



EDITED BY LOUK A. ANDRIANOS AND TOM SVERRE TOMREN ET. AL.

Contemporary ecotheology, climate justice and environmental stewardship in world religions

Ecothee volume 6th-Orthodox Academy of Crete Publication



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Patriarchal message

**His All Holiness, Bartholomew I, Archbishop of Constantinople,
New Rome, and Ecumenical Patriarch**

Most Holy Metropolitan of Kisamos and Selinon, Most Honoured and Exarch of Western Crete Amphilochios, President of the Administrative Board, and most Eminent Dr Konstantinos Zormpas, Hieromonkemon of the Holy and Great Church of Christ, General Director of the Orthodox Academy of Crete, the grace and peace of God be upon you.

We are pleased to send our present Patriarchal message to the Sixth International Conference on Ecology, organised by the Institute of Theology and Ecology of the Orthodox Academy of Crete (23-26 September 2019) entitled Ecological Theology and Environmental Ethics, in which representatives of churches, inter-religious organisations, holy monasteries, environmental organisations and academic institutes take part.

Exactly thirty years ago, the Ecumenical Patriarchate established the first of September, a day of celebration in the Ecclesiastical Year, as the Day for the Protection of the Environment. During this period, when humankind intensely experienced the environmental as well as social ramifications of the global ecological crisis, the Holy and Great Church of Christ took diverse initiatives related to the issue, organised international conferences, cooperated with political and religious representatives and with social bodies and ecological movements, highlighted the spiritual and ethical roots of the ecological problem and the urgent need for joint action to manage it, raised awareness and inspired countless people of good will, including the younger generation, to respect the integrity of Creation and to strive for its protection. It is a great blessing that the Ecumenical Patriarchate is the first church to develop and promote the dimensions of the Christian Eucharistic and ascetic ethos that are friendly towards the environment.

We wish to remind you that the actions of the Holy and Great Church of Christ to protect the natural environment have not been an occasional reaction to the ecological crisis of today but emanate from her theology. The life of the Church is ecology lived in practice; it is a school of ecological responsibility. According to the orthodox theology of ecology,

the objectification and exploitation of creation by human beings is in fact a misrepresentation of Christian cosmology and anthropology, not their consequence as propounded by critics in recent decades. The environmental catastrophe is the result of the tragic rift between human beings and God and their alienation from God, and of sin, which have also distorted the relationship of human beings to Creation. The ecological crisis arises from the division and dead ends in the self-soteriological and self-willed freedom of human beings.

In the tradition of Orthodoxy, the ascetic renouncement of “sovereign rights” in respect of nature and the Eucharistic use of Creation are at the core of the faithful’s identity. Orthodox belief, liturgical life, the ethos of the Eucharist, ascetic simplicity and way of life as a koinonia include care for Creation. It is on this basis that we put forward every initiative that contributes to the development of an ecological ethos, the protection of Creation in praxis and the establishment of a culture that cares for nature. We have proclaimed that it is impossible to have real advancement if it occurs at the detriment of the natural environment and its sustainability. We have observed the relationship between environmental and social problems as well as the effectiveness of a combined approach. We are making numerous attempts to address the need for global mobilisation and co-operation in order to face probably the biggest problem in the history of humankind: it threatens not only the quality of our lives, but the very survival of humankind itself. Ecological responsibility, nature-friendly behaviour and respect for the sanctity and beauty of Creation are the modern unconditional imperatives for the whole of humankind. It does not suffice merely to express our worries about the threat to nature; we must also actively fight for its protection. Climate change and its consequences do not allow for indifference or complacency. It is ingenuous to believe that the ecosystem is able to renew itself over and over again, despite the intense anthropogenic pressures upon it.

This is the spirit in which we have set this International Conference of the Orthodox Academy of Crete, which also promotes the positions of the Mother Church in respect of the issue of the protection of the environment under our aegis. During all five decades of its work and existence, the Orthodox Academy of Crete has been a place of meeting, cooperation and uniting spirit, cultivating the belief in the power of dialogue, of

knowledge and of science; a place of mutual struggle for peace and reconciliation; a field for the development of an ecumenical spirit and “experienced ecumenism”; a place for the promotion of the cultural, ethical and spiritual dynamism of Orthodoxy. Through its activities, the Orthodox Academy of Crete has proven and still proves that the ongoing good Christian testimony in the world “for the hope that is in you”, and not fruitless introversion, constitutes the right understanding and experience of the “not of this world” character of the Church.

With these thoughts, we bless the present International Ecological Conference and congratulate everyone who has contributed to its preparation and organisation, as well as all the participants for their presence, and hope for the complete success of the conduct of the Conference and its relevant conclusions. We bestow on you and your contributors our Patriarchal blessings and call upon you, as well as upon the pious Cretan people, the Grace and mercy of the always benevolently caring Creator of the Creation and Donor of all goods in the name of the worshipped Triune God.

23. September 2019

*Signed and stamped by
His All Holiness Ecumenical Patriarch, Bartholomew I.*

Όπις άκριβές δινείγματον.
Ἐν τοῖς Πατριωτικοῖς, τῇ 23ῃ Σεπτεμβρίου 2019
Ο Αρχιγραμματεύς τῆς Ἁγίας καὶ Τεράς Συνόδου
π.α.



Greeting by the General Director of Orthodox Academy of Crete (OAC)

Dr Konstantinos Zormpas

The 6th International Conference on Ecological Theology and Environmental Ethics (ECOTHEE-19), which was held at the Orthodox Academy of Crete (OAC) from 23rd to 27th of September, 2019.

There are many reasons that point out the importance of the sixth International ECOTHEE Conference:

In Byzantium, the first day of September used to mark the beginning of the Indictos, the new fiscal year. The reason for beginning the year at that time was that the harvest would be in, and so it was an appropriate moment to calculate the taxes that should be paid. The Orthodox Church retained that tradition by marking September the first, as the beginning of the new liturgical year. It is a symbolical way for our spiritual harvest!

The Ecumenical Patriarchate established the Feast of the Indictos as the “*Day of Protection for the Environment*”, when we offer prayers and supplications “*for the whole creation*”. Ever year on this day, the Patriarchal Encyclical invites all Orthodox and other Christian faithful to send prayers of thanksgiving to the Creator of all for “*the great gift of Creation*”, along with petitions for its preservation.

Some days later; the beginning of the sixth International Conference on Ecological Theology and Environmental Ethics took place at the Orthodox Academy of Crete. This is the first reason!

The second reason is that the Global Climate Action Week was held from 20th to 27th of September 2019, so it was exactly during the dates of the ECOTHEE Conference. The goal is the start to turn the tide on inequality and climate change. The climate change is not a future crisis, but it is a current moral and material danger.

But there is an even more important reason! And this is because many years before, Churches, Ecclesiastical Organizations as the Conference of the European Churches, the World Council of Churches and many others, all members of the Civil Society, have predicted and underline, with their prophetic voice, the dimension of the environmental problem.

In the same way, the Department of the Orthodox Academy of Crete, the Institute of the Ecology and Theology, supports the ecological initiatives of the Mother Church of Constantinople, and promotes the interlinking of Theology and Ecology.

All the International Conferences on Ecological Theology and Environmental Ethics that took place at the OAC during the last years, can been observed as a decisive step towards those common efforts around the world for the protection of our environment. And I would like to thank not only our colleagues Louk Andrianos and Antonis Kalogerakis, who both have the responsibility for the Conference, as well as all those, people and Institutions, who have contributed to its blessed realization.

Finally, there is only one significant reason: Because we are Christians and members of the World's Community, we are responsible for our environment. I think the Letter to Diognetus¹ justifies our thoughts:

Christians are indistinguishable from other men either by nationality, language or customs [...]. Their teaching is not based upon reveries inspired by the curiosity of men. Unlike some other people, they champion no purely human doctrine. With regard to dress, food and manner of life in general, they follow the customs of whatever city they happen to be living in, whether it is Greek or foreign. And yet there is something extraordinary about their lives. They live in their own countries as though they were only passing through. They play their full role as citizens, but labour under all the disabilities of aliens. Any country can be their homeland, but for them their homeland, wherever it may be, is a foreign country. Like others, they marry and have children, but they do not expose them. They share their meals, but not their wives. They live in the flesh, but they are not

¹ Mathetes, *The Epistle of Mathetes* to Diognetus* 2006 [2nd century] (Greek: Πρὸς Διόγνητον Ἐπιστολή) is an example of Christian apologetics, writings defending Christianity from its accusers. The Greek writer and recipient are not otherwise known; estimates of dating based on the language and other textual evidence have ranged from AD 130 (which would make it one of the earliest examples of apologetic literature), to the late 2nd century, with the latter often preferred in modern scholarship. *The word "Mathetes" is the Greek Word for "student" or "disciple". The author calls himself a "Student of the Apostles".

governed by the desires of the flesh. They pass their days upon earth, but they are citizens of heaven. Obedient to the laws, they yet live on a level that transcends the law. Christians love all men, but all men persecute them [...]. To speak in general terms, we may say that the Christian is to the world what the soul is to the body. As the soul is present in every part of the body, while remaining distinct from it, so Christians are found in all the cities of the world, but cannot be identified with the world [...].²

This Christian «eschatological anarchism» gives to us the responsibility to work for the preparation of our world not tomorrow, but already now! In this real historical time and not the next days. In this sense, theological ecology does not merely refer to the development of an ecological awareness or the response to ecological problems based on the principles of Christian anthropology and cosmology. On the contrary, it involves the renewal of the whole creation in Christ, just as this is realized and experienced in the Holy Eucharist, which is an image and foretaste of the eschatological fullness of the Divine Economy in the doxological wholeness and luminous splendour of the heavenly kingdom.

But we don't close our eyes to this terrible situation on our earth! For our part, however, we are obliged to assume greater measures for the application of the ecological and social consequences of our faith. It is extremely vital that "our archdioceses and metropolises, as well as many of our parishes and sacred monasteries, have fostered initiatives and activities for the protection of the environment, but also various programs of ecological education."³ We should pay special attention to the Christian formation of our youth, so that it may function as an area of cultivation and development of an ecological ethos and solidarity. Childhood and adolescence are particularly susceptible life phases for ecological and social responsiveness and this points out the real value of the environmental programs, which are organized especially for schools, by the Institute of Theology and Ecology of the OAC.

We are living in difficult times in Europe, in our world, marked by security concerns, by economic uncertainty, by the refugee crisis, and of

² Letter to Diognetus (Nn. 5-6; Funk, 397-401)

³ All Holiness, Bartholomew I 2019a.

course by ecological problems. We are very close to our limits! We are leaving on red lines. *“Our planet has witnessed extreme heatwaves and expansive wildfires throughout the world—from the rain forests of the Amazon and desert regions of Africa, normally snow-covered regions such as the Arctic and Alaska to far away countries from Spain to Siberia”*, underline His All-Holiness Ecumenical Patriarch Bartholomew.⁴ Month after month, we have experienced record temperatures and unprecedented heatwaves, resulting in the destruction of millions of acres and the disruption of millions of people. The WWF report shows, for example, that it would take five planet earths to support humanity for a year if everyone lived the way people from Canada or the USA do. Country Overshoot Day for these came less than a quarter of the way through the year — on March 14, in 2018.⁵

Mobilizing forces for the protection of the integrity of creation and for social justice are interconnected and inseparable actions. The interest of the Ecumenical Patriarchate for the protection of creation did not arise as a reaction to or as a result of the contemporary ecological crisis. The latter was simply the motivation and occasion for the Church to express, develop, proclaim and promote its environment-friendly principles. The ecological activities of the Ecumenical Patriarchate served as the inspiration for theology to advance prominently the truth of Christian anthropology and cosmology, the Eucharistic worldview and treatment of creation, along with the spirit of Orthodox asceticism as the basis for understanding the reason for and response to the ecological crisis. That means that as Christians we are not very active in our lives. We need more. In June 2016 the historic Holy and Great Synod of the Orthodox Church took place at the Orthodox Academy of Crete. This Synod underlines also the importance and the significance of the environment for every human being on earth, especially today. In the Message of the Synod it is noticed that

It is clear that the present-the day the ecological crisis is due to spiritual and moral causes. Its roots are connected with greed, avarice and egoism, which lead to the thoughtless use of natural

⁴ All Holiness, Bartholomew I 2019b.

⁵ Earth Overshoot Day 2019.

resources, the filling of the atmosphere with damaging pollutants, and to climate change. The Christian response to the problem demands repentance for the abuses, an ascetic frame of mind as an antidote to overconsumption, and at the same time a cultivation of the consciousness that man is a "steward" and not a possessor of creation. The Church never ceases to emphasize that future generations also have a right to the natural resources that the Creator has given us [...].⁶

If there is one message that I would like to share with every reader of these Conference proceedings, it is about the importance of cross-fertilization and multi-disciplinarily. On how important it is to look broadly and widely for insights and for new perspectives. Today, one can only have true understanding through dialogue and collaboration among different perspectives. Nobody — not a nation, not a state, not a religion, not a municipality, not science and technology — can face the current problems alone. We need one another; we need common mobilization, common efforts, common goals, and a common spirit!

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⁶ Message of the Holy and Great Council of the Orthodox Church 2016, § 8.



SECTION 1:

Introduction

The rationale of the sixth volume of ECOTHEE publications

Dr Louk Andrianos and Rev. Dr Tom Sverre Tomren

The 6th International Conference on Ecological Theology and Environmental Ethics (ECOTHEE-19) was organised at the Orthodox Academy of Crete (OAC) under the auspices of the World Council of Churches and His All-Holiness Ecumenical Patriarch Bartholomew I in Kolympari, at the Orthodox Academy of Crete, Chania on 23-26 September 2019. The conference was the fruit of the collaboration between the World Council of Churches (WCC) and the Orthodox Academy of Crete (OAC), under the scientific supervision of Dr Louk Andrianos, a senior collaborator of the Institute of Theology and Ecology (ITHE) at the OAC and a consultant for the care of creation, sustainability and eco-justice at the WCC.

This book is the sixth volume in the ECOTHEE book series of biannual publications, which first appeared in the sphere of ecumenical eco-theology in 2008, following the first ECOTHEE conference (ECOTHEE-08) held in Crete to promote World Environment Day on 5 June 2008. Every ECOTHEE publication collects academic papers and statements from scientists, theologians, sociologists and researchers in different fields with the motto: "Religion and science can provide solutions to sustainability problems." The first ECOTHEE book, with more than forty selected articles written by ecumenical participants, focused on promoting the cooperation between religion and science in tackling the ecological crisis. The series of ECOTHEE publications that followed in 2011, 2013, 2015 and 2017 included more targeted articles on ecological theology and environmental ethics advocacy. The articles selected in this sixth volume, ECOTHEE-19, continue the development of ecotheological resources on environmental ethics and sustainability solutions for the common *oikos*.

For academic reasons, we have been fortunate to be able enrich this sixth ECOTHEE publication with other articles from the conference on sustainability and climate in religion that was organised by Rev. Dr Tom

Sverre Tomren at the Western Norway University of Applied Sciences in Bergen, Norway in February 2020. As a result of the Covid-19 pandemic crisis, the ECOTHEE-19 publication has been delayed and merged with relevant additional articles from ecumenical colleagues so as to produce the current book, entitled *Contemporary Ecotheology, Climate Justice and Environmental Stewardship in World Religions*.

Since the beginning of the Creation, God ("Theos" in Greek) has been understood to be an "ecological" God. God created all the universe and all its inhabitants in perfect harmony and unspeakable beauty (Genesis, 1:31). We, as humans, should re-envision ourselves as part of this glorious Creation and as a member of an Earth community which is experiencing real threats to survival as a result of the effects of human behaviour. This human effect on the earth ecosystem is so deep and accelerated that the Anthropocene geographical epoch is not a mere idea. The Anthropocene epoch is the result of unlimited human greed, which has led to the climate crisis, deforestation, water pollution, pandemic diseases (such as HIV, Ebola, Covid-19, etc.) and other instances of extreme ecological degradation. These growing crises are leading more and more people to cry out in agony: "My God (in Greek: THEE mou), thou hiddest thy face and everything is dismayed" (cf. Psalm 103/104:29).

The articles selected for this book address more urgently the need for an immediate human response to revive ecotheology, climate justice and faith-based environmental stewardship worldwide. The articles are classified into two categories: "academic papers" and "global contribution" papers.

Therefore, the present ECOTHEE-19 book is structured into the following sections:

- Introduction
- Theological and philosophical reflections
- Ethics and best practice
- Global contributions

The articles in the first three sections are evaluated as scientific articles, while others can be considered personal contributions. We refer to those in the first category as *articles* and those in the second as *contributions*.

A better understanding of the concept of environmental ethics for the common home (*oikos*) is a condition for a more effective human response to every challenge of the sustainability issue. Specifically, it will help to

affirm eco-justice and human responsibility for the care of the Earth and the vast communities of life.

As regards the opening speeches at the ECOTHEE-19 meeting, these were marked by the reading of the message of HAH Ecumenical the "Green" Patriarch Bartholomew I by Dr Konstantinos Zorbas, General Director of the OAC, and the transmission of welcoming messages on behalf of Rev. Olav Tweit, general secretary of the WCC, and Mrs Athena Peralta, programme executive of the economic and ecological justice department of the WCC, by Dr Guillermo Kerber. The tenth year of the biennial ECOTHEE conference testifies to the tireless promotion of the interfaith and interdisciplinary search for solutions to the important sustainability problems of our time.

The increasing number of young theologian participants and the multi-faith character of the conference are signs of hope for the development of eco-justice and environmental ethics, which are most needed in the contemporary era of climate emergency.

The theme of ECOTHEE 2019, Ecological Racism and Prophetic Voices of Ecological Crisis, was chosen to contribute to the WCC's thematic focus on racism for 2019. Participants from many different countries (Canada, Norway, India, Germany, the Netherlands, Belgium, Romania, Slovakia, Slovenia, Switzerland, Turkey, Ethiopia, Qatar, the USA, the UK and Greece) and diverse faith traditions presented their visions, and the discussions were clearly in the spirit of dialogue, of the *sympilosophein*, of the venue, the Orthodox Academy Crete (OAC), as confirmed by Mr Antonios Kalogerakis, Head of the Institute of Theology and Ecology at the OAC. Interventions by scientists, faith representatives of various Christian denominations and Muslim participants showed the relevance of the concepts of ecological racism and climate apartheid to addressing the increasing threats to the web of life on Planet Earth as a result of human greed. In various ways, and from various regions of the world, the participants discussed how the amplification of the force and frequency of droughts, floods and hurricanes, as well as the increase in average global temperatures and CO₂ emissions, reflects the reality of climate change.

The reflection on the economy of life concept (John 10:10), eco-Christology and the effect of populism on ecological conversion helped to deepen the understanding of Christian eco-theology and how multidis-

ciplinary interfaith cooperation is needed to address the ecological crisis. The contribution of the basic sciences, psychology, philosophy and religious studies has been indispensable in developing ecotheology and environmental ethics. The *Laudato Si*'s recommendations, contemporary ecofeminism and green institutions were also discussed as part of consolidating peace and eco-justice in the world today.

There are many reasons why these ECOTHEE articles mark an important point in the development of ecotheology and environmental ethics. Despite the critical socio-economic crisis coupled with moral recession in many parts of the global community, the continuation of the ECOTHEE meetings confirms the growing interest in the discipline. It is important to admit that we need to sustain the development of ecotheology and environmental ethics given the predominance of secular trends in coping with the fragility of the earth's balance system.

The initial motivation for the ECOTHEE publication was to intensify the collaboration between theology and applied science in finding solutions for environmental issues. That has been accomplished, and a very important, perhaps an even more necessary step, is to develop the more effective engagement of other fields of science, such as politics and religion, in the good management of our common Earth.

We thank the Holy Trinity, Creator of everything (Romans 11:36), and we express our gratitude to all the supporting institutions of the ECOTHEE initiatives. We would never attained our goals without the blessings and support of the ecumenical Patriarchate of Constantinople, the Ecological and Economic Justice Department of the World Council of Churches in Geneva, the Institute of Theology and Ecology of the Orthodox Academy of Crete in Kolympari, the Holy Convent of Chrysopigi in Chania, Crete, the University of Applied Science in Western Norway, VID Specialized University, the Lutheran World Federation, the Church of Norway and the European Christian Environmental Network. *Special thanks to the co-editors, Chad Rimmer, Hans Morten Haugen, Peter Pavlovic and to Kurt Saenger-Heyl, Gabrielle Brown and Elise Hynek, who have ensured that the spelling and language are correct.* We express our warm gratitude to Isabel Phiri, Athena Peralta, Henrik Grape, Guillermo Kerber, Konstantinos Zorbas, Antonios Kalogerakis and Ioannis Malandrakis, the Mayor of Plataniás Municipality, for their support in organising the conference and its many side events which helped raise global awareness

on the ecumenical and grass roots church level for the protection of God's Creation.

Believe it or not, there are many obstacles to ECOTHEE and similar eco-justice initiatives, but: What, then, shall we say in response to these things? If God is for us, who can be against us? (Roman 8:31). We must pray and remain faithful until the end (Mathew 10:20) to fulfil the call of Jesus Christ for life in its fullness for all Creation (John 10:10). For we are his workmanship, created in Christ Jesus for good works, which God prepared beforehand, that we should walk in them (Ephesians 2:10). Let us walk together in loving one another and caring for the whole creation. For God is love (1 John 4:8).

We hope that every reader will enjoy and discover the treasures of this publication.

With best wishes.

The articles in this book and the discipline of eco-theology

Tom S. Tomren

Keywords: Echothee 6, the Orthodox Academy of Crete, ecotheology, environmental ethics, methods and normativity

This book is based on articles prepared as a result of the Ecothee conference organised at the Orthodox Academy of Crete (OAC) under the auspices of the World Council of Churches in the autumn of 2019, before the world was hit by Covid-19. The conference was promoted through various networks and websites that work with ecotheology. Put another way, the participants represent a sample of religious leaders, lay people and academics who seek to increase religion's climate and environmental commitment.

This conference was the 6th International Conference on Ecological Theology and Environmental Ethics at the OAC.

The participants in Ecothee-19 and the articles reflect the diversity of actors and perspectives within ecological theology and environmental ethics. In this chapter I will give a short presentation of the articles before ending with a discussion of what the disciplines of ecotheology is, not least in relation to other disciplines that work with religion and environmental ethics. The discussion will address the question of how the conference and presentations can be situated relative to established professional traditions. The authors and the articles are presented in the order in which they appear in the book.

The various texts

Lesya M. Sabada's (Canada) article "The God both of squirrels and of men – the challenge of the white thesis" is, as the title indicates, a review of the arguments of Lynn White Jr in his article of 1967. Sabada sees White's contribution as a useful challenge and shows how different Christian traditions, especially Eastern, can be used in response to White's argument. Sabada argues that the human position in nature should not be perceived as one of dominance or superiority, as critiqued in White's

thesis, but as one of service to and beneficent love of creation in its many forms and all elements of nature.

In the article “Anamnesis and restoration in the Eucharist: towards a hopeful liturgical theology of climate change” by **Liz Marsh** (UK), the starting point is based on statements from the Lambeth Conference (Anglican Church) in 2008 where it was asked for more ecotheology and more liturgical resources with a focus on Creation and environmental problems. Marsh argues that the development of liturgical resources must be linked to the development of new theological perspectives. She discusses how climate change might be understood from a liturgical theological perspective. She also shows that a deeper understanding of anamnesis in communion theology can contribute to ecological understanding and practice.

In the article “WWJD (What would Jesus do?) – incarnation and soteriology in the light of ecology”, **Tom S. Tomren** (Norway) shows how a reinterpretation of incarnation using ecological anthropology leads to new and more holistic perspectives on Christology and Soteriology. Tomren argues that ecological anthropology can revitalise the Lutheran ubiquity doctrine of the Eucharist and through this provide ecological impulses both to the liturgy and to a Christocentric eco-ethics.

Kamal Kadar’s (Lebanon) article “Ecological theology in the teaching of St John the Damascene” shows and discusses how Saint John of Damascus’s writings offer dogmatic perspectives to Christians who are seeking relevant impulses for environmental theology. Kadar shows how John of Damascus’s perspective illustrates how orthodox theology emphasises that reconciliation with nature is linked to man’s relationship with God.

In “Pentecostal ecotheology from the margins”, **Harold D. Hunter** (USA) writes about how new ecotheological impulses from Pentecostal churches in South America challenge Pentecostals in the north. He shows that Pentecostals in Africa and South America have brought new and more ecological perspectives into the international Pentecostal movement. He argues that Pentecostals in the north should learn both from Pentecostal churches in the south and from orthodox theology.

Peter Pavlovic (Belgium) presents an article with the title “Between hope and panic: climate change in a dialogue of theology with secularity”. He argues that the theology of the apostle Paul, which is based on the close relationship between faith and hope, creates an appropriate theological language for addressing the context, modalities and character of hope.

Paul's approach invites the conclusion that it is primarily faith, endurance, determination and reliability that provide an authentic and truthful witness in the world we are living in. Meaningful hope can be discovered only in relation to faith. The article inspects the implications of the term "obedience of faith" introduced by the apostle Paul for the life of a Christian in relation to climate change in three examples: the understanding of freedom; justice; and the relationship between rights and hope.

In her article "Eco-peace building for women's inter-religious action", **Nadja Furlan Štante** (Slovenia) addresses the issue of social and ecological injustice through the lens of Christian eco-feminism and its ethics of interconnectedness and stewardship of all creation. She claims that women are disproportionately affected by environmental injustice and that this predominantly affects poor women and their reproductive health. Štante argue that society and different religious establishments need to listen to and draw attention to the female experience. In short, women need to play a key role in religious eco-building.

Erden Miray Yazgan Yalkin's (Turkey) and **Antonios Kalogerakis's** (Greece) article "Human domination of the environment: an eco-theological analysis with a philosophical and engineering approach" underscores how the climate crisis affects every human being through extreme weather conditions, catastrophes and unstable situations. Philosophy, theology and engineering should therefore cooperate to make people understand the importance of respecting nature and applying realistic solutions. Yazgan Yalkin and Kalogerakis provide examples of how theology, orthodox tradition and technical sciences can make important contributions to the community's work on the environment and climate.

The article "Laudato Si encyclical: entropy, life and the Revelation of John", written by **José Cardoso Duarte** (Portugal), gives us insight into the main features behind Pope Francis's Laudato Si. Duarte believes that the keys to understanding Laudato Si lie in an ecological interpretation of the quotations of the Book of Revelation. Duarte discusses how the concept of Two Worlds presented by the French philosopher M. Henry can contribute to a greater understanding of the connections between the development in the material world (the entropy-driven evolution) and the spiritual world as it is expressed in the Book of Revelation.

The second contribution from **Tom S. Tomren** (Norway) is entitled

“Ecotheological reflections in the Evangelical Lutheran Church of Cameroon”. In this article, he shows how the small African Lutheran Church’s ecotheology came into being in an interplay between missionaries, local theologians and the international ecumenical movement. Tomren analyses the ecotheological discourse in the church and shows that the church is in the process of integrating ecotheology through its work with its own liturgy for the day of Creation. He argues that the EELC should develop its own local ecotheology based on traditional metaphors and cosmology and with an emphasis on soteriology.

“Ecclesiastical environmental work in Sub-Saharan. A case study of the effects of the Evangelical Lutheran Church of Cameroon’s environmental work”, the third article by **Tom S. Tomren** in this book, is a continuation of his study of ecotheology in the ELCC above. In this section, he presents the specific environmental projects of the ELCC and discusses the strengths and weaknesses of the projects in light of the effect on the church, nature and society. Tomren finds that the success and limitations of the environmental projects depend on major structural factors such as the economy, migration and established ethnic conflicts. He recommends further development of the part of the project that is working with economising wood stoves, sustainability education and afforestation directed towards useful plants and that it be put into a sacral-liturgical interpretive framework.

Louk Andrianos’s (Greece/Madagascar) article “Anthropocene greed and ecological racism in the light of the economy of Life index evaluation” seeks to analyse Anthropocene greed and explore facets of ecological racism in the 20th century. Based on ecotheology, and with a focus on Luke 12: 5, Andrianos raises awareness of the devastating effects of human greed and of the necessity to adopt an alternative concept of sustainability that focuses on the principles of the economy of Life and limits to human greed. The economy of life index is proposed as decision-making tool to curb Anthropocene greed and replace the way in which the achievement of sustainable development is usually assessed at present. “Limiting human greed” proposed as an alternative concept for eco-justice, and a deeper focus on the economy of life assessment is recommended for the 11th WCC assembly in 2021.

In the article “Buryat Shamanism and Buddhism and environmental concerns in the Lake Baikal region” by **Anastasia Fedoseeva** (Russia) and

Alan S. Weber (Qatar), the authors explore whether the traditional theological worldviews of the Buryats can lay the foundation for sustainable ecological practices in the Lake Baikal area, a region experiencing serious environmental threats. The authors first summarise the hydrological, geological and ecological research related to sustainability issues in the Lake Baikal region before providing a review of anthropological and theological studies of Buryat religion, including both traditional Shamanism and Buddhism. Through sociological enquiry in Buryatia, they found that the traditional ecological philosophies embedded in both Buryat Shamanism and Buddhism are vital to creating an ecotheological way of being in the Lake Baikal region that satisfies human needs and protects this unique ecosystem for future generations of species, including mankind.

