



The religious vision of nature in the light of *Laudato Si'*: An interreligious reading between Islam and Christianity

**Authors:**

Antonino Puglisi^{1,2} 
 Johan Buitendag¹ 

Affiliations:

¹Department of Systematic and Historical Theology, Faculty of Theology and Religion, University of Pretoria, Pretoria, South Africa

²Faculty of Science and Letters, Istanbul Teknik Üniversitesi, Istanbul, Turkey

Research Project Registration:

Project Leader: J. Buitendag
Project Number: 02402343

Description:

This research is part of the project, 'Theology and Nature', directed by Prof. Dr Johan Buitendag, Department of Systematic and Historical Theology, Faculty of Theology and Religion, University of Pretoria.

Corresponding author:

Johan Buitendag,
 jjbuiten@gmail.com

Dates:

Received: 25 Apr. 2020
 Accepted: 08 July 2020
 Published: 15 Sept. 2020

How to cite this article:

Puglisi, A. & Buitendag, J., 2020, 'The religious vision of nature in the light of *Laudato Si'*: An interreligious reading between Islam and Christianity', *HTS Teologiese Studies/ Theological Studies* 76(1), a6063. <https://doi.org/10.4102/hts.v76i1.6063>

Copyright:

© 2020. The Authors.
 Licensee: AOSIS. This work is licensed under the Creative Commons Attribution License.

Read online:

Scan this QR code with your smart phone or mobile device to read online.

The environmental crisis is undoubtedly one of the most critical and urgent problems of our times. Many people are raising their voices in support of nature to build a better future for humanity and for our planet. In this article, the authors explore the specific contribution that Christianity and Islam can offer in this debate and how religions can help bring back into the ecological discourse the element of the sacred that abandoned the reflection about nature since the advent of the Enlightenment. Moving from the spiritual dimension of nature in the light of Pope Francis's 2015 encyclical on ecology *Laudato Si'*, the authors argue that the current ecological crisis can represent an opportunity for a renewed encounter among religions, bringing together the ethical and the spiritual, recovering the element of communion between human beings and nature that points to something beyond themselves. The authors present the *Laudato Si'* as a universal invitation and a space for encounter between world religions that puts at its heart love as a guiding principle and animating force of a much-needed ecological, spiritual and anthropological conversion.

Contribution: This article focuses on the spiritual dimension of nature in Pope Francis's 2015 encyclical letter *Laudato Si'*. The authors argue that the document with its emphasis on love represents a platform for dialogue between Christianity and Islam by bringing back the element of the sacred in the current ecological debate.

Keywords: Nature; *Laudato Si'*; Islam; Christianity; Love; Dialogue; Ecology; Religion.

On earth everything is in a relationship of love with everything else: each thing with each thing. But we need to be Love in order to find the golden thread of love between beings.

(Lubich 1997a:134)

Introduction

Fifty years ago, we landed on the moon – an extraordinary and unique event in human history. Since then, the world population has more than doubled. Great masses of people have moved from rural to urban areas; the average lifespan for humans has increased for most nations of our planet. In just a few decades, we have witnessed extraordinary scientific and technological progress that has forever changed our lifestyles, bringing with it enormous and undeniable benefits to humanity.

At the same time, though, for the first time in human history, the stability of nature and that of the planet that hosts us is in peril.

The environmental crisis is undoubtedly one of the most critical and urgent problems of our times. Our relationship with nature challenges our models of development and even our existence. The dramatic COVID-19 pandemic has rekindled the debate on the place of humans in nature and their role and responsibility in shaping the well-being of planet Earth. Are we heading towards another mass extinction with the Anthropocene? We need the earth, but the earth does not need us. The universe is the only self-referent mode of being in the phenomenal world (Berry 1999:189).

In the last few years, many people have raised their voices in support of the protection of the environment. Internationally, a call for a more sustainable global future has been urged by the

Note: Special Collection entitled Theology and Nature, sub-edited by Johan Buitendag (UP).

United Nations (UN) with its Agenda 2030¹ and with the Earth Charter Initiative (ECI 2000) to find an agreement on an environmental ethics as quickly as possible. The Club of Rome has adapted its appeal to humankind in the past 50 years from 'limits to growth' (1972), to 'beyond the limits' (1992), to 'sustainable development' (2004), to 'planetary well-being' (2012) and the latest, 'we need a crash plan!' (2018) (cf. Buitendag 2019:376).

In this article, the authors explore the specific contribution that Roman Catholicism and Islam could offer in the current debate and how religion can help bring back into the ecological discourse the element of the sacred that abandoned the reflection about nature since the advent of the Enlightenment. Moving from the spiritual dimension of nature in the light of *Laudato Si'*, the authors argue that the ecological crisis can represent an opportunity for a renewed encounter among religions, bringing together the ethical and the spiritual, recovering the element of communion between human beings and nature that points to something beyond themselves. 'We humans are ourselves creatures of the earth. At a certain point in its development, the earth began to feel, to think, to become self-aware and to experience awe' (Moltmann 2012b:23). *Spiritual but not religious* has gradually emerged as an indispensable aspect to come to grips with the ecological challenge. Berry (1999:176) contends that we need fourfold wisdom to guide us into the future: the wisdom of indigenous people, the wisdom of women, the wisdom of classical traditions and the wisdom of science. 'It seems quite clear that these all agree in the intimacy of humans with the natural world in a single community of existence' (Berry 1999:192).

Human embeddedness in nature both physically and metaphysically is therefore axiomatic. In the realm of living beings, there is an absolute interdependence. The Estonian composer, Arvo Pärt (2020:1), recently said that the 'tiny coronavirus has showed us in a painful way that humanity is a single organism and human existence is possible only in relation to other living beings'. The notion of 'relationship' should be understood as a maxim, as the ability to love. A new historical period, the Ecozoic Era, should embrace this passionately.

Religion and ecology

The Forum on Religion and Ecology² at Yale University is the largest international multireligious project on this topic. It is engaged in exploring different religious worldviews to broaden the understanding of the complex nature of environmental concerns. The forum recognises that religions need to be in dialogue with one another on the one hand, and with other disciplines in seeking comprehensive solutions to environmental challenges.

1. 'The integrated approach of UN Environment should facilitate the integration of religions and cultural values to ensure inclusive green and transformative development through adopting value-based lifestyles and behaviours. The integrated approach coupled with cultural and religious values can promote innovative nature-based solutions, respect for traditional knowledge and cultural diversity, exercise environmental stewardship and duty of care' (UNEP 2019:1).

