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The FURROW

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Sean McDonagh

The destruction
of biodiversity

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It is clear today that the destruction of biodiversity is having enormous negative impacts both on the planet and on human wellbeing. As humans continue to colonise and degrade many ecosystems on earth, this can lead to an increase in bats, rats and other animals which harbour diseases which can cause pandemics, such as Covid-19.

THE HORROR OF EXTINCTION ACROSS THE GLOBE

It is important to get an accurate understanding of how serious the destruction of biodiversity is for planet Earth. In fact, the level of destruction of the biosphere constitutes a change of a geological and biological order of magnitude. During the past few decades, human devastation of nature has caused the end of the Cenozoic (new life period) which began 65 million years ago. We have now entered the Anthropocene or Human Epoch due to the massive adverse changes which humans have made on terrestrial and marine ecosystems in just over 200 years.

At present, we are living in the sixth major extinction of life since life began on earth 3.8 billion years ago. The last time something similar happened was at the end of the Mesozoic period, 65 million years ago. A meteorite crashed into the Earth causing enormous damage to the biosphere which led to the extinction of the dinosaurs and many other creatures.

Today, one species, humankind is causing massive destruction to all life on Earth. As a species we need to change our ways and educate ourselves about the impact of our wasteful, industrial societies and, most of all, we need to urgently devise strategies and lifestyles which will allow us to live in a more sustainable way with the rest of creation. All of us in society, including politicians, economists, industrialists, farmers, and religious people need to be involved in shaping this sustainable lifestyle. It is a gigantic but essential task if we are to leave a beautiful, vibrant and fruitful planet to future generations.

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In Australia during 2019 and early 2020 bush fires, exacerbated by climate change, burned approximately 1919,000 hectares. The damage to wildlife was horrendous. According to the Australian Broadcasting Company (ABC), three billion koala bears, kangaroos and other animals were killed or displaced. But the damage did not end there: Scientists estimate that 2.4 billion reptiles, 180 million birds and 51 million frogs were killed or displaced. Commenting on the devastation, one of the researchers, Dr. van Eeden said that, “if you think about known mass mortalities of animals, I’m not aware of anything that compares.”¹

Australia has not been the only place devastated recently. Fires in the Brazilian Amazon rainforest increased by 28 percent in July 2020. The National Institute for Space Research recorded 6,803 fires in the Amazon in July 2020. Environmentalists fear that Brazil could repeat what happened in 2019 when 30,900 fires were spotted by the institute.² These fires take a massive toll on wildlife as animals in the Amazon such as sloths, lizards, anteaters and frogs are not adapted to fires and, therefore, die in huge numbers. According to a new study by IUCN (International Union for Conservation of Nature), up to 57 per cent of tree species are already facing extinction.

According to the California Department of Forestry and Fire Protection, as of August 2020, a total of more than 7,000 fires had burned 648,930 hectares in the state. This is the second-largest wildfire season in California’s history.

Many scientists thought that the Arctic fires in the summer of 2019 were a one-off occurrence because computer model projections did not predict this to happen until 2050 or later. The fires that are currently burning in 2020 have proved the projections to be wrong. Mark Parrington, senior scientist and wildfire expert at the European Union’s Copernicus Atmosphere Monitoring Service, has used satellites to track the effect of these fires around the world.³

Global warming and biodiversity loss are interlinked. Burning fossil fuel is increasing the amount of carbon dioxide in the air and in the oceans. Even a one-degree Celsius rise in the temperature of the oceans causes corals to bleach and die by expelling algae

1 Michael Slezak, “3 billion animals killed or displaced in Black Summer, ABC News, July 28th, 2020. <https://www.abc.au/news/2020-07-28/3-billion-killed-displaced-in-fires-wwf-study/1249796>

2 Daniel Carvalho and Ricardo Coletta, “Fears of irreversible damage as Amazon fires surge,” *Irish Examiner*, August 3, 2020, page 20.

3 Andrew Freedman and Lauren Tierney, “Record Arctic blazes may herald new ‘fire regime’ decades sooner than anticipated,” *The Washington Post*, August 14th 2020. <https://www.washingtonpost.com/weather/2020/08/14/record-arctic-fires/?arc404=true>

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which leaves a ghostly, transparent skeleton behind. When coral bleach happened in the Great Barrier Reef in Australia in 2016 and 2017 vast numbers of fish were lost. This, in turn, had major consequences right up the marine food chain as dolphins and sharks rely on reef fish for their diet.