“How is the Church of Norway’s public communication on environmental ethics viewed by Norwegian leaders?” is the title of the article from **Hans Morten Haugen** (Norway). Haugen presents a study of how different types of leaders view the Church of Norway’s (CoN) work on the environment and climate issues. Through data taken from interviews with 18 informants representing four segments of Norwegian society – businesses, youth, environmental organisations and the CoN itself – Haugen finds that the different segments have slightly different perceptions of whether the Church of Norway has succeeded and what they should focus on. The informants acknowledge the CoN’s overall positive role in society. They also acknowledge that the CoN should play a political role and advocate for change embedded in hope, global justice and long-term concerns. As four of the informants had no knowledge of the CoN’s environmental and climate appeals, however, Haugen concludes that the CoN is not adequately heard.

In “Climate apartheid and the role of religious leaders and institutions in combatting it”, **Seyed Masoud Noori** (USA/Iran) and **Maryamossadat Torabi** (Canada/Iran) focus on the environment and climate change. They underscore one of the dimensions of the environmental crisis’s impact: the intensified severe class discrimination between the rich few and the poor masses in the world, referred to as «climate apartheid». The article provides visible examples, as well as signs of the dark horizon of this apartheid. They emphasise the need for more effective legal efforts and the importance of activating existing mechanisms and using the capacities of

the international and human rights law system to control the environmental crisis.

In “Art activism and the environment”, **Evelyn A. Armstrong** (Canada) shows how different artists in film and visual arts contribute to the debate about the environment and justice. Artists, and especially the Ecoart movement, make an active contribution and are needed to bring out the experiences and views of indigenous peoples and other marginalised groups affected by environmental degradation. Armstrong shows that the Ecoart movement has a lot in common with eco-feminist movements in terms of how they interpret environmental problems.

In his article “Who Owns The Air? Ethical Allocations of a Limited Resource” **David A Larabee** (USA) presents different models and strategies for how greenhouse gas reduction could and should be distributed between different countries. Larrabee argues that those countries that are causing the climate problems should bear the “greatest burden”, and he argues that the choice of reduction strategy should favour the countries with the lowest incomes per capita.

In a contribution titled “Love Creation as yourself”, **Edward Dommen** (Switzerland) provides insight into motifs from different religious traditions and how they align man and nature in relation to each other. He discusses key concepts such as sustainability, community, doing no harm, the precautionary principle and proximity using examples from his home country.

Marijke Van Duin (Netherlands) contributes with the text “Populism and climate change – a depth-psychological perspective”. She discusses concepts such as *populism* and *freedom*, links these to climate change and analyses them in Jungian terms. Van Duin claims that populism can lead to nationalism, racism, xenophobia and extremism. She points out that populists often deny climate change, and that this can complicate or delay urgently needed climate policies. In order to defuse populism, according to van Duin it is essential to fathom and take seriously its real or experienced victimhood, restore social security, offer free education to all and revalue professions and other beneficial activities through wage levelling. She argues for market control and the restriction of financial speculation.

Linda Vogt Turner’s (Canada) contribution is titled “Eco-colonialism or redemption and innovation?” Turner introduce indigenous voices who accuse many environmentalists of attempting to stop oil and gas

development by “sowing mistrust and conflict” and not allowing the indigenous peoples of Canada to develop and manage oil and gas resources on their indigenous territories. Turner points out that many indigenous people in Canada see this as an eco-colonialist attack on indigenous peoples’ rights. Turner highlights Canada’s oil and gas industry as upholding the highest environmental standards in the world while working to reduce greenhouse gas emissions to help meet the world’s energy needs. To substantiate this claim, Turner showed a PR film published by Canada’s oil and gas industry.⁷

Abate Gobena (Ethiopia/UK) provides a short paper titled “A short essay on church forests in Ethiopia” as a summary of his previous essay titled “A church without trees is like a priest without a beard”. Here Gobena shows that the Ethiopian Orthodox Tewahedo Church (EOTC) has had a great influence in shaping Ethiopian culture. Amidst successive waves of deforestation, the sacred church and monastery lands of the EOTC have remained islands of natural biodiversity. The study elucidates the possible link between theological motivations – derived from biblical, liturgical and hagiographic sources – and the eco-ethical practices which contribute to the biodiversity conservation in churches and monasteries.⁸

Ecothee-19 and established professional traditions

Since its inception in 2008, the Ecothee conferences have emphasised the wish to bring together both participants who work with environmental ethics and participants who work with ecological theology. In the first Ecothee publication (2008), the former director of the Orthodox Academy of Crete (OAC), Constantinos Kenanidis, wrote that a goal of the centre was to help find ontological solutions to ecological problems.⁹ He emphasised that there was a connection between the relationship between God and man (the horizontal dimension), and the relationship between man and nature (the vertical dimension).¹⁰

⁷ It must be mentioned that Linda Vogt Turne's paper created a strong debate when it was presented under Ecothee 2019. Several of the participants considered her lecture as a defense and a promotion of Canada's oil and gas industry.

⁸ Gobena 2021.

⁹ Kenanidis 2008, p. 2.

Ecological theology is composed of the concepts of theology and ecology. As the words indicate, “*ecotheology*” consists of theological considerations of ecology. Theology is an established professional tradition geared towards the religious institution’s self-reflection and practice. When the word “*theology*” is linked to the word “*ecological*”, it points to a theology that works with how to incorporate new ecological knowledge into theology. Ecological theology emphasises the vertical dimension – the relationship between God and creation.

Environmental ethics, on the other hand, is an established concept and a professional tradition that is concerned with the study of right and wrong in the relationship between humans, other species and their surroundings. In Western tradition, environmental ethics is a subject in philosophy, theology, pedagogy, various natural sciences, the social sciences, law and several other disciplines. In most contexts, the term is used without being linked to a transcendental sphere. Environmental ethics emphasises the vertical dimension- the relationship between man and nature

When we look at the texts presented here, which have been written following Ecothee 19, we discover that the articles and contributions from Sabada, Marsh, Tomren, Kadar, Duarte, Pavlovic, Štante, Yazgan Yalkin/Kalogerakis, Andrianos, Fedoseeva/Weber, Haugen, Dommen and Gobena all contain considerations of the divine or religious practice. Armstrong, Turner, van Duin and Larrabee’s texts are to a greater extent profane environmental consideration. Measured against most of the texts, Ecothee 2019 is well placed within a theological tradition.

Another observation one makes when reading the various articles is that all the actors express a desire to contribute to more environmentally friendly behaviour and a more sustainable society. The articles and contributions show that the authors see themselves as actors who want to change the world. This places them within a normative tradition.

A third characteristic of the articles that we have observed is that while the first Ecothee publication from 2008 was based exclusively on Christian theology, it has now been expanded to include contributions from the Muslim and Buddhist theological traditions.

The eco-theology presented at the OAC has gone from being ecumenical

¹⁰ Ibid.

to having elements of religious dialogue and inter-religious perspectives. For my own part, I find it now unfruitful to use terms that emphasise differences (for example, between eco-theology and environmental ethics or between Christian eco-theology and eco-theology in other religions). I see all the texts as a whole where different individuals and actors come with their own perspectives, thoughts and experience of how religions can contribute to an ecologically sustainable world.

An alternative to the concepts of eco-theology and environmental ethics may be *ecotheology* as one word without hyphens. Inspired by the Norwegian eco-philosopher Arne Næss, who said that while there are many different forms of deep philosophy (or what he calls ecosophy), they all have something in common. In Næss's thinking, all *ecosophys* are based on:

- 1) The flourishing of human and nonhuman life on Earth has intrinsic value. The value of nonhuman life forms is independent of the usefulness these may have for narrow human purposes.
- 2) Richness and diversity of life forms are values in themselves.
- 3) Humans have no right to reduce this richness and diversity except to satisfy vital needs.
- 4) Present human interference with the nonhuman world is excessive, and the situation is rapidly worsening.
- 5) The flourishing of human life and cultures is compatible with a substantial decrease in the human population.
- 6) Significant change of life conditions for the better requires change in economic and technological policies.
- 7) Life quality should be given more primacy than a high economic standard of living.
- 8) Those who subscribe to the foregoing points have an obligation to implement the necessary changes.¹¹

Inspired by Arne Næss, I believe that Ecothee and the rest of us who work for religious actors in order to contribute more actively to an ecologically sustainable world, should continue to work within the framework of a normative and environmental activist-oriented self-understanding. In a globalised society where both people and environ-

¹¹ The eight points were developed by Arne Næss in collaboration with George Sessions in 1989 (David Rothenberg (2012), pp. 738-740).

mental problems cross borders, I am also convinced that it is necessary to maintain an open self-understanding that invites environmentally committed people from different religious traditions to meet and exchange their thoughts and experience.

A normative activist identity (and self-understanding) will also contribute to ensure that ecotheological conferences, such as Ecothee, are not undermined by business representatives, lobbyists and individuals who work against the green shift.

Inspired by Arne Næss, I have for many years used the term “ecotheology” (as one word without hyphens) as a term for a normative, interdisciplinary and religiously open form of reflection and practice. Here is my definition:

Ecotheology is theology developed to motivate religious individuals and institutions to engage in ecological sustainability. Ecotheology includes systematic theology, environmental ethics, practical theology and environmental politics. The concept is normative and interdisciplinary.

With this definition of ecotheology, one includes both the vertical and the horizontal dimensions in line with Constantinos Kenanidis' emphasis at the opening of the first Ecothee in 2008. In addition, one opens the door to learning from other religious actors and professional traditions and presupposes an environmental activist agenda. It will be exciting to follow the development of Ecothee as a concept and meeting place in the years to come.

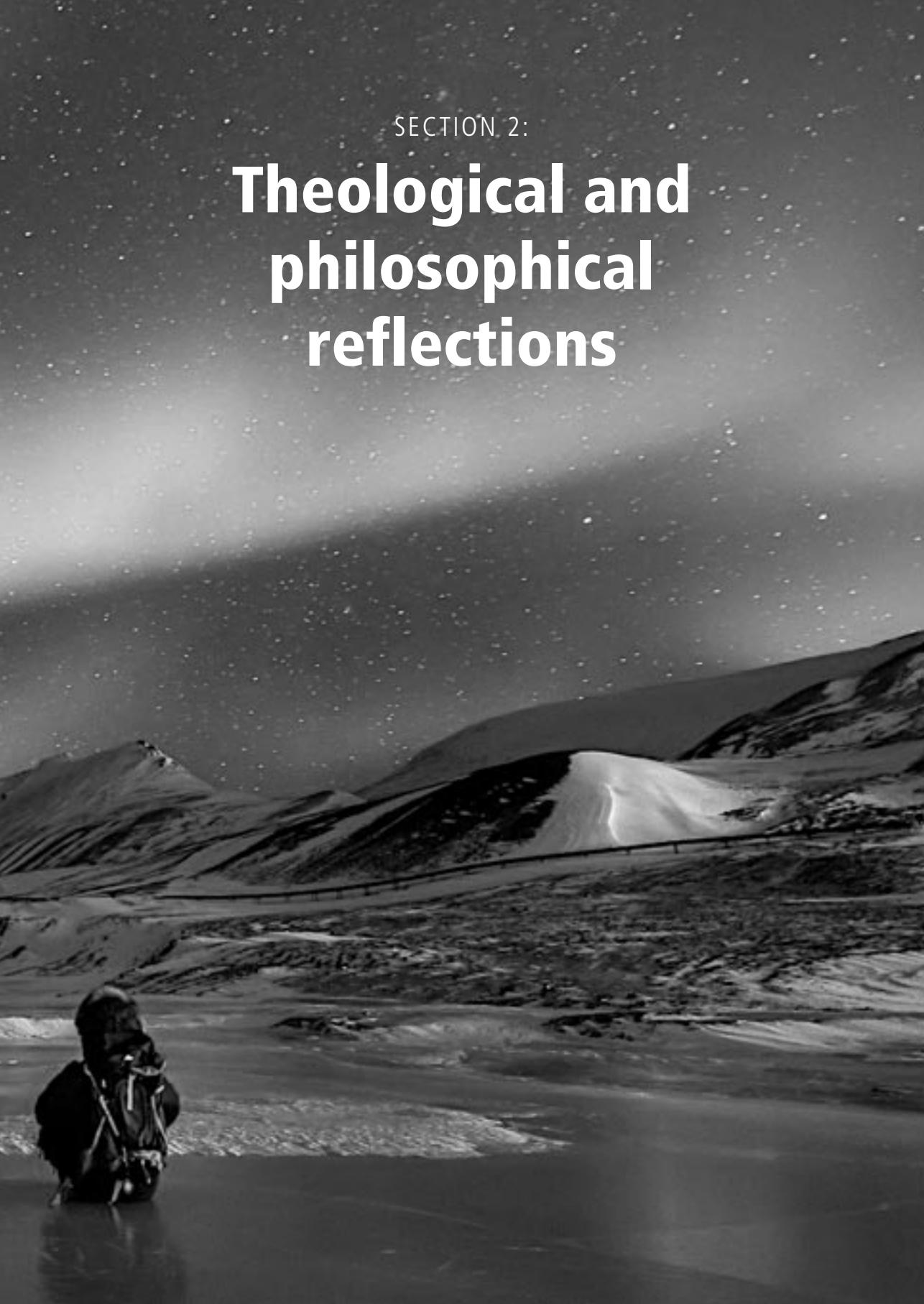
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SECTION 2:

Theological and philosophical reflections



The God Both of Squirrels and of Men

- The Challenge of the White Thesis

Lesya M. Sabada

Keywords: Eastern Christian Theology, Lynn White Thesis,
Ecological Spirituality

Introduction

In 1967, Lynn White, Jr. published his seminal article, “The Historical Roots of Our Ecological Crisis.” He provided an overview of religion and nature and argued that religions—particularly those rooted in Western Christianity—were a factor in attitudes that have contributed to the worldwide ecological crisis. His thesis immediately reverberated throughout most quarters of contemporary Christianity and initially impacted Christianity in an adverse manner. Ironically, some of his criticisms have influenced a transition of thought which may be a positive force at this time.

White’s interpretation of the fullness of Christian theology and his conclusions regarding Christianity’s role in the destruction of the environment can, in part, be attributed to many Christians who did indeed read Scripture to endorse their exploitations of the earth. This was a very common attitude and interpretation in much of Western Christianity. However, if White had a stronger emphasis on Eastern Christian theology, and the ability to anticipate the evolution of Western Christian theology on the topic of ecology, the negative impact on Christianity perhaps would have not been so great. Several prominent teachings of Eastern Christian, and now, more recently, Western Christian theology inspired by St. Francis of Assisi include a more responsible role for humanity, the transcendent God incarnate in all the beauty of life within creation, and an overall cosmological perspective, all of which appear to have been overlooked and misunderstood by White.

White’s fifty year old opinion was based on narrower and simpler interpretations of Scripture, mistaken theological positions, and the misunder-

standing of basic Christian doctrine. This thesis demonstrates the need for an updated, more precise and holistic assessment of Christian ecological theology.

A Living Religious Tradition

The value of a living religious tradition is an important concept that needs to be understood and recognized. Religions are now assuming more powerful and responsible roles in promoting the protection of all of God's creation. Contrary to popular stereotypes of religion as rigid and unchanging, R. Scott Appleby, former Director of the Kroc Institute for International Peace Studies and Professor of History at the University of Notre Dame, points out that religions are actually fluid and evolve over time through the interaction of believers with their sacred texts, their history of continuous reinterpretation of those sacred writings, and their specific time and place.¹² The very existence of ambivalence within religions—the often-opposite interpretations of texts and criticisms—makes it possible and necessary for “religious traditions to criticize themselves, an ability which definitely strengthens their credibility when they consciously choose to take a peacebuilding stance,”¹³ and more specifically, when addressing the ecological crisis. The reality of a constant hermeneutic process means that religious sources can be reinterpreted to promote the care of all of creation.

Religious scholars are continually reinterpreting ancient texts and traditions to adapt to current cultures, often in the face of resistance. Reinterpretation and reacquainting ourselves with the work of our predecessors also provides awareness that it takes time to change long-held assumptions and to assimilate new information. Conflicting information, or “cognitive dissonance,” can call into question deeply held beliefs and attitudes, causing psychological uneasiness. That is why theologians, religious scholars, and religious actors, as agents of interpretation in a unique historical and cultural moment, are as important as the scriptures themselves.¹⁴

¹² Appleby quoted in Hertog 2010, p. 81.

¹³ Hertog 2010, p. 81.

¹⁴ Gopin quoted. in Hertog 2010, p. 82.

Anthropocentrism, Transcendence of God and Dualism

Lynn White wrote critically about anthropocentrism, the transcendence of God, dualism, and a misguided Christian attitude of human domination over creation: “Especially in its Western form, Christianity is the most anthropocentric religion the world has seen...Man shares, in great measure, God’s transcendence of nature. Christianity, in absolute contrast to ancient paganism and Asia’s religions...not only establishes a dualism of man and nature but insisted that it is God’s will that man exploit nature for his proper ends”.¹⁵ As uncomfortable as it might have been in the late 1960’s, White noted that while Eastern and Western Christianity approaches to theology and ecology were somewhat different, he believed that the Christian faithful should “find a new religion or rethink our old one”.¹⁶ Interestingly enough, the Christian Church’s attitudes to ecological theology have morphed into something even White might now appreciate as more appropriate.

Eastern Christian theology is not well known in Western Europe and North America, but it is recognized as a Christian tradition with a different, and perhaps, more complete vision of nature, and a more holistic sense of the place of humanity within nature. The charge of anthropocentricity wherein we make idols of ourselves is contrary to authentic Christian theology. For the Eastern Christian heart and mind, humans are an important part of creation, but are only a part of God’s overall creative work. While there is distinction between the human and the rest of creation, there is no sharp separation. Furthermore, while the Eastern Church teaches that a human can never be the center of creation, the human being is intended to be a convergence point or as described by St. Gregory of Nyssa, a microcosm with divine and animal natures. Consequently, the human being is a co-partner and collaborator with God. Metropolitan John Zizioulas writes, “Human beings are not the possessors of nature, but an organic part of it endowed with the call to lift up [creation] to the One who can give it eternal meaning and life.”¹⁷ Metropolitan Jonah Paffhausen, former primate of the Orthodox Church in America, writes:

¹⁵ White 1967, p. 1205.

¹⁶ White 1967, p. 1206.

¹⁷ Metropolitan John Zizioulas 2003, p. viii.

The purified and enlightened man sees himself no longer outside of God and nature but rather as an integral part. Through the enlightened perception of natural contemplation, he sees all things as a whole, not in a subjective way. All things form a unity in diversity and multiplicity, including himself. Thus, he can exercise his role within creation as opposed to trying to dominate and control it. Like St. Isaac, his heart burns with love for all creation, visible and invisible, even the reptiles, bugs, and demons. The deified man lives on earth as Adam and Eve - in harmony with all created things and in synergy with God.¹⁸

White's second charge regarding the transcendence of God once again demonstrates the lack of comprehension of the entire Christian faith. For the Christian East especially, God is both transcendent and immanent. St. Gregory of Palamas (1296-1359) made the distinction between the otherness of God and the nearness of God. God in God's essence is transcendent, incomprehensible, and utterly enigmatic. On the other hand, God's energies are the core of all life, the inner sanctum of every being. According to Gregory Palamas, these energies are God in action.¹⁹ Eastern Christians have prayers to the Holy Spirit, "Heavenly King, Comforter, Spirit of Truth, who are everywhere present and fill all things." This common prayer of the Church teaches that everything is a theophany of God; everything is the manifestation and presence of God. The utterly transcendent and unknowable God can be, and is, seen in all things. God is not separated from the world but is present in all things. St. Hildegard of Bingen (1098-1179) in *The Book of Divine Works* beautifully illustrates this point:

I, the highest and fiery power, have kindled every living spark and I have breathed out nothing that can die...I am...the fiery life of the divine essence—I flame above the beauty of the fields: I shine in the waters; in the sun, the moon and the stars, I burn. And by means of the airy wind, I stir everything into quickness with a certain invisible life which sustains all. For the air lives in its green power and its blossoming; the water flows as if it were live. Even the sun is alive in its own light...I, the fiery power, lie hidden in

¹⁸ Metropolitan Jonah Paffhausen 2013, p. 57.

¹⁹ Ware 1995, p. 46.

these things and they blaze from Me, just as man is continually moved by his breath, and as the fire contains the nimble flame. All these things live in their own essence and are without death, since I am life...I am whole of life – life was not torn from stones; it did not bud from branches; nor is it rooted in the generative power of the male. Rather, every living thing is rooted in me.²⁰

The third charge made by White against Christianity is dualism – disdain of matter which then leads to domination, a charge that deals directly with the incarnation of Christ. It is particularly important to understand that, as Alexander Webster explains, quoting Fr. John Meyendorff, “Byzantine ethics were eminently ‘theological ethics’.”²¹ In other words, Eastern Christians cannot conceive of secular or philosophical ethics because their moral choices are grounded in their doctrine, particularly the incarnation, which is assigned a “normative role”.²² For this reason, the erroneous view of matter, and consequently nature, must be brought to light.

Eastern Churches have contributed to an understanding of the incarnation through a strong mystical-ascetical approach to faith based on scripture, the writings of the great spiritual masters, and a tradition of liturgical services. Among the great spiritual masters, St. John Damascus (675-753) famously wrote, “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 in matter. I will not cease from honouring that matter, which works for my salvation. I venerate it though not as God.”²³ Eric D. Perl further explains:

Precisely because God, as creator, is radically transcendent, not any being but the “cause” by which all beings are beings, it follows that all reality, all that is, is nothing but the presence and manifestation of God and as such is sacred. The mistaken interpretation of transcendence as separation, and the consequent stripping of divinity from nature in the name of divine transcendence, has been one of the major sources, in later medieval and modern time,

²⁰ Nasr 1976, pp. 102-103.

²¹ Webster 1998, p. 31.

²² Ibid.

²³ Anderson 1980, pp. 16-17.

of the tendency to reduce the world to a meaningless field for human manipulation and exploitation...From this it follows that all being is sacramental and incarnational in nature: the whole reality is theophany.²⁴

It must be recognized however, that White did identify the radical and humble thoughts and actions of St. Francis of Assisi as a pragmatic and viable alternative to the predominant Western Christian attitude "that nature has no reason for existence save to serve man."²⁵ White credits St. Francis as trying to "depose man from his monarchy over creation"²⁶ in an effort to establish a "democracy of all God's Creatures".²⁷ White saw St. Francis as a revolutionary in church and secular history offering an innovative perspective of nature and humanity's relationship to it – equality for all creatures. With incredible insight, White stated, "Since the roots of our trouble are so largely religious, the remedy must also be essentially religious."²⁸

In an ironic twist, the Eastern Christian Church has consistently embraced this attitude. This becomes abundantly clear in the statements and writings of the Ecumenical Patriarchs and more recently from another Francis - Pope Francis of Rome. In *Laudato Si'* Pope Francis acknowledges that in the past the interpretation of scripture, especially the Genesis account allowed for dominance of the human being over nature. This allows us to respond to the charge that Judeo-Christian thinking, on the basis of the Genesis account which grants humans "dominion" over the earth (cf. Gen 1:28), has encouraged the unbridled exploitation of nature by painting humans as domineering and destructive by nature. This is not a correct interpretation of the Bible as understood by the Church. Although it is true that we Christians have at times incorrectly interpreted the Scriptures, nowadays we must forcefully reject the notion that our being, created in God's image and given dominion over the earth, justifies absolute domination over other creatures. The biblical texts are

²⁴ Perl 2013, p. 32.

²⁵ White 1967, p. 1207.

²⁶ White 1967, p. 1206.

²⁷ Ibid.

²⁸ White 1967, p. 1207.

to be read in their context, with an appropriate hermeneutic, recognizing that they tell us to “till and keep” the garden of the world.”²⁹

Conclusion

White argues that our current environmental crisis is the result, not simply of our technological ability to impact and degrade the environment, but also our Western worldview. Our problem is fundamentally philosophical or ideological: we bring our ideas about the world into existence, ideas about what humans are, what the world is, and how the human and the non-human world ought to interact. To put it simply and in White’s words, “What people do about their ecology depends on what they think about themselves in relation to things around them.”³⁰ Until we “think about fundamentals...”,³¹ “clarify our thinking...”³² and “rethink our axioms”³³ we will not adequately address our environmental crisis.

White tells us again and again that though the man-nature dualism is deep-rooted in us...[u]ntil it is eradicated not only from our minds but also from our emotions, we shall doubtless be unable to make fundamental changes in our attitudes and actions affecting ecology.³⁴

Since our old worldview created our problems, only a fool would assume a simple reapplication of that same worldview would also solve our problems. In summary, White wrote within this challenging context for faith and it is my conclusion that White did not have a full grasp in portraying the essence of all aspects of Christianity. The charge of being an overly anthropocentric faith, in which God was utterly transcendent, has been proven to be false according to the ancient tradition of the Church. The doctrine of the incarnation, so central to Christianity, illustrates that all matter which is infused with the energies of God is

²⁹ Francis 2015, p. 67.

³⁰ White 1967, p. 1205.

³¹ Ibid, p. 1204.

³² Ibid.

³³ Ibid.

³⁴ White 1973, p. 62.

indeed an endless love poem of the Divine Artist and is an active expression of God's love and creativity. The beauty and the mystery found in nature and which is so central to the Eastern Church's faith was not understood by White. Perhaps if he had been aware of the words of St. Isaac, "The world has become mingled with God, and creation and Creator have become one! Praise to you for Your inscrutable purpose: truly this mystery is vast,"³⁵ he would have come to different conclusions. Instead, the thesis leaves a very negative and incomplete impression of Christianity.

The argument in White's paper did not rely on well researched and deep study of more of the sources within the faith. There is nothing inherent within the Eastern Christian faith's vision that would justify an anthropocentric view or rationalize the destruction of the nature. Because of the doctrine of the Incarnation, the Christian faith asks the faithful to believe that God's saving activity in Christ extends to more than only human beings. God's salvific activity reaches out to all of creation as demonstrated in the Eastern Christian icon of the resurrection. Dualism is absent within the traditional Christian faith and domination of the human being over nature is not the role the Church supports or promotes. Those who follow Christ with open hearts and minds grow in love and service towards all creation. As White asserted, "Christians must be like St. Francis who worshipped a God who was the God both of squirrels and of men."³⁶

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³⁵ The inscription of these words is found on the icon of St. Isaac in ancient Syriac.

³⁶ White quoted in Riley 2012, 3.

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Anamnesis and Restoration in the Eucharist: Towards a hopeful liturgical theology of climate change

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Introduction

Climate change has become an issue of great significance for those both inside and outside the Anglican Communion, and the need for continued theological reflection is apparent. Environmental concerns featured prominently at the Lambeth Conference in 2008, where a call was made for the development of ‘theologies of creation, Sabbath, stewardship and “enough” … for general use’. There was an additional emphasis made on the possibility of developing new liturgical resources with a focus on creation and other environmental concerns or the use of liturgical seasons to increase environmental awareness. Suggestions included planting time and harvest thanksgiving, Lenten fasts from energy consumption, and the memorial of St Francis.³⁷

To a certain extent, this latter issue was addressed by the adoption of the Eastern Orthodox season of Creationtide by Churches Together in Britain and Ireland in 2008. In both the Western and Eastern Churches, Creationtide now begins on 4th September (the first day of the Orthodox ecclesiastical year) and runs until the feast of St Francis on 1st October. During the season of Creationtide, congregations are encouraged give an emphasis to environmental issues, but the season is also intended to invite reflection on fundamental theological issues of the relationship between God, humanity and the rest of the created order.³⁸

Resources for Creationtide include suggested readings from scripture; hymns and songs (including songs for children); pieces of classical and

³⁷ Anglican Communion Office 2008.

³⁸ Church of England Environment Programme 2017.

popular music to listen to; quotes; and so-called ‘prayers for the earth’ based on the fifth of the Anglican Communion’s Five Marks of Mission ‘to strive to safeguard the integrity of creation, and sustain and renew the life of the earth’, which is regarded as a key dimension of proclaiming the Good News of the Kingdom of God.³⁹ There is also some liturgical material for Creationtide, including confessions, the Gospel Acclamation, prayers of intercession, and Introduction to the Peace, Prayers at the Preparation of the Table, Prefaces and Blessings and Endings. The material is too extensive to reproduce in its entirety here, but I include a suggested prayer of confession as a representative example.

We confess our sin, and the sins of our society,
in the misuse of God’s creation.

God our Father, we are sorry for the times
when we have used your gifts carelessly,
and acted ungratefully.

Hear our prayer, and in your mercy:
Forgive us and help us.

We enjoy the fruits of the harvest,
but sometimes forget that you have given them to us.
Father, in your mercy:
Forgive us and help us.

We belong to a people who are full and satisfied,
but ignore the cry of the hungry.
Father, in your mercy:
Forgive us and help us.

We are thoughtless,
and do not care enough for the world you have made.
Father, in your mercy:
Forgive us and help us.

³⁹ Anglican Communion Office n.d.

We store up goods for ourselves alone,
as if there were no God and no heaven.
Father, in your mercy:
Forgive us and help us.⁴⁰

These developments are undoubtedly significant, but the liturgical innovation of Creationtide is by its very nature limited to a small portion of the Church calendar. It appears that the intention of such innovation is to articulate a theology of the environment as well as to raise the environmental consciousness of Church members. However, such an approach risks instrumentalising the liturgy, shaping it in accordance with a particular political agenda rather than allowing it to speak for itself. This thematizing of the liturgical year is also likely to obscure its Christocentric orientation, and as such has faced considerable opposition from liturgical theologians.⁴¹

Rather, as Rosemary Radford Ruether argues, what is needed is a reconceptualization of liturgical theology, where theology becomes not merely a private practice between God and individual persons, but one that integrates our relationship to the whole of the natural world.⁴² This kind of integration cannot be achieved by simply giving over one month of the liturgical calendar to reflection upon environmental issues, no matter how well constructed the resources developed might be. In this chapter, therefore, I examine how climate change might be understood from a liturgical theological perspective, with particular attention to the way in which *anamnesis*⁴³ in the Eucharist can restore and reconstruct humanity's broken relationship with the earth by rendering both past and

⁴⁰ 'Background – Creationtide Resources', <https://creationtide.com/background/>. Further examples of liturgical resources for Creationtide can be found in the same location.