2. See <https://fore.yale.edu/>.

Likewise, Harvard University organised a series of conferences in the 1990s on World Religions and Ecology and has been investigating the emerging field of religion and ecology. 'It recognizes the complexity involved in retrieving, re-evaluating, and reconstructing human-nature relations in our modern period' (Grim & Tucker 2014:10).

Although our immediate perception of the ecological crisis is that of a problem of the industrialised and technological societies, this is clearly a *religious problem* as well. And this not only because religions have something to say in the face of such a crisis, which touches millions of people throughout the world, but rather – one might argue – because the environmental crisis seems to have its roots in a wrong interpretation of the religious vision of the relationship between human beings and nature, in particular the Abrahamic world religions. 'They transform the particular exclusivity of the God of Israel into the exclusive universality of the One God, who has revealed himself in Christ or in the Koran' (Moltmann 2012b:20). Unfortunately, we have regarded the earth as a 'collection of natural resources rather than as a mystical entity to be revered' (Berry 1999:140).

However, more than that: people of faith can play a significant role in addressing environmental issues and all their devastating consequences by shaping a new paradigm. In 2015, Pope Francis launched to the world the encyclical letter *Laudato Si'* – a formulation he got from Francis of Assisi³ – emphasising the need 'to enter into dialogue with all people about our common home' (Paragraph 3) [...] 'before it is too late' (Paragraph 193). This, we believe, maps the terrain for the interlocutors.

Some contemporary thinkers have accused Christianity of somehow starting the ecological problem because of the anthropocentric interpretation of scripture. Although superfluous, the example of Lynn White (1967) in an article published in *Science* in 1967 entitled 'The Historical Roots of Our Ecologic Crisis' suffices:

In Antiquity every tree, every spring, every stream, every hill had its own *genius loci*, its guardian spirit. [...] Before one cut a tree, mined a mountain, or dammed a brook, it was important to placate the spirit in charge of that particular situation, and to keep it placated. By destroying pagan animism, Christianity made it possible to exploit nature in a mood of indifference to the feelings of natural objects. [...] The spirits in natural objects, which formerly had protected nature from man, evaporated. Man's effective monopoly on spirit in this world was confirmed, and the old inhibitions to the exploitation of nature crumbled. (p. 1205)

It is important to observe how the 'de-sacralisation' of nature to which White refers is exactly the opposite argument in current ecotheological circles, which rather see nature as spirited, and to move to the ancient belief of regarding

3. '*Laudato si', mi' Signore.*' [Praise be to you, my Lord.] In the words of this beautiful canticle, Saint Francis of Assisi reminds us that our common home is like a sister with whom we share our life and a beautiful mother who opens her arms to embrace us. 'Praise be to you, my Lord, through our Sister, Mother Earth, who sustains and governs us, and who produces various fruit with coloured flowers and herbs' (Paragraph 1).

nature as mother and a goddess. An excellent recent example of this is the publication by Buxton, Graham and Habel (eds. 2016), with the significant title *The Nature of Things: Rediscovering the Spiritual in God's Creation*, which was instrumental for the interfaith Serafino Declaration⁴ of 2015.

The contemporary philosopher Michel Serres sets against the word 'religion' its etymological contrary, 'negligence' (*neg-ligere*). While *religio* indicates a tendency to take care of, or to look attentively after something, on the contrary 'modernity neglects, speaking in absolute terms' (Serres 1995:48). For Serres, modernity has announced an age in which human beings define themselves primarily 'detached' from a world or relationships because of their supposed superiority as rational beings. Therefore, pollution is basically that act through which humans define such distance from the rest of creation, as a way to affirm their sense of possession over the world, like a dog would do in order to mark its territory or a burglar defecating in the house he or she has burglarised (Serres 1995):

No one else ventures again into the places devastated by whoever occupies them in this way. Thus, the sullied world reveals the mark of humanity, the mark of its dominators, the foul stamp of their hold and their appropriation. (p. 33)

Subsequently, Serres suggests that the only way out of this crisis is to recuperate values such as beauty and peace as part of a 'natural contract' between human beings and the world. Can religions that are founded on spiritual values like those suggested by Serres have something significant to say today in the face of such an urgent and important issue like the environment? Christianity and Islam represent two extremely important actors in the current cultural landscape. Berry (1999:189) points out that the thoughts of Aristotle passed over from Islamic Spain into the Christian world of mediaeval Europe played a significant role in the subjugation of the earth. The Muslim scholar Haq (2001:141) concurs, saying that the question of Islam and ecology ought to begin with the construction of the 'formidable intellectual influence of Islam on Latin Christendom', via Thomas of Aquino.

This article will look at the specific perception the two religions have of nature, and of the place that humans occupy in it. Subsequently, the article will try to present some contours that seem to emerge from *Laudato Si'* for a shared environmental ethics, based on creational connectivity.

Nature and humans in two monotheistic religions

Christianity

In the Orthodox understanding of scripture, we encounter the concept of creation, rather than that of nature. Christian theology in particular is characterised by the radical new idea of a universe that is created freely by a God who is love.

4. See https://institute.mercy.org.au/wp-content/uploads/2016/08/Discovering_the_spiritual_in_God_s_Creation_ISMAPNG.pdf.

God remains present everywhere in creation and yet at the same time God is distinct from nature; therefore creation *per se* is not sacred. Creation is rather holy in so far as it is linked to God.

In the beginning of the book of Genesis, we find the narrative of the relationship between human beings and the rest of creation. We read first that:

God blessed them and said to them (Gn 1):

Be fruitful and increase in number; fill the earth and *subdue* it. *Rule over* the fish in the sea and the birds in the sky and over every living creature that moves on the ground. (v. 28)

This is followed by that of giving names to the animals. (Gn 2:20–21)

These two initial scenes already tell us something very important about the place of human creatures within the rest of creation. However, the biblical verse of Genesis 1:28 in particular has been often interpreted (with Lynn White as the classic epitome) as though it somehow gives warrant to abuse nature. Although this verse contains words like 'subdue' the earth and 'rule' over the fish, birds and animals, of which the original Hebrew words *kabas* and *rada* seem to express superiority and dominion (Wilkinson 1980), a more contextual reinterpretation of the meaning of these two terms in the first creation narrative of Genesis reveals a more benevolent approach to nature.