Globally insects have been hit most of all by extinction. Over the past decade and a half, 41 per cent of insect species have declined compared with 22 per cent of vertebrate species. Germany is planning to ban floodlights to fight its declining insect population. Also, the use of weed killers and insecticide will be banned in national parks and within five to ten metres of major bodies of water.⁴

The United States and Canada are losing their bird populations. New research published in the journal *Science* in 2019 shows that, since 1970s, wild-bird populations in the United States and Canada fell by almost 30 per cent. This is a loss of 3 billion breeding birds. This includes a 53 per cent loss among grassland birds, a billion birds lost from the forests, 862 million sparrows and 618 warblers and 440 million blackbirds.⁵

CARE OF CREATION

Caring for creation is a new challenge for many religious people. In the Catholic Church there was no discussion on the environmental crisis during the Second Vatican Council in the early 1960s. Many of the bishops who attended subscribed to ‘dominion theology,’ which believed that the Earth was there to meet human needs. I am convinced that if half the bishops were women, they would have included care for creation as a central element of our Christian faith. Rachel Carson’s influential book *Silent Spring* which marked the beginning of the modern environmental movement, was published in April 1962, a few months before the Council began. Concerns about ecology were also absent from the social encyclical of the Catholic church. *Populorum Progressio* stated that creation was there for humans to use for their own advantage. (No. 23). The encyclical was blind to the damage which humans were causing to the natural world. There was no reflection on the negative impact of industrialisation on the biosphere. It stated boldly that “the introduction of industry was necessary for economic growth and human progress: it is also a sign of development and contributes to

4 4.“Germany is planning to ban spotlights to save its insects, “| *The Journal.ie*, August 5th 2020. <https://www.thejournal.ie/Germany-spotlights-afp-5168809-Aug2020/>

5 Henry Paulson, “The US is losing its birds and must act before it is too late,” *Financial Times*, September 25th 2019, page 11.

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it. By persistent work and the use of his intelligence man gradually wrests nature's secrets from her and finds a better application for her riches" (No 25).

In 1994, the Catechism of the Catholic Church had the same anthropocentric approach. It stated that "God willed creation as a gift to man Animals, like plants and inanimate beings, are by their nature destined for the common good of past, present and future humanity." ⁶ The rights of other creatures were totally overlooked.

The *Compendium of the Social Doctrine of the Church*, published in 2004 also shows little understanding of the gravity of the global ecological crisis. Chapter 10 is devoted to 'Safeguarding the Environment' and has only 15 pages, in contrast to Chapter 6 on human work which runs for 26 pages. In a book of 400 pages, there is only one paragraph on climate change (No. 470) and one paragraph on biodiversity (No. 466).

THE IMPORTANCE OF THE DOCUMENT *LAUDATO SI'*

Prior to *Laudato Si'* there was very little discussion about biodiversity and its importance in the Catholic Church. In fact, Pope Benedict XVI used the confusing notion of 'human ecology' instead of the term biodiversity. *Caritas in Veritate* (Par 51) states that "when 'human ecology' is respected within society, environmental ecology also benefits". In the document, *If You Want to Cultivate Peace, Protect Creation* he returns to the same theme and stated that "I readily encourage efforts to promote a greater sense of ecological responsibility which, as I indicated in my Encyclical *Caritas in Veritate*, would safeguard an authentic 'human ecology' and thus forcefully reaffirm the inviolability of the person at every stage and in every condition, the dignity of the person, and the unique mission of the family, where one is trained in love of neighbor and respect for nature." (Par 12).

In a reflection entitled, *Benedict XVI Offers Middle Ground on Environment*, Archbishop Ciampaolo Crepaldi, former Secretary of the Pontifical Council for Justice and Peace, gives an insight into why the pope used the term 'human ecology'. Crepaldi states that the "Church expresses misgivings about notions of the environment inspired by eco-centrism and biocentrism because it eliminates the difference between man and other living species. This gives rise to a new pantheism ... which would see the source of human's salvation in nature alone, understood in purely naturalistic terms."