⁴¹ See for example, Ruether 2003, p. 231, and Galbreath 2014, p. 24.

⁴² Ruether 2003, p. 231.

⁴³ Editors note: Anamnesis (from the Attic Greek word ἀνάμνησις meaning «reminiscence» or «memorial sacrifice»), in Christianity, is a liturgical statement in which the Church refers to the memorial character of the Eucharist or to the Passion, Resurrection and Ascension of Christ. It has its origin in Jesus words at the Last Supper, «Do this in memory of me» (Greek: «τοῦτο ποιεῖτε εἰς τὴν ἐμὴν ἀνάμνηστιν», (Luke 22:19, 1 Corinthians 11:24–25).

future real in the present. I also argue that it is in this disruption of time that hope can be found in what is apparently a hopeless situation. My focus is therefore on the theological resources within the existing liturgy and how these might shape an understanding of climate change, rather than on any steps towards liturgical reform.

The ethical significance of liturgy

The immediate question that arises at the outset of this study concerns the relevance of liturgy to the problem of climate change. In other words, why and how can ritual or liturgical practice speak to concrete problems of human life? This question is one that has been widely discussed in recent decades with a range of contributions from various denominational perspectives. As Don E. Saliers argued in his seminal essay on the subject, the relation between liturgy and ethics or human behaviour cannot be adequately understood in terms of the formation of specific virtues and affections through participation in ritual or sacrament.⁴⁴ It is insufficient, therefore, to focus merely on how the words of the liturgy shape the way that individuals or the worshipping community think about a particular issue. It is for this reason, in addition to the others that I have discussed above, that a thematising of the liturgy is inadequate in shaping the belief and behaviour of either congregations or individuals.

Instead, the relevance of liturgy to ethics in general, and the problem of climate change in particular, is that it both forms and expresses the beliefs of the worshipping community. Thus, when fully understood, these beliefs necessarily shape the behaviour of those that hold them. In this sense, liturgy offers its participants a particular orientation in the world, shaping their understanding of the world and their place within it.⁴⁵ Consequently, liturgy provides a set of reference points by which its participants locate themselves and which make concrete suggestions about actual life on earth. The liturgy thereby has ethical meaning but not in the sense that it narrowly prescribes a particular set of actions.⁴⁶ The

⁴⁴ Saliers 1979, p. 175.

⁴⁵ Lathrop 2003, p. 62.

⁴⁶ Lathrop 2003, p. 61.

reference points of the Christian liturgy and the ethical orientation that it thereby offers to its participants are often in stark contrast to those of secular culture at large, including those regarding human use of the earth that I discuss more fully in the next section. Consequently, a liturgical orientation in the world must compete for the attention of those that receive it, thereby impeding the way and extent to which it shapes their beliefs and actions.

It is for this reason that there is so often a discontinuity between the ethical ideals expressed in the liturgy and the actual behaviour of its participants.

As I will argue later in this chapter, there are significant theological misunderstandings underlying the practices and behaviours that have led to climate change. Despite some of the efforts that I outlined at the beginning of this chapter, as well as those made by other denominations and congregations, this suggests that the church has so far been insufficiently able to challenge attitudes and practices that are the cause of climate change, and is therefore complicit in the problem. It is because of this complicity that there is a need for a fresh examination of the problem of climate change from a liturgical perspective. Though it would be unwise to discount the possibility of liturgical reform entirely, a deficiency in the behaviour of participants in liturgy does not necessarily indicate that the liturgy itself is inadequate.

Liturgy as the expression of Christian theology, though sometimes imperfect, must be accepted as having normative value for Christian ethics, rather than presupposed moral values being used as a sole basis for the understanding and development of the liturgy.⁴⁷ This raises the possibility that the Church's complicity in climate change lies not in any inadequacy of the liturgy itself, but instead in a deficient interpretation of it, or in a failure to receive the ethical orientation it offers in a way that meaningfully affects the behaviour of participants in the rite. It is for this reason that I search for previously neglected ways in which the liturgy

⁴⁷ For an example of this type of argument, see Paul Ramsey, 'Liturgy and Ethics', *Journal of Religious Ethics* 7, no. 2 (1979): 144. Ramsey does not necessarily discount the possibility of liturgical reform and development, citing the liturgy for second marriages within the Eastern Orthodox tradition as an example, but argues that this should occur within existing liturgical theological norms.

might re-orient its participants with respect to the way that they understand and act upon their relationship to the natural world.

The Sinfulness of Climate Change

When examined from a liturgical perspective, the problem of climate change emerges as one of sinful human desire for mastery over the rest of creation. The ecological crisis is the result of a pattern of behaviour driven by abuse of the earth for its resources. Underlying this desire for mastery and control over the earth is a theological vision which presents a sharp distinction between sacred and profane, thereby overemphasising human uniqueness with respect to the rest of creation. In this understanding, the dichotomy between sacred and profane is almost impossible to overcome; only the Church and its activities are sacred, while everything else is regarded as profane and therefore somehow of lesser value.⁴⁸ This way of thinking only serves to separate humanity from all other living things, thus legitimating its orientation of dominance over the natural world. But, as I seek to show in this chapter, it stands in stark contrast to the theological vision presented in the liturgy, in which participants in the sacrament are called to live in reconciled communion with rather than dominance over the earth.

Human attempts to dominate and exploit the earth have a long history. In a 1967 article that traces the historical roots of the ecological crisis, Lynn White argues that humanity's relationship with the earth in the West has been fundamentally oppositional since around the seventh century CE. At that time, farmers in northern Europe began using new ploughing techniques more suited to the damp, heavy soils typically found in the region. In contrast to the older style ploughs used in the lighter soils of the Mediterranean, which scratched the surface of the soil and were drawn by two oxen, the new technique cut the soil much more deeply, and the greater friction generated required eight oxen. Scratch-ploughing was typically used by subsistence farmers, but the number of oxen required for the new technique forced groups of peasants to work together, with each receiving ploughed strips in proportion to their contribution.

⁴⁸ It is often suggested that this error belongs particularly to medieval 'Latin' theology, in which the sharp distinction between grace and nature was a central theme. For an example of this line of argument, see Chryssavgis 1999, p. 16.

According to White, this constituted a fundamental shift in humanity's relationship to the earth. Distribution of land was no longer dependent on meeting a family's basic needs, but on productivity and the power of the machine. Humanity was no longer a part of nature, but rather its master. He argues that this attempt at mastery over nature was underwritten and condoned by an anthropocentric Christianity, which posits a dualism in which humanity is set apart from a subordinate nature. In White's view, this perspective has driven technological innovation in the West from the seventh century onwards, and, more recently, globally.⁴⁹

Unsurprisingly, this thesis has been subject to a variety of criticism, with some contesting White's somewhat simplistic historical account and others suggesting that he has overestimated the degree to which Christian theology has influenced collective action.⁵⁰ Regardless of the validity of these critiques, what emerges from White's article is a clear theme of a sustained relationship of opposition between humanity and the rest of creation, evidenced in the way that the earth is exploited for human gain. On this analysis, science and technology are currently conceived as more conducive to human mastery over nature rather than grounded in a desire to live harmoniously alongside other living things. This is not to say, however, that the reality of anthropogenic climate change has been ignored in scientific research. The reality is, in fact, quite the opposite: the impact of human activity upon the environment was first established by scientists as early as the eighteenth century, when a relation was discovered between deforestation and changes in precipitation.

More recently, though it has often been a controversial issue, anthropogenic climate change has been an increasingly prominent topic in popular media since around the mid-1980s, backed by a wealth of scientific evidence.⁵¹ Today, therefore, there is no lack of awareness about either the causes of climate change or about its potentially devastating consequences. Nor do we lack the technological capacity to reduce emissions in a way that could slow the pace of climate change or even halt it entirely.⁵² There is thus a tension between what has been clearly es-

⁴⁹ Lynn White 1967, p. 1203, 1205.

⁵⁰ See Jenkins 2009, pp. 283–309; and Whitney 2015.

⁵¹ Maxwell T Boykoff and S Ravi Rajan 2007, pp. 207–208.

tablished in scientific research and the way that this is received and acted upon by governments, organisations and individuals. This is fuelled by the human desire for mastery over nature that White describes, in which material gain and economic productivity are promoted at all costs.

A further tension emerges from the need and possibility of reducing emissions in the necessary way. Such a reduction would require a shift in the objective of human scientific and technological endeavours from maximising productivity and profit to prioritising actions that protect and help the environment. Though neither objective can be ignored entirely, it is necessary to recognise the unavoidable tension between them: it is impossible to both maximise productivity and protect the planet.

In the present era, this disconnect between humanity and the rest of the natural world is likely exacerbated by the fact that many people, particularly those in urban areas of economically developed nations, now live in a way that is fundamentally disconnected from the natural world. Most people no longer eat seasonally, but are instead able to acquire almost any food at every time of year. Likewise, though they may be aware of the effects of climate change on the natural world from extensive coverage in popular media, they have relatively few opportunities to witness it in their day-to-day lives compared to those living closer to nature. In this sense, there is a self-reinforcing quality to human disconnectedness from the rest of creation: building and growing cities itself requires a degree of mastery over the environment, and life in these very cities deepens the sense of separation. Economic development and the urbanisation and agricultural changes that have come with it are not necessarily problematic in themselves: modern healthcare and nutrition, for example, have dramatically increased average life expectancy over the last century, and made available vastly improved standards of living. Rather, the problem is that this way of living obscures the fragility of the ecosystem and humanity's relationship with it: in a wealthy, urban society, both individuals and communities can not only forget the extent of their dependence on the natural world, but also see themselves as separate from it entirely.

⁵² Masson-Delmotte et al. 2019, p. 19, referring to several 'enabling conditions that enhance the feasibility of mitigation and adaptation options for 1.5°C-consistent systems transitions.'

Having surveyed the historical roots of climate change and the human desire for dominance over the earth, I turn now to a more in-depth theological analysis of the problem. On this subject, there are some helpful insights to be found not merely in the liturgy of the Eastern Orthodox tradition, which has served as a foundation for the Anglican season of Creationtide, but also in its rich theological resources. Alexander Schmemann, whose work explores the relation between liturgy and theology and has already had some influence on Anglican theologians such as Rowan Williams, argues that the juxtaposition of spiritual and material, sacred and profane, natural and supernatural is false and must be overcome. For Schmemann, the world is instead “eucharistic” and “sacramental”. He writes, “all that exists is God’s gift to man, and it all exists to make God known to man, to make man’s life communion with God”.⁵³ Interestingly, Schmemann frames this idea in terms of the human relationship to food, arguing that in the Bible humankind is portrayed as a hungry being, and all the food that we eat is communion with God. Though food is necessary to stay alive, this ‘material’ function cannot be separated from its ‘spiritual’ one. Rather, behind all human hunger is a hunger for God.⁵⁴ Schmemann goes on to critique the failure to recognise and acknowledge the sacramentality of the world as the “original sin that blights the world”.⁵⁵ This analysis makes clear that climate change is a profoundly moral issue, shaped by an untruthful and unsustainable conception of and response to the natural world.⁵⁶

Schmemann’s use of ‘hunger’ as a framing concept also suggests an important distinction about the nature of human desire with respect to our relationship to the earth. It is not human hunger that he labels sinful, even when this hunger is orientated towards meeting our material needs and ensuring our survival. It seems that ‘hunger’ should be understood here in the broadest possible sense, not just as a hunger for food, but a desire for all that is needed to sustain human life: shelter, protection from the elements, and so on. It is inevitable that satisfying these desires requires

⁵³ Schmemann 1966, p. 14.

⁵⁴ Ibid, p. 14–15.

⁵⁵ Ibid, p. 17.

⁵⁶ Williams 2012, p. 177.

using the earth's resources to a certain extent. Neither the use of the earth's resources in this way nor the desire itself are sinful. Instead, sin lies precisely in the denial of the sacramentality of all living things, and the failure to recognise God's communion through the world.

'Hopeless' Climate Change

This understanding of climate change as the product of sinful human desire necessitates a shift away from 'solution-focused' approaches that, in focussing primarily on the reduction of emissions in order to limit further damage to the earth, merely address the symptoms of the problem rather than its causes. Further, any contemporary theology of climate change must engage with the ever-growing sense of hopelessness that pervades much thinking about the subject. In light of recent scientific research, such hopelessness can certainly seem justified.

Most current models show that the total increase above pre-industrial temperatures must be limited to a maximum of 2° C, or even 1.5° C, in order to avoid catastrophic consequences, but for this to happen, very significant reductions in emissions are necessary over a short period of time. A recent report from the Intergovernmental Panel on Climate Change (IPCC), for example, suggests that keeping to a maximum 1.5° C of warming would require a 25-30% reduction in annual global emissions by 2030, and reaching net zero by 2075, as well as remaining within a total carbon budget.⁵⁷

Certainly, steps have been taken to reduce emissions and limit the damage caused by climate change: the Paris Agreement, for example, was signed by members of the United Nations in 2015 with the aim of limiting global temperature increase this century to well below 2° C, and to less than 1.5° C if possible, by financial restructuring, technological development, and supporting developing nations to meet their climate-related targets.⁵⁸ However, it has recently become clear that the signatories of the agreement are not on track to meet the targets agreed to, and that even if these targets were met, the resulting reduction in emissions would be insufficient to limit the temperature increase this century

⁵⁷ Masson-Delmotte et al. 2019.

⁵⁸ UNFCCC Secretariat n.d.

to 1.5° C. Other research has suggested that limiting the total temperature increase to 2° C has already become impossible, rendering the disastrous consequences of this change inevitable in the imminent future.⁵⁹ It is beyond the scope of this chapter to determine which of these predictions is the most accurate. However, they clearly demonstrate that despite recent developments in carbon-capture technology, we are already living in a time (or soon will be) in which any action taken to avoid catastrophic climate change will be all but futile.

This stark reality requires a new focus in our discussions about climate change moving forward. At present most of the conversation about climate change centres on the need for preventative action on the part of governments, businesses and individuals: all are encouraged to reduce emissions by living and working more sustainably. However, to regard limiting the global temperature increase as an end in itself would be to commit a deep theological error. I have argued that the problem of climate change is not primarily one of human action or inaction, but rather one of our sinful denial of the sacramentality of all living things.

Consequently, to focus on the practical aspects of sustainable living as a solution to climate change is to merely treat the symptoms of a much deeper problem. Further, making finding a solution to the problem of climate change the *telos* of living more sustainably would become incoherent where climate change can no longer be stopped. Instead, the restoration of humanity's broken relationship with the earth must be regarded as an end in itself. Where hunger is no longer satisfied by the fulfilment of every desire through destructive consumption of the earth's resources, but instead by communion with God, an ecologically-friendly way of living would naturally emerge. The apparent hopelessness of climate change does not, therefore, diminish the importance of reducing emissions and adopting a more sustainable lifestyle - even though solving the problem is not the ultimate aim of such actions. Rather, such a lifestyle can be seen as both a part of and a witness to the restored relationship with the earth that can be found in the Eucharist. In this way, the sacramental community can speak prophetically on the issue of climate

⁵⁹ Urban 2015, p. 571.

change to those outside it, who cannot experience Eucharistic transformation, by showing how it is possible to live in a non-destructive relationship with the earth. An understanding of the importance of a restored relationship between humanity and the rest of creation does not, however, offer insight as to how such a restoration might come about, or where hope might be found in the apparently hopeless situation of climate change. It is to these questions that I now turn, arguing that both restoration and hope can be found in *anamnesis* in the Eucharist.⁶⁰

Anamnesis in the Eucharist

I turn now to the search for hope and renewal in the Christian liturgy. As the foundational action of the Eucharist as well as an obedient response to the command to “do this in remembrance of me” (1 Corinthians 11:25),⁶¹ *anamnesis* is a natural starting point for the development of a liturgical ethic of climate change. However, grasping its complex meaning requires an examination of its place in both early Christian and ancient Jewish belief and practice, not least because the English word ‘remembrance’, which suggests an object that is static or dead, does not adequately convey all that should be understood by the Greek *anamnesis* or Hebrew *zakar*. Instead, as I will argue, the object of commemoration is neither dead nor absent, but rather alive and present. This is crucial for the transformative power and ethical significance of *anamnesis*.

Early Christianity did not grant *anamnesis* any fundamentally new meaning; its nature and function are not reflected on explicitly in the New Testament. Instead, the understanding of memory in early Christian thought was directly inherited from ancient Jewish theology and religious practice.⁶² Ancient Judaism was a religion preoccupied with memory, his-

⁶⁰ My argument in the next section also shares some similarities with John Milbank’s understanding of reconciliation. He argues that forgiveness can be granted and guaranteed only by the arrival of the eschaton in the present. Reconciliation is thereby given as gift to the receiving community who are deified through participation in Christ’s humanity as the sovereign victim. In reconciliation, Creation enters a new mode of being, in which not only its relation to itself is changed, but also its relation to God. This new creation is sustained through a mediated union with God. See Milbank 2003, pp. 68–71.

⁶¹ Gittoes 2016, p. 11.

⁶² Dahl 1976, p. 12.

tory and tradition. However, this injunction to remember was not grounded in mere curiosity about past events, nor a sense of obligation to remember the whole past of the Hebrew people; neither was it focussed on commemorating heroic deeds. Rather, ancient Jews selected specific events to remember – usually moments of God's active intervention in history and the response to them and, crucially, the way that these events were remembered was far more significant than their mere recall.⁶³

Remembrance in ancient Judaism was expressed and pursued in multiple ways: ritual, recital and physical signs of the covenant in everyday life. An example of the ritual and recital aspect of Jewish remembrance can be found in the ceremony of the first fruits in Deuteronomy 26, in which the celebrant was required to declare the words of Deuteronomy 26:5-9, which compresses into just five verses an entire millennium of Jewish narrative history: moving from the fall into Egyptian slavery to liberation and receiving the gift of the promised land.⁶⁴ This is, of course, the central narrative in Jewish identity, and its ritual enactment in the ceremony of the first fruits demonstrates the importance of remembrance in shaping Jewish self-understanding through cultic practice. An obvious example of remembrance through physical signs of the covenant can be found in circumcision. Circumcision was considered a token of the covenant between God and Abraham, and a symbol of the promised land to come. To be circumcised was to take up membership of the nation of Israel; to demonstrate commitment to the laws, rituals and traditions of the community, and to accept the hope of the promised land.⁶⁵ Naturally this was not the only physical sign of Jewish memory: others included fringes on the borders of clothing; the wearing of

⁶³ Yerushalem 1982, p. 11.

⁶⁴ Ibid., p. 12.

'you shall make this response before the Lord your God: "A wandering Aramean was my ancestor; he went down into Egypt and lived there as an alien, few in number, and there he became a great nation, mighty and populous. When the Egyptians treated us harshly and afflicted us, by imposing hard labour on us, we cried to the Lord, the God of our ancestors; the Lord heard our voice and saw our affliction, our toil, and our oppression. The Lord brought us out of Egypt with a mighty hand and an outstretched arm, with a terrifying display of power, and with signs and wonders; and he brought us into this place and gave us this land, a land flowing with milk and honey.' (Deuteronomy 26:5-9, NRSV).

⁶⁵ Ginn 1989, p. 6.

phylacteries⁶⁶ and various types of door-post symbols. Like circumcision, each of these physical signs remembered a moment of God's redemptive acts in history and the necessity of obedience to God's commands.⁶⁷

It is clear therefore that remembrance had a central place in ancient Judaism. Jewish ritual practice, with respect to both the shape of the liturgical year and the content of the rituals themselves, was centred around remembering the most significant events of Israel's history. The physical signs of commemoration that I have discussed testify to the inherently ethical dimension of Jewish memory. Adoption of these signs, especially circumcision, was itself an act of obedience to the covenant with God in direct response to God's action in history. In this way, memory and action were inextricably linked in ancient Jewish thought and practice: memory served as a basis for ethical living and obedience to the covenant.⁶⁸

This same connection between memory, ethics and action was also evident in the ritual dimension of commemoration. Ritual remembrance offered new generations of Jews a 'noetic awareness' of both the difficulties of their ancestors and their deliverance by the hand of God. This was not mere reflection on the significance of past events: rather, remembrance brought the redemptive power of God's deliverance into the present. By remembering the past, Jews also encountered the need for obedience to God's command: Deuteronomy in particular set out the criteria for this obedience as fulfilling a responsibility to the weak and oppressed.⁶⁹ It is clear, therefore, that remembrance in Judaism, whether expressed through ritual or through physical signs of the covenant, brought the past into the present, offering those who remembered a narrative about their shared history. In so doing, those who engaged in practices of memorial received an orientation in the world that shaped and transformed their way of living.

The same themes of commemorating God's activity in history through ritual and cultic practice as well as ethical transformation were taken up in the Christian understanding of memory. Memory in Christianity plays an equally central role as in ancient Judaism but has as its primary object

⁶⁶ Editors' note: a small leather box containing Hebrew texts carried during prayer.

⁶⁷ Ginn 1989, p. 4.

⁶⁸ *Ibid*, p. 11.

⁶⁹ Morrill 2000, p. 153.

God's activity in Christ's death and resurrection. Almost every aspect of early Christian religious activity, including preaching, mission and baptism, evoked the memory of Jesus Christ as Lord and saviour. However, the most important commemorative act of all was the celebration of the Eucharist. Commemoration was not merely a component of this celebration: rather, the celebration was itself an act of *anamnesis*.⁷⁰ Here too, remembrance was granted an inherent ethical significance. In remembrance, Christians not only looked to the past, but confessed their faith in the present and declared their obedience to a particular pattern of life, such that Christ's lordship over history was evident not only in the events of history, but also in the lives of his followers.⁷¹

The role of *anamnesis* in making past events present should by now be clear, but the explicitly eschatological and future-orientated dimension of memory in the Eucharist also deserves some closer attention. The commemorative thanksgiving of the Eucharist is not only a celebration of the past, but an announcement of the future, because the risen Christ is already present in the rite. On this basis, the Eucharist celebrates not only the past, but also the future in the present.⁷² Therefore, as Julie Gittoes argues, *anamnesis* mediates the past, present and future dimensions of the Eucharist in a way that relates it to human action and the life of the world. In looking to the past, the Church remembers God's saving acts in history, the culmination of which was Jesus' life on earth, sacrifice on the cross, and his resurrection. In this act, the Church also encounters God in the present, and through this encounter is nourished, transformed and called into being. Finally, the Church anticipates the future as it is once more sent out into the world in service and mission. In this way, the Eucharist has real effects in the present. The Eucharist is thus a transformative act which shapes the Church to become the 'body of Christ in and for the world'.⁷³

The final aspect of *anamnesis* that deserves attention before I proceed to a discussion of its relevance to climate change is that, from its beginnings in early Christianity, *anamnesis* was understood not as a cognitive process

⁷⁰ Dahl 1976, pp. 18–21.

⁷¹ Ginn 1989, p. 69.

⁷² Lane 1996, p. 470.

⁷³ Gittoes 2016, pp. 149–150.

taking place in the subjective memory of individuals, but was instead a representation of Jesus' death and resurrection in the sacrament.⁷⁴ The fundamentally sacramental nature of *anamnesis* means that it is also an inherently communal process. Past events are made present to the participatory community, determining their action and direction in the world. Any transformational effect of *anamnesis* in the Eucharist therefore affects the community as community, not merely as a collection of individuals. Consequently, Eucharistic *anamnesis* also challenges the individualism so often underlying patterns of destructive consumption characteristic of the broken relationship between humanity and the earth, bringing the community into solidarity with one another and with those outside it.

In this understanding, there are three ways in which *anamnesis* can offer both restoration of the human relationship to the environment and hope in the face of apparently hopeless climate change. First, *anamnesis* permits an affirmation of the sacramentality of all created things. Second, *anamnesis* transforms and restores the destructive hunger at the heart of the fallen relationship between humanity and the earth. Third, and finally, *anamnesis* offers hope by pointing forward to the eschaton in which all creation will be restored, thus subverting our focus on present hopelessness and suggesting that an alternative future is possible. Each of these aspects of *anamnesis* will be discussed at greater length below. Here I will enter into conversation with Rowan Williams, drawing upon his ideas about the restorative possibilities of the Eucharist from a distinctly Anglican perspective, and exploring their relevance to the problem of climate change.

Affirming the sacramentality of all things

First, this understanding of *anamnesis* permits the affirmation of the sacramentality of the created world that is crucial to the restoration of the relationship between humanity and the earth. As Rowan Williams argues, the sacramental rite challenges the categories of its participants, offering

⁷⁴ Dahl 1976, p. 21.

them new ones to belong to and reshaping their flawed identities.⁷⁵ As I have argued, the root cause of climate change is a destructive hunger that arises from an understanding of the natural world as something that can be endlessly exploited for the fulfilment of human desire rather than as a place of communion with God. These categories of understanding are not only unhelpful but sinful, emerging from a flawed theology of separation between sacred and profane. By offering its participants a distinctive orientation in the world and providing a different set of reference points, liturgy challenges this sinful rejection of communion with God in the natural world, permitting its participants to understand and affirm the sacramentality of all creation, both human and non-human.

Williams is cautious about this line of argument and regards appeals to the sacredness of all things as 'bland'. He instead prefers to emphasise the meanings that emerge from participation in the sacramental enactment of estrangement, surrender and recreation.⁷⁶ I would suggest, however, that the recognition of the sacramentality of all things need not be as bland as he contends, since it does in fact emerge from the experience of *anamnesis* in the Eucharistic rite. If, as Schmemann argues, the failure to acknowledge the sacramentality of all creation is the hallmark of humanity's fallen condition, it becomes clear that this failure has not always been present. The commemorative power of *anamnesis* lies in the fact that it points backwards in time and history towards events that the participants in the rite cannot themselves remember directly. Of course, the events that are typically the subject of *anamnetic* recall are ones that exist within the corpus of human memory as a whole, while this is not something that can be said of our pre-fallen state. Nonetheless, *anamnesis* serves as a prophetic reminder of the temporal contingency of our present experience of darkness and evil.⁷⁷ Not only does *anamnesis* offer the promise of a better future, but also permits the recall of a past in which things were not as they are now. This sacramental recall of our pre-fallen state thus constitutes a decisive shift in human self-understanding, allowing us to see that our current state of destructive hunger and consumption is neither normal, nor necessary to

⁷⁵ Williams 2000, p. 209.

⁷⁶ Ibid.

⁷⁷ Lane 1996, p. 469.

our humanity. It is through *anamnesis*, therefore, that the participatory community in the Eucharistic rite can develop a noetic understanding of its own sinful state and become aware of the need for the restoration of its relationship to the rest of the created world.⁷⁸ Williams is right to say, however, that acknowledgement of the sacramentality of all things does not alone constitute the necessary restoration of the relationship between humanity and the earth. Nonetheless, such an understanding does throw our sinful and destructive hunger into sharp relief, and it is through this that we can become aware of the need for change and restoration.

Anamnesis and Restoration

Because this destructive hunger is rooted in sin, the necessary restoration cannot be brought about by human will alone. Though it is not an essential part of human nature as such, our current existence, as well as our attitudes and behaviour, cannot be conceived apart from the desire for dominance over the earth. This brings us to the second aspect of *anamnesis* that is significant for a liturgical theology of climate change. As I have already argued, through *anamnesis* in the Eucharist, participants in the rite are confronted with the sinfulness of their failure to acknowledge the sacramentality of all living things and their inability to care adequately for the environment. This is not only acknowledged in the rite, but also explicitly confessed before receiving the bread and wine. It is almost certain that this confession will be painful, for it provides an opportunity and an imperative to address even the most difficult memories of human guilt. But even as confession brings pain, it is also intimately tied to forgiveness and release. In it, human failure is forgiven and transformed into memory and is caught up in the dynamic of present change and future hope.⁷⁹

Williams argues that this transformation constitutes a movement from

⁷⁸ Of course, there is significant debate as to whether the Fall can be considered as an event in the typical temporal sense. This is not an issue that can be addressed here. My point is that *anamnesis* directs participants in the Eucharistic rite beyond the limits of human experience and memory, allowing them to see the fallenness not only of their behaviour, but of their very experience. This applies regardless of the temporality – or otherwise – of the Fall, though for clarity, I have used the language of temporality on this occasion. This should not be assumed to be a decisive aspect of my argument.

⁷⁹ Gittoes 2016, p. 107.

a ‘pre-sacramental’ state, in which God’s promise is experienced as uncertain or not yet assured, into a new covenant of solidarity with God and with each other. In the ‘pre-sacramental’ state, we remain unassured of God’s promise of provision, consequently exploiting the earth for gain in fear that it is the only way we can survive. In the sacrament, however, we receive again the declaration of God’s covenant with us and an assurance of God’s faithfulness.⁸⁰ The Eucharistic community is thus restored to a sacramental, rather than consumption-orientated relationship with the rest of creation. Its continued existence – and that of the individuals within it – is no longer dependent upon what it can produce or the resources it can acquire. Instead, its livelihood is granted unconditionally as a gift from God. As such, the destructive, consumption-orientated hunger that characterises the behaviours that cause climate change is no longer necessary. It is this that allows the participants in the Eucharistic rite not only to recognise the sacramentality of all living things but also to experience this sacramentality as reality. Through it, their destructive hunger is transformed and re-orientated towards communion with God.