For James Barr, the verb *rada* [have dominion] was used to refer to Solomon's peaceful rule, whereas *kabas* [subdue] refers more simply to the 'tilling' of the ground in the Yahwist account of creation (Barr 1972:22). In this regard, Steffen (1992) emphasises the need to contextualise the interpretation of the word *rada*, moving from the concept of dominion to that of 'the ideal of just and peaceful governance' and stewardship over the earth more in line with the account of the Genesis. Therefore, the earth and the animals are primarily entrusted to humans as something to take care of. Mark Liederbach, for one, emphasises the important role Genesis 2:15 plays in interpreting Genesis 1:28. The first, Genesis 2:15, discloses *what* God's calling and directive purpose are for the image bearers that inhabit the earth. The second, Genesis 1:28, gives descriptive content about *how* God's image bearers are to function in the created order (Liederbach 2016:199). God placed the humans in the garden to *worship* and *obey*.

In Christianity, up until the Middle Ages the relationship between human beings and nature was fundamentally governed by natural laws and characterised by collaboration. Monasticism in the West was so profoundly aware of this that they preserved some of the most beautiful forests in Europe, which in many cases have become United Nations Educational, Scientific and Cultural Organisation (UNESCO) World Heritage Sites. St Francis of Assisi (1182–1226) gives us an extraordinary testimony of such a

relationship through his very life. In his *Canticle of the Creatures* he expresses an absolute, cosmic and all-embracing beauty permeating the whole of creation to the point that he can call celestial bodies like the sun and moon 'brothers' and 'sisters' (cf. *Laudato Si'*, paragraphs 1, 10, 12). With this, Francis expresses much more than just a sensitive and poetic soul but rather also his concrete love for biodiversity and an attention to the equilibrium between the work of humans and the uncontainable life of nature. In this vein, a sentiment has developed in the West that nature is a mystical and sacred reality, larger than the human mind is capable of grasping. The universe is part of a 'cosmic liturgy', to use an expression of Maximus the Confessor (Von Balthasar 2003).

With the Enlightenment we shifted to a progressive separation between the realm of sacred (and mythology) on the one hand and that of rational philosophy and the secular world on the other hand. This led in time to the destruction of a 'vision of the world' that the human person had been part of up to that point. Human beings began to conceive of themselves primarily as rational individuals detached from the natural world. It is precisely in this separation, in the gradual destruction of that 'enchantment', where the first sign of the ecological crisis is vested.

The developments of Charles Darwin's (1809–1882) publications *On the Origin of Species* (1859) and the subsequent *The Descent of Man* (1871) reopened the debate about the relationship between human beings and nature. The biological theories that originated from this suggest that human beings are not the only intelligent beings in creation. Van Huyssteen (2006) asks subsequently, '[a]lone in the world?' in his Gifford Lectures, indicating no ontological difference between humans and other species. This somehow undermines the whole idea that rationality is the distinctive feature of humankind, as the Enlightenment had contended. In this light, the notion of evolution started a process in the direction of reintegrating human beings into a more organic role within nature and in continuity with it, obviously not without a sense of uniqueness.

A more holistic and sacred vision of the relationship between human beings and nature has also been kept alive in Christian mystical experience even in recent times. Chiara Lubich (1920–2008), founder of the Focolare Movement, for instance, during a period of an enlightened spiritual experience, perceives a strong presence of God's love, who through his continuous creative action sustains all things (Lubich 1997b):

What appears to be distinct and separated – a flower, the sky, the sun and the moon, the sea or a puddle – the mystics saw unified by a loving Light governing everything as if all of creation were one song of love; as if the stones and snow, the flowers and stars, were so united in their essence with that Light and with one another that they seemed to have been

created as gifts for one another, being one in love with all the others. (pp. 140–141)

The liturgical experience of the Church, especially in the Eastern Orthodox rites, has played an important role in keeping together the human and the natural. Liturgy in fact urges us to continually include a sanctification of matter and time, in which every liturgical element aims at connecting the one in prayer to 'an event of communion with the other members of the community and with the material context of the liturgy' (Zizioulas 2011:151). Starting with the bread and the wine, which are sourced from the material world, the ancient liturgies aim at involving all of the human senses in the liturgical event – the eyes through the icons and the liturgical vestments, the ears through the hymns and psalmody, the nose through the incense – thus placing liturgy at the centre of creation (Zizioulas 2011:151). The very mystery of the incarnation of the Word is finally the supreme sign of the great dignity of matter in which God really takes human nature.

In this context, during the iconoclastic controversy, St John Damascene (676–749) developed the theological value of the sacred images, helping make them one of the most distinctive aspects of Eastern Christianity to date. He underlined the role of matter for salvation, so authorising the veneration (drawing here a distinction from adoration, which must only be directed to God) of material things, to better enter into relationship with God. He writes in his *Contra Imaginum Callumniatores* (St John Damascene; cf. Pope Benedict XVI 2011:175)⁵:

I do not worship matter, I worship the God of matter, who became matter for my sake and deigned to inhabit matter, who worked out my salvation through matter. I will not cease from honoring that matter which works for my salvation. I venerate it, though not as God. (n.p.)

The commitment of the Roman Catholic Church to the environment is primarily to be contextualised in the rich patrimony of the Church's social justice. More explicit reference to ecology and to the harmonisation of human development and care for the environment emerges during the pontificate of Pope John Paul II (1991) in the encyclical letter *Centesimus Annus*⁶ and in Pope Benedict XVI's (2009) encyclical letter *Caritas in Veritate*.⁷ The concept of ecology was first dealt with explicitly by Pope Francis' *Laudato Si'*, following the seminal *Evangelii Gaudium* (Francis Pope 2013).⁸

At the ecumenical level, the World Council of Churches (WCC 2016) has been active in ecology for several years, with

5. See <https://www.christianitytoday.com/history/people/theologians/john-of-damascus.html>.

6. See http://www.vatican.va/content/john-paul-ii/en/encyclicals/documents/hf_jp-ii_enc_01051991_centesimus-annus.html.

7. See http://www.vatican.va/content/benedict-xvi/en/encyclicals/documents/hf_benxvi_enc_20090629_caritas-in-veritate.html.

8. See http://www.vatican.va/content/francesco/en/apost_exhortations/documents/papa-francesco_esortazione-ap_20131124_evangelii-gaudium.html.

special attention on the close relationships between creation and social justice. In the mid-1970s the WCC proposed the idea of 'sustainable communities', thus linking economy and ecology. Subsequently, in 1983 the WCC launched in Vancouver the Justice, Peace and Integrity of Creation (JPIC)⁹ programme, where the intertwining between creation, justice and peace is deepened.

In 1989 the Ecumenical Patriarch Demetrios I of Constantinople¹⁰ established 01 September – the beginning of the liturgical year for the Orthodox Church – as the World Day of Prayer for the Care of Creation. Subsequently, during the third European Ecumenical Assembly held in Sibiu (Romania) in 2007, this date was officially declared the beginning of the so-called Time of Creation, which runs until 04 October, the feast of St Francis. The Time of Creation is celebrated today also by the WCC every year as a time of prayer and action for the protection of the environment.