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6 *Catechism of the Catholic Church*, Geoffrey Chapman, page 299, #1944.

7 Archbishop Ciampaolo Crepaldi, www.zenit.org (January 10, 2020)

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Given the poor leadership of the Catholic Church on the ecological crisis in comparison with the World Council of Churches, the publication of *Laudato Si'* in 2015 was both very welcome, surprising and revolutionary. In using the term *integral ecology* in Chapter 4 of *Laudato Si'* Pope Francis avoided any debate about human ecology and makes the point that “everything is closely interrelated, and today’s problems call for a vision capable of taking into account every aspect of the global crisis.”(Par 137). The pope, in the encyclical, says that other species have ‘intrinsic value, independent of their usefulness,’ (Par 140). Pope Francis reminds us that ‘each year sees the disappearance of thousands of plant and animal species which we will never know and which our children will never see, because they have been lost forever. The great majority become extinct for reasons related to human activity. Because of us, thousands of species will no longer give glory to God by their very existence nor convey their message to us. We have no such right’ (Par. 33). The pope reminds us that in ‘the Judeo-Christian tradition, the word ‘creation’ has a broader meaning than ‘nature’ for it has to do with God’s loving plan in which every creature has its own value and significance.’ (Par. 76). The theological significance of creation is captured graphically in par 86 which states ‘the universe as a whole, in all its manifold relationships, shows forth the inexhaustible riches of God’. St. Thomas Aquinas wisely noted that the multiplicity and variety ‘of life comes from the intention of the first agent’ who willed that ‘what was wanting to one in the representation of the divine goodness might be supplied by another.’ God’s goodness ‘could not be represented fittingly by any one creature.’⁸ So, the extinction of species impoverished our understanding of God. This new spirituality embedded in *Laudato Si'* can only grow and develop in the context of encountering other species in the world around us. In the words of St. Columban in his first sermon, “understand the creation if you want to know the creator.” Today we have microscopes to help us appreciate and deepen this encounter.

Pope Francis is clear that humans have a responsibility to care for and cherish creation. In quoting from Patriarch Bartholomew of Constantinople in paragraph 9 of *Laudato Si'* Pope Francis opens a new morality for humans. The Patriarch said “for human beings ... to destroy the biological diversity of God’s creation; for human beings to degrade the integrity of the earth by causing changes in its climate, by stripping the earth of its natural forests or destroying its wetlands; for human beings to contaminate the earth’s waters, its land, its air and its life – these are sins.” Though I have heard confessions many times in my 50 years as a priest, no one has

8 *Summa Theologiae*, 1, q. 47, art 1.

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confessed any of the above. This is very much a new area of the moral life for all Catholic Christians.

LITURGICAL PRAYERS

Unfortunately, there is a enormous gap between the teaching found in *Laudato Si'* and the prayers that are used in our liturgy. Today, instead of following the teaching of the early Fathers that we should pray as we believe (*Lex Orandi, Lex Credendi*). our liturgical prayers are schizophrenic and hardly ever mention creation as a mirror of God's presence.

Before the encyclical *Laudato Si'* the Catholic church's teaching on the value of the natural world was dreadful. For example, in the Roman Missal, which was published in 1570 AD, the post-communion prayer for the Sundays of Advent read as follows *Oremus, Domine, doceas nos terrena despiciere at amara celestia.* (Lord, teach us to despise the things of earth and love the things of heaven). Regrettably, the lack of concern for creation was not confined to the liturgy. It was also found in other prayers such as the *Salve Regina*, (Hail Holy Queen) one of the most popular prayers throughout the entire second millennium. It refers to the condition of human being in this life as "mourning and weeping in this valley of tears." There is an enormous need to develop competent liturgical texts and eucharist prayers based on this new vision rooted in *Laudato Si'*.

THE SEASON OF CREATION

The Christian liturgical calendar is divided into Seasons, such as the Season of Advent or the Season of Easter. In the past thirty years, a new season, called the *Season of Creation*, has been added to the Liturgical Calendar. Each year it begins on the first Sunday of September and ends on October 4th which is the Feast of St. Francis of Assisi, the patron saint of ecology. It is a month-long period of prayer, celebration and study where Christians remind themselves about the ecological crisis facing planet earth today through climate change and the destruction of biodiversity.