According to Williams, there is another level of transformation that takes place in the Eucharistic rite; this is the symbolic transformation of the bread and wine in which they are made holy. There is a connection here to Jesus’ giving over of himself to his disciples, offering himself up for his own betrayal. The betrayal occurs on the same night that the bread was broken and the wine was shared, meaning that they have a shared symbolic meaning. For Williams, this act of sharing therefore includes even those who will betray Jesus; in his surrender into the ‘passive’ forms of bread and wine, the betrayal is rendered powerless.⁸¹ The rejection of God found in the denial of the sacramentality of all living things is thus overcome, and the human relationship to the earth transformed from one of opposition or destruction to one of solidarity as well as communion. As a result, the community of all living things on the earth is capable of surviving the betrayal experienced at the hands of the human race. The restoration and transformation that occur are not ‘once-for-all’ events, but

⁸⁰ Williams 2000, pp. 214–15.

⁸¹ Ibid, pp. 216–17.

rather a continual cycle of repentance and healing, since the betrayal belongs not to a particular moment, but instead is ongoing. It is taken up once again in each celebration of the Eucharistic rite, and each time transformed into healing.

Anamnesis and the promise of hope

Third, and finally, there is the promise of future hope that is found in the Eucharist. This cannot be separated from the past and present dimensions already discussed, but in the face of what seems like hopeless climate change, it deserves particularly close attention. As I have argued, *anamnesis* draws together past and future into the present in the Eucharist rite as participants confess the sin of their disregard for the sacramentality of the earth and are forgiven. The orientation of their hunger towards destructive consumption is turned instead towards communion with God, and they are sent out to live as witnesses to their transformation. It is not the purpose of this chapter to specify particular actions, activities or behaviours with respect to climate change and ethical responses to the crisis, but if we seek concrete signs of this witness, these might be found in a more modest, less consumption-orientated way of living in which individuals and communities seek, wherever possible, to take from the earth only that which it can sustainably give. This way of living is likely to be one that has the reduction of emissions as one of its consequences, but any hope for the future of our planet found in this is incomplete. The transformation of human hunger, and the restoration of the relationship between humanity and the earth does not promise that climate change will be reversed, halted, or even slowed - nor can it offer any assurance that we will not face devastating consequences within the coming century. Here, not only human livelihood is at stake, but human life itself.

There remains, therefore, a need for hope in what can appear to be a hopeless situation, and, like the process of restoration that I have described, this hope can be found in Eucharistic *anamnesis*. More precisely, this lies in the way that, in every celebration of the Eucharist, *anamnesis* brings the promised future of Christ's return into the present moment, bringing with it the restoration of the earth and all that lives upon it. This promised future, therefore, exists not as a distant hope, but as a present reality. The profound hopelessness that I have discussed arises from an undisrupted focus on the present, in which the depth of our current crisis

becomes so absorbing that it is impossible to imagine any alternative. As I have argued at length earlier in this chapter, this sense of hopelessness is not merely a collective cultural panic, but is well justified by much recent scientific research. Underlying this, however, is a secularised understanding of time, where the future is only ever the result of the past and present, and cannot be made concrete until it arrives.

It is precisely the depth and apparent reasonableness of the despair surrounding climate change, therefore, that makes the hope found in Eucharistic *anamnesis* so subversive. By uniting present and future as I have described, the Eucharist challenges our myopic pessimism, not only in its promise of the restoration in the eschaton, but by allowing us to see that there is nothing either necessary or inevitable about the destruction of the earth in the near future. In this way, the hope for the future of the earth found in the Eucharist is not merely a bland offer of reassurance on the one hand, nor an excuse to continue our practices of destructive consumption on the other, but rather future hope made concrete in the midst of present despair.

Conclusion

In this chapter, I have sought to develop a distinctly liturgical theology of climate change, in which liturgy is normative for how we understand our relationship to the rest of creation. Though I have been critical of some of the measures the Church of England has taken following Lambeth 2008, the theology of climate change that I have outlined in this chapter should not be seen as precluding any possibility of liturgical reform. However, to focus only on the development of new liturgical seasons or textual resources would be to neglect the rich resources within our existing liturgy for addressing the problems and challenges of climate change. Instead, we must seek to understand the reasons why the liturgical perspective on climate change has been so long neglected, and, from a more practical perspective, how this might be expressed in a way that it can be understood clearly by members of the sacramental community. This would be one possible avenue for further research and reflection.

The liturgical perspective I have developed reveals our failure to acknowledge the sacramentality of the earth, such that we understand it not as a place of communion with God, but as nothing more than a resource

for the fulfilment of human desire. It is this failure of understanding that underlies the destructive patterns of consumption that are the cause of climate change. Though the liturgical perspective provides a potent diagnosis of the problem, its real significance lies in the way that, for the sacramental community of the Eucharist, it has made real the genuine possibility of restoration and hope today. This comes from the uniquely subversive nature of Eucharistic time and memory, which make past and future real in the present moment. Only in this way can we discover a concrete hope for the future of our planet.⁸²

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WWJD- What would Jesus do? – incarnation and soteriology in the light of Ecology

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Keywords: Eco-Christology, Eco-soteriology, Human Ecology,
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Introduction

Throughout my 40 years as a environmental activist, many Christians have confronted me with an urgent question: What is the relationship between our faith in Christ and environmentalism? How can you explain that you, as a pastor, are taking part in environmental activism? This essay grows out of a need to provide an answer to these questions. In this chapter, I look for an approach that might serve as a bridge between anthropology, cosmology, soteriology, practical theology and ethics; an approach that we might call “Eco-Christology.”

The issues and questions that I will explore are twofold. First, how can Christology and soteriology be reinterpreted in the light of human ecology,⁸³ and secondly, how can this reinterpretation create motivation for Christians to get involved in the work for the environment and climate?

For most Christians, words and deeds of Jesus Christ are the most important measure to judge whether environmental conservation belongs to Christian ethics. Eco-Christology is an attempt to show through contemporary systematic theological reflection the connection between Jesus and environmental activism. My thesis is that when we understand incarnation in light of human ecology, we find a connection between Christology, ethics and even practical theology. In other words: I believe Eco-Christology will serve as a call to Christian believers to engage in

⁸³ The Swedish biologist Bengt Hubenicks defines *Human ecology* as “the study of man’s relationship to his total environment”, Hubendick 1987, p. 11.

environmentalism. The disciplines that we will engage are ecotheology, ethics and systematic theology with an emphasis on Christology.⁸⁴

Christology and soteriology reinterpreted in the light of human ecology

As early as 1954, Joseph Sittler expressed the opinion that incarnation could be a key to a new theology of nature.⁸⁵ Since then both the Lutheran World Federation and the Lambeth Conference have underlined the importance of the incarnation for environmental theology.⁸⁶ In spite of this, few theologians have investigated and elaborated on Ecotheology within the framework of incarnation. One theologian who did is Edward P. Echlin. In his book, *The Cosmic Circle: Jesus and Ecology* (2004), Echlin raises a question similar to the one I began this chapter with: How can we build a bridge between a discipleship of Jesus and a love for the earth?⁸⁷ Echlin points out that nature in Jesus' immediate surroundings had affected his teaching and life. Though not explicitly stated by Echlin, he applies human ecological insights to Christology. In this chapter, we will trace the path (regarding the incarnation) that Echlin sets for us. Before doing this, we will begin with a description of Human Ecology.

Ecology focuses on relationships, interaction and acts of cooperation, and dialogues between all living beings and their environment. Human ecology is a sub-discipline of ecology.⁸⁸ According to the Swedish biologist Bengt Hubenicks Human Ecology are "the study of man's relationship to the totality of its surroundings".⁸⁹

Surroundings include both the individual level which focuses on the individual human body and the relationship of populations to their environments. This essay is about the body of Jesus. I will be focusing on the individual level of the body of Christ.

In human ecology, it is common to structure the analysis of the topic through the headings of *material* and *energy flows*.

⁸⁴ Tomren 2020, p. 3.

⁸⁵ Sittler 1954, p. 55.

⁸⁶ Tomren 2019, p. 305-307.

⁸⁷ Echlin 2004, p. 31.

⁸⁸ Hubendick 1987, p. 10.

⁸⁹ Ibid, p. 11.

First, we will look at *energy flows*. All that happens, including every natural process and every life process, connects to some form of energy transformation. Every event is part of an energy flow. Energy comes from either the sun, the interior of the earth, gravity, gravitational force, or nuclear power. 99,98 % of the earth's energy comes from the sun. 80% of all human activity is based on the release of solar energy.⁹⁰ Through photosynthesis, the energy of solar radiation is transformed into bound energy in the form of carbohydrates. The energy is transformed once more when animals and humans eat carbohydrates, move, and maintain normal life functions.

Second, we will look at *material flows*. The material on earth exists in a closed system. Matter in the biosphere is in a constant state of exchange, moving between the lithosphere, the hydrosphere, and the atmosphere, eventually returning to the biosphere. The circulations connect the organic part of the world with the inorganic. The organic phase usually follows the food chains; in-between, matter goes through an abiotic phase. The matter in humans is no exception. Matter in humans is in a constant state of exchange with its surroundings. Carbon and water circulation are fundamental for humans. Carbon and water are constantly exchanged between living organisms and with the inorganic world.⁹¹ What then, is the implication of this Human Ecology perspective, when it is brought into dialog with soteriology and Christology?

Jesus through Human Ecological Lenses

Most messianic prophecies have their origin from either the time of the fall of the Northern Kingdom (722 B.C.E.) or can be traced to the Babylonian exile (587 B.C.E.). Texts from Isaiah, Amos, Hosea, Jeremiah, Ezekiel, Zechariah, and parts of the Psalms, reflect the expectation that a descendant of David will bring justice, order, and peace. This expectation was present in Israel at the time of Jesus.⁹² In Isaiah 11 and Isaiah 65, we find prophecies of a coming kingdom of peace which will encompass all humanity and other living species. The prophets proclaim a future that

⁹⁰ Ibid, p. 40.

⁹¹ Hubendick 1987, p. 51.

⁹² Zimmerli 1978, p. 92.

will bring healing of the relationships between humans, other species, the earth, and God. The vision of a kingdom of peace encompasses both animals and humans. The period of peace sets in when the Messiah (Christ) comes. According to the Christian faith, the Christ was born of Mary and was named Jesus.

For nine months, Jesus receives his nutrition from the placenta of Mary. Jesus grows day by day through the food, drink, and air that Mary has consumed. The main food source is mostly grain from the Galilean fields, meat from animals grazing around Nazareth, and fish from the Sea of Galilee. Grain, grass, and other plants make carbohydrates by using CO₂ from the atmosphere, nutritional salts from the earth, and water that rains down on the land after evaporating from the Mediterranean Sea. By means of chlorophyll, solar radiation transforms CO₂ molecules to O₂ molecules and carbohydrates. Domestic animals eat the plants in the field. They transform the carbohydrates in the plants into proteins and fat. The meat that provides Mary's food is coming from the fields. The fish that Mary eats has been feeding on krill and plankton living in the sea. Krill feeds on plankton, which drift through, and filter the nutritional salts in, the sea. Mary eats the growth of the soil (fish and the animals of the fields), and Jesus grows inside her.

Oxygen makes up 21% of the gases in the atmosphere surrounding Mary. The plants on the hilltops around Nazareth inhale CO₂ and exhale O₂. The oxygen molecules ending up in Jesus' cells through Mary's lungs and placenta have been cleansed and separated from CO₂ by means of the chlorophyll in the green plants. Jesus the fetus (and eventually Jesus the baby) is woven with raw material from the ecological systems of Galilee and the Middle East. Jesus becomes (like every other human) a child of nature, a child of earth.

The Athanasian Creed states, "For the right faith is that we believe and confess that our Lord Jesus Christ, the Son of God, is God and man; God, of the substance of the Father, begotten before the worlds; and man of substance of his mother, born in the world." An anthropocentric theology has focused on the incarnation as the humanizing of the Son, but knowledge and insights from human ecology invites us to give it a broader interpretation. Even the word "incarnation" (e.g. in the Nicaenum), gives us an indication. In the John 1:14 it says: "The Word became flesh." The Greek word used here is "sark." In the New Testament,

“sarx” is used in two ways. In some texts it expresses sinfulness. In other texts, like here, it expresses physical existence.

The word “sarx” has its background in the Hebrew word “basar,” which simply means “flesh.” Traditional theology has narrowed it down to on the meaning that Jesus became human. From an ecotheological perspective, it must be pointed out that a translation of “sarx” to “human” is too narrow. “The Word became flesh” is better if the purpose is to show that Jesus was a part of the ecological system. He became a part of what John Bruckner (b. 1724) called “the great web of life.”

Jesus’ incarnation is not limited to a narrative about God and humans. It is a narrative about God and God’s creation. It is about earth and heaven uniting. The letter to the Ephesians states: “He made known to us the mystery of His will according to His good pleasure, [...] to bring unity to all things in heaven and on earth under Christ” (Ephesians 1: 9-10).⁹³ The Christian celebration of the incarnation, Christmas, and the celebration of the annunciation of Mary should be expanded. The crib could be read as a symbol of God’s love not only toward humans but towards all of creation. Read through the lenses of human ecology, the incarnation is a story about how the flesh of Jesus is uniting God and earth. In other words: The whole earth is present in the nativity scene. The celebration of Christ’s birth, Christmas, thus has the potential to become a celebration of God’s solidarity with all living beings.

For dust thou art

Even though we have focused on Jesus as a fetus so far, all that has been expressed about the connection between the circulation in nature and Jesus’ body, is equally valid for Jesus after his birth. Jesus continues to grow. His body develops. Jesus obviously loved food and drink. He was called a glutton and a drunkard (Matthew 11:19 and Luke 7:34). Through food and drink, the body acquires new building blocks. The cells of the body change and are replaced. In a year, 98% of all the molecules of the body are replaced.⁹⁴ This process takes place when we inhale and exhale, through eating and drinking, and through aspiration and lavatory visits.

⁹³ Tomren 2019, p. 34.

⁹⁴ Lambrecht 2007, p. 11.

In three months, the content of the blood is replaced and every month the cells of the skin are renewed.⁹⁵ The fleshness not only proceeds from the ecosystems of nature to Jesus' body; it also goes the other direction: from Jesus back to nature. Echlin explains:

In the Garden, says Luke, he perspired drops like blood. As we noted, few places on earth are more suffused with Jesus' presence than the small community of olive trees and companion ecosystem. In one sense of continued presence, at least, Jesus is preserved there in his tears, perspiration, and blood, where he remains, in his fullness, within the hillside, beneath the trees, now and forever.⁹⁶

Jesus went to the lavatory. He bled, sweated, and cried. The shortest verse of the Bible is: Jesus wept (John 11:35). Bodily fluids and matter return to the earth. These are broken down into smaller molecules, which in turn become building blocks for new plants. The plants are eaten, and the molecules are utilized in other animals and humans.⁹⁷ Molecules that have been inside the body of Christ are throughout time spread all over the earth through uncountable ecological processes.

Paul uses a relevant term in the expression “the second Adam” referring to Jesus. “Adam” is related to the Hebrew word “Adamah” which means “ground”, “soil.” Or “dust”. Humans come from the earth, and they return to the earth (cf. Gen 3:19). The name “Adam,” in other words, indicates that humans are a part of the ecologic circulation. When Jesus is called “the second Adam,” seen in a Human ecological perspective, this points to Him becoming an earthly and ecological being. The incarnation points to what I would call “material sacramentalism.” the body of the Son of God marks the whole earth.

Eco-soteriology

What does Jesus’ ecological incarnation mean for our understanding of the cross, the resurrection, and the ascension? First and foremost, this perspective produces a deeper understanding of what lies behind the hope of

⁹⁵ Ibid.

⁹⁶ Echlin 2004, p. 114.

⁹⁷ Hubendick 1987, pp. 50-52.

salvation for the living earth. The condition of sin, normally understood as forced on the earth by the fall of Adam and Eve, is healed through Jesus. The cross becomes the remedy that heals the wounds of the earth. Paul states: "For God was pleased to have all His fullness dwell in Him, and through Him to reconcile to Himself all things, whether things on earth or things in heaven, by making peace through His blood, shed on the cross" (Colossians 1:19-20). Seen through ecological lenses the body that hung on the cross was not only a human being. It was a carrier for everything living on earth. The body of Jesus was a fruit of the ecological system of the earth.

When Matthew describes the death of Jesus, nature is drawn into the drama: the sun is darkened. The earth quakes. Everything in heaven and on earth is affected by the crucifixion. The same biocentric perspective can be applied to the resurrection. The resurrection of Christ, the resurrection of the flesh, signals new life for the whole biosphere. It signals a new era for creation where the corrupted condition becomes transformed. Pain, suffering, murder and struggle are replaced with communion and harmony. The Christian hope of the kingdom of heaven is an expectation of the earth of heaven (Matthew 27: 45 ff.).

The focus on Jesus' crucifixion and resurrection leading to a new condition for nature is not new in the history of theology. One of the first to point out this biblical motive was Irenaeus of Lyon (about 130-200 C.E.). Irenaeus used terms like "reestablishment" or "recapitulation" for salvation history. The history of salvation consists in Jesus repeating what took place in the creation, but in the opposite direction. Jesus unites what the fall of Adam separated. For this to take place, Jesus had to become a real human. Irenaeus thus writes:

If human kind had not overcome its enemy, the enemy would not have been well defeated, and further; if God had not given us salvation, we would not have been certain to own it. And had humankind not been united with God, we would not have taken part in intransigency.⁹⁸

Irenaeus points out that there is a connection between the salvific work of Jesus and nature's place in the coming Kingdom of God. The incarnation, considered in the light of human ecology, builds a bridge be-

⁹⁸ Irenaeus of Lyon (1885 [2nd century]), III, 18, 7.

tween Jesus' death and resurrection on the one hand, and the biblical theme of the renewal of creation in the Kingdom of the Son, on the other hand. The Celtic poem "The Evernew Tongue Here Below" from the 11th century deals with this topic:

Every material and every element and every nature which is seen in the world were all combined in the body in which Christ arose, that is in the body of every human person ... All the world arose with him, for the nature of all the elements was in the body which Jesus assumed.⁹⁹

Since I come from a Lutheran church, it is natural to mention that Martin Luther's work contains thoughts that are relevant for this discussion. According to Martin Luther "creation does not perish according to its substance, but according to its form of corruption".¹⁰⁰ This could been understood and interpreted in the light of a human ecology understanding which claims that the resurrection of Jesus' ecological body means new life for the ecosystems!

In systematic theology, at least from a Lutheran perspective, the standard approach to understanding soteriology follows one of three models. The three models are the subjective model, which is often associated with Abelard, the objective model, which is often associated with Anselm of Canterbury, and the classic model, which is often associated with Gustav Aulen.¹⁰¹ The subjective focuses on the change of human mind through Jesus' death, the objective on God being legally compensated by Jesus' death, and the classic focuses on the defeat of evil spirits and the devil. Using insights from human ecology, we can talk about a fourth perspective, a cosmological perspective, that is about God identifying with God's fallen creation.

The depth of the incarnation makes room for the whole earth in soteriology and eschatology! Eschatology is central for many ecotheologians when they substantiate their environmental commitment. Norwegian bishop Halvor Nordhaug is among them. He characterizes Christian eschatology as an ecological utopia. The dream that everything

⁹⁹ Echlin 2003, p. 121.

¹⁰⁰ Tomren 2021, pp. 102-103.

¹⁰¹ See for example Forde 1984, pp. 19-37.

might live in harmony wrestles with the forces of suffering in today's ecosystem.¹⁰² Other theologians touching on the same topic are H. Paul Santmire and Jürgen Moltmann and even Pierre Teilhard de Chardin.

From the earth to God

According to John 1, Paul's letter to Colossians 1, and the Nicene Creed, the Son was pre-existent before he became flesh and therefore shared in the triune deity. When Jesus was conceived in Mary, He became a human being, an ecological being. Salvation history is a history moving from God to the earth and to the matter of the earth. Jesus is the history of God coming to the earth. The movement is from God to the earth. However, salvation history also teaches us another movement. When I examine salvation history through the lenses of Human Ecology, I find that it is also a history about the earth touching God. I will let the words of Irenaeus shed light on what I mean:

The faith in the only God, the Almighty Father, who has created heaven and earth and the oceans and everything in them, and in the one Jesus Christ, Son of God, who assumed the form of the flesh to save us, and (...) the salvific arrangement of God, the double entry of the Lord, his birth by a virgin, his suffering, his resurrection from the dead and our dear Lord Jesus' bodily ascension.¹⁰³

After the resurrection, Jesus is still embodied according to Luke and John (Luke 24:36-41 and John 20:24-27). His wounds are visible. He eats and drinks. Christ leaves the earth and sits at the throne with His Father. In the Apostles' Creed, we confess that Jesus Christ ascended into heaven and sits at the right hand of God the Father Almighty. Irenaeus emphasizes this by his use of the term "the bodily ascension of Jesus." Christ is still flesh-ly. If we take this literally, it means that the body of Christ carries the molecules of the earth all the way to the right hand of the Father. Matter, the building blocks that have been in rivers, blood, plants, fish and soil, is being returned to the Creator. In this way, Jesus has sanctified nature. The Son came from heaven, reconciled the earth with God and brought it back to heaven. As this perspective is pursued

¹⁰² Nordhaug 1992, p. 57.

¹⁰³ Irenaeus of Lyon (1885 [2nd century]), I, 10, 1

(the earth to heaven direction), it is appropriate to point out that it can appear challenging in relation to formulations in the Athanasian creed which states:

Who although he is God and Man; yet he is not two, but one Christ. One; not by conversion of the Godhead into flesh; but by assumption of the Manhood into God. One altogether; not by confusion of Substance [Essence]; but by unity of Person. For as the reasonable soul and flesh is one man; so God and Man is one Christ; Who suffered for our salvation; descended into hell; rose again the third day from the dead. He ascended into heaven, he sitteth on the right hand of God the Father Almighty, from whence he will come to judge the living and the dead (Athanasian Creed).

In other words, if Christian churches are to incorporate this part of the Eco-Christological logic in their official doctrines, a thorough analysis and clarification of how it is to be understood in relation to the words “Substance” and “Essence” in the Athanasian Creed is necessary.

The “real presence” in Holy Communion

Human Ecology teaches us that nature is our origin, our body and our thought. The Christian faith teaches us that God entered the same existence. Through the incarnation, God tied Godself to this web of life. In the ecosystem of the earth, there are still molecules that have been in Christ’s flesh.

By extension, a human ecological interpretation of Christology brings new dimensions to the understanding of the elements of the Eucharist. According to the Lutheran understanding of the Eucharist, wine and bread are at the same time Christ’s body and blood. In Luther’s Small Catechism, the point is made that the Word makes the Eucharist effective. But the point is also made that one eats and drinks bodily. Luther writes:

How can bodily eating and drinking do such great things? It is not the eating and drinking, indeed, that does them, but the words, which stand here, namely, “given, and shed for you, for the forgiveness of sins. His words are, beside the bodily eating and drinking, the chief thing in the Sacrament.¹⁰⁴

In light of an ecological Christology, it is tempting to assert that this claim

¹⁰⁴ Luther 1529.

to eat bodily and physically is related to bread and wine, materially speaking, being bearers of the whole earth and of the incarnation. The molecules of the bread and the wine of the Eucharist, in the grain and in the grapes, might have been materially present in the body of Christ!

The ideas offered by Human Ecology offer new perspectives to the Lutheran dogma of and to the dispute on the dogma of “Ubiquity,” which reached its peak during the Reformation. Ubiquity is a synonym for omnipresence, the property of being present everywhere. During the Reformation, Martin Luther emphasized that both the Divine Being of Christ and His human nature were ubiquitous (*ubiquitas corporis Christi*). This means that the human nature of Christ is present in the sacrament. In Lutheran theology, it became common to emphasize the doctrine of Ubiquity as a delination against the Reformed theology of the Eucharist.¹⁰⁵ Human ecology sheds, in many ways, a new light on an old theological discussion between Luther and Calvin.

The doctrine of Ubiquity brings the question of “what Jesus has to do with environmentalism” to the centre of the Christian liturgical life, to the Eucharist. In their environmental manifest of 1989, the Swedish bishops mentioned the following connection:

To celebrate the Eucharist is therefore even a confession to the earth, ‘as in heaven, so also on earth.’ It is a reminder that we are about to destroy not only the presuppositions for the physical human life, but also for the bread and wine of the salvation. [The sacraments] help us to see ‘what binds the world together’ and not to give up in the quest for a holistic view of humans and the world. They unite creation and salvation. They preserve our responsibility for the creation and inspire the fight against its destruction.¹⁰⁶

An ecological Christology leads us in the direction of an ecological understanding of the Eucharist. The community emphasized in the Eucharist is expanded. In bread and wine, body and blood, the whole earth is united in the hope of a new heaven and a new earth!

¹⁰⁵ Hägglund 1990, p. 222.

¹⁰⁶ Nordhaug 1990, p. 189.

Jesus as Environmental Activist

Summarizing this analysis and discussion, an ecological interpretation of Christology points in the direction of a sacramental understanding of the earth. Eco-Christology underscores that the earth has come to God, and that God has come to earth. The earth has become holy. Eco-Soteriology points towards a hope for the whole Creation. Christ identified himself with the earth, he suffered for it, and he gave it hope of a new life. This also points in the direction of ethics. I started this essay with this question: Does Jesus have anything to do with environmental protection? According to an Eco-Christological interpretation, Jesus might not have said much explicitly about environmentalism, but he demonstrated it. Through the incarnation and ascension, Jesus himself was in many ways a rescue operation and a declaration of love towards the earth. Read with ecological knowledge and an environmentalist attitude, the institution of the Eucharist can been seen as an invitation to the celebration of the communion and the future of the *Web of Life* and to engage oneself in the struggle for Life.¹⁰⁷

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¹⁰⁷ The reflections in this article has evolved over time. This means that parts of the reflection have been presented in Norwegian language earlier (cf. Tomren 2001 and Tomren 2007). This text still contains several elements that is expressed for the first time. This is also the first time I present this concept in English language.

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Ecological Theology in the Teaching of St. John the Damascene

Kamal Kadar

Keywords: Ecotheology, Orthodox theology, St. John the Damascene

Introduction

Determining the view of the Church on environmental issues has come to the forefront due to the increasing risks of the environmental crisis we are experiencing today. The Church sees Nature as the dwelling place of Humans, which God has given to us. Humans live in this house, the environment, but we are not the owners. This is the first theological attitude of Christianity: God is the Creator and Owner of Nature and humans are just the inhabitants.¹⁰⁸ In this sense, the Church is responsible for giving directions and launching new ideas to preserve the environment.¹⁰⁹ These compliment the warnings issued by scientists and experts in determining the magnitude of the dangers of this crisis. Both the Church and governments are trying to find solutions for the environmental crisis in order to rebalance the ecosystem.

The Church considers that the current ecological crisis is not only due to ethical reasons, but also to spiritual causes, which require protecting Creation through spiritual means.¹¹⁰ The Christian world has repeatedly mentioned the views of the Holy Bible and the interpretations of the Fathers in the Tradition. This shows the harmony between humans and our natural environment, which depends on our proper relation with God and with others. This does not mean that the Church takes an attitude against scientific development. The Church knows that the human position in the heart of creation could not be against progress and science.

¹⁰⁸ Archimandrite Elijah Tohme 2010, p. 236-237.

¹⁰⁹ First Hierarchs of the Orthodox Churches 2008.

¹¹⁰ Ibid.

However, humans should try to avoid the devil's temptation of selfishly use of science and abuse of God's creation.¹¹¹

Many of the Church Fathers have dealt with the relationship between God, Humans, and Creation. This relationship is the basis for providing a clear and comprehensive vision of how to deal with the environmental crisis. This is the focus of what we call «environmental theology.» St. John the Damascene is one of the Fathers who contributed to this theology through his philosophical approaches to Creation and its relation to God and Humans.

The importance of St. John the Damascene comes from his wide knowledge, education, and writings in theology and biblical interpretation. He is well-known for his sermons, hymns, and defense articles. A short summary of his biography is required.¹¹² He was born and raised up in Syria and he practiced his father's career in collecting taxes from the Christians of the Damascus Province during the days of Caliph Mu'awiyah. When the Christians were removed from the top administrative positions in 720, the Saint went to St. Saba's Monastery near Jerusalem where he became a monk in the name of "John." His rich intellectual output was formed by this period of his life.

St. John contributed to many works. One of his most famous works is the theological encyclopedia, called «The Fountain of Knowledge.»¹¹³ He wrote it at the end of his life. Christians have used this book to study theology, especially in the Christian East.

St. John is also famous for his liturgical writings and hymns, and his biography tells us that he wrote «sticherons and troparions of the Sacred Easter canon.»¹¹⁴

¹¹¹ Father Anthony Alevizopoulos 1985, p. 182.

¹¹² Yazigy 1985, p. 25.

¹¹³ Standing among the greatest of the early Church fathers of the East during the patristic age, St. John of Damascus produced his work The Fount of Knowledge as a summary of Christian philosophy and theology. Encompassing "The Philosophical Chapters," "On Heresies," and the justly-famous "Exact Exposition of the Orthodox Faith," it is one of the most important works of the Greek patristic age—a veritable Summa of the doctrine of the Eastern fathers.

¹¹⁴ See the liturgical book The Pentecostarion which is used by the Eastern Orthodox Church during the Paschal Season which extends from Pascha (Easter) to the Sunday following All Saints Sunday.