Islam

Starting in the late 1960s, a small number of Muslim scholars turned their attention to the ecological crisis and endeavoured to develop a distinctive Islamic ecological theology discerning the relationship between God and the natural world; the scholar Seyyed Hossein Nasr argued that Islam was open to Lynn White's critique and that the religion had lost the metaphysical foundation of its knowledge, while the correct understanding should be the belief that God is both transcendent and immanent at once (Hancock 2019:1–2).

The Islamic idea of nature is rooted in the Qur'an. It is through the Qur'an that the Muslim faithful perceive their place within the ecosystem. In Islam, God is primarily the God of creation and the religious experience is therefore profoundly marked by a strong relationship between humans and nature. Ramadan, which memorialises the descent of the Holy Qur'an upon the prophet Mohammed, is based on the lunar calendar. We find in the Qur'an more than 750 verses that deal with nature, and 16 of the 114 suras are named after animals or natural phenomena, such as 'the Cow' (2), 'the Cattle' (6), 'the Thunder' (13), 'the Bee' (16), 'the Ant' (27), 'the Daybreak' (89), 'the Sun' (91), 'the Night' (92), 'the Fig' (95), 'the Elephant' (105) and so on.

Many natural phenomena and elements are of great importance in Islam. Water, for instance, is held in very high

9. See <http://www.internationalunionsuperiorsgeneral.org/wp-content/uploads/2016/01/JPIC-brochure-2017-english.pdf>.

10. Particularly relevant is the role that His All Holiness Patriarch Bartholomew has played in the context of ecology. For over three decades, he has been on the front lines promoting the protection of creation, and his endeavours have earned him the title the Green Patriarch. Bartholomew, starting from the rich spiritual and theological legacy of the Byzantine church, has particularly contributed to ecological discourse by underlining the profound theological value of nature. The Patriarch of Constantinople has not only promoted ecology through encyclical letters and official statements but also initiated a series of scientific symposia, which included that of Pasmos (1995), the Black Sea (1997), on the Danube (1999), on the Adriatic Sea (2002), on the Baltic Sea (2003), on the Amazon River (2006), at the Arctic (2007), on the Mississippi River (2009) and the most recent symposium of Green Attica in Greece (2018).

esteem and is cited around 60 times in the Qur'an, often with reference to life. Moreover, water is used for the ritual purification before namaz. Another natural element of great importance in Islam is the earth, symbolising the origin of creation of human beings (the Quran: 20, 55) and as a mother in *Nahj-al-Fasahah* (ch. 19) (Dastjerdi 2015:106).

In Islam planting trees is particularly praiseworthy, to the point that planting a tree is considered as an act of worship. In a famous Hadith in *Musnad Imam Ahmad* (12491), we find for instance: '[i]f Resurrection is starting and one of you has a sapling in his hand which he can plant before he stands up he must do so'. Also, in the Islamic tradition animals enjoy rights for which human beings are held responsible: 'whoever kills a sparrow without any reason will be questioned by God on the Day of Judgment' (*Nahj-al-Fasahah*, Chapter 23; Dastjerdi 2015:182).

In numerous verses, the Qur'an states that all natural phenomena have awareness of God and glorify God:

And We subjected the mountains to exalt [Us], along with David and [also] the birds. (21:79 and 38:18)

The seven heavens and the earth and whatever is in them exalt Him. And there is not a thing except that it exalts [Allah] by His praise, but you do not understand their [way of] exalting. Indeed, He is ever Forbearing and Forgiving. (17:44)

We did not create the heavens and earth and that between them in play. We did not create them except in truth, but most of them do not know. (44:38–39)

It is Allah who created the heavens and the earth and sent down rain from the sky and produced thereby some fruits as provision for you and subjected for you the ships to sail through the sea by His command and subjected for you the rivers.

And He subjected for you the sun and the moon, continuous [in orbit], and subjected for you the night and the day.

And He gave you from all you asked of Him. And if you should count the favor of Allah, you could not enumerate them. Indeed, mankind is [generally] most unjust and ungrateful. (14:32–34)

A very characteristic trait of Islamic theology held that the whole of creation, the whole universe, could be considered *muslim* (Rahman 1983:16). Here we refer to its etymological root, *islām*, which translates as 'surrendered to' God and to his rules. At the same time, *islām* could be intended with reference to its Arabic root, *س ل م* (S-L-M), which indicated a 'wholeness' (physical and spiritual) 'to be held together' and not 'disintegrated'. This would indicate the idea that it is God who sustains creation in its unity through the acceptance of his will (expressed through the natural rules). Therefore, Nature cannot violate God's law, as it is also affirmed in the following verses of the Qur'an:

Do you not see that to Allah prostrates whoever is in the heavens and whoever is on the earth and the sun, the moon, the stars, the mountains, the trees, the moving creatures (animals) and many of the people? (22:18)

Do you not see that Allah is exalted by whomever is within the heavens and the earth and [by] the birds with wings spread

[in flight]? Each [of them] has known his [means of] prayer and exalting [Him], and Allah is Knowing of what they do.

And to Allah belongs the dominion of the heavens and the earth, and to Allah is the destination. (24:41–42)

The Qur'an invites the faithful to look at the universe as a 'sign' (*aya*, آية in Arabic) that points beyond itself to God:

We will show them Our signs in the horizons and within themselves until it becomes clear to them that it is the truth. (41:53)

And on earth are signs for the convinced. And within yourselves. Do you not see? (51:20–21)

The word *sign*, in its singular (*aya*) or plural (*ayat*) form, is mentioned 288 times in the Qur'an with the intention to orient the faithful to conceive that the universe is a sign of God. The Islamic scholar Fazlur Rahman (2009:68–69) phrases it as follows: 'Nature with its incomprehensible vastness and regularity should serve as God's sign for humans, since none but an infinite and unique Being could have created it'. Therefore, according to Rahman this gigantic machine, the universe, with all its causal processes, is the prime 'sign' or proof of its Maker. For the contemporary Iranian Islamic philosopher Seyed Hossein Nasr, nature is 'the theatre wherein are manifested His signs' (Nasr 1989:3). The contemporary Muslim scholar Said Nursi (2015) invites humans to look at:

[A]ll things, each of which is like a sign, a missive, a book, an ode of conscious being to study, a sign making known the manifestation of the Glorious Creator's Names. (p. 446)

