response to the crisis of the climate feels very much like Deuteronomistic time. It's a time in which we're waking up to the consequences of our actions, to the ways in which the choices of one generation are being visited on the lives of coming generations. It's a time in which our own environmental prophets have called us to account for worshipping the idols of our own making, our



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unprecedented technological prowess that truly seems like the power of beings who have become gods.

So Deuteronomistic time is a time of intensity and focus, a purposeful time, but it's also a heavy time. It's a time in which both success and failure are still possible and thus it's a time of judgement. What we do will be judged. The objective judgement of the climate itself, for one, but the judgement of the coming generations, which will either praise us for finally acting courageously or curse us for blithely stumbling into catastrophe.

And it's really easy to find oneself mentally and spiritually exhausted. The sense of responsibility, the fear of failure, the anxiety about the future; but Deuteronomistic time is not the only time. I find both comfort and hope, perhaps surprisingly, in eschatological apocalyptic time.

Now when I first started teaching my course on the Bible and environmentalism, apocalyptic imagery and apocalyptic literature with its eschatological or end-time imagery was the one topic I dreaded. This was the one thing in the biblical corpus that seemed irredeemably anti-environmental: "For I am about to create new heavens and new earth. The former things shall not be remembered or come to mind. Then I saw a new heaven and a new earth, for the first heaven and the first earth had passed away."

Oh, great, I thought. A biblical version of a disposable world. Just what we need. But the more I lived with the conversation between the Bible and environmental concerns, the more I've come to believe that vitally important perspective on time is embodied in the perception of apocalyptic eschatology.

Now, not surprisingly, apocalyptic eschatology and its sense of time emerges in the centuries after the fall of Judah to the Babylonians, after the Exile. The difficult time of living after a crisis that was not only national and political, but also spiritual and religious. It was a way of thinking about time, about divine intentionality and human responsibility that grasped the limitations of the purely Deuteronomistic time, although it didn't reject that entirely.

Apocalyptic time is not about evading or escaping our responsibilities. It incorporates what I've called Deuteronomistic time into its moral vision, but it places Deuteronomistic time within a much, much broader story, the story of Creation from its very beginnings to its ultimate end. This is not time on a human scale, as Deuteronomistic time is, but time on a divine scale, deep time, cosmic time, the time of great ages and epochs, stretching immeasurably beyond the scope of a few human generations.

One of my beloved Dead Sea Scrolls speaks of "the ages of old reaching back to Creation and forward to the Eschaton." It speaks of "the earth and all that springs from it, the seas and the deeps," according to all the plans for them for all the eternal epochs. The hymn acknowledges God's role, "who established them from ages of old," and speaks about the role and purpose of these ages and the creatures that inhabit them, "that they might make known your glory in all your dominion."

But the image of this deep time in this Dead Sea Scroll is not simply of one age gradually passing into the next. No, it's a story of beginnings and endings, of the destruction of what was of old, the creation of new things that will be after them, all of this comprehended in the invincible wisdom of God.

I was struck by the analogy between this perception of time and what the geologists call "deep time," that is the time of the epochs of the earth's history, the Cambrian, the Ordovician, the Silurian, the Devonian, the Carboniferous, the Permian, the Triassic, the Jurassic, the Cretaceous, the Paleogene, the Quaternary, and now perhaps the Anthropocene. Those are delightful to say.

This scientific deep time was only recognized in the nineteenth century with the understanding of the geologic processes and the recognition of what the fossils of extinct plants and animals represented.

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We discovered that there was a time when these astonishing creatures, and not us, dominated the planet, and that with each successive age, a different repertoire of plants and animals flourished. There was a time before flowering plants. There was a time before mammals. There was a time before dinosaurs, a time before reptiles, a time before there were any land animals, any land plants.

Geologists have documented these five mass extinction events in Earth history, but have noted that as each is an ending, so it is a beginning, or as the Dead Sea Scroll prayer speaks of such transitions, “destroying what was of old, but creating new things.” Extinction events are also recognized as evolutionary gateways, opportunities for nature to experiment with new forms of life. Although the apocalyptic theologians were predestinarians in a way that geologists certainly are not, they would have grasped what the geologists perceived, and understood it to be part of what they called the *raz nihyeh*, the “mystery of what was, and is, and is to be.”

Now apocalyptic time, or the long view of geological time, does not take away our responsibility or our answerability for our actions. It will not take away our guilt before God and the rest of Creation if we bring about a mass extinction. It will not make our grief and our shame at the destruction that we've caused any less, but by contextualizing our actions within a much larger story, it saves us from despair and apathy, and I think it frees us from paralyzing anxiety.

Both the secular person who looks to the processes of nature and the religious person who sees in these processes the presence of God can take comfort. This perspective allows us to see that if we fail, there are other forces that will take the debris of our failure and continue to create a world of new beauty and wonder.