In the writings of St. John, we can find many theological concepts that environmental theology is based on. He presents some environmental issues and discusses their interpretation philosophically on one hand and with respect to the Fathers on the other. The question that should be asked here is, "What are the main theological concepts which Saint John of Damascus relied on for his explanations of the elements of the environment and their relationship with God and Humans?" This question will be answered through a text analysis of the writings of Saint John of Damascus for two purposes. The first is to discover the concepts of environmental theology in his writings, and the second is to demonstrate that ecology has a patristic theological basis.

Ecological theology in the teaching of St. John the Damascene:

According to the Fathers of the Church, Creation has always been the "Book of Nature's Revelation."¹¹⁵ According to St. John of Damascus, Creation announces the glory of God. God has granted Humans the environment as a gift, not without reason, but rather because of our unique ability to care for it.

The Creation is the mirror of God's Glory:

St. John says: "The very creation, by its harmony and ordering, proclaims the majesty of the divine nature."¹¹⁶

St. John of Damascus explains in detail the visible nature. He gives characteristics about heaven and earth through scientific facts based in the Holy Bible and the Church Fathers. Moreover, the Saint's work is defining visible nature as heaven, earth, water, wind and others. He presented notions about their natures, forms, movements, and characteristics that coincide with Biblical verses. For example, in explaining heaven, St. John gives views about its nature and illustrations about the seven orbits – their shape and relation with earth.

However, this description was not only for a scientific reason but also for paying attention to the majesty and wisdom of the Creator, which appear in Creation in all its aspects. Therefore, the aim is not to report a

¹¹⁵ Romans 1:2.

¹¹⁶ Bray and Oden 2008, p. 38.

scientific fact about the Creation or to offer a conception of the Cosmos. Rather, the aim is to motivate Humans to glorify God by contemplating the beauty of Nature – God’s Creation – in order to strengthen faith in God and return to God.

St. John indicates that the Holy Bible personifies the non-living things and addresses them as God addresses the living ones as found in Psalm 19:1: “the heavens declare the glory of God.” This does not mean that they produce sounds heard by bodily ears, but rather that the personification points to the capability of the Creator and the ingenuity in Creation.

St. John says:

but that from their own greatness (the Heaven) they bring before our minds the power of the Creator: and when we contemplate their beauty we praise the Maker as the Master-Craftsman.¹¹⁷

God is Protector of Creation

The theology of the Orthodox Church considers three qualities for the creation of the world: existing in Time, creation from nothing, and corruption.¹¹⁸ These detailed qualities distinguish the world from God. Consequently, Creation is not from the divine essence for it is created by the free will of God that creates and preserves. That is why St. John emphasizes that God only, according to God’s nature, has no beginning and no end, but that Creation is impermanent because of its mortal nature. “They shall perish, but thou shalt endure” (Ps 102:26).

St. John says: “All things, then, which are brought into existence, are subject to corruption according to the law of their nature.”¹¹⁹

The Saint’s emphasis on the corruption of Creation is to confirm the idea of creation from nothing. Hence, Creation has a beginning and an end. It cannot exist by itself or be independent of its Creator. Therefore, it is susceptible to change and vanish; it is not eternal. This means that the world and the Creation are binary paradox – on one hand, God preserves and guards Creation, and on the other hand, Humans acquire existence by God’s intervention. St. John says: “Our God [Godself], Whom we

¹¹⁷ St John Damascene 2017 [8th century], Book I, chapter VI.

¹¹⁸ Youltsis 2004.

¹¹⁹ St John Damascene 2017 [8th century], Book II, chapter VI.

glorify as Three in One, created the heaven and the earth and all that they contain, and brought all things out of nothing into being: some [God] made out of no pre-existing basis of matter.”¹²⁰ He mentions in another place: “...But by the grace of God they are maintained and preserved.”¹²¹

God created everything in Nature for human to use properly

God gave Nature, and all that God created in it, power to be used for the benefit of humankind. Thus, St. John of Damascus explains, while describing Earth and its evolution, that the entire system of creation is to serve humankind. That is why humans were created on the 6th day; first, God created the environment to be the Home (Οίκος) that humans live in and benefit from. The waters were gathered into one place and the dry land and mountains appeared. Then God decorated Earth with all kinds of herbs and plants and gave them power to be fruitful, to grow and to multiply. Some give fruit for eating, some are sweet for smelling, some bear roses for enjoyment, and others for curing and healing. Concerning animals, all are for human’s benefit. Some, like deer and sheep, are for food. Some, like horses and cows are for work. Some, like monkeys and birds are for pleasure and amusement. In addition, St. John shows that all that God created was offered for human’s benefit because God knows that humans will trespass on our free will, and as a result, we will fall into corruption.

St. John says: “...For there is not a single animal or plant in which the Creator has not implanted some form of energy capable of being used to satisfy [hu]man’s needs.”¹²²

God gave human authority and power to control all creations

God created humans and put them into the garden of Eden to dress and keep it.¹²³ God asked them to be the master and dominator.¹²⁴ St. John of Damascus illustrates that before Adam’s fall, all creatures were under

¹²⁰ Ibid., Book II, chapter V.

¹²¹ Ibid., Book II, chapter VI.

¹²² Ibid., Book II, chapter X.

¹²³ See: Gen 2:15

¹²⁴ See: Gen 1:28

Adam's control, including the serpent, which was friendly with humans more than others were, and used to amuse humans. All the animals fed on the fruits that Earth grew even though there was neither winter nor rain.

St. John says: "Indeed, before the transgression all things were under [human's] power. For God set [humans] as ruler over all things on the earth and in the waters."¹²⁵ The biblical theology explains that "authority" means "taking care" and "serving" not only "controlling."¹²⁶ For this reason, God empowered humans and gave us many direct environmental responsibilities such as plowing and cultivating the land,¹²⁷ naming animals,¹²⁸ serving Creation,¹²⁹ and guarding the land. However, humans did not retain our royal position amidst the Cosmos. Instead, we disobeyed God's will and led all Creation into the Fall. Moreover, Adam's fall and disobedience resulted in destroying his relation with God and with his surroundings, the plants, animals, and environment in general. Due to this transgression, St. John clarifies that according to the Holy Bible, the environment revolted against humans from the beginning. It grew "thorns and thistles" and in the "sweat" humans would eat their bread.¹³⁰

St. John shows that this rebellion was not without benefit however, for each creation that exists after the Fall has its own role and benefit. For instance, beasts frighten humans and lead us to call God. Thorns, which are paired with gentle roses, remind humans of our sin.

St. John says:

But after the transgression, when he was compared with the unintelligent cattle and became like to them, after he had contrived that in him irrational desire should have rule over reasoning mind and had become disobedient to the Master's command, the subject creation rose up against him whom the Creator had appointed to be ruler.¹³¹

¹²⁵ St John Damascene 2017 [8th century], Book II, chapter X.

¹²⁶ Archimandrite Elijah Tohme 2010, p. 237.

¹²⁷ See: Gen 2:15

¹²⁸ See: Gen 2:19

¹²⁹ See: Gen 1:28

¹³⁰ See: Gen 3:17-19

¹³¹ St John Damascene 2017 [8th century], Book II, chapter X.

God created Humans free

Humans are the main and direct reason for the environmental crisis. Our blind greed for wealth has disrupted “the balance of the Nature” and has threatened the environmental system, without which human life cannot be formed. Humans are free to do whatever we want. We have the freedom to choose between either taking care of Creation or sacrificing our needs. St. John of Damascus distinguishes between what is within our capacity to preserve and what is outside of it.

Humans are responsible for our deeds. Every action or behavior is personal because God created us free. Hence, humans cannot accuse God or others of what we have done with our complete freedom. In fact, what has happened to the environment today is not from its nature but from human’s abuse of freedom.

St. John says:

...for it would not be right to ascribe to God actions that are sometimes base and unjust: nor may we ascribe these to necessity..., nor to fate..., nor to nature..., nor to chance..., nor to accident...We are left then with this fact, that the [hu]man who acts and makes is [ourselves] the author of [our] own works, and is a creature endowed with free-will.¹³²

A Eucharistic relation

The relation among God, Humans, and Creation is a Eucharistic one because humans are the priest of God’s Creation: “The Christian believer is a priest in his body and his whole existence, and he is called upon to present himself and all his works as a sacrifice to God, and with it the whole creation.”¹³³ This is why humans offers our products and fruits to thank God. Wine and bread in the Divine Liturgy are gifts from God and fruits of human’s labor at the same time. Consequently, the Orthodox theology recognizes that in the Eucharist, Humans and Creation reunite and live in the lost unity once again. Everything is restored in the body of Christ and is offered again to thank God. This relation between God and Creation, rooted in living the Eucharist, has led St. John of Damascus to

¹³² St John Damascene 2017 [8th century], Book II, chapter XXV.

¹³³ Alevizopoulos 1985, p. 182.

announce in his apology of the icons that the incarnation of the Son of God proved the salvation of matter.¹³⁴

St. John says:

I do not worship matter; I worship the Creator of matter who became matter for my sake and who willed to take [the Creator's] abode in matter; who worked out my salvation through matter.¹³⁵

Conclusion

St. John of Damascus is considered the greatest theologian of his time and one of the most famous Eastern writers. The legacy of many teachings of the great Eastern Church Fathers are attributed to him. Using his knowledge and education, he articulated the doctrines of the Christian faith, in a logical and systematic manner, based on the teachings of the Holy Bible and the Fatherly Tradition.¹³⁶ So many qualities and talents are combined in one person - in this saint. He is the philosopher, the theologian, the monk, the saint, the prophet, the fanatical preacher, the strong defender of the Orthodox faith, the inspired poet of the Church hymns, the honor of Damascus and the glittering star of the glorious Church of Antioch.

To sum it up, Saint John's ecological contribution to the environment is significant as it supports the foundations of the proper relation between Humans and Creation. These foundations form one of the most important views of the Orthodox theology, which is the reconciliation of Humans with Nature by restoring our relationship with God. This relationship will soften the cruelty of our «fallen nature» and revive the good communication between Humans and Creation. It can change humans' behavior from enslaving Creation to guarding and protecting it. Certainly, through such a relationship with Creation, humans fulfils our “royal priesthood.”¹³⁷

¹³⁴ Leonova, 2010.

¹³⁵ St. John Damascene 1980 [8th century], p. 23.

¹³⁶ Sahas 1972, p. 52.

¹³⁷ Metropolitan John Zizioulas 1989.

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Pentecostal Ecotheology

from the Margins ¹³⁸

Harold D. Hunter

Keywords: Pentecostal, Margins, Ecumenical Patriarch,
Integral Theology

Was the Founder of the original “Earth Day” a Pentecostal?

John Saunders McConnell, Jr. was raised a Classical Pentecostal. His father, J.S. McConnell, was an Assemblies of God minister and was on hand in Hot Springs, Arkansas, for the 1914 “birth” of the Assemblies of God. His grandfather, T.W. McConnell attended the famed Azusa Street Revival in Los Angeles. The early ministry of his father was filled with ‘signs and wonders’ as they traversed the U.S.A. It was John McConnell who launched the original Earth Day sanctioned by the United Nations. John would drink from the same wells as his Pentecostal family by seeing a divine mandate in moving forward on this critical front.¹³⁹

Unfortunately, the stewardship of God’s creation has not been warmly embraced by most Pentecostal leaders in the Global North. Among the signs of a shift some years ago was the pointed presentation about African Indigenous Churches (AICS) in Zimbabwe given at Brighton ’91 by M.L. Daneel at my invitation that we will visit momentarily.

No Pentecostal leader in the USA challenged Donald Trump when on June 1, 2017, he withdrew the USA from the Paris Climate Agreement on Climate Change. Nor did any of these Pentecostal leaders publicly endorse anything like ecological statements by the WCC or National Council of Churches USA (NCCCUSA). In the meantime, neither Christian Churches Together USA nor the Global Christian Forum including their meetings of

¹³⁸ Editor’s note: Much of Harold Hunter’s article has previously been published in electronic format on the Internet Cyber Journal of Pentecostal-Charismatic Research, July 2020. <http://www.pctii.org/cyberj/cyberj27/hunter.html>.

¹³⁹ McConnell 2011.

scholars – both groups include Pentecostals - has tackled this critical issue. The International Pentecostal Holiness Church magazine Encourage published August 2019 included an article by Cheryl Bridges Johns on ecology. This was a reprint from her previous article in the Church of God Evangel (Spring 2009) published long before Trump's term.

I delivered the keynote address on Pentecostal ecotheology for Red Pentecostal Latinoamericana de Estudios Pentecostales (RELEP) 2018 on October 25, 2019 in Vitoria, Brazil. I tried to warn about what, then favoured Brazil presidential candidate Jair Bolsonaro, would do to the Amazon. Bolsonaro is Trump-like and elections were the weekend of the RELEP conference. Unfortunately, many Pentecostals voted for Bolsonaro. It was clear from his campaign that the Amazon and indigenous peoples were getting in the way of what he saw as a solution to the country's economic woes. During August 2019, the entire world witnessed how critical the Amazon is to all of us as the 'lungs of the earth' as the fires raged in the Amazon, fires that the Brazilian government initially played down.

The NCCCUSA Faith and Order Commission looking at the environment included a paper prepared for our Washington, D.C. meeting in 2018 about the Category 5 Hurricane that hit Puerto Rico on September 7, 2017. Puerto Rico survived a glancing blow but then suffered a direct hit as a Category 4 Hurricane on September 20, 2017 ultimately took 3k (2,975) lives with loses of \$94B USD. "What is worse than being hit by a Category 5 Hurricane? Well, being hit by a Category 5 hurricane in a colony, under a Trump presidency and in a regime of extreme austerity led by Wall Street and (the USA) Congress. Cyclones are natural, but disasters are political."¹⁴⁰

A recent UN report looked at increased temperatures and the impact they are having on severe storms and concluded that the "[p]lanet has only until 2030 to stem catastrophic climate change." David Ramirez, the third assistant General Overseer for Church of God (Cleveland, TN), and founder of SEMISUD in Ecuador retweeted this UN report urging Pentecostal young people to respond accordingly.

It is no surprise, then, that for almost 20 years, SEMISUD, a Pentecostal seminary outside Quito, Ecuador, has together with Misión Alianza Ecuador hosted an annual ecology conference known as PRIDEMI. The

¹⁴⁰ Martel 2018.

September 10-12, 2019 edition featured famed theologian Professor Leonardo Boff as the keynote speaker, and he did not disappoint. Attendance was strong and enthusiasm high. It was gratifying to hear several enlightening sessions including one morning that started with Professor Leonardo Boff and ended with three indigenous Pentecostal speakers.

It is noteworthy that the national leader of one of the largest Pentecostal indigenous peoples in Ecuador, Byron Calo, said “We were conquered by the Incas, then the Spaniards, then the Catholics, and now the Evangelicals.” Luz Tipan digging deep into Pacha Mamma emphasized that they must ask permission and express sorrow when taking from the earth while noting they are quick to return anything they take. The third indigenous speaker, Jose Chisaguano, took us on an enhanced journey of Pacha Mamma who was featured earlier in an animated video.

The first speaker at the PRIDEMI 2019 conference was Jonathan Suarez who offered a detailed deconstruction of Ecuadorian colonial history crushing indigenous peoples. Later, anthropologist Michael Uzendoski took us inside the Quechua culture connection to the soil with implications for the Amazon. Professor Boff had underscored such things and emphasized why indigenous voices must be respected. Among the strengths of this conference are the sessions on campaigning and social activism.

Oscar Corvalan recently confirmed that the Pentecostal Church of Chile has been involved with ecology for many decades. The Pentecostal Church of Chile is a member of the WCC and connected to the United Church of Christ in the USA. Things might have been quite different for the Pentecostal Church of Chile had the International Pentecostal Holiness Church (IPHC) kept the affiliation, which was signed in 1966, with them and the Methodist Pentecostal Church, rather than terminating this agreement in 1968.¹⁴¹

Ecumenical Patriarch Bartholomew’s Integral Theology

I have often said that Classical Pentecostal church leaders would do well to learn from Ecumenical Patriarch Bartholomew I, particularly when His All-Holiness used the word “sin,” to depict the devastating impact of

¹⁴¹ Corvalan 2018.

human abuse on God's Creation. The word "sin" has been much used in Pentecostal sermons and teachings. Pentecostals in the USA who constantly measure themselves against magisterial Protestants, need to look closely at the record of the "Green Patriarch." Bartholomew has made creation care a hallmark of his tenure as Ecumenical Patriarch. Archdeacon John Chryssavgis is more than justified to devote an entire chapter in his biography of Bartholomew to this critical theological issue.¹⁴²

International media coined then conferred the title "Green Patriarch" in recognition of Bartholomew's unique contribution. This unpretentious yet telling title was recognized at the USA White House in 1997 by Al Gore, then vice president of the United States. True to this landmark distinction, Bartholomew in 1997 would equate abuse of God's creation as sin. This public stand was rightly lauded by environmental activists from around the world.

During the 2018 Rede Latino-americana de Estudos Pentecostais (RELEP) conference in Brazil, I recounted Bartholomew's July 2006 "blessing of the waters" on the Amazon River which attracted international media attention. Bartholomew was welcomed as "the Patriarch of the Amazon." His All-Holiness responded by magnifying the significance of the baptism of Christ in the Jordan River saying,

In our encounter with the indigenous peoples of this region, we witnessed and felt their profound sense of the sacredness of creation and of the bonds that exist between all living things and people. Thanks to them, we understand more deeply that, as creatures of God, we are all in the same boat: 'estamos no mesmo barco!'.¹⁴³

Odair Pedroso Mateus, Reformed theologian from Brazil who leads the WCC Faith and Order Commission, tweeted on September 10, 2019, "WCC President Bishop Mark MacDonald says 'The impacts of climate change on Indigenous Peoples directly mirror what is widely reported among the impacts of Arctic environments and their animals and sea life.'"

It should be emphasized that Bartholomew I sought to bring accountability for God's creation first to the Eastern Orthodox prelates.

¹⁴² Hunter 2016.

¹⁴³ Chryssavgis 2016.

In 1992, soon after his election as Ecumenical Patriarch, he brought together an unprecedented Synaxis of Primates at the Phanar. All the assembled prelates endorsed September 1 as a day of “Pan-Orthodox prayer for God’s creation.” Bartholomew put it this way when clarifying the scripture phrase ‘stewards of creation’:

we are called to offer creation back to God as priests, just as the priest in the Eucharist offers the bread and wine to God, who in turn transforms them into his body and blood for the life of the whole world. So, rather than speaking of becoming ‘stewards of creation,’ it may more helpful to speak of becoming ‘priests of creation’ in accordance with our donation and vocation to be part of the ‘royal priesthood’.¹⁴⁴

Maria Sereti gave a paper to the 5th International Conference on Ecological Theology and Environmental Ethics (ECOTHEE-2017) at the Orthodox Academy of Crete entitled “The contribution of Ecumenical Patriarch Bartholomew I to the Configuration of an Ecumenical ‘Integral Ecology’.” Integral Ecology was understood to speak of economic justice and, according to Sereti, was subsequently lauded by Pope Francis in his Encyclical “Laudato si,” which was much quoted in various papers at ECOTHEE ‘19. The clarion call for this basic concept has loudly come for many years from the WCC and others in the broader ecumenical movement. Sereti goes on to link Integral Ecology to the Eucharist which is echoed in the 1982 WCC Faith and Order “Lima Document.”¹⁴⁵

First seeds of a pentecostal ecotheology

With the aid of recently deceased Roman Catholic Monsignor Peter Hocken, I put together the first global conference for Pentecostal scholars known as the Theological Track of Brighton ’91. Our presenters were Roman Catholic, Eastern and Oriental Orthodox, Protestant, and Pentecostal. This invitation-only event did everything possible to strike a balance between the Global North and Global South. Simultaneous translation was provided in four languages. The irony is that I initially tried to link this global event with the WCC General Assembly known as Can-

¹⁴⁴ Ibid.

¹⁴⁵ Sereti 2018.

berra '91. I spoke to the WCC General Secretary Emilio Castro about this in his Geneva office in 1989. Castro was positive about the concept, but wanted input from W.H. Hollenweger who he had employed at the WCC headquarters in Geneva. When Hollenweger - who had retired to the Swiss Alps - was slow to engage the process, I had to quickly move everything to Brighton '91.

The keynote speaker for the theological track of Brighton '91 was Professor Jürgen Moltmann. Professor Moltmann reserved a chapter of his, "The Spirit of Life" (Minneapolis: Fortress Press, 1991), until after the delivery of his presentation at Brighton '91. The sessions addressed race, gender, liberation theology, other living faiths, martyrdom, ecology, and other forward-looking issues. It is against this background that the importance of the Theological Stream of Brighton '91, which was held July 8-14, 1991, must be judged. Of the 150 invitation-only scholars attending, several were world-renowned theologians, exegetes, and historians. Most striking was the range of nationalities and of Church traditions represented. These ranged from Latin American Pentecostals to a Coptic Orthodox bishop, from Scandinavian Lutheran to New Zealand Open Brother, from African-American Pentecostals to a Syrian rite Catholic. Particularly well represented was South Africa (with scholars from most groupings seeking attention during the day of transition). Thus the unprecedented symposium attracted participants from many ecumenical and academic bodies like the WCC.

When putting the Brighton '91 conference together, I invited UNISA Professor ML Daneel to present a paper. I had read several of his books and was delighted when he proposed doing a session on Creation Care. I had lectured on this in the early 1980s (in a course I designed under the name "Contemporary Theology") while full time faculty at a Pentecostal seminary (e.g. Church of God Theological Seminary now Pentecostal Theological Seminary). However, I was not prepared for the title of his proposed session. When I received his proposal to read "African Independent Church Pneumatology and the Salvation of all Creation," I accepted it, but scheduled him early Saturday morning, something he noted with a smile as he started his address.

Daneel's paper was received with enthusiasm during the Brighton '91 conference and later in the print volume, *All Together In One Place*. Daneel's work instilled a sense of urgency in me as I waved this Creation

Care banner high during the early 1990s as Professor at Large teaching in Latin America, Eastern Europe, and Asia. I presented a formal paper at the theology track of the 1998 Pentecostal World Conference in Korea which led to my article being published in Korea in 2000. This became the first article of its kind by a Classical Pentecostal scholar.

Exchanges with other churches

There is a diverse group of non-western Christians in Africa known as African Indigenous/Initiated Churches (AICs). Those churches in South Africa that participate in the Pentecostal World Fellowship have not previously officially accepted AICs as Pentecostals. Each Easter – at least in the 1990s - the Zion Christian Church in South Africa attracted up to three million for their celebration which made it one of the largest celebrations of its kind in the world. This discussion has been advanced by the likes of the luminous Nigerian scholar Samson Adetunji Fatokun in an article entitled “The Distinctive Features of Aladura Movement and their Implications for African Pentecostalism.”¹⁴⁶

According to Daneel’s presentation at Brighton ‘91, when it comes time for water baptism, one group of AIC candidates in Zimbabwe confess not only personal sins, but things such as “I chopped down 30 trees, but did not plant any” or “I ruined the topsoil.” More on this topic of Daneel’s paper presented to Brighton ‘91 is available in *All Together in One Place* which was recently reprinted by Wipf and Stock.¹⁴⁷

One of the gifts of the Pentecostal Movement to the Twentieth Century was its commitment to the possibility of physical healings. Yet, how does the movement respond now to caring for God’s creation, when the sickness of creation damages our health and well-being? When pollution in various places caused me to be ill, my church would readily lay hands on me to recover. I welcomed this intervention, but I said that we must cure the curse because this same pollution is having a devastating effect on those directly exposed to these monsters.

Stated in a theological way, we acknowledge that God created humankind in the divine image. When we get sick, we are invited to pray

¹⁴⁶ Farokun 2019.

¹⁴⁷ Daneel 1993.

for healing. God created this planet and said it was good. We were given water to drink and land on which to live. But we have brought many diseases into creation. Now we must seek the salvation of all creation.

Setri Nyomi, friend of Apostle Opoku Onyinah former chairman of the Church of Pentecost in Ghana, presided over the Accra Declaration as General Secretary of the World Alliance of Reformed Church (WARC, now known as World Communion of Reformed Churches, or WCRC). This remarkable document produced during the 2004 WARC General Council - is subtitled “Convenanting for Justice in the Economy and the Earth.” Unfortunately, there is not enough space here to even highlight sections of this significant document.

Joseph Quayesi Amakye, opens an intriguing article on Ghanaian Pentecostals by saying:

This paper argues that contemporary Pentecostals in Ghana have shifted drastically from their forebear(er)s' approach to healing and medicine. Unlike their ancestors[,] contemporary Pentecostals take (a) keen interest in the healing of the Ghanaian. This interest is not restricted to metaphysical healing but embraces scientific approaches to healing, which include establishment of hospitals, clinics, health centres, taking environmental issues serious(ly), health promotion among Ghanaians among others.¹⁴⁸

These findings should be in harmony with the Church of Pentecost in Ghana considering their impressive health welfare system that includes one hospital and seven clinics for the poor and marginalized. The Church of Pentecost has sought economic empowerment through their 40 credit unions under the umbrella Pentecost Cooperative Mutual Support and Social Services Society Limited (PENCO). The Church of Pentecost Disaster Prevention and Relief Services would be supportive of Creation Care that seeks to minimize the adverse impact on all God's creatures. All these ministries expanded under the capable leadership of Apostle Opoku Onyinah.

In 2017, Apostle Opoku Onyinah publicly opposed illegal mining and “other practices” in part because of the degradation of the environment. All these statements are important to the three million believers that make

¹⁴⁸ Amakye 2013.

up the global Church of Pentecost. There is an excellent article about the social engagement of the Church of Pentecost by David D. Daniels III in the 2018 book honoring Apostle Opoku Onyinah.¹⁴⁹

Environmental Discrimination and Redistribution

During the Pentecostal Charismatic Churches of North America (PCCNA) conference held October 2, 1997 in Washington, D.C., Bishop George D. McKinney, Pastor of St. Stephen's Church of God in Christ in San Diego, California, gave an example of injustice that he engaged, which I published in 1998.

Public policies that allow low income housing to be built and maintained on known toxic waste sights must be dismantled. About a year ago, a group of us traveled to Washington D.C., and met with Vice President Al Gore regarding this injustice. We had with us a black pastor from Dallas who testified that he, his wife and their seven children did not know that the low-income housing in which they lived was built over a toxic waste site.

Now it's too late. All of the children in this family are affected with cancer or some other debilitating disease or deformity. The husband and wife, only in their late fifties, are dying from cancer. In their community, the cancer rate is twenty or thirty times higher than in the rest of the city. The tragedy of the situation was that the city of Dallas was aware that the location was a toxic dump, but no appropriate action was taken. The church, when it is aware of these circumstances, must bring pressure to bear upon those in power, demanding that justice be served to those who are defenseless.¹⁵⁰

A sign of the changing landscape for Pentecostal ecotheology by Global North scholars writing in English are the forward steps taken by Aaron J. Swoboda, who edited *Look at Blood Cries Out: Pentecostals, Ecology, and the Groans of Creation*.¹⁵¹ This book includes several highly interesting chapters, including one on Pentecostal healing ecological work in Africa.¹⁵²

¹⁴⁹ Daniels 2018.

¹⁵⁰ McKinney 1998.

¹⁵¹ Swoboda 2014.

Relating to other religions can also inspire Christian ecotheology, while opposing syncretism.¹⁵³

Ecotehology, apocalyptic theology and escathology

Does not ecological decay hasten the coming of the Lord? In contrast to such desperation, Presbyterian Choo Lak Yeow from Singapore argued that “end of the world” is not destruction, but “regeneration.” Yeow pointedly denied Greek and Yin-Yang dualistic influences which account for some of this pessimism.¹⁵⁴

Pentecostals under the spell of dispensationalism frequently talk about Armageddon and there are political alliances in the USA with Israel to attempt to make this happen in my lifetime. But, they ignore the fact that they are destroying the earth even now, and that damage cannot be reversed. Pentecostals also talk much about evangelizing the world, but often forget we live on one planet that requires all of us working together to keep the earth healthy. I have heard prophetic style inspired speech warn of the end of the ages and urgency to complete the mission work, but no such inspired speech warning about climate change.

According to former Pentecostalist Miroslav Volf, if we leave aside the more modern ethical and existential interpretations of the cosmological eschatological statements, Christian theologians have held two basic positions on the eschatological future of the world. Some stressed radical discontinuity between the present and the future orders, believing in the complete destruction of the present world at the end of the ages and creation of a fully new world. Others postulated continuity between the two, believing that the present world will be transformed into the new heaven and new earth. Two radically different theologies of work follow from these two basic eschatological models.¹⁵⁵

The picture changes radically with the assumption that the world will end, not in apocalyptic destruction, but rather in eschatological transfor-

¹⁵² Tallman 2014; for the first Pentecostal contribution on healing of the creation, see Hunter 2000; see also Suurmond 1988.

¹⁵³ Koyama 1989.

¹⁵⁴ Yeow 1981.

¹⁵⁵ Volf 1991.

mation. The results of the cumulative work of human beings will then have intrinsic value and gain ultimate significance, for they are related to the eschatological new creation, not only indirectly through the faith and service they enable or sanctification they further, but also directly. The noble products of human ingenuity, whatever is beautiful, true and good in human cultures, will be cleansed from impurity, perfected, and transfigured to become part of God's new creation. They will form the building materials, from which (after they are transfigured), the glorified world will be made.