In Islam human beings are fundamentally God's vice-regent on Earth. Nature is entrusted to humans with the specific function of being God's vicars, putting them above the angels. In the Qur'an, Sura 2, we find a rich portrait of this project:

When your Lord said to the angels, 'I am placing a viceregent on earth'. They said, 'Will You place in it someone who will cause corruption in it and shed blood, while we declare Your praises and sanctify You?' He said, 'I know what you do not know'. And He taught Adam the names, all of them; then he presented them to the angels, and said, 'Tell Me the names of these, if you are sincere'. They said, 'Glory be to You! We have no knowledge except what You have taught us. It is you who are the Knowledgeable, the Wise'. He said, 'O Adam, tell them their names'. And when he told them their names, He said, 'Did I not tell you that I know the secrets of the heavens and the earth, and that I know what you reveal and what you conceal?' And We said to the angels, 'Bow down to Adam'. They bowed down, except for Satan. He refused, was arrogant, and was one of the disbelievers. (2:30–34)

In this sura emerges God's optimism about humans' capacity to know, protect and administrate his resources. It is also clear that only to humans God teaches the names of all things so as to endow them with the capacity to appreciate nature's biodiversity and therefore to enter into a profound relationship with it. However, God gives

humans a power that is always within the boundaries of a larger power, that is, that of God himself. In Islam, this is expressed with the term *khalifa*, that is, vice-regent or vicar, someone who is called to responsibly administrate a kingdom in the name of a ruler (Hancock 2019:1). For the Qur'an, therefore, Nature is a living, holistic, ordered and perfect world in which celestial and human beings live, but above all a supreme sign of the Creator. A constant refrain in Islamic environmental theology is that the Qur'an calls nature an *ayah* (sign) from God.

In the mystic Islamic Sufi tradition, we also find various references to nature. The poet and mystic Maulana Jalaluddin Rumi (1207–1273) expresses in many of his poems humans' relationship with the natural environment. In the following verses, for instance, the reference is always to God as the Giver of life and beauty (Rumi 1997):

Is the sweetness of the cane sweeter than the one who made the canefield? Behind the beauty of the moon is the moonmaker. There is intelligence inside the ocean's intelligence feeding our love like an invisible waterwheel. [...] There is a skill to making cooking oil from animal fat. Consider now the knack that makes eyesight from the shining jelly of your eyes. (p. 285)

In this context, it is worth looking at the physically active meditation of the whirling dervishes, originated among Sufis. Through their dance known as *sema*, with one hand pointed towards the sky – or heaven and God – and the other towards the ground – or earth – the dervish aims at connecting with the immense love of God that fills the universe so to pour it over the earth.

According to a study by the Pew Research Centre, with its 1.6 billion worldwide community, Islam is the fastest-growing religion on our planet. It is foreseen that by 2050 the number of Islamic faithful will overtake that of Christians of various denominations (Pew Research Centre 2015). In one of its recent reports on air quality in the world in 2016 (WHO 2016a), the World Health Organization (WHO 2016b) revealed that the topmost polluted countries by fine powders (PM10) are Muslim-majority countries such as Iran, Afghanistan, Saudi Arabia and Pakistan. The Muslim Declaration on Nature,¹¹ issued in 1986 during the historical meeting of Assisi, marks the beginning of the institutional commitment of the varied Islamic world in favour of the environment (Alliance of Religions and Conservation [ARC] 1986):

For the Muslim, mankind's role on earth is that of a khalifa, vice/regent or trustee of God. We are God's stewards and agents on Earth. We are not masters of this Earth; it does not belong to us to do what we wish. It belongs to God and He has entrusted us with its safekeeping. Our function as vice-regents, khalifa of God, is only to oversee the trust. The khalifa is answerable for his/her actions, for the way in which he/she uses or abuses the trust of God. (n.p.)

11. See <https://www.theecomuslim.co.uk/2011/10/islam-environment-ethic-assisi.html>.

Perhaps the most important ecological event in Islam to date was held in August 2015 in Istanbul, the International Islamic Climate Change Symposium (IICCS).¹² The IICCS was organised with the scope of looking at the ecological problem from a global Muslim perspective, rooted in the ethical and legislative Islamic teaching. After the event, some Muslim environmentalists prepared an Islamic Declaration on Climate Change.¹³ This important document was the result of long consultation among Islamic scholars of different currents, and it has been supported by various personalities from the Muslim world, including the Grand Mufti of Uganda and Lebanon.

The Islamic Declaration on Climate Change is articulated in following points:

1. It begins by identifying the centrality of God with reference to the environmental crisis to then focus on the more concrete ecological challenges.
2. The declaration then explores the environmental ethics that is rooted in the Qur'an and in the Hadith, acknowledging the fact that humans have so far failed to act appropriately. The document especially highlights the central Islamic concept of *mīzān*, that is, Nature is a gift from God and everything was made in 'perfect balance'.
3. Finally, the declaration addresses different actors that are responsible in front of God and the community. In particular, they call upon:
 - a. *The international institutions*, and in particular the Conference of the Parties (COP), to respect the commitments taken in Kyoto and appeal to the sense of responsibility for the meeting in Paris in December 2015.
 - b. *The well-off nations and oil-producing states*, to (1) phase out their greenhouse gas emissions; (2) provide generous financial and technical support to the less well-off to achieve a phase-out of greenhouse gasses as early as possible; (3) recognise the moral obligation to reduce consumption so that the poor may benefit from what is left of the earth's non-renewable resources; (4) stay within the 2-degree limit, or, preferably, within the 1.5-degree limit, bearing in mind that two-thirds of the earth's proven fossil fuel reserves remain in the ground; and (5) invest in the creation of a green economy.
 - c. *People of all nations and their leaders* to work towards specific objectives of sustainability and justice.
 - d. *Corporations, finance, and the business sector* to set a limit on their profits with reference to environmental sustainability.
 - e. *All people of faith* to work together towards these objectives.
 - f. *All Muslims wherever they may be* to come together in faith, solidarity and devotion.

12. See <https://www.unenvironment.org/news-and-stories/speech/international-islamicclimate-change-symposium>.

13. See <https://unfccc.int/news/islamic-declaration-on-climate-change>.

The Catholic Church has openly praised the Islamic Declaration on Climate Change with a declaration by Cardinal Peter Turkson (2015) in which, among other things, he says:

It is with great joy and in a spirit of solidarity that I express to you the promise of the Catholic Church to pray for the success of your initiative and her desire to work with you in the future to care for our common home and thus to glorify the God who created us. (n.p.)