There's one more word of comfort and encouragement that I see in apocalyptic eschatology, and that's in the way it envisions the healing of a depleted and damaged world. In our despair over human impact on the world, it's easy to imagine that the only hope for the wholeness of the earth is for humans simply no longer to be a part of it, or for us once again to become like the other animals, that is to say, a return to Eden before the Fall.

But that's not the image of biblical eschatology. The key images in biblical eschatology provocatively combine imagery of Eden with, of all things, the image of the city. Now we often think of the city as the symbol of what's wrong with human ways of being, the image of our fall into anthropocentrism. But as we envision a transformed future for our planet, a healing future, it won't help to think in terms of romanticized nostalgia, a return to some pure hunter-gatherer past.

That's why I find the imagery of apocalyptic eschatology so intriguing. This image first appears in the Book of Ezekiel, written after the Exile. In the vision, Ezekiel is shown an urban setting, a temple constructed on a high mountain and from that temple flows a river, and as that river flows to the east, through the dryness of the Judean wilderness, it brings life.

Everything will live where the river goes. Trees flourish on its banks, and waters even transform the stagnant Dead Sea into fresh water. Where nothing lived, now there will be many fish, and on the banks on both sides of the river, there will grow all kinds of trees for food. Their leaves will not wither, nor their fruit fail. Their fruit will be for food and their leaves for healing.

In this eschatological vision of a new Eden, the city is no longer the sign of our fallenness, but because it becomes the place where God dwells, it also becomes the source of the healing of the land. The Book of Revelation picks up this image and develops it. For Revelation, the New Jerusalem is an open city whose gates are never shut and the river of life flows through its very streets. The Tree of Life is there, producing fruit abundantly at all seasons and healing the nations with its leaves.

Now these are suggestive images, not simple depictions of some imagined future, but as eschatological images, they disclose in symbolic form some not-yet-realized possibility. They suggest

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a way in which we might be drawn in hope and confidence toward a future in which our transformed cities could become not a place away from nature, but a site where we practice the ecological wholeness that is the foretaste of a redeemed and reconciled world.

So as we look toward the unfolding of the twenty-first century, I think one might look at it not only as the strenuous Deuteronomistic time of striving to choose rightly, but also the visionary time of Ezekiel and Revelation, as our work is guided by those powerful images of restored life and harmony.

So though there's much in our situation that makes us anxious, the resources of both science and our religious traditions offer us ways of living with understanding of who we are, with seriousness of purpose and yet with humility, that our actions, whether successful or not, are enfolded in a process that will incorporate them into the larger story of this marvelous world and God's intentions for it. Thank you.

[applause]

**Fr. Richard Clifford, S.J.:** In light of what you've been speaking about, can you comment on "*Laudato Si*" and the whole theme of caring for our common home?

**Dr. Newsom:**

Yeah. I think this is one of the most important, hopeful things that has happened in the past few years, to have Pope Francis articulate. It's a beautifully thought-out, very carefully, very well-researched, and I think theologically profound document. It has become, across the environmental community, a focus for so many. Our ethics center has held studies based on it and it's providing, I think, the most prominent religious leadership in this area.

So I just consider that to be a mark of the leadership that's coming from the Church at a time when so much of the political leadership is failing us. So I think it's very important.

**Participant:** I wonder if you think the prophetic literature might also be a resource for our time and culture, when we need a good spanking, and the more appropriate because environmental crises are not new, as you've already pointed out.

**Dr. Newsom:** Yes.

**Participant:** Human-created crises are not new and may even reach back into that prophetic literature that castigated Israel for moral depravity, idolatry, and all the things which go into our rape of nature.

**Dr. Newsom:** Yes.

**Participant:** So I'd ask if that's a resource.

**Dr. Newsom:** Absolutely. The Methodist minister and environmental writer Bill McKibben takes this, I think, very self-consciously as the model for a lot of his writings and activism. So it is a model that I think informs a certain type of leadership, which is possible from within the religious community. But there are other kinds of activists, but they don't come with that tradition of what it means to be a prophet.

Also one of the insights from prophecy was the way in which it understood human actions and nature as part of a single fabric, so that oftentimes you get the language about the earth languishing when human sin is present. Now obviously the prophets were not necessarily talking about ecological sin, but there was that sense of *yes, of course the earth is affected by what humans do and the moral quality of their actions*, and also when in Psalm 72, when the king institutes righteousness, the earth flourishes also.

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So there's that sense of a wholeness between the flourishing of the earth and human responsibility, and if we simply extend the analysis of the types of sins that we look at, and to think in terms of what constitutes idolatry in our time, and it oftentimes is the worshipping of the technological gods that we have sold our souls to.

**Participant:** Thank you for your talk. I was intrigued by your use of Genesis 1 to 11, which is often passed over in silence, but I'm glad you did such a good job with it. One of the points that I've found in talking about the Bible and environmental issues is that Creation embraces both. We tend to think of Creation as the physical environment being created, like "new heavens and new earth," but by that new heavens and new earth, they also mean the human community.