North Americans cannot pray «give us our daily bread.» use a disproportionate portion of the world's resources, and then send toxic waste to poor countries. This is <plundering for profit.› Hazardous waste presents high risks to humans, animals, plants and the environment. We forfeit the right to sit in judgment of Brazil's rainforests and ignore acid rain in Canada. It is our «progress» that has influenced the tropics and their cultures that live cooperatively with the forests, which are now being destroyed by coercion, killing, and legal procedures, depriving them of traditional lands.

Come Holy Spirit, Renew Thy Whole Creation!

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Between Hope and Panic

Climate change in a dialogue of theology with secularity

Peter Pavlovic

Keywords: Christian hope, climate change, Pauline theology

Introduction

Climate change has become a political, economic and security issue defining the 21st century. Several churches actively participated in this discussion and expressed their positions. Churches' engagement in addressing concerns related to a sustainable future are often focused on the term of hope. Faith communities are often presented as a particular source of hope in challenging times. Sometimes churches' self-understanding of this task goes even further, affirming that the task of faith communities is not only to generate hope, but to say 'we have the right to hope'.¹⁵⁶

Greta Thunberg, a new icon of effective climate change action, was courageous enough to raise a critical tone when talking about hope in the context of the climate threat. In the Davos Forum 2019, she emphasized: "Our house is on fire. Adults keep saying: 'we owe it to the young people to give them hope'. But I don't want your hope. I don't want you to be hopeful. I want you to panic. I want you to feel the fear I feel every day."¹⁵⁷

Hope is one of the core terms in Christian theology. Works of Karl Rahner and Jürgen Moltmann paved the way in the 20th century by outlining main aspects of Christian understanding of hope, while reflecting on challenges of modernity. Robert Jenson, in following this path, underlined that without focusing on hope, theology would lose its basic content. What hope is needed in times of climate change? Is it plausible to have the right to hope? The following lines outline the basic outlooks of the

¹⁵⁶ Tveit 2013.

¹⁵⁷ Thunberg 2019.

concept of hope with an emphasis on climate concerns from the theological perspectives.

What forms Christian hope? Indivisibility of hope and faith

It is widely acknowledged that addressing climate change is a task related to politics, science, business, and technology, with an equally important ethical component. Parallel to that we should not be afraid to see in addressing challenges of climate change proper role for theology. While undertaking these efforts, it should be avoided, as it often happens, unquestioned identification of theology with ethics. In order to be in this point clear, it is right to underline that both theology and ethics have much to contribute to the public discourse, the task of both is, nevertheless, not identical. It is one of the most important tests for theology of 21st century to get clarity on the role of theology in public space in reflecting key challenges of our time. Political theology and eco-theology are just two specific elements in pursuing this task. In words of Jürgen Moltmann: "political theology designates the field, the milieu, the environment, and the medium in which Christian theology should be articulated today."¹⁵⁸ Or putting it into even stronger language: "We have no right to speak of God and with God if we do not do it in the midst of the conflicts of our political world."¹⁵⁹

There are ample reasons to talk about the relationship between climate change, justice and equality: the key ethical categories. The scope of theology, even if theology includes a number of ethically-related concerns, goes far beyond. Ethical and theological concerns, although related, are not duplicating or replacing each other. Being theological means, as Robert Jenson reminds, to ask questions relevant to life. The most relevant are in this regard, as he continues, the recognition of the past mistakes and respect of those, who are the most vulnerable. Jürgen Moltmann adds: "Political theology is therefore not simply political ethics but reaches further by asking about the political consciousness of theology itself."¹⁶⁰

Critical in this context is the term of hope and the question: what the

¹⁵⁸ Moltmann 1971, pp. 6–23.

¹⁵⁹ Ibid.

¹⁶⁰ Ibid.

specific content of Christian hope in the era of climate change? What is a relevant theological language in the world struggling with messy politics, and amidst plurality of voices around?

The starting moment in these considerations is that the Bible does not offer an understanding of hope without talking about faith.¹⁶¹ Hope and faith are, as the Letter to Hebrew points out, intrinsically intertwined. “Faith is the assurance of things hoped for” (Hebrew 11:1). While referring to the need for hope, it is necessary to look at the quality of faith. In focusing on faith, an instructive baseline is offered in the text of Isaiah: “If you do not stand firm in faith, you shall not stand at all” (Isaiah 7:9). This, however, is specifically for a mind equipped with an experience of modernity developed in the Western world difficult to understand. Faith, as described by Isaiah, does not include any reference to rational conviction. Faith is an approach that dominates the entire the Old Testament, not only Isaiah, and describes an existential and ontological quality that is aligned to a person’s life concept, to a personal stand that is related to firmness, steadfastness, determination, stability and reliability. The New Testament does not alter the approach outlined in Hebrew Scripture other than to add one fundamental facet: to achieve personal qualities related to faith, the aligning of the life of an individual with the life and work of Jesus Christ is essential.

To speak of faith as an existential quality is quite distant from a widespread perception in the secularized Western world, which tends to equate faith with something being either true or false, and with a conviction of the existence, or non-existence of God. Keeping in mind the current widespread intellectual separation of the Old and New Testaments, let’s look at a major New Testament document outlining action of faith in secular society, the letter to the Romans, and its message in the context of the reality of the 1st century. The unity of both Testaments was met with a completely different sensitivity at that time compared to the situation we see today.

Paul sends his letter to the then political centre of the world. As underlined in a thoughtful analysis of the letter by Jacob Taubes, it would be a

¹⁶¹ Following lines do not have an ambition to cover all nuances of the problematic of modalities of faith and differences between Old and New Testament perspectives. For details see e.g. Lochman 1996, p.29ff.

grave mistake to assess Paul's view on relationship between faith and politics with limited attention to the well-known chapter 13: "whoever resists authority resists what God has appointed" (Rom 13:2).¹⁶² According to Taubes, in the letter to Romans, Paul formulates an outline of a new political theology, a new type of approach to the hostile and unfriendly world. Paul's key formula in his masterpiece of political theology is "the obedience of faith" (Rom 1:5; 16:26). In the context, culture, rules and politics of the Rome of the 1st century AD, "the obedience of faith" is the central formula, which he puts into sharp opposition with "the obedience of law," the major achievement of Roman politics and social life. What is behind of this introduction of a sharp opposition between the obedience of law and the obedience of faith is first of all the recognition that for the sound management of the challenges an individual has to face in his looking for peace and good life in a society, accepting written laws and generally respected rules is not enough. For achieving sound life of any society are important individuals with internal integrity. In order to achieve that integrity is necessary to reach that quality of life, which Paul calls the faith. Counter positioning of faith and law and achieving of that personal integrity Paul is outlining - and this is our core argument – is however possible only if faith is understood in unifying of concepts of faith that are outlined in both, the Old and New Testaments. The obedience of faith does not make any sense if faith is devoid of its Old Testament ontological qualities of steadfastness and reliability.

An insistence on "the obedience of faith", inspected through prism of 21st century and specifically in the perspective of climate change, raises a number of questions. In observing the present world through the lens of Paul's teachings, we may come to the conclusion that the principal task of the Church is to produce a constant alternative to practices in the world through our faith - an alternative that is based not on law, and on the principle of the rights that dominate the world, but on the principle of faith. According to Paul, the Church is a peaceful, steadfast, and reliable alternative to a world dominated by unceasing advancement of private ambitions, societal tensions and power struggles. An alternative that is, however, not in isolation but in constructive and perpetual dialogue with the world.

¹⁶² Taubes 2004, p. 23ff.

What does it say about hope? Paul makes an effort to underline that hope is a space in which “the obedience to faith,” in spite of challenges, frustrations and disappointments affecting the everyday life of each person, makes sense. Paul is undeniably clear in underlining the close and inseparable link between hope and faith. Neither of them can grow to its full content without the existence of the other. The culmination of this argument is expressed in his conviction: “endurance/faith produces character, and character produces hope” (Rom 5:4). This formula introduces hope as the result of a three-step gradual process, at the beginning of which is endurance or faith that then matures into character and finally ends in hope. Highlighting the close relationship between faith and hope offers new possibilities for framing hope beyond “being optimistic about the future”, or reducing hope to an expectation of positive outcomes while facing difficulties. The bottom-line of Paul’s understanding of hope is the conviction that hope can be found primarily through faith, endurance, determination and reliability. Equipped by these, person of hope is then the one, who is able to produce an authentic and truthful witness to the world we are living in.

What does it mean for life of a Christian?

The consequences of deliberations on faith and hope, their content, as well as their implications for subsequent action, can be illustrated in the three following examples relevant for the situation of the 21st century and having noteworthy significance in the context of climate change.

Freedom as a participatory effort

The Christian understanding of freedom is not the same as liberal freedom guided by the adage: freedom of the individual is limited by freedom of the other. In Christian philosophy, freedom of the individual does not end where freedom of another begins. It is precisely the opposite; an individual’s freedom allows and invites entry into the space of another. It is not detached from the other but asks about his/her needs and positively intervenes in that space.¹⁶³

¹⁶³ Opposition of the two approaches goes down to strongly rooted presence of heritage of Thomas Hobbes and John Locke in western world and the socio-ethical implications of their work that is tension to the approach of Christian trinitarian ontology, especially different conceptuality of the distinction between

Distinguishing of two aspects of freedom, freedom *from* and freedom *to*, or between negative and positive freedom, can make the point.¹⁶⁴ It is a caricature of freedom to reduce it to its negative dimension defining freedom as the allowance of everything until it does not limit another person's freedom. It is in the sphere of "positive freedom", in freedom to something and not in freedom from something, in the positive and active approach of the other, not in isolation from the other, where freedom reveals its real meaning.

Freedom to something includes an active encounter with my neighbour, approaching him/her and offering him/her my engagement. It is perceived as an affirmation of active encounter filled with a positive content. It includes the modest acknowledgment and recognition that respecting freedom is not so much limited by others but primarily by my own limitations. Respect of freedom is not granting myself permission to use my own space in an arbitrary way. It includes the respect of the other, who in the same way as I, is allowed to enter the space of his/her freedom and may intervene in the space of my freedom. Freedom does not mean to be the master of my own space while not violating the space of the other. What we are addressing here is that specific dimension of freedom that goes beyond of seeing freedom purely in individualistic terms. Hence, freedom is more than personal integrity that is resisting external pressure exercised on individual by society and that form of control that a person enjoys in relation to her own destiny, as outlined by Philip Pettit.¹⁶⁵ *Antipower*, the term, which is in this respect used by Pettit, plays without any doubt a significant role in determining freedom of individual. For freedom outlined by ap. Paul and by gospels is *antipower* just one, important, but not sufficient precondition. The core argument is that freedom cannot be fully unfolded without taking into concern another human being. On the top of it, the ideal and positive vision outlined by a Paulinian perspective is not to treat another human being as an enemy, but as a fellow person that has the same task, to see another human being as

public and private. See e.g. Hauerwas 2000, p.13 ff. and 114 ff. The same argument is outlined in Jenson 1999, p.142 ff.

¹⁶⁴ To distinction between positive and negative liberty see Berlin 1969.

¹⁶⁵ Pettit 1996.

someone that deserves respect. Freedom of individual is in this perspective never to be seen in isolation of the individual from others.

Freedom in Christian understanding is ontologically based in God's existence as Trinity; in co-existence of three persons in which subsists divine nature. And it is precisely this, as stipulated from early developments of Christian teaching that gives the human being hope for becoming an authentic person.¹⁶⁶ Elaborating at the same argument, Luther in his analyses of freedom refuses to stay limited to the obvious relationship between freedom and human will. Enabling of human freedom, as the willing action is, as underlined by the analyses of Luther's understanding of freedom by Robert Jenson possible only in community it is not enabled within me as a closed system. Living in freedom is a participatory effort.¹⁶⁷

Freedom in its positive content means going a step further beyond non-violence to the neighbour and includes actively stepping into the space of the other with the positive message of welcoming. It also means to accept that the violation of the space of my neighbour can happen through very subtle, often not easily recognizable forms. For example, through too much consumption of one individual that limits fair or perhaps even inhibits the life guaranteeing consumption of the other. In transposing the implications of positive freedom to the concrete situation of the ecological challenges of the 21st century, a metaphor formulated by Albert Camus may be enlightening. In describing the situation of citizens in a fictive town caught in the disaster of the plague, he reminds: "Our fellow citizens were not bigger sinners than the others, they only forgot the modesty and they thought that for them everything is possible; they supposed that disasters are impossible."

What does this mean in the context of climate change and reaching the natural capacity of the world? Humility and modesty are categories often mentioned as those having the substantial importance in reflecting current environmental challenges. Contemplating them in context of theology, Paul's reminder expressed in words: 'everything is possible, it may be even lawful, but not all things build up and not everything serves to your good,' (1 Cor 10:23) sheds light on the limitations of human freedom that

¹⁶⁶ Zizioulas 1993, p. 44.

¹⁶⁷ Jenson 1999, p. 107.

need to be taken in renewed perspective. Are we allowed to consume as much food, energy and natural resources as we want? Are we allowed to behave as rulers of the world, forgetting that we are at the same time called to stewardship? Those who limit freedom to its negative form would certainly not see anything wrong with such an approach. However, it does not mean that it will serve us well. Modesty is not in a category of significant value in the world guided by negative freedom. Calculating the concept of freedom, and all its qualities, leads to sharply different consequences and narrows freedom to its negative aspects.

Can justice be reduced to fairness?

Justice is often seen as a synonym of fairness and equality and limited to those forms achieved through formal legal procedures.¹⁶⁸ Justice, however, taken in its full scope, is not confined to only fairness and legality. To demonstrate the point, an illustrative example offers well known story of The Good Samaritan (Luke 10: 29-37). The Samaritan is praised not because of his understanding of justice in a legal and procedural way, but because he abides seriously to another face of justice: solidarity and compassion. The core point of the story is limited to outlining how justice should be lived. It is at the same time in highlighting that justice as fairness can be, at least in principle, regulated by institutional politics and by the implementation of laws; while solidarity, respect and compassion cannot. They are driven by personal conviction.

The formal side of justice can ideally be established through appropriate legal measures once and for all. Contrary to that, neither solidarity nor compassion can and will ever be established once and for all. They require constant effort that needs to be renewed repeatedly. Luther, in his approach to nuances of justice, insisted not only on a distinction between horizontal and vertical justice making in the term of justification, i.e. making the person justified and just, the principal point of the relationship between God and humanity. At the same time he takes seriously a distinction between passive and active justice and carefully nuances the place of passive and active justice in the life of the person, making clear how faith produces good works and, hence, serves the neighbour, guiding

¹⁶⁸ This goes back to John Rawls in his theory of justice. Rawls 1971; Rawls 1999.

human being to solidarity with others, respect, and compassion.¹⁶⁹ Effort for creating justice in earthly life is the demonstration that the person has listened to God, that he/she accepts his call and is ready to co-work with him. It presents a relational way of knowing God and be God' conversational counterpart.¹⁷⁰

What does it mean in the era of climate change? Climate science confirms that in the latter part of the 20th century, humanity entered the era of Anthropocene. This means that humanity is no longer a passive observer of earth's development, but an active contributor, an actor shaping the earth and forming conditions for life, through reaching earth's capacity in extracting natural resources, through undermining earth's biodiversity, through producing humanly-induced climate change, and so on. Key in this perspective is interdependence and acknowledgement that action in one part of the world may have far reaching implications in very distant areas, far from the place where action is originated. Humans bear responsibility for implications of their action visible not just in their immediate neighbourhood, but also in areas that are far distant and beyond reach of instant visibility. Christian insistence on active justice, solidarity, interrelation, respect and compassion, as well as the call to respond through thankful action to the gift of creation, instead of dominating and plundering the world, offers theological instruments for a response to the ecological challenges we need to face.

Rights, ownership and hope

Rights assigned to individuals have become one of the central themes of public discourse. Such a discourse has its due merit. However, the human rights approach is not applicable without qualification in all circumstances. There are situations where rights go beyond their applicability. Theology must be vigilant and attentive to these limits.

Having the right to something implies the notion of owning something, having something in possession, or exercising an effort to procure ownership of something. I have the right to something mostly means I possess it or I have a right to own it. An implication of this insistence on rights is the

¹⁶⁹ Luther 1520.

¹⁷⁰ Jenson 1999, p. 95.

assumption that the more rights we have in our possession, the better our quality of life will be. The earth, the clean air, our relationships, and the environment are, in this view, taken as external substances, as things we have the right to use, manipulate and transform into our possessions; in the best case, with minimum or zero cost.

The downside side of this view is that the insistence on rights does not automatically lead to values or to respectful behaviour. Values, compared to rights, are not necessarily related to possession. It is not necessary to have values to be able to enjoy their benefits. Some are even impossible to own, as it is demonstrated by examples of solidarity, compassion, or respect for each other. In order to enjoy their benefits, they have to be reflected from a person and through a person, and not owned by any person. The more an individual wants to own their solidarity or compassion, the more these values turn into their opposite and little else than signs of hubris.

To share something that is not in our possession, that is not in our grasp or touch, seems counterintuitive. For a world driven increasingly by economic indicators, it may be a difficult lesson to accept that it is possible to benefit from something that one does not possess, or even further yet, that one gives away or shares. Is it at all possible? At first sight, it goes beyond rational thought. Primary experience tells us that we can only share what we seize. Anything else is a paradox. Still, to live with God, as we are reminded by Kierkegaard, is imbued in paradox. To share something that is not in our possession is not only possible, it is desirable. Full life is enabled not just by human efforts for amassing the material possessions. The Church from its early stages insisted on the existential definition of the person, which puts to the frontline the distinction, but at the same time close relationship between biological and spiritual dimension of human being. Biological existence is constituted by the human conception and birth. This dimension of life is related to natural instincts and impulses. It is the second dimension, which may called spiritual or ecclesial, as outlined in extraordinary depth and clarity by John Zizioulas, which enables true life and 'regeneration' of the person.¹⁷¹ The task to escape the *libido dominandi* is the principal mission of the Church.¹⁷² In trinitarian understanding, it is

¹⁷¹ Zizioulas 1993, p. 49ff.

¹⁷² Hauerwas 2000, p. 124.

the highest virtue, the core of what may be called a Christian life. Ability of radical sharing lays at the bottom of the theological claim that the true being of human being is found only in his/her eschatological state. Christian theology claims that the transitive character of values is of the substantial importance in life. The threat of climate change is, among other things, a call to accept the significance of transitive values. Growing global interdependence and at the same time growing gaps between different segments of society pose the substantial challenge. How to manage depleting resources, worsening air quality and ever-increasing demands for the rising population? The growing needs of the global population calls for the challenging of some value concepts also anchored in certain parts of the world. In this context, hope as the core representative of this value category and ability to share hope produces an effective counter-dose to disillusionment and frustration, which ecological challenges force us to face. The content of hope as one of the key Christian virtues is in its transitive nature. It is not possible to possess hope; its value is found in sharing. As Robert Jenson underlines, Christian hope is nothing other than a certain participation in the life of God.¹⁷³ Looking at hope from this end, hope stands in opposition to the concept of rights. Hope is not to be possessed, but transmitted.

Conclusions

Hope and faith as normative elements of Christian identity have a relevance for a meaningful theological discourse in facing threats of climate change, environmental degradation and the reaching of the limits of the earth's resource capacity. Paul's formula of 'the obedience of faith' and its relation to the concept of hope poses in this respect a specific challenge. In growing opportunities for an engaged public and political theology and efforts for a theological addressing of ecological concerns, hope is the term used with an increasing frequency. Its recurrent repetition is, however, neither an argument increasing its legitimacy, nor the permit tolerating to use 'hope' as a formula of verbal equilibristic and a kind of linguistic '*Deux ex machina*' enabling an easy escape from any serious challenge theology is called to face nowadays. The way how key categories of faith and hope are introduced in texts of apostle Paul and

¹⁷³ Jenson 2000, pp. 335-346.

further developed in theological understanding shaped since early Christianity up until today, call for using the term of hope with care. Hope is in any case to be counted as in the category of rights. Although both of them, hope and the rights, have for integrity of person indisputable relevance, they are addressing different dimensions of human existence. To place hope into the domain of rights is a shortcut consistent neither with apostle Paul, nor with trinitarian theology.

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(Eco)Peace-building a venue for women's Inter-religious Action

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Keywords: Ecofeminism, Justice, Climate change

Introduction

This chapter addresses the issue of social and ecological injustice through the lens of Christian eco-feminism and its ethics of interconnectedness and stewardship of all creation. Since ecofeminism links the exploitation of women to the exploitation of creation, the methodology of the Christian eco-feminist hermeneutical key is used to elaborate the main question of the research: an analysis of the perspectives of Christian ecofeminism on the question of social and ecological (in)justice and further, what are positive contributions and implications of Christian eco-feminist ethic for Christian theology and the drive for social and ecological justice.

In addition, an appeal for women's voice and action in relation to religious (eco-)peacebuilding and the process of sensitizing religious individuals and religious communities at both everyday and hierarchical levels is pointed out.

The Perception of Social and Eco-justice in Western Cultures

The question and perception of social justice and consequently eco-justice in Western cultures is strongly influenced by the Greek philosophical and biblical tradition. But despite the orientation of social justice towards the concept of human rights and equal opportunities, the understanding of social justice in today's Western societies is diverse. In a narrower sense, social justice is contained in the legal systems, norms, regulations, rules and codes of the social system and its jurisprudence. However, the meaning of social justice encompasses and reflects deeper views and expressions: It goes beyond purely formalistic legal and regulatory systems; it encompasses and expresses the principles of fair trade, action, social and societal equality, equal recognition, equal opportunities for all people; it also encompasses the relationship between humans and non-humans, animals and nature. In this context, social justice is the signifier and the

determinant that governs the dynamics of the whole network of relationships: interpersonal, between people and nature, and public in all political and economic structures. It is an expression of the organization of the whole society, an expression of the structures of the distribution and sharing of power, material wealth, privileges, duties, and rights of every dimension of social interaction.

At the forefront of social justice is therefore the consciousness of the human being as an irreplaceable and unique individual, an individual who is the only unit in the true sense of the word, who knows and acts only in the true sense of the word, who enjoys and suffers.

In the religious context, the question of social justice (despite secularization) is always understood in the context of understanding the mutual influence and participation of the social sphere on the religious and vice versa. The socio-religious sphere is not an external accessory that can be avoided or ridiculed. Just as a person cannot live in a vacuum, so he/she cannot live outside a social, cultural, religious, and historical environment.

The human being is in a sense trapped in the cultural environment, and all his or her perceptions of the other are dependent on this being trapped. Relationships are therefore not only interwoven between people, but also woven into and conditioned by a network of socio-religious relationships. This does not mean, however, that a person cannot overcome the socio-religious conditionality mentioned above. On the contrary, a person becomes all the more a personality the more he or she becomes through his or her activity in the socio-religious sphere, through his or her participation and the expression of his or her personal superiority.¹⁷⁴

In this context, the paper analyses the phenomenon of social and eco-justice from the perspective of Christian eco-feminism and critically questions the distribution of power along the lines of sexual, racial, ethnic, religious and economic distinctions.

Socio-ecological (In)Justice from the Perspective of Christian Eco-feminism

“The cultural level of a people can be measured by the position of women in society” wrote famous Egyptologist and linguist Jean-Francois

¹⁷⁴ Ocvirk 2000, pp. 71-72.

Champollion on a trip to Egypt, which made a strong impression on the role of Egyptian women at that time.¹⁷⁵ From this perspective we can understand the position of women in a culture, society, religion as a reflection of their maturity and health. Rosemary Radford Ruether, one of the pioneers of Christian ecofeminism, has stated: "An ecofeminist understanding of the human person begins with the person in a network of relationships. The person does not exist first and then accept relationships, but the person is constituted in and through relationships. To be means to be in relationships; to shape the quality of these relationships is the crucial ethical task."¹⁷⁶ The person is thus the bearer of inalienable dignity. It is on this anthropological basis that the idea of social justice can be founded, where it is seen as the one that serves to promote human dignity. It is thus a question of justice that concerns not only individual persons but the entire legal, social, state and religious system.

The commitment to social justice is at the heart of feminism (secular and religious) and feminist movements. On a personal, interpersonal and institutional level, this means addressing issues that seriously affect women's lives: Health, sexual autonomy, merit, social and political status and the care of other discriminated groups against racist and elitist attitudes. Secular feminism is thus a form of cultural criticism, a form of counterculture; likewise, theological (eco-)feminism is a form of liberation theology, i.e. a critical theology that promotes the idea of justice and active engagement against every form of discrimination and neglect.

As such, it critically draws attention to cases of social and religious injustice. Rosemary Radford Ruether states that it is essential for religions to deal with the interface between domination of nature and social domination, taking into consideration the question "how has gender, as well as race and class, been a factor in their view of nature?"¹⁷⁷

Examples of social injustice are thus seen in the unequal distribution of wealth; while the modern world is drowning in abundance in some parts of the world, others it do not even have the essential survival needs. In the exclusive rule of superior, economically stronger nations and in-

¹⁷⁵ Holub 2017.

¹⁷⁶ Radford Ruether 2005, p. 113.

¹⁷⁷ Radford Ruether, xi.

stitutions, elites; in the systematic use of the national military apparatus in economically poor countries to silence dissent and suppress civil initiatives and liberation and transformation movements. Mining and forestry lobbies force displacement, the resettlement of indigenous peoples and the exploitation, devastation and destruction of their ancestral land and sacred sites. Further examples include denial and violation of workers' rights; oppression, discrimination, violence and abuse of women and children; lack of clean drinking water; lack of basic hygiene and access to health care and education.

Christian eco-feminism critically questions the attitude of human imperialist and consumerist relations to animals, plants, environment and nature. It sets the mirror of social (in)justice and connects sexual (in)justice with ecological (in)justice. Social and ecological responsibility go hand in hand. The basic understanding is that we are all connected at the interface of various systemic and institutional discrimination (e.g. racism, sexism, homophobia, xenophobia). It is therefore a perspective based on the assumption that oppression of women and abuse of nature are related phenomena that are neglected and subordinated by the patriarchal system and other systems of oppression (capitalism, consumerism). Christian ecofeminism is essentially based on the assumption that what leads to the oppression of women and the exploitation of nature are one and the same: the patriarchal system, dualistic thinking, the system of domination, global capitalism. The common denominator of all forms of violence is the patriarchal system, which is understood as the source of violence. Ecofeminism is perceived by the patriarchal system as a contradictory system based on the exploitative hierarchical relationship and is not aware of the equality, unity and connection of all living beings in the web of life.

For this reason, the patriarchal system destroys the harmonious connection between man and woman, humanity and nature. It therefore has a devastating effect on nature and human beings.¹⁷⁸ The repressive patriarchal system and the resulting forms of discrimination and dominance of one privileged group over another is therefore understood as a source of socio-religious injustice.

From the perspective of Christian ecofeminism, the concept of

¹⁷⁸ Furlan Štante 2012, pp. 106-107.

ecological justice is necessarily linked to the concept of interdependence, eco-spiritual unity and the interconnectedness of all ecosystems and sentient beings. Ecofeminism therefore fights for a new consciousness that would teach humanity to live and work in harmony with one another and with nature. The members of Christian theological ecofeminism (Rosemary Radford Ruether, Sallie McFague, Cynthia Eller, Ivone Gebara, etc.) are based on a Christian tradition which, in their opinion, contains the above concept of the unity and union of all God's creations. The relationship between woman and man, human and nature should be free from all forms of violence and subordination, because only in the light of mutual respect and respect for nature can the harmony of God's love be fully restored. In this respect the world is the body of God, whose members work harmoniously and healthily.¹⁷⁹

Vulnerability of Women, Climate Change and Environmental (In)Justice

The United States Environmental Protection Agency defines environmental justice as:

the fair treatment and meaningful involvement of all people regardless of race, colour, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.¹⁸⁰

This definition has been criticized by proponents of environmental justice because it does not emphasize the historical burden of environmental threats to marginalized groups and does not recognize social justice and political empowerment as central goals of the environmental justice movement.¹⁸¹ Although they hold two important guiding principles of environmental justice, namely the equal distribution of environmental burdens and benefits to all people and the equal and fair participation of all groups in environment-related decisions; Schroeder, St. Martin et al. have characterised these two aspects of environmental justice as distributive and procedural justice.¹⁸² From a secular eco-feminist perspective

¹⁷⁹ Ivone 1999, pp. 76-78.

¹⁸⁰ EPA 2021.

¹⁸¹ Weiss 2011, p. 3.

it is problematic to formulate environmental justice alone or primarily distribution-oriented, or as one of the eco-feminist pioneers, Karen J. Warren, states:

I think this wholesale framing of environmental justice issues solely or primarily in terms of *distribution* is seriously problematic. Drawing on both ecofeminist insights concerning the inextricable interconnections between institutions of human oppression and the domination of the natural environment, and on feminist insights concerning nondistributive justice given by Iris Young, I argue for the two fold claim that a distributive model of environmental justice is *inadequate* and that what is needed is an additional *nondistributive model* to supplement, complement, and, in some cases, preempt a distributive model.¹⁸³

What Warren finds disturbing is the fact that environmental philosophers, policy makers and community activists who discuss environmental justice do so almost exclusively with reference to current Western distribution models of social justice. Traditionally, racial discrimination has been a central theme around which environmental justice has organized itself. More recently, however, other forms of discrimination, such as class and gender discrimination, have also gained in importance. In many cases the issues of gender, race and class (in combination with other issues such as age and disability) can overlap and interact with each other. This is what the disaster researcher Elaine Enarson claims:

exclusive categories of vulnerability — elderly or female, migrant or single mother-falsely de-gender intersecting identities and social relationships. Gendered vulnerability does not derive from a single factor, such as household headship or poverty, but reflects historically and culturally specific patterns of relations in social institutions, culture and personal lives. Intersecting with economic, racial and other inequalities, these relationships create hazardous social conditions placing different groups of women differently at risk.¹⁸⁴

¹⁸² Schroeder et al. 2008, p. 550.