The *Laudato Si'*: an invitation to collaborate

On 24 May 2015 Pope Francis addressed to the Church and to the world the encyclical letter *Laudato Si'*. This extraordinary document touches on some of the modern myths upon which we have built our Western societies, challenging the ideas of unlimited material progress (paragraphs 78, 106, 122 and 210) and extreme consumerism (paragraphs 34, 50, 184, 203, 209, 210, 215, 219 and 232). At the same time, the encyclical represents a platform for a real meeting between every woman and man who wants to work to build a better future for humanity and for our planet. The document has received great attention from the religious world and beyond. *Laudato Si'* presents itself as an extremely rich document that offers a variety of perspectives and multiple dimensions through which environmental issues can be seen. The encyclical, strategically launched just before COP21 in Paris (2015), has been officially translated into eight languages.

With this document Pope Francis wished 'to enter into dialogue with all people about our common home' (Paragraph 3). Throughout the *Laudato Si'* we find a heartfelt invitation to both care for our common home as well as to enter into dialogue with all about the future of our planet. 'Dialogue' and 'common home' represent the leitmotifs of the whole document, so as to indicate a path onto which the Pope invites the Church and the whole of humanity to walk 'before it is too late' (Paragraph 193). Francis suggests an approach of *integral ecology*, in which ecological issues are deeply intertwined with economic, social and cultural factors, because:

[A] true ecological approach always becomes a social approach; it must integrate questions of justice in debates on the environment, so as to hear *both the cry of the earth and the cry of the poor*. (Paragraph 49)

The encyclical, in line with the tradition of the Roman Catholic Church, acknowledges the enormous benefits that science and technology have brought to our society, seeing in them 'wonderful products of a God-given human creativity' (Paragraph 102). At the same time, the Pope urgently appeals 'for a new dialogue about how we are shaping the future of our planet', and to open 'a conversation which includes everyone, since the environmental challenge we are undergoing, and its human roots, concern and affect us all' (Paragraph 14).

Finally, Pope Francis addresses specifically women and the men of faith as they find a new alliance that preserves the future of our planet, because,

[T]he majority of people living on our planet profess to be believers. This should spur religions to dialogue among themselves for the sake of protecting nature, defending the poor, and building networks of respect and fraternity. (Paragraph 201)

Interfaith dimensions of *Laudato Si'*

In *Laudato Si'* Pope Francis openly acknowledges that the encyclical letter is in continuity with the work and reflections of others, in particular with that of the 'beloved Ecumenical Patriarch Bartholomew' (paragraphs 7–9). In this respect, what is very significant is the presence of the Metropolitan John Zizoulas di Pergamon on behalf of the Ecumenical Patriarchate, along with that of Cardinal Turkson, for the official launch of the encyclical letter.

After the publication of *Laudato Si'*, many other religious leaders released similar declarations, such as the Hindu Declaration on Climate Change (2015),¹⁴ the Buddhist Climate Change Statement to World Leaders (GBCCC 2015),¹⁵ a Rabbinic Letter on the Climate Crisis (Shalom Center 2015)¹⁶ and the aforementioned Islamic Declaration on Climate Change (Ifees 2015).¹⁷

The *Laudato Si'* tries to reach out to Islam in the encyclical letter on at least three points:

1. *Language*: Arabic was one of the eight languages in which the encyclical letter was released (Francis 2015). An important sign, this shows attention towards the Islamic world and more in general towards the Arabic-speaking world.
2. *Timing*: The encyclical letter is dated 24 May 2015 (feast of Pentecost) but was in fact officially launched on 18 June 2015, which was the first day of Ramadan.
3. *References to Islam*: For the first time in history we find an explicit reference to a Muslim author in an encyclical letter: 'The spiritual writer Ali al-Khawwas stresses from his own experience the need not to put too much distance between the creatures of the world and the interior experience of God' (Paragraph 233).

Many Islamic scholars have engaged with the encyclical, giving overall a very positive response. In particular, the authors would like to report some excerpts from the very rich blogpost entitled *A Muslim Response to Pope Francis's Environmental Encyclical: Laudato Si'* (Omar 2015) by Dr A. Rashied Omar, from the Kroc Institute for International Peace Studies at the University of Notre Dame (United States [USA]), posted in December 2015. Dr Omar defines

14. See <https://unfccc.int/news/hindu-declaration-on-climate-change>.

15. See <https://plumvillage.org/about/thich-nhat-hanh/press/buddhist-climate-changestatement-to-world-leaders-2015/>.

16. See <https://theshalomcenter.org/civicism/petition/sign?sid=17>.

17. See <http://www.ifees.org.uk/declaration/>.

the *Laudato Si'* as 'one of the most important interventions in twenty first century campaigns for environmental justice'. He sees the encyclical as a tremendous opportunity to bring together Muslims and Christians to deepen their ecological commitment (Omar 2015):

[I]t is my considered view that through *Laudato Si'* Pope Francis has inaugurated another constructive platform for credible faith and secular leaders to enter into renewed dialogue on the critical question of climate change and discuss ways in which we can bring ourselves closer to living in harmony and reverence with nature. [...] It is my sincere hope that more Muslim scholars will take up the dialogical challenge presented in *Laudato Si'* in a comparable spirit of reverence and hospitality with which the twelfth century Muslim leader, Sultan al-Kamil, welcomed Saint Francis of Assisi from whom the current Pope takes his name. (n.p.)

It is highly significant that the Islamic scholar is referring to the encounter between Saint Francis and Ayyubid Sultan al-Kamil, of which the 800th anniversary was just celebrated, as an example of respectful dialogue and that he is linking that explicitly to Pope Francis.

Dr Omar's position, as he states himself, is in line with that of other eminent Islamic scholars such as Prof. Joseph E.B. Lumbard (Hamad Bin Khalifa University, Qatar) (Lumbard 2015), Prof. Anas Malik (Xavier University, USA) (Malik 2015), Prof. Adnane Mokrani (Pontifical Gregorian University) (Mokrani 2017) and Prof. Ibrahim Ozdemir (1997) (Üsküdar Üniversitesi, Turkey). They all highlight the large resonances between *Laudato Si'* and the Islamic teaching on the environment.

Conclusions

The *Laudato Si'* is rooted in a spiritual vision of nature, thus offering an opportunity for an encounter among the Abrahamic religions, in particular between Islam and Christianity. In this context, the authors would like to underline two aspects that emerge in their opinion, looking at nature and at the human–nature relationship in the light of the encyclical document.