**Dr. Newsom:** Yes.

**Participant:** So that's an important point. I was intrigued by the seventh crisis and your aligning, to some extent, of a kind of destruction and renewal that would be analogous to the earlier ones. But then I think you saw in it a kind of a possibility of winnowing, I guess you'd say, and something good coming from the renewal. What about the idea of the "new heaven and new earth" being kind of definitively final? You could draw from what you said, the view that this is going to be a kind of process that is going to be ongoing and there'll be periodic crises, but I wondered about the way in which the Book of Revelation seems to define it as a sort of definitive and once-and-for-all event. I wonder if you could comment on that.

**Dr. Newsom:** Yeah. Well, yes, I think that's the point at which the theologians and the geologists would have to agree to disagree, because yes, you're quite right. The conception of time within the eschatological vision does see a final consummation, culmination, and completion when things reach the state that God intends.

So to that extent, this is more of a suggestive analogy, but I also think that eschatological thinking has oftentimes served as the impetus for so many aspirational reform movements in our sociopolitical lives. So I think that it also has a function of serving as a model for something that is penultimate, even though it represents the ultimacy in which, after that, then change no longer occurs. So you're quite right that there's a limit to that.

**Participant:** So I realize that this is a pretty serious talk and important talk, obviously. So this might come off as a little bit silly question, but one of the things that you omitted in talking about Genesis was the part about multiplying, and I think when I always imagine climate crisis, I've always linked having children, or at least thinking about having children, as kind of one of the most important decisions that we need to make as we go forward. So if you would comment on that.

**Dr. Newsom:** Yeah. I think that's one that we have to historicize the context within which these texts were written. So for much of human history, the great anxiety has been the difficulty with which humans flourish and reproduce, with large infant mortality, early death from disease and from hardship, and so the sense of the divine blessing to be fruitful, to multiply, to flourish, in essence.

Now I think, though, that since the divine blessing encompasses all of Creation, where we could see, I think, an appropriate limit on that, is if our flourishing causes other creatures created by God to fail to flourish, then we have taken something that is a blessing and used it in a very distorted way. So I wouldn't want to see this as something that we renounce, or give up that perspective, but that we understand it as part of a larger and divine intentionality for a flourishing world.

**Participant:** I'm so deeply grateful for so much that you said tonight, and I fully intend to watch it again and take copious notes. As we're approaching Holy Week and I am preparing myself for that week and thinking about the Crucifixion, and how is it that we even today are crucifying God? This is

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certainly one way among many that we're literally discovering that this God that was so generous as to not just simply walk among us, but to be one of us, and show us that we have some divinity within ourselves, planted there by God, and that when we crucify God, we not only crucify God, but ourselves, and that that's what's going on. So the Gospel stories have a lot to tell us about . . . I just was wondering what . . .

**Dr. Newsom:** I think you've just said it. [laughter] But that is important to look at those motifs, and I think yes, the emotional pattern, too, of going through the despair when it looks like all the forces of death have won and then to realize no, no, the Resurrection. Those forces of darkness have not triumphed.

That's a very important, I think, hope to make central as we go through what feels like a very dark time, and not to lose sight of the fact that the patterns that we find in our religious faith are patterns that reaffirm again and again the divine intentionality and the divine triumph over those forces.

**Participant:** I really enjoyed this talk and I learned a lot from it and I'm also wondering at the same time . . . And I love having another alternative vision for how to think about time, but both sort of loss and repair, I guess, but I'm wondering also how you prevent this narrative from becoming escapist, for the folks who say, "No big problem, technology will fix it."

**Dr. Newsom:** Oh. [laughter]

**Participant:** So escapist both in terms of our responsibility now, but also saying escapist thinking, we don't have to do anything, it'll just work itself out.

**Dr. Newsom:** Yeah. Oh. I think that we do have a tendency to want to grab hold of anything that looks like hope and turn it into a way of evading. We simply have to guard against that. Hope is not rightly a Pollyanna-ish attitude, but rather hope is that fierce refusal of despair; and I think that's where the depth of that kind of hope can function.

As far as the technological thing, you seem to see some of that shallowness . . . there are many scientists who are very thoughtful, very profound, but you have some who are so infatuated with the successes of very narrowly conceived technologies that I think we do run some risk in, once again, putting our faith in false gods.

That, I think again that people who come from religious traditions, who understand the limitations on human understanding, human knowledge, who understand the nature of our sinfulness as a part of who we're constituted, but this brings with us, yes, we want to use technologies. Yes, they are very important in aiding us; but that we have to look at those resources, those tools, with the deepest humility, and those are all, I think, things that people formed in the religious traditions have responsibility for keeping front and center.

Well, I want to thank you very much. This has been, like I say, an honor for me and a pleasure to share this time with you. Thank you.

[applause]