¹⁸³ Warren 2019.

¹⁸⁴ Enarson 1998, p. 160.

Therefore, the application of an environmental justice framework that focuses exclusively on race or even on a single issue is insufficient to address the environmental injustices that a large part of the population faces. Environmental justice is achieved through the fair and equitable distribution of environmental burdens among the entire population and through ensuring equitable access to and participation in the mechanisms used to solve environmental issues.

Climate change is perceived differently according to race, gender, class and income level. For this reason, solutions to climate change must take an intersectional approach that prioritizes and integrates the voices of advocates of other platforms for social justice, including the reproductive justice movement. Women and women of color in particular have much to lose when it comes to climate change and their reproductive health, but they are often kept away from important political decisions and processes. As ethnographic studies worldwide show, indigenous people and women (who historically have left the smallest carbon footprint) have long been the guardians of water but were the first to be disenfranchised and remain underrepresented in historical literature. Veronica Strang sums it up:

A historical analysis of water resource management [...] shows a consistent pattern of loss of authority and ownership [...] Individuals have moved from relatively equal participation in water management through phases of disenfranchisement, first of all women and gradually the rest of the population.”¹⁸⁵

Caty Weiss research has shown that women are unduly affected by environmental problems for three main reasons: because they live longer (the increased life expectancy of women), because they are generally poorer than men (economic inequalities) and because of the social construction of womanhood (socially constructed gender roles). The interaction of these factors with forms of discrimination such as sexism, racism and age discrimination lead to social conditions that expose women to the risk of environmental injustices. These findings have the potential to inspire policies that aim to compensate for the current unfair distribution of environmental burdens.¹⁸⁶

¹⁸⁵ Strang 2004, p. 36.

¹⁸⁶ Weiss 2011, p. 1.

Even in rich, developed countries like Australia, women are likely to be disproportionately affected by environmental injustices. This particularly affects the predominantly poor women and their reproductive health. Due to air pollution, reduced access to clean water and increasing exposure to toxic chemicals, women worldwide are suffering more from the effects of climate change.

Health and well-being are directly linked to the state of the environment and are also influenced by air quality. For Research on Carcinogens (IARC, Lyon) classifies polluted air into a group of carcinogens (these substances have been shown to be carcinogenic). Air pollution caused by the burning of fossil fuels causes lung cancer, and it is likely to cause bladder cancer. There are many carcinogenic substances in polluted air, such as polycyclic aromatic hydrocarbons, PAHs, which cause cancer.¹⁸⁷

And as climate change accelerates over the coming decades, leading to changing weather patterns and rising temperatures, air quality will continue to deteriorate, posing additional threats to public health hazards and negative health impacts.

Despite physical vulnerability to temperature fluctuations (heat waves), air and water pollution, food insecurity, the link between climate change and mental health is also well documented. Berry points out that three aspects need to be considered in the causal relationship between climate change and mental health problems: the increase in post-traumatic stress disorder (PTSD) and other long-term mental health problems due to the increasing frequency and severity of natural disasters, the increased risk of physical health problems and the changing states of the natural and social environment.¹⁸⁸ Another possible factor that should be considered is the increase in aggression observed during periods of high temperatures,¹⁸⁹ which could possibly be linked to the increase in violence against women. In Australia, Fritze et al. have recognised the impact of climate change on mental health, particularly on communities that are economically and socially vulnerable or live in disaster-prone areas.¹⁹⁰

¹⁸⁷ Straif et al. 2013.

¹⁸⁸ Berry et al. 2009.

¹⁸⁹ Cheatwood 1995.

¹⁹⁰ Fritze et al. 2008.

The impact of climate change on women's mental health is generally not well documented, although some work has been done on drought. For example, a Brazilian study found that people in drought areas suffer more from anxiety, with women more affected than men.¹⁹¹ The findings of Shore, Tatum and Vollmer in a study of the 1980 eruption of Mount St. Helens support Coelho's claims, but Coelho also notes that research is inconclusive on this point.¹⁹²

In Australia, significant research on the effects of drought in rural areas has been conducted by researchers such as Margaret Alston and Daniela Stehlik, who have studied the gender experience of drought through interviews with men and women.¹⁹³ However, more research is needed on the impact of climate change on women's mental health, particularly in large cities.

Because of their vulnerability to the effects of climate change, women have unique experience and knowledge that enables them to make a significant contribution to efforts to improve climate resilience, sustainability, and changing attitudes among the major world religions, as well as awareness and attitudes towards environmental issues and nature. Therefore, women should no longer be under-represented or left out in climate change negotiations at local, national and international level, whether religious or secular.

Pope Francis and a Call for Holistic Ecology and Ecological Justice

Christian eco-feminist understanding of cosmological connectedness could be joined by Pope Francis' view, that the feeling of inner connectedness "with other created beings can only be genuine if the heart is tender, compassionate and caring for other people" for "everything is connected. There is therefore an urgent need for concern for the environment, combined with sincere love for people and a sustained effort to address social issues."¹⁹⁴ By firmly rejecting and condemning any violent and irresponsible authority of human beings over other created beings,

¹⁹¹ Coêlho et al. 2004.

¹⁹² Ibid. p. 10.

¹⁹³ Stehlik et al. 2000.

¹⁹⁴ Pope Francis 2015, p. 5.

he lays a new foundation for Christian-religious social ecological justice. In the latter it can be seen that the question of ecological justice is one of the great challenges of modern times, one that is manifold and largely indispensable for the question of social-religious justice. Although the question of human's relationship with nature has already been discussed within Roman Catholic Church, Pope Francis' encyclical letter Laudato si is considered the first and pioneering papal encyclical letter entirely devoted entirely to the ecological question and human's attitude towards nature.

In Laudato Si', Francis mentions other direct efforts of his predecessors: Pope Paul VI. - The Apostolic Letter Octogesima adveniens) and his speech on the ecological issues of food production at the 1971 FAO Conference, John Paul II. and his turning away from anthropocentrism, which he expressed in many speeches and several papers and thoughts towards pensioners Pope Benedict XVI. The II Vatican Council delegates from all over the world supported the ideas of the one and great world and life, human responsibility for it. Interestingly, these ideas were based essentially based on the ideas of the priest and paleontologist Teilhard de Chardin, who was considered a rebel in church circles.¹⁹⁵

Although Francis calls for the awareness that "everything is interconnected and that sincere concern for our own lives and our relationship with nature is inseparable from fraternity, justice and loyalty in our relationships with others."¹⁹⁶

Francis points to the close relationship between the poor and the vulnerability of the planet, and in the pollution and deterioration of the human and natural environment he sees the symptoms of social decline, the silent breaking of ties and the collapse of social community.¹⁹⁷ He agrees with the opinion Green Ecumenical Patriarch Bartholomew that "crime against nature is a crime against ourselves and sin against God.",¹⁹⁸ and calls for the urgent need to change the human self. Here again we can draw a parallel with the call of Christian eco-feminists for the urgent

¹⁹⁵ Dobravec, 2016, p. 35.

¹⁹⁶ Pope Francis 2015, p. 50.

¹⁹⁷ Ibid. p. 26.

¹⁹⁸ Pope Francis 2015, p. 2.

transformation of human consciousness, for ecological sensitization, as a consequence of an inner change of consciousness and heart, the *metanoia*.¹⁹⁹ The criticism of new patterns and forms of power resulting from the technically oriented perception of the world and the invitation to seek a different perception of economy and progress are at the centre of the questioning of socio-religious justice (for Christian ecofeminism and Pope Francis). In the foreword of the book on his understanding of social justice Pope Francis, he invites us to »change this sick world«. The hope that we can do this is “perhaps the most precious virtue of our time”, writes Francis in an introduction to the book by the Italian journalist Michele Zanzucchi Potere e Denaro: *La Giustizia Sociale Secondo Bergoglio*.²⁰⁰

Conclusion

In the context of environmental discourse, ecofeminism is placed among the so-called radical (revolutionary) green theories, alongside deep ecology and social ecology. Like all other radical green theories, ecofeminism stands for fundamental social, political and economic changes, for the changes within the whole mental paradigm. Ecofeminists therefore usually emphasise the moral critique of modern industrial societies and the exploitative character of neoliberal capitalism and consumer society. Ecofeminism requires deeper values, which in turn entail radical social, political and economic changes. In contrast to the softer approaches to environmental problems, which advocate “management and technological” solutions and focus only on treating the symptoms of environmental crises and trying to mitigate the effects of excessive intervention in nature, ecofeminism treats the environmental or ecological crisis as the result of an unethical and inappropriate relationship that humans have with nature and the environment, a relationship that is partly the result of the effects of a mental paradigm conceived by hierarchical Cartesian binary dualisms.

The power of Christian eco-feminism and its ethics of interconnectedness and relationality, its drive to put the theory of social and eco-justice into practice, is a powerful force for change. Christian eco-

¹⁹⁹ Furlan Štante 2015, p. 223.

²⁰⁰ Štefanič Mojca 2018.

feminism enhances the environmentally friendly potential of the Christian traditions and enriches it by considering critically important factors such as gender, race and class.

Therefore, the call for the voice and action of women in terms of religious eco-building and the sensitization process of religious individuals and religious communities in everyday life as well as on hierarchical levels must be raised. The discussions and joint inter-religious actions and interfaith dialogue should include questions of ecological sensibilization and ecological justice. It should be noted that the question of gender equality or the recognition of women and their prominent role, also on a formal level, is very closely linked to the question of understanding and positioning religious, racial, ethnic Other. Therefore, the key to equal recognition of the voice of women is one of the key components of a high quality inter-religious dialogue or the key to equal recognition of religious Other. Both are crucial for the transformation and strengthening of human consciousness, both at the individual and collective level, and are an important reflection of the degree of social justice of the socio-religious system concerned.

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Human Domination on Environment: An Eco-Theological Analysis with Philosophical and Engineering Approach

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Keywords: eco-theology, environmental ethics, education, philosophy, renewable energy sources, sustainability

Introduction

Humankind, who has always desired to realize and sustain natural and social existence in an integrity within the scope of basic concepts such as *justice, order, law, right, freedom and willpower* from past to present, has assumed a pathetically superior attitude towards nature, of which humankind is a part and in which the aforementioned concepts are included naturally. Instead of adapting to and facing naturality, humankind has chosen to exploit it and has become estranged from it, trying to adapt it to himself. Today, as like simply affirming Henry Kissinger's quote, "Who controls the food supply can control the people; who controls the energy can control whole continents; who controls money can control the world"; humanity unfortunately ignores its war against the nature. As a result of "competition of power" targeting authority in both international and intercontinental level; humankind tolerates the destruction of the nature and thus, probable natural disasters in line with their own benefits.

Philosophical and theological perspective

Certainly, one of the major reasons for that condition can be associated with the fact that, as Russel indicates, the majority of humanity, which can be qualified as insensitive and who proceeds by swinging a sword of authority which is their own invention, considers the nature as a raw material for themselves and also a part of human race who does not participate in active administration.²⁰¹

²⁰¹ Russel 1905.

What is missed out here is that nature is the whole itself, whereas "human" is just a part of it. The part can complete the whole, but that doesn't mean that the part, which is a particular element, can manage the whole which has a universal structure. To express it more clearly; the part is not capable of managing the whole. In other words, nature is unmanageable.

In Genesis (1:28) God tells us "to have dominion over the earth". What does it mean? We are here to care for the earth (Genesis 2:15) as God Godself cares for it (Matthew 6:25-34) and as care for us (Isaiah 46:4)!

In original Hebrew the word dominion which is (radah) means to rule in the place of God (His Garden of Eden). In the Greek Septuagint, the word for full dominion (katakyrievo – κατακυριεύω) includes the word "kyrios (κύριος)", which is the word that is used for Christ, the Ruler. So that explanation brings the clear idea that as human beings, we have to enter into God's will and rule as God would do, as following God.

As it is mentioned in (Genesis 2.15, LXX), God tells us that "we are to cultivate and keep the Garden of Eden". This literally means that humans are required to serve the earth as well as to protect it from desecration or exploitation.

Humankind does have the responsibility to care for the earth! We have to be thankful for what we have and remember that we do have our own personal responsibility to identify and adopt appropriate moral and ethical approaches for the good of the world. Therefore, humankind is primarily responsible for approaching its present condition in the face of the nature from a humanistic point of view, within the frame of consciousness, through which solutions can be generated according to common goals.

Because nature, whose basic principle is causality, clearly displays a presence which dominates humanity instead of submitting to it when embraced within its own historicity. In fact, humanity has determined living conditions according to the possibilities provided by the nature for ages. This issue, which directly takes us to an area that can be called posterity, underlines the importance of the role of education in developing social consciousness to prevent ecological impairments and to protect the nature. Also, specifically women do have a protagonist role to make people understand the concept of climate change, as they give the birth and feel the responsibility for the next generation. Greta Thun-

berg and Dr. Vandana Shiva²⁰² are only two examples of millions of women around the Earth who feel the responsibility and they take everyday actions on climate change.

We must acknowledge the failure of the humanity against the protection of nature, but also stress that the problem is basically an issue of existence of humanity itself, or in order to rephrase it, the primary issue, which is faced by the humanity, is the sustainability of the existence of the human as a being.

Now apparently, the solution offers and the prevention plans concerning this macro-level problem, which should immediately be solved by the insensible generation -that has been warned- and can be qualified as global, also should be carried out within a universal solidarity, as part of micro-level efforts and collaborations. In this context, we need to listen to what the nature has to say.

What would Nature say? What it says can be heard by St. Nilus of Ancyra (Ankara) as it is mentioned in Epistles (2:119): "Look within yourself, and there you will see the entire world"!"²⁰³ We all must confess that there is no doubt that the pollution and degradation and degeneration of the world is directly related to the pollution and degradation of our hearts! Unfortunately, we must admit that our pride and gratitude -as person, as nations and as faith believers- has been replaced with greed. And sadly, as human beings we have forgotten God and forgone our mandated responsibilities. Instead of keeping and saving our gift that is given by God, we heedlessly take everything from earth and needlessly waste its sources. Instead of focusing the real meaning of Garden, which implies an expectation that we are to share the things of the world with those who are suffering, with those in need. We must have concern for the good of humanity and the entire creation by ignoring our greedy expectations which will have negative effects on upon the life of our neighbours and life of the world. Here we need to remember God's first and second greater commandments. We must love our God with all our heart and soul and mind and strength (Mark 12:30). But how can this be possible if we show no love and mercy neither for nature itself or nor

²⁰² Shiva 2015a. and Shiva 2015b.

²⁰³ Nilus of Ancyra 1860 [4th-5th century].

for the people we live with. God commands us to Love your neighbour as yourself. (Mark 12:31). Furthermore, as creation proclaims the glory of God (Daniel 3:56-82) and as creation reveals the nature of God, we have to be aware that disrespectfulfulness of nature is equal to disrespectfulfulness of God.

1 Peter (2:5) mentions that we should consider that each person has a priestly responsibility before God -to offer back to God that which belongs to God. We have to serve God in the way that God thought for us, with love. We have to serve our God, because God loves us and believes in us, believes that we can live through Him (1 John 4:9). Because He loves us and has sent us His Son (I John 4:10), as God is love (I John 4:8). God's Gospel of Love (agape) teaches us that our response to welfare of our neighbour and respect for the creation are expressions of our love for God. So, as it is mentioned previously, we all personally responsible to identify and adopt appropriate moral-ethical and technical approaches to the changing conditions of the world.

It is important to embrace nature within its own history and to consider the rights of the next generations, according to the today's conditions. One of the basic elements is education, which can guide society correctly. Education will serve for the right awareness of the society and at the same time ensure the solidarity of the people, for the common purpose. Education will keep society's awareness at the highest level in terms of the severity of the situation. Thus, the precautions and solutions which have to be taken will be realized on a more cognitive level.

Considering today's conditions, the main issues that need to be addressed within the general framework of education are environmental pollution and exploitation of nature, which lead to climate crisis. Again, in this scope, we can list the solutions that need to be emphasized in direct proportion to the causes of global climate crisis as: consumption at the level of need, reduce of carbon footprint, renewable energy sources, and tree cultivation.

By following this scope, educational areas that need to be emphasized in direct proportion to the causes of Global Climate Crisis are the following²⁰⁴:

²⁰⁴ Des Jardins, 2012.

- The assimilation of dialectical comprehension based on the Eastern Philosophy²⁰⁵ for a contextual, pluralistic, inclusive and holistic understanding of ethics.
- Empathy to develop pluralistic and inclusive ethics.
- Adopting an ecocentric worldview based on ecofeminism²⁰⁶ to develop a contextual ethics.

A case which can be analysed further as an example, is the water issue, from the theological and philosophical approach. In the Bible, water is a symbol for the Word of God. (Ephesians 5:26, John 15:3, Psalms 119:9, I. Peter 1:23-25, James 1:18). In ancient times the first philosopher of nature Thales had seen the water as the main initial substance (*arkhé - αρχή*) of nature itself, by also comprehending its divinity. Even though water is extremely important and it has been analyzed since the ancient times, nowadays we are facing issues of severe water pollution of oceans, rivers, lakes, etc.

Scientific-engineering data and good practices

The 5-year period from 2015 until 2019 is the hottest on record²⁰⁷ and the NASA observations²⁰⁸ verify that the anthropogenic emissions do affect significantly the global climate. It is important to mention that the extent of Arctic sea ice at the end of the 2019 was effectively tied with 2007 and 2016 for second lowest since modern record keeping began in the late 1970s.²⁰⁹ At the same time, we face extreme weather conditions everywhere on Earth: all-time record heat in Anchorage, Alaska, snow in the Sahara Desert, extreme fires all over the world and floods even in places which normally have serious water shortages, like Saudi Arabia. Even locally, cases of abnormal weather conditions are today an issue that all the humans face.

In order to detect the major sources of pollution, a characteristic study

²⁰⁵ For further information on Eastern philosophy see: Yazgan Yalkın 2017a; 2017b; 2015.

²⁰⁶ Mies and Shiva 2014.

²⁰⁷ WMO 2019.

²⁰⁸ NASA 2010, NASA 2021.

²⁰⁹ NASA 2019.

by the European Environment Agency (EEA), points out that the power plants (especially coal-fired) are responsible for the largest amounts of key pollutants released into the air²¹⁰, so emphasis should be placed to the production of energy all around the Earth.

An example of good practices is the Orthodox Academy of Crete (www.oac.gr), which is a Research and Conference Center with over 50 years of service, based on the ideas of Platon Academy and "sympilosophein". The OAC has installed a 50kW_p photovoltaic facility with an annual production of 75 MWh, which reduces the CO₂ emissions by approximately 50 tones and can cover up to 80% of OAC's daytime energy needs. The OAC's PV is used as a model in order to demonstrate a new way of covering the energy needs, by adhering to the principles of sustainability.

Furthermore, the OAC includes a Museum of Cretan Herbs with over 6000 species and natural stone pathways, which help the young generation to understand the value of the nature.

Also, the OAC is offering educational programs with the title: *Interactive – Experimental Paper Recycling Laboratory with Introduction to Renewable Energy Sources and Sustainable Resources Management*. This lab explains to children the meaning of having respect towards the environment and denying unnecessary consumption of natural resources. As the best lesson is given through practice, the lab is organized in a way that the children observe the process of recycling and participate in practice, enhancing their ecological awareness. Additionally, the OAC organizes scientific Conferences on topics that deal with eco-theology/philosophy, social economy, energy democracy and cooperatives. In all the OAC's activities sustainability is a priority by achieving maximum possible savings of energy and resources, together with recycling and in-house production of organic compost. In order for the best possible results to be succeeded and for the carbon footprint to be reduced, this way of living is disseminated both internationally and locally, together with specific volunteering actions, such as tree planting. A new sustainable life philosophy is being introduced to all the OAC's visitors.

²¹⁰ EEA 2017.

Also, especially the countries of the Mediterranean like Turkey and Greece both have the privilege of having long sunshine durations, so photovoltaic installations should be introduced widely in both countries to become more environmentally friendly. The establishment of energy communities should be promoted widely in both countries in order for the people to cooperate with each other, for the fair energy transition to take place and for the entire life philosophy to be changed with respect to the nature. Furthermore, mosques, churches, schools and every building can be powered by solar energy without any local production of emissions. Even mass transit can be powered by renewable energy sources in order to achieve a sustainable future for the next generations, too. Cooperation is necessary in order for this revolution to take place for the good of the humanity, and to face climate crisis.

Conclusion

The climate crisis is a reality that every human being is facing nowadays: extreme weather conditions, catastrophes and unstable situations.

Philosophy, Theology and Engineering should cooperate to make the people understand the importance of respecting the nature and apply realistic solutions. A simple, cooperative way of life should be promoted instead of egoism, in every stage of life. Less consumption, less resources and more education can be a key to a brighter future.

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Laudato Si' Encyclical: Entropy, Life and Revelation of John

José Cardoso Duarte

Keywords: Entropy, Life, Encyclical, Revelation

Introduction

This is not a study about the science and theology of the Laudato Si' Encyclical, but rather an extraction exercise to look under the surface of its writing and the basic ideas in it, for ideas such as climate change are likely accepted by almost everybody, regardless of their faith. Conversion would be easy if people became active only with a moment of emotion. But true conversion requires a profound personal involvement. Instead the common attitude of most people is to "believe" that changes may arise without drastic alterations of their lifestyle and mind (or just with minor adaptations).

However, the changes needed in our individual and social life (economy included), and the appeals in Laudato Si' are deeper and more drastic than they might look. There are serious consequences if nations and citizens do not find collective and concrete answers to the most critical and problematic questions that dominate the Pope's personal reflection and exhortation. The most fundamental problem raised has to do with life on earth, or on a deeper analysis, as we will discuss with Life, the Life that is a gift of God beyond the mere biological life. Today we may say that life is in danger, but we need to be clear which life is in danger and what and who is endangering it. These are questions that the encyclical raises and it also demands that the readers engage with these questions in searching for answers. These answers may not only be for those concerning solutions for the problems of environmental pollution and biodiversity loss, or even the suffering of the poorest who are the first to suffer from the catastrophes. These answers might be more important with regard to the degradation of humankind's spiritual life, our "true" Life, meaning the Life that we receive from God that has nothing to do with the biological life that we receive from the world.

Looking for answers we need first to understand the “change” that is transforming our modern societies, based on the new techno-scientific paradigm which is taking the place of our traditional values based on the Christian faith. This technologically minded society is based on the astonishing development of techno-science and is associated with capitalistic and consumeristic values, which are the base of the new cults of modern liberal societies.

This paradigm shift is rooted in the Galilean reduction for nature description as an ensemble of geometric figures that can be described by quantitative measurements from which nature physical laws can be derived. Concomitantly it is the corresponding disregard of the “sensible” aspects of reality: the materialistic, geometric, view of the natural world has taken over other views of life, therefore devaluing all other aspects of physical and spiritual reality. The technical success of the Galilean reduction led to an unprecedented capacity for exploitation of natural resources and associated population growth and wealth, at the cost of natural systems steady, sustainable, equilibrium, leading to the devastating consequences that we are facing today.

In my view, the Encyclical presents the dramatic confrontation of these two “realities”: human growth and greed that are cause of disorder and disruption of nature and society, meaning entropy increase, and the “faith” in the voice of Jesus, the Word of God, that calls us to listen to the world of truth, the “true world” that we must find in “ourselves.” In our approach here we will consider Life as a quality of human beings given by God but will not discuss much about life as a biological product of evolution, as part of the earth system. Although the two are interconnected in this physical world, we assume that the future of bio-life is connected and dependent on the “survival” of our true “phenomenological” Life.

Entropy and Moral Law

The world of entropy, the physical world including humans and all other beings in it, is a “historical” world and Universe. “Historical” here means that is an evolutionary world: everything in it is subject to time dependent (irreversible) evolution, including the proper world and even the Universe. Universal evolution has its own laws but the most fundamental is the Entropy law, a mysterious law, not yet fully understood.

The entropy law states that in a closed system, any transformation that occurs increases the entropy of the system. Therefore, no evolution would be possible if a source of entropy is not available. The principal source of entropy on the Universe is the photons produced in the stars.²¹¹ For Universal evolution and for life to continue, the existence of sources of entropy is absolutely essential. This underscores the importance of new discoveries such as Hawking's radiation of black holes which makes these the great source of entropy for the aging Universe.²¹²

Every time we discover a new source of entropy we push further away the fatal end of the Universe predicted by the second law. It means, in general, that the Universe as a whole has an intrinsic law which states that the Universe will evolve until an equilibrium state, when the entropy will be maximised. Equilibrium, as in a chemical equilibrium (of a chemical reaction), is the state of maximum entropy (and disorder), and because of that, entropy is associated with this concept of homogeneity and intrinsic disorder. It is why biological life can only exist far from equilibrium due to the intrinsic capacity of matter to create non-equilibrium, "dissipative" structures. As the Nobel Prize winner, I. Prigogine writes, a simpler example of a dissipative structure is a town: a town differs from the field that surrounds it; the roots of this individualization are the relations established between the two. If we suppress these relations, the town would disappear.²¹³ Therefore, keeping a dissipative structure, such as biological systems of life, is only possible at a cost, for total "useful" energy must decrease and nutrients must go to depletion, both due to entropy law.

Entropy may be considered a measure of the information contained in a system and the increase of entropy (the second law of thermodynamics) corresponds to a loss of useful information which can be also considered an increase in system disorder. Left alone, a closed system will evolve for a state of maximum entropy with maximum disorder. When we lose a living species, we are losing important information about biodiversity; when we pollute water, we need to spend useful energy to recover the quality of water. Both examples demonstrate an increase in entropy of the world (the

²¹¹ Reeves 2019.

²¹² Idem.

²¹³ Prigogine 1994.

Earth System) and therefore a “degradation” of available information. At the end, we may face a situation where we will have difficulty maintaining an eco-friendly and steady environment since changes caused by entropy increase will be faster than our capacity to adapt and evolve, even with all the technology and science at our disposal. Life on earth has been possible due to the steady supply of energy by the sun; it is this supply that allows living systems to be kept far from equilibrium.

We can visualise this thinking by looking at a compressed gas cylinder: to keep it under pressure a valve system must be used; when the pressure valve is opened the gas will dissipate away and its power will be lost (obviously we can use part of its energy to do useful work but other part will be lost forever). This was well recognised many decades ago when it was demonstrated that essential nutrients for our survival will, at some point, and most probably during this century, become limited, so long as population continues to grow.²¹⁴ Other devastating aspects of the entropy law can also be dangerous for our living and survival, such as atmospheric and water pollution and the consequential rise of atmospheric and sea temperatures which are responsible for climate changes. Human societies will face structural dangers from “entropic” generated catastrophes as it is the case with climatic changes.

A recent publication of a study on the “Future of the human climate niche” demonstrates the potential dangers resulting from geographical, ongoing temperature rise.²¹⁵ The work evaluates the impact of a rise in the MAT (mean annual temperature) of the narrow climatic envelope, where for millennia, human populations have mostly resided, and where most of the production of crops and livestock occur. A rise from the actual 13° (MAT range from 11° to 15°C) to the projected 20°C in 50 years (2070) in a business-as-usual scenario, would mean that 1 to 3 billion people would be left outside the climate conditions in which they have grown crops, and which have (well) served humanity for more than 6,000 years. As a consequence, people will have to adapt to the new circumstances or migrate to new territories. In any case, we can anticipate drastic losses and changes of several kinds. However, not only climatic changes will be

²¹⁴ Meadows et al. 1972.

²¹⁵ Xu et al. 2020.

critical. Social evolution will face pressures on which economic model to adopt in order to answer the new paradigms of resources exhaustion and climate change.

The most successful way of economic living developed mostly during the last century, market capitalism, will continue to dominate until profit law is no longer applicable because of the exhaustion of resources and critical social unrest. This means that the adverse effects, exploitation and inequality, both at natural and social level will only be aggravated until then. As a consequence of these interactions, climatic change, limitation of resources and capitalistic exploitation, all of which cause an increase of entropy, population growth must come to a stop at any time, most likely during this century, bringing with it devastating consequences. We already know that the actual consumption of energy and resources is, at present, far beyond the actual capacity of the planet Earth.

The increase of Entropy will certainly be translated into famines, social disorder and eventually wars, unless a common solution of a steady, environmentally and socially sustainable state of growth is accepted by governments and citizens. Moral law, the law of good against evil, of right against wrong, of love against hate, it is the only solution to avoid a global disaster that could well be the end of humanity on earth. Similar to the fact that only the energy from the Sun is able to maintain the biological life on earth, only a moral power, based on a transcendent God is able to maintain Human Life forever. Christian mission offers us this salvation. Only rooted in a Christology that calls us to accept our common humanity as "children of God", do we have the chance to achieve eternal life, even after Entropy, on its irreversible and fatal path, rules out any form of biological living on the planet and elsewhere on the universe. Laudato Si' calls on all humanity to "understand" this fragility of our human and physical world and to "understand" how an Integral Ecology, rooted in human spirituality and love, is a promise for humanity's survival. For otherwise, we will be unable to survive the course of entropy to disaster.

Entropy vs Life: The two world theory.