In both religions, nature is seen as a sign of the presence of God and therefore carries a metaphysical significance that points beyond itself. In *Laudato Si'* we find a strong indication of this in the aforementioned appreciative note by the Muslim poet and mystic Ali al-Khawwas, saying:

Prejudice should not have us criticise those who seek ecstasy in music or poetry. There is a subtle mystery in each of the movements and sounds of this world. The initiate will capture what is being said when the wind blows, the trees sway, water flows, flies buzz, doors creak, birds sing, or in the sound of strings or flutes, the sighs of the sick, the groans of the afflicted. (Paragraph 233)

By citing the Muslim poet, Pope Francis is urging us to discover the mystical significance of nature and therefore the 'need not to put too much distance between the creatures of

the world and the interior experience of God' (Paragraph 233). It is only in this perspective that human beings can perceive nature as a gift, and therefore nature as something that has to be entered into relation with, beyond mere consumption (cf. Mauss 2002).

Both in the Qur'an and in the Bible, it emerges quite clearly that human beings have a special place in the universe. As we have seen already in the sacred texts, it is only to human beings that God entrusts stewardship over the rest of creation. However, their 'superiority' is not primarily defined by their rationality but rather by their relational character, that is, by their capacity to enter into communion with the rest of creation.

Today, in matters of the environment, it seems that we have placed our hope on ethics. In his seminal work on this topic, Moltmann (2012a) titled his book *Ethics of Hope*. That is clearly very important; however, rules alone are not enough to get out of this crisis. Science and technology by themselves cannot solve the ecological problem. It is necessary to find other resources beside human intellect that can help us decide the path on which we want to walk as humanity.

The religious vision of nature that *Laudato Si'* offers can help us motivate a much-needed ecological and anthropological conversion and promote a new culture in which human beings are no longer primarily identified as superiors to other creatures based on their intellect, but rather for their capacity to enter into relation with creation.

The current ecological crisis could therefore be read as a crisis of our own humanity. In this context the *Laudato Si'* gives us a clear direction in order to elaborate a new cultural paradigm, a renewed vision of the world. In the face of today's reality with its complexities and crises, the encyclical reminds us first of all that 'the world is a joyful mystery to be contemplated with gladness and praise' (Paragraph 12). It is from this spiritual perspective that the *Laudato Si'* urges us to face the challenges of today with courage and determination.

Above all, the encyclical helps us refocus the reference of the cosmos to God and therefore to go beyond the dramatic dichotomy between human beings and nature, and to rather to enter into a triangulated relationship of humans–God–nature. The Noahic covenant is both, on the one hand, God–human being–life–earth and, on the other, God–earth–life–human being (Moltmann 2012b:25). It is only in this reference of a triple helix that human beings can be liberated from the risk of excessive narcissism and oriented towards something bigger than themselves. And what is more, we do not return to nature in the naturalistic sense of the word or a physicalism. Kelsey (2009) helps us much in this regard with his anthropology of eccentric existence, in which there is a God who creates, who promises and who reconciles.

Finally, the *Laudato Si'* is a universal invitation: the earth as the space for encounter and cooperation between world religions. The word 'love' is used in the text 70 times so as to indicate a path on which everyone is invited to walk. Only by 'being love', in fact, can humanity restore that gaze on herself and on the rest of creation to rediscover that gold thread of love that is between all beings. 'On earth everything is in a relationship of love with everything else: each thing with each thing. But we need to be Love in order to find the golden thread of love between beings' (Lubich 1997a:134).

Acknowledgements

Competing interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this research article.

Authors' contributions

A.P. and J.B. contributed equally to this research article.

Ethical considerations

This article followed all ethical standards for research without direct contact with human or animal subjects.

Funding information

This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

Data availability statement

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Disclaimer

The views and opinions expressed in this article are those of the authors and do not necessarily reflect the official policy or position of any affiliated agency of the authors.

References

- Alliance of Religions and Conservation (ARC), 1986, *The Assisi declarations. Messages on humanity and nature from Buddhism, Christianity, Hinduism, Islam & Judaism*, viewed 23 April 2020, from <http://www.arcworld.org/downloads/THE%20ASSISI%20DECLARATIONS.pdf>.
- Barr, J., 1972, 'Man and nature – The ecological controversy and the Old Testament', *Bulletin of the John Rylands Library* 55(1), 9–32. <https://doi.org/10.7227/BJRL.55.1.2>
- Benedict XVI Pope, 2009, *Caritas in veritate*, viewed 09 April 2020, from http://www.vatican.va/content/benedict-xvi/en/encyclicals/documents/hf_ben-xvi_enc_20090629_caritas-in-veritate.html.
- Benedict XVI Pope, 2011, *Great Christian thinkers: From the early church through the Middle Ages*, Fortress Press, Minneapolis, MN.
- Berry, T., 1999, *The great work. Our way into the future*, Bell Tower, New York, NY.
- Buitendag, J., 2019, 'Die Klub van Rome ("Club of Rome") se soeke na planetariese welsyn beskou deur die oë van 'n Gereformeerde teoloog', *LitNet Akademies* 16(3), 373–392.
- Buxton, G. & Habel, N. (eds.), 2016, 'The nature of things: Rediscovering the spiritual in God's creation', *Rediscovering the spiritual in God's creation*, Pickwick Publications, Eugene, OR.
- Dastjerdi, H.V., 2015, *Nahj Al-Fasahah, Height of Rhetoric*, CreateSpace Independent Publishing Platform, Scotts Valley, CA.