The *Season of Creation* began in 1989, when the Ecumenical Patriarch, Dimistrios 1, declared that September 1st each year would be a day when Christians would pray for the well-being of the planet. Patriarch Bartholomew who succeeded Patriarch Dimistrios 1 in 1991, was very keen on focusing on creation and is often referred to as the "Green Patriarch". Thirty years after it began, the Season of Creation is now a major ecumenical event involving the World Council of Churches, the Lutheran World Federation, the Anglican Church and the Catholic Church.

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During these four Sundays, Christian communities reflect and pray about what is happening to the land, local rivers, the oceans and other species. For example, in Ireland we have 98 species of wild bees, with one third of them under threat of extinction. The Christian community are encouraged to follow the advice given by the National Biodiversity Data Centre in the booklet *Faith Communities; Actions to help pollinators*,⁹ One of the reasons why bees are facing extinction is because they are starving. In response to this situation, many people now do not cut their lawns as often as before or leave a place where the grass and wildflowers are allowed to grow so that there is adequate food for the bees.

Many ground-nesting birds like the curlew and the corncrake are also facing extinction because of farming methods which were introduced into Ireland from the 1970s on-wards, especially, silage cutting which often destroys eggs and chicks. When I was a student in Dalgan in the 1960s, the loud repetitive grating sound of the male corncrake would keep a person awake on many a May night. All that has gone in just 50 years.

In other communities Christians might focus on the quality of water in their local river or lake and *discern* what needs to be done to protect the water quality. They could also test the waters that are used for baptism, to see whether they are polluted. Some seaside parishes might focus on the destruction of the oceans which has taken place over the past seventy years. This may lead them as a community to avoid using single-use plastics. There is huge potential for the Season of Creation to grow into a very powerful movement that could put pressure on government, and multinational corporations to protect creation globally and locally. Worldwide 2.2 billion Christians are now members of Churches that celebrate the Season of Creation each September.

CONCLUSION

The document *Laudato Si'* and the *Season of Creation* needs to be better known in the Christian community. In late August 2020, a young farmer contacted me because he had read one of my books. He is interested in farming in an organic way. When I asked him whether he had heard of the encyclical *Laudato Si'* and the Season of Creation he said he had not.

Other people are devising earth liturgies for various occasions. The 2020 Spring issue of the magazine, *Green Christian*, had an article entitled 'Requiem for Lost Species.' The author, Helen Burnett, describes a new ritual for remembering species which are becoming extinct. November might be a fitting time for this ritual.

9 www.pollinators.ie

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Laudato Si' tells us that “every creature is thus the object of the Father’s tenderness, who gives it its place in the world” (No.77),

Other authors such as the Margie Abbott RSM in her book *Igniting a Re-Enchantment with the Sacred: Cosmic Sparks* has developed more than a hundred Earth liturgies that will reconnect us with our Earth.¹⁰ This would be a wonderful way to get young people interested in the new Catholic teaching on the earth which is found in *Laudato Si'*; *On Care For Our Common Home*. It could lead to a new and very dramatic evangelization, where the Christian Churches are seen to be focused on the life of the world.

10 Margie Abbott, *Igniting A Re-Enchantment with the Sacred: Cosmic Sparks*, Coventry Press, 33 Scoresby Road, Baywater, Vic 3153. Australia.

The Covenant with Creation. It is only with the relatively recent development of ecological theology that the full significance of this covenant with Noah has been recognised. A key point is that this covenant is made, not just between God and humans, but between God and humans and ‘every living creature on earth’ (v. 10). As though to emphasise this point it is repeated twice more: ‘the covenant between me and you *and all living creatures of every kind ... the covenant I have established between me and all life on the earth*’ (vv. 16-17, emphasis added). This primordial covenant provides a strong biblical basis for our relatively recent waking up to the fact that humans are an integral part of nature. There is no question of God making a commitment to protect humans while allowing most of the rest of creation to be wiped out or despoiled. We can say with assurance that God cares for other creatures alongside humanity. But it is more accurate to say that God’s care for humanity exists within the context of God’s care for all of creation.

– DONAL DORR, *A Creed for Today*, (Dublin: Veritas) p. 112.