- Earth Charter Initiative (ECI), 2000, *The Earth Charter*, viewed 09 April 2020, from https://earthcharter.org/wp-content/uploads/2020/03/echarter_english.pdf?x18344.
- Francis Pope, 2013, *Gaudium Evangelii*, viewed 09 April 2020, from http://www.vatican.va/content/francesco/en/apost_exhortations/documents/papa-francesco_esortazione-ap_20131124_evangelii-gaudium.html.
- Francis Pope, 2015, *Encyclical Letter LAUDATO SI' of The Holy Father Francis on care for our common home*, viewed 09 April 2020, from https://w2.vatican.va/content/dam/francesco/pdf/encyclicals/documents/papa-francesco_20150524_eniclica-laudato-si_en.pdf.
- Global Buddhist Climate Change Collective (GBCCC), 2015, *Buddhist climate change statement to world leaders 2015*, viewed 09 April 2020, from <http://gbccc.org/>.
- Grim, J. & Tucker, M. E., 2014, *Ecology and religion*, Island Press, Washington, DC.
- Hancock, R., 2019, 'Ecology in Islam', *Oxford Research Encyclopedia*, Oxford University Press, viewed 22 April 2020, from <https://oxfordre.com/religion/view/10.1093/acrefore/9780199340378.001.0001/acrefore-9780199340378-e-510>.
- Haq, S.N., 2001, 'Islam and ecology: Toward retrieval and reconstruction', *Daedalus* 130(4), 141–177.
- Hindu Declaration on Climate Change, 2015, 'A Hindu Declaration on Climate Change', viewed 09 April 2020, from <http://www.hinduclimatedeclaration2015.org/english>.
- Ifees, 2015, *Islamic declaration on climate change*, viewed 09 April 2020, from <http://www.ifees.org.uk/declaration/>.
- John Paul II Pope, 1991, *Centesimus Annus*, viewed 09 April 2020, from http://www.vatican.va/content/john-paul-ii/en/encyclicals/documents/hf_jp-ii_enc_01051991_centesimus-annus.html.
- Kelsey, D.H., 2009, *Eccentric existence*, vol. 2, Westminster John Knox Press, Louisville, KY.
- Liederbach, M.D., 2016, 'Christian worship and human stewardship', in G. Buxton & N. Habel (eds.), *The nature of things. Rediscovering the Spiritual in God's creation*, Pickwick Publications, Eugene, OR.
- Lubich, C., 1997a, *Scritti spirituali /1*, Città Nuova, Rome.
- Lubich, C., 1997b, *Scritti spirituali /2*, Città Nuova, Rome.
- Lumbard, J.E.B., 2015, *An Islamic response to Pope Francis' Encyclical*, viewed 09 April 2020, from https://www.huffpost.com/entry/an-islamic-response-to-pope-francis-encyclical_b_7616762?guccounter=1.
- Malik, A., 2015, *Towards Muslim engagement with Pope Francis' Encyclical Laudato Si*, viewed 09 April 2020, from <http://arcoftheuniverse.info/towards-muslim-engagement-with-pope-francis-encyclical-laudato-si>.
- Mauss, M., 2002, *The gift: The form and reason for exchange in archaic societies*, Routledge, London.
- Mokrani, A., 2017, 'Islamic ecologic reflections in dialogue with Laudato Si', *Islamochristiana* 43, 115–122.
- Moltmann, J., 2012a, *Ethics of hope*, SCM Press, London.
- Moltmann, J., 2012b, 'A common Earth religion. World religions from an ecological perspective', *Atualidade Teológica* XVI(40), 15–29. <https://doi.org/10.17771/PUCRio.ATeo.21669>
- Musnad, A., s.a., *Hadith*, vols. 1–3, Darussalam, Riyadh.
- Nasr, H., 1989, *Man and nature – Beyond current alternatives*, Unwin Paperbacks, London.
- Nursi, B.S., 2015, *The flashes. Collection*, Risale Press, Istanbul.
- Omar, A.R., 2015, *A Muslim response to Pope Francis's environmental Encyclical: Laudato Si'*, viewed 09 April 2020, from https://w2.vatican.va/content/francesco/ar/encyclicals/documents/papa-francesco_20150524_eniclica-laudato-si.html.
- Ozdemir, I., 1997, *The ethical dimension of human attitude towards nature*, İnsan, Istanbul.
- Pärt, A., 2020, 'The coronavirus has shown us in a painful way that humanity is a single organism', *Estonian World*, viewed 21 April 2020, from <https://estonianworld.com/culture/arvo-part-the-coronavirus-has-shown-us-in-a-painful-way-that-humanity-is-a-single-organism/>.
- Pew Research Centre, 2015, *The future of world religions: Population growth projections, 2010-2050*, viewed 09 April 2020, from <https://www.pewforum.org/2015/04/02/religious-projections-2010-2050/>.
- Rahman, F., 1983, 'Some key ethical concepts of the Qur'an', *The Journal of Religious Ethics* 11(2), 170–185.
- Rahman, F., 2009, *Major themes of the Qur'an*, University of Chicago Press, Chicago, IL.
- Rumi, J.A.D., 1997, *The essential Rumi*, Castle Books, Auckland.
- Serres, M., 1995, *The natural contract*, University of Michigan Press, Ann Arbor, MI.
- Steffen, L.H., 1992, 'In defence of dominion', *Environmental Ethics* 14(1), 63–80. <https://doi.org/10.5840/enviroethics199214140>
- The Shalom Center, 2015, *A Rabbinic Letter on the climate crisis*, viewed 09 April 2020, from <https://theshalomcenter.org/civicism/petition/sign?sid=17>.
- Turkson, P., 2015, 'Islamic call on rich countries to end fossil fuel use', *BBC News*, 18 August 2015, viewed 09 April 2020, from <https://www.vocfm.co.za/muslim-leaders-tell-petropowers-to-lead-on-climate-change/>.
- United Nations Environment Programme (UNEP), 2019, *UN Environment vision on engagement with faith-based organisations*, viewed 06 April 2020, from <https://abrahamicprograms.uconn.edu/wp-content/uploads/sites/1468/2019/05/2019-Workshop-Resources-2018-UNE-Brief-on-Engaging-with-Faith-based-organizations.pdf>.
- Van Huyssteen, J.W., 2006, *Alone in the world? Human uniqueness in science and theology*, Eerdmans Publishing Co, Grand Rapids, MI.
- Von Balthasar, H-U., 2003, *Cosmic liturgy. The universe according to Maximus the Confessor*, Ignatius Press, San Francisco, CA.
- White, L., 1967, 'The historical roots of our ecologic crisis', *Science* 155(3767), 1203–1207. <https://doi.org/10.1126/science.155.3767.1203>
- Wilkinson, L., 1980, *Earthkeeping, Christian Stewardship of natural resources*, Eerdmans Publishing Co, Grand Rapids, MI.
- World Council of Churches (WCC), 2016, *Justice, Peace and Integrity of Creation (JPIC)*, viewed 06 April 2020, from <http://www.internationalunionsuperiorsgeneral.org/wp-content/uploads/2016/01/JPIC-brochure-2017-english.pdf>.
- World Health Organisation (WHO), 2016a, *WHO's Urban Ambient Air Pollution database – Update 2016*, viewed 10 March 2020, from https://www.who.int/phe/health_topics/outdoorair/databases/AAP_database_summary_results_2016_v02.pdf?ua=1.
- World Health Organization (WHO), 2016b, *Global urban ambient air pollution database*, viewed 09 April 2020, from https://www.who.int/phe/health_topics/outdoorair/databases/cities/en/.
- Zizioulas, J.D., 2011, *The Eucharistic communion and the world*, L.B. Tallon (ed.), T & T Clark International, New York, NY.