Let us then look to Jesus Himself, who claimed for a divine nature as revealed by the gospels. We will look at only a few of the many sentences on the gospels when Jesus claimed to be not only the envoy of the Father (the expected Messias) but much more than that, the Son of God. These

constitute some of the most surprising words of Jesus: “No one knows the Father, only the Son” (Mt 11:27), “I am in the Father and the Father in me” (Jn 14:10), “The Father knows me and I know the Father” (Jn 10:15), and “No one comes to the Father except by me” (Jn 14:6). How can this radical “revelation” of Jesus be understood and how does it affect the understanding of our life in this world? On one side we have the world of physics, our physical world, where we live our biological lives, a world dominated by entropy that brings uncertainty to our future. On the other side we have the “world of Jesus,” that said “my [Jesus’] kingdom is not of this world” (Jn, 18:36)! Which of these two worlds do we consider when we refer to our world? What did Jesus meant by “His world”? Let us think about the following phrase of Jesus: “My task is to bear witness to the truth. For this I was born; for this I came into the world” (Jn 18:37). These words of Jesus tell us about the essential property of the “world of Jesus” which is “truth” or to “be true.” In a world of truth there is no place for entropy, as entropy by definition is a measure of the incomplete information about a system. If you know the truth, you know everything that can be known and therefore the entropy has to be zero and cannot rule. Jesus came to be witness to the truth, telling us that a world of no entropy, of truth, exists “and all that are not deaf to truth listen to my voice” (Jn 18:37). How then, do we take these two worlds, the natural world of entropy and the world of Jesus, the Word of God, into consideration when trying to find solutions for the problems that humanity and the physical world are suffering?

If we look inside the Encyclical, we find many relevant bibliographical references to church faith and social work, including the pioneer work of Patriarch Bartholomew, together with many scientific based works about the “state” of our physical world. But how much is mentioned in the Encyclical about the “other” world of Jesus? Can it bring the solution to our ecological and environmental problems faced by our entropy dominated physical world? First, let us look at how frequently the words of Jesus are directly cited in the encyclical text. We find that there are a number of significant references to the Jesus of the gospels: 16 in total, 8 of which are from Mathew, 2 from Mark, 3 from Luke and 3 from John. They are the cornerstone of a Christian reading of the Encyclical since they appeal to the revelation of Jesus as the Son of God, or as John calls Him in the Prologue, the Word: “The Word, then, was with God at the beginning, and through him all things came to be; no single thing was created without him.” When

John puts faith in Jesus Christ in these terms, we are left with no alternative about the realm of nature and in particular its ecology, defining what we could designate by an Eco-theology or more precisely an Eco-Christology. John calls world to the World of Jesus Christ, the Word of God.

Life is Truth

How can these two realities coexist in the same world? By the criteria of Truth! In a way, truth and light, or “*illuminatio*,” can be considered equivalent. However, we have to be careful when considering the light of this visible world as a criteria for truth (and trust), since in that context, things are seen on an horizon of visibility that is hiding the true light that comes from the Word as referred on the Prologue of John: “and that life was the light of all people” a light that “shines in the dark”. Entropy and Truth can therefore be the two opposing characteristics of this Two-World theory. Entropy that leads to death and Truth that leads to Life (Life, meaning the Life that comes from God not the biological life of entropy)! Therefore, the invincible force of the light of the Word, Jesus Christ, is opposed to the light of this world (similar to entropy). As Jesus himself said to his disciples, “While I am in the world I am the (true) light of the world” (Jn 9:6). This is the opposite of the darkness that is brought about by sin. Therefore, sin is equivalent to expelling the light of Jesus. Light vs dark, Life vs sin, are therefore realities of the domain of the invisible Word (of Truth) rather than of the visible world (of Entropy). It is sin that causes all the evil things to happen in the physical world: envy, war, ignominies, exploitation and depredation of humans and all other living things, pollution, climate change, etc. To the contrary, the invisible world where Jesus Christ lives, His “Kingdom”, is in His own words, a world of Truth and (eternal) Life.

How and where can we find, in our lives, this invisible Kingdom of Truth and Life? In the secret of our heart, as Jesus said, is where God sees us more deeply than we can see ourselves. To sin is to try and expel Jesus (God) from our heart. To sin is to try and hide from God, so God cannot see and judge our hypocrisy. Hypocrites, as Jesus called the lawyers and Pharisees (Mt 23:13) because they “shut the door of the kingdom of Heaven in [peoples’] faces; you do not enter yourselves, and when others are entering, you stop them.” It is therefore not by chance that the word “heart” is repeated 20 times in this Encyclical which is as many times as the name of “Jesus” is invoked. These are only surpassed by the name of “God,” which

is cited 158 times!

When we expel God from the heart, it is like a desert that we create inside us, and we forget our claiming as children of God. This condition of being “children of God” is generated out of the love between the Father and the First-born, the Archi-Son, on the eternal, archi-generation of Life (Jn 1:1-4). This phenomenology of “children of god” was consistently developed this century by the French philosopher Michel Henry.²¹⁶ In his phenomenology of the invisible Life, Henry lays out the key for the interpretation of the essential message of Christ who comes to remember us for our dignity and condition as children of God and offers us salvation, the eternal life. Henry developed his phenomenology of “life” joining the concept of truth to that of Life; we call Life to what creates itself without any outside intervention and that is able to live by itself.

With his phenomenology of life, Henry offers us a key for “understanding” the teachings of Jesus for our lives and the identification of “truth” and “light” with our invisible “life” that is no other than that of Jesus: “I am the way, I am the truth and I am life” (Jn 14:6). Where can we find these three essences, Life, Truth, Way, other than in the One that can offer the auto-genesis (Ipseity) of Life, the only One that can give birth to something like an Individual that can make us as a Living I?²¹⁷ Only Jesus Christ and His teaching offer this revolutionary and radical interpretation of truth as life and the way to them, as life itself. Christ came to remember us of our true identity as children of God, children in the Son. Only this filiation of God can offer the key for the radical transformation of our Humanity to save ourselves and save the world where we live; this is, after all, the Theology pursued by the L. Si` Encyclical or rather an Eco-theology.

The Book of Revelation

The Book of Revelation is the most symbolic of the books of the New Testament. When one wants to talk about the future one has to use symbolic terminology. As a whole, the Book of Revelation describes the battle of the future, taking place from the death and resurrection of Jesus Christ to His final victory and Coming, which will mark the end of history. This

²¹⁶ Henry 2002a.

²¹⁷ Henry 2002b.

period is the period of the fight between Evil and Good, between the Devil and its allies against Jesus Christ. At the end, the book of Life will be opened for the final judgement and “a new heaven and a new earth will rise for the first heaven and the first earth had vanished, and there was no longer any sea” (Rev 21:1). This Revelation it is always about us and our time.

“I am the Alpha and the Omega” says the Lord God (Rev 1:8) to introduce God’s revelation, calling Godself as the eternal One, the Eternal Life, the one that reveals Godself to Godself. However, in the book of Revelation we discover a confrontation between “two worlds.” We are faced with prophecies of the earth and its inhabitants, a danger of annihilation (as by nuclear war), and we are taken to the most transcendent of scenes by contemplating the river of crystal that flows from the proper God.²¹⁸ It is the only gospel about the future, one that sheds light on our present time, our own position in history and that of our earthly home. The force that drives history, as seen in Revelation, it is the battle between God and Evil; if we are able to read it with the proper key then we can learn about how to act and live today, in the present. Therefore, the fact that the Encyclical includes three citations from Revelation is of fundamental importance.

It is now time to attempt to “decipher” the importance of the three references to the book of the Revelation of John that appear in the Encyclical.

The song of the Lamb

The first citation comes in chapter II, “The Gospel of Creation,” under the heading “The wisdom of the bible narratives” (paragraphs 65-75) and just before the section, “The mystery of the universe,” functioning as a bridge between the two sections. It recalls “The song of the Lamb” (Rev 15:3-4):

Great and marvellous are thy deeds, O Lord God, sovereign over all; just and true are thy ways, thou king of the ages. (...) All nations shall come and worship in thy presence, for thy just dealings stand revealed.²¹⁹

²¹⁸ Lourenço 2017.

²¹⁹ Pope Francisco 2015, paragraph 74.

This citation refers to the People of God that suffer the ravages of history, such as in the Babylonian and Roman captivity periods and can only find hope for the future by turning again to the Lord, putting on the Lord their confidence in the final victory. In Revelation, this song comes announcing the visions of the end and after the conquest of the powers of darkness. The song accompanies the ceremony of the departure to Earth by the “seven angels with the seven plagues.” This is a kind of devastation of the enemy forces in order to prepare for the final battle. As Francisco puts it, “therefore injustice is not invincible.” A parallel can be established with the ecological damage that the Earth is suffering and the identification of human devilish activity in sin, luxury and corruption. Humans have forgotten about God and spiritual life. They are under the power of the “beast,” except for those saints who keep their faith in the Lord, who will not abandon the Lord’s creatures.

In the Encyclical, Pope Francis closes this section by proposing our return to the symbol of the Father, the creator and only master of the world (paragraph 75), without whom, peace among humans will not be possible. Creating harmony in society and in the natural world is only reached by recognizing a common Father of humans, not a metaphoric one, but the only one that is effectively true; the one that can give us true life, not the life that the world gives: “I have come that [people] may have Life” (Jn 10:10). Life means Truth and the Way to achieve it is Christ: “No one comes to the Father except by me” (Jn 14:6). We can only find a common Father if we know the way.

A Portent in Heaven

The second citation comes by the end of the Encyclical: “Next appeared a great portent in heaven, a woman robed with the sun, beneath her feet the moon, and on her head a crown of twelve stars” (Rev 12:1).²²⁰ This passage of Revelation marks the preparation for the victory of God over Evil, the end of the power of darkness, by announcing the pregnancy of the woman “robed with the sun” that could not be stopped by the red dragon that was preparing to devour it. Her child was destined to rule all nations and to sit at the side of the throne of God. In the Encyclical, Francisco sees

²²⁰ Ibid, paragraph 241.

this woman as Mary, the Mother of Jesus, and caretaker of all of the suffering of mankind as she suffered during Jesus' Passion, elevating her to the position of Queen of all creation. By taking this role she is in possession of the "meaning of all things" and she can help us from inside the heart "to look at the world with a more wisdom look." Pope Francis demonstrates here an essential role of Mary, mother tenderness, which is to care for people and the world.

This is a mysterious signal, which could be linked to the many "Marian manifestations" all over the world, such as the visions of Fatima (Portugal) and the so called "sun miracle" of October 1917. Both these signals, in Revelation and these manifestations, point to an eminent disaster situation of the earth and humankind (as signaled by the devouring dragon) that may only be avoided by "divine" intervention calling all people to accept God's lordship and act accordingly. In this respect, the pregnant woman may also be associated with our Mother Earth, our common home that is pregnant with life, ready to receive the Child that must come to save us, confirming the Christian belief of a second and final coming of Christ. This apocalyptic interpretation could not be evidenced directly by a text like this Encyclical although it can be "guessed" by the internal citation of the Revelation of John. The introduction of this citation just before the closing of the Encyclical, though it comes earlier than the first citation (The song of the lamb) of Revelation, evidences the belief of Francisco that Mary, by her participation in the coming on flesh of Christ that came to redeem us, is also participant in the final redemption of all creation. Most of all, this citation asserts the essential role of Mary, as a guiding light for the history of salvation of humankind, as Mother of the Church and Queen of all created.²²¹ This citation from Revelation is the best source for this assertion.

Making all things new

Finally, the third citation comes at the end of the Encyclical, as a closing:

Then he who sat on the throne said, "Behold! I am making all things new!" (And he said to me, "Write this down; for these words are trustworthy and true. Indeed they are already fulfilled"). "I am

²²¹ Ibid.

the Alpha and the Omega, the beginning and the end (Rev 21:5-6).²²²

For Pope Francis, this is the key that closes the Encyclical teachings and opens the “mystery of the Universe” on the way towards the “Sabbath of eternity, the new Jerusalem, towards our common house in heaven”. Making things new is simply restoring them for Life, restoring the information that was lost, bringing back into the source of all information. This can be none other than God, the One that it is the Archi-Life that constantly generates itself. By recalling this, the Encyclical reinforces its point that it is not the technological solutions or scientific developments that have the solution for the human and environmental crisis, even though they are responsible for it, but rather the solution is dependent on the return to our common Father, “our Father in Heaven” (Mt 6:9-13). More than a chart for saving the earth, the Encyclical is a hymn to God, The Father, the Son and the Holy Spirit. Without God there is no hope for humankind and restoration of this world. This will happen only if humankind accepts God as dominion of all things “old and new;” not that God alone will save the earth, but that without God, our human civilization will be condemned to extinction.

Conclusion

This trilogy of citations of the book of Revelation represent, in my view, the key for reading the Encyclical and for recognizing the Ecotheology in it. This reading reveals much more than an ecology of the world; it reveals an ecology of the human soul, an ecology for restoring our true life, that constantly springs from the Word. Only the phenomenological Life, transcendental, absolute and singular, which is able to reveal herself to herself, on her pathétique auto-affection, without having to pay anything to anyone or anything else, may define human reality as phenomenological in her essence.²²³ We are invited into a new reading of the Revelation Book of John, to renew our biblical hope that “gives a meaning to our ecological struggle for another possible world, which is our human response to God’s gift of salvation.”²²⁴ We present in this work the concept of a “two-world”

²²² Ibid, paragraph 243.

²²³ Henry 2000.

theory, based on the “Phenomenology of Life” of French philosopher, M. Henry. As he states “the phenomenological intuitions of Life meet those of Christian theology on the recognition of a mutual conviction that is not that of reason” (Incarnation, see above). “Before reason, before the world appears and the deployment of its intelligibility, shines the Archi-intelligibility of the Absolut Life, the Parusia of the Word, permanently embraced” (idem). Only a two-world concept can harmonise the entropy driven evolution of life on Earth with a spiritual evolution driven by Christ. A confrontation between these two worlds is inevitable and always present, and only our human positive response to Christ can turn this confrontation in our favor during our lifetime. Even if in the long run the entropy world will come to an end, we are left with this biblical hope for our eternal life in God’s Kingdom, where Jesus Christ has prepared us a place (Jn 14: 2-3).

The Laudato Si` Encyclical comes though as a new Blueprint for the survival of humankind. It comes even more so as a chart for restoring the social and cultural evolution of humanity at risk: pollution, loss of biodiversity, famine, illness, poverty, social disruption, war, all of which can be considered as a loss of useful information, just like a virus that destroys complex life. Restoration can only come through Christ, the Word of God, the One that “makes all things new,” the one that can recover the lost condition (information) of children of God, and afford us Life, the eternal Life of God. The philosophical and religious base of the problem is clear regarding the root of the problem with the evil condition of our humanity: it is when humanity no longer listens to the voice of God that speaks to our heart and soul, in a word, the “sin” of humans. This sin is not alone the original sin but rather a modernised version of it, a rewrite of the Revelation of John. Among the conclusions of the recent Synod of the Pan-Amazon region (26 October 2019) is the introduction of the concept of ecological sin:

We propose to define ecological sin as an action or omission against God, against one’s neighbour, the community and the environment. It is sin against future generations.²²⁵

²²⁴ Raluto 2018.

²²⁵ Synod of Bishops. Special Assembly for the Pan-Amazonian Region 2019, para

This understanding might be introduced in the Catechism of the Catholic Church.²²⁶ as revealed by Pope Francisco on his address to participants at the World Congress of the International Association of Penal Law, 15 November 2019). Ecological sin and ecological conversion become the two faces of the same coin, the coin of our “redeemed humanity.” But ecological conversion and integral ecology are worldly concepts that are insufficient if not rooted on God’s *world of Life*.

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²²⁶ Pope Francisco 2019.

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Ecotheological reflections in the Evangelical Lutheran Church of Cameroon

Tom S. Tomren

Keywords: African theology, missiology, ecotheology, ancestral landscapes

Introduction

This article is the second of three articles dealing with the ELCC's environmental work. In the case study *A central African church goes green* (2021), I set out how the Evangelical Lutheran Church of Cameroon (ELCC) has begun to involve itself in environmental issues, and how this involvement was inspired by international ecclesiastical discourses and relationships. In this follow-up article I will go one step further, analyzing and discussing whether the ELCC's ecotheology fits within international ecotheology and its own context. In a third article, which comes next in this book, I will analyze and assess the impact of the ELCC's practical environmental work.

The question that I will answer in this article is the following: What characterises the ecotheology introduced in the ELCC, and to what extent is it relevant to the (central) African context? First, a brief account of the academic tradition — ecotheology — that this analysis is based on.

The concept of ecotheology refers to the interdisciplinary field covering theological disciplines such as dogmatics, ethics and practical theology, which often also applies insights from biology and social science. According to Susan Power Bratton, ecotheology has a pragmatic aim: to help Christians to achieve ecologically sustainable ways of thinking and acting.²²⁷ These analyses will focus on systematic ecotheology, practical theology, church history, ethics, sociology, political science and organizational theory. These texts are ecclesiastical and have a normative

²²⁷ Bratton 2002: <http://oregonstate.edu/dept/IIFET/2000/abstracts/bratton1.html>, accessed 21 October 2008

aim and are thus related to what Bratton refers to as ecotheology. When I refer to ecotheology in this article, I am referring to academic and ecclesiastical discourses on the weaknesses and strengths of various ecotheological motives and models.

Two other academic disciplines relevant to this article are *missiology* and *African theology*.

Missiology because it deals with how the ELCC — a classic mission church — has integrated impulses from missionaries and the worldwide church, and African theology because it illustrates how Christian theology is contextualised in Cameroon.²²⁸ Since we are studying the theology of a mission church and its environmental project, funded by the Norwegian Mission Society and American Sudan mission, it is natural to view this case study as a study of more recent missiology and African theology.

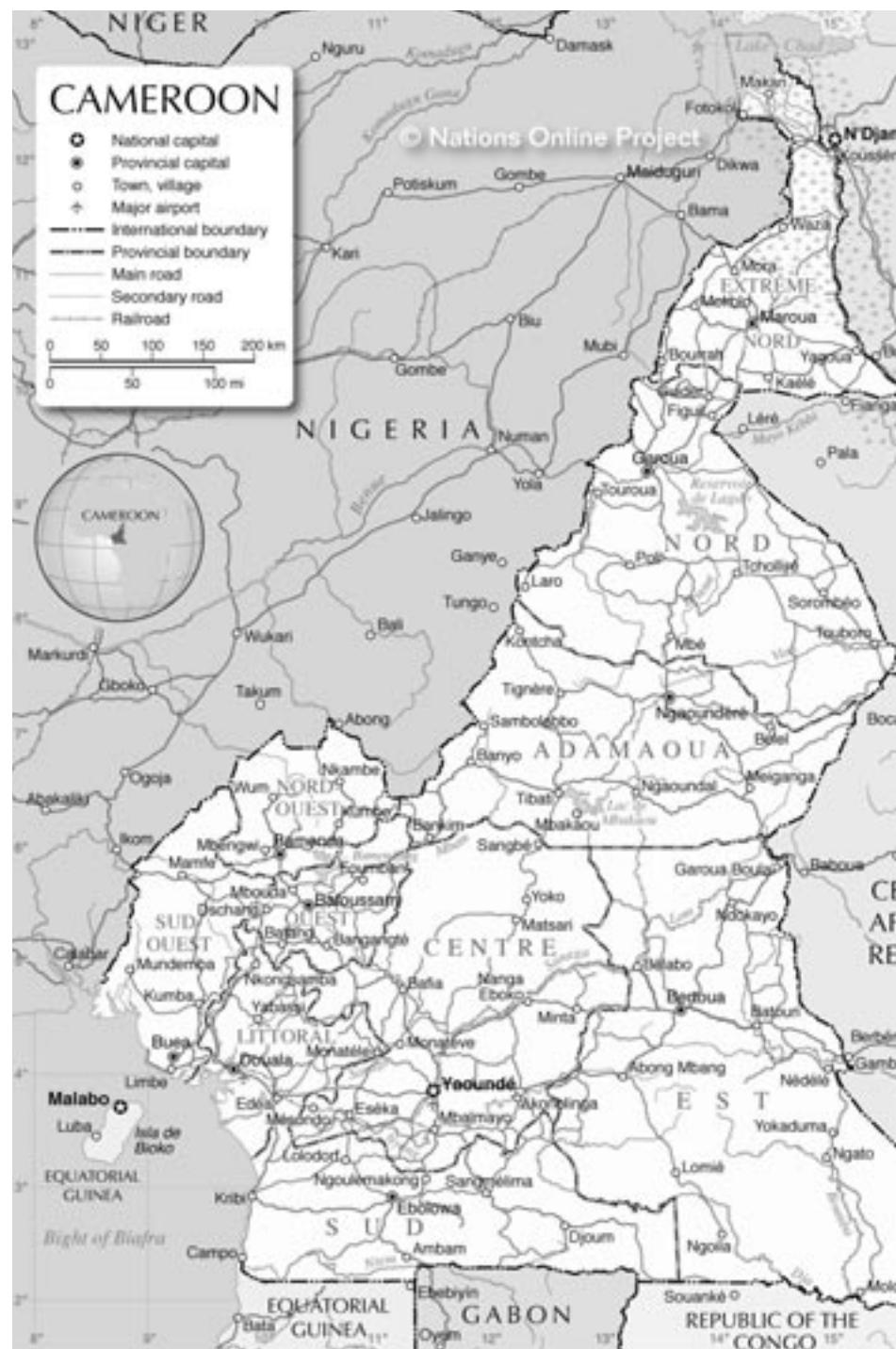
The data and texts on which the analysis is based take the form of reports and minutes, qualitative interviews, e-mail correspondence and field observations by me and others. According to Silverman, the four main qualitative research methods are observation, interviews, transcription and text analysis.²²⁹ The underlying data is thus suitable for qualitative research methods. Here, the methodology is a combination of text hermeneutics, qualitative interviews and field studies. The methodology employed is one where several methods are combined to create a broad representation of the topic being researched and is known as triangulation.²³⁰

My interest and involvement in the ELCC's environmental work began when I worked as a missionary in the church between 2007 and 2011. Since then I have been a regular lecturer in ecotheology at the church's theological seminar, *L'Institut Luthérien de Théologie de Meiganga* (ILTM for short) and at the *Protestant University of Central Africa in Yaoundé* (PUCA). The benefit of my extensive experience of Cameroon and the ELCC is that it gives me access to sources and data that may otherwise have been

²²⁸ A *mission church* is a church that is not locally self-supporting but that depends at least partially upon the support of mission funds from the larger religious organization that established it.

²²⁹ Silverman 2011, pp. 42–44.

²³⁰ Silverman 2011, p. 369 and 384.



difficult to access. The disadvantage is that, from time to time, situations arise where it may be difficult to assess the impact of the work of actors with whom I have a close relationship and that I have myself occasionally participated in.

In order to ensure that the analysis is verifiable, it has been submitted for review to theologians and academic experts who are highly familiar with the ELCC. The project has also been registered with the Norwegian Centre for Research Data, which means that I am obligated to comply with the ethical research standards of the Research Council of Norway. On the Cameroonian side, the principal of ILTM has given me written permission to conduct the project.

Before I begin to present and analyse the ecotheology of the ELCC, a brief introduction to the church and its history is for the benefit of those unfamiliar with it and its context.

Brief background for those unfamiliar with the case study church

The ELCC is a Lutheran church in central Africa with around 350,000 members and 1,500 congregations across ten regions and 86 districts covering large parts of Cameroon. The church is almost 100 years old. The first US missionaries from the Sudan Mission (subsequently ELCA) arrived in Cameroun in 1923, while the Norwegian Mission Society (NMS) arrived in 1925. The ELCC formally became an independent church in 1973. From a historical perspective, the church is thus the product of Norwegian and US missionary work, meaning that it can be referred to as a mission church.

The church has its headquarters in Ngaoundéré, the capital of the Adamawa region, in what was once western Africa's largest mission station. The ELCC has been and remains a key stakeholder in *social* development in the Adamawa region and has been instrumental in developing the school system and hospitals and building churches. The church also has a history of working with marginalized and vulnerable groups. It has run well projects and agricultural projects in the past and began its involvement in environmental and climate issues around 1990.

Ecotheological motives and models in the ELCC – analysis and assessment

As we begin to examine the ELCC's ecotheological motives, it makes sense

to start with the most basic expression of the church's identity and mission — its constitution.

The ELCC's constitution contains a sentence on environmental work. It states in § 4 that the church should

bring God's salvation to all people — body, soul and spirit — by preaching the gospel, administering the sacraments, teaching the Word of God, through diakonia and protecting the integrity of creation (*la sauvegarde de l'intégrité de la création*).²³¹

In my previous article,²³² I explained that the church's use of the term "integrity" derived from Norwegian missionary Per Ivar Johansen and that it was, more profoundly, inspired by the *World Council of Churches'* (WCC) programme *Justice, Peace and the Integrity of Creation* (JPIC).²³³

The French term *sauvegarder* translates as "safeguard" or "protect" in English. The term is used in French to denote the protection of the environment and species, among other things.

The term was included in the ELCC's constitution after it was suggested by a Norwegian missionary theologian (Per Ivar Johansen). It is therefore relevant to this story that the synod of the Church of Norway made its first statement on environmental protection, in 1989 just two years prior to the early drafting stages of ELCC's constitution. The title of the statement adopted at the Church of Norway's General Synod was, "Case 11/89 Protection of creation."²³⁴ The matter received plenty of attention within the Church of Norway from 1989-1990, and there is reason to believe that the concept "safeguard...the creation" introduced to the ELCC by Per Ivar Johansen was also inspired by these Norwegian ecotheological statements.²³⁵

²³¹ EELC 2018, p. 3.

²³² Tomren 2021a.

²³³ Tomren 2020, p. 283.

²³⁴ Tomren 2019, p. 96.

²³⁵ In addition to the phrase in the constitution, we also find a relevant expression in the EELC's "Internal Regulations". Paragraph 1, entitled EELC's tasks, that states: "- In order to achieve the goal adopted, EELC will integrate in its teaching: respect for human life, the promotion of human rights and the protection of nature. This last phrase is identical with the word in the heading of case 11/89 in Church of Norway's General Synod. EELC 2009, p. 18

In other words, the integrity of creation motive was not a new theological concept. Historically, it appeared in international church ecotheology through the *World Alliance of Reformed Churches*' (WARC) general assembly as early as 1970. The WARC text from 1970 states, "God respects the right and integrity of the created world and of [humans]."²³⁶ WCC marketed the motive *Integrity of creation* and it spread to many denominations in the 1980s and 90s. Soon the motive was used in all ecumenical and denominational institutions. Bo Brander, who has studied WCC texts, writes that the WCC actors have forgotten who introduced the concept. According to Brander, the concept's unknown origin leaves it open to speculation with some claiming that it is rooted in the New Age movement, while others (Charles Birch and Ronald Preston) claiming that it may stem from the WARC, seeing as the WCC was heavily influenced by the WARC in this period. Brander gives up the search stating, "This is where the trail goes cold. Its origin will likely remain a mystery."²³⁷ The WARC text cited above indicates that Birch and Preston were on the right track. The expression "integrity of the created world" was used in the WARC as early as 1970. I must add here that the reformed theologian Francis Schaeffer used the expression in the same year ("We should treat each thing with integrity because this is the way God made it").²³⁸

Looking back even further, we find that H.P. Santmire used the expression in the title of a 1967 lecture he gave in a seminar at the third conference organized by the Faith-Man-Nature Group in the USA. The title was "The Integrity of Nature" and the lecture was published the same year.²³⁹ Santmire's doctoral thesis, which he submitted in 1966, was a study of Barth which examined the latter's views on nature. It is not unlikely that the integrity motive originated with Santmire, was captured through the publication in the Faith-Man-Nature Group, and was then used in reformed theology, before making its way into ecumenical ecotheology. The WARC's use of the concept in 1970 differs somewhat from the use that became prevalent in the WCC. In 1970, the motive was

²³⁶ General Council of the World Alliance of Reformed Churches 1970.

²³⁷ Brander 2002, p. 22.

²³⁸ Schaeffer 1970, p. 40.

²³⁹ Santmire 1968, p. 128.

used to express something about God and God's relationship with nature. It was primarily a theocentric concept.

When the integrity of creation motive spread to the world's churches, it was primarily linked with it becoming one of the WCC's central motives through the *Justice, Peace and Integrity of Creation* program at the Vancouver general assembly in 1983. The WCC texts did not clarify the meaning of the motive. Nevertheless, it quickly became a key concept in the discussions and texts that followed the JPIC programme. According to Brander, the Gaia hypothesis, which originated with James Lovelock, influenced the discussion of the JPIC concept.²⁴⁰ It is therefore relevant to spend some time on Lovelock's theory before we move on to our assessment of the motive.

Lovelock claims that the Earth is a holistically, climatically and chemically self-regulating system. It is a superorganism of living beings and material surroundings that together strive for ecological balance.²⁴¹ He refers to Earth – or Gaia – as a living subject. The Gaia hypothesis was presented at a scientific symposium at Princeton University as early as 1969 but received little support at the time. In 1979, Lovelock published the best-selling book "Gaia: A New Look at Life on Earth." The book inspired debate, and many subscribed to the theory. In 1987, Lovelock was invited by the WCC to present the hypothesis as part of the Amsterdam consultation. Lovelock presented the Gaia idea, which was followed by a presentation by John Hall, who opted for a linguistic analysis and approach to the term *integrity*: Firstly, the term is associated with the link between the internal and the external in nature. Secondly, it is associated with the connection between the parts and the entirety of creation (interpreted in accordance with ecology). Thirdly, the concept indicates that creation has an intrinsic value.²⁴²

According to Brander's study, the use of the concept of the integrity of creation in the processes associated with JPIC related to the idea of Earth as a subject.

Bo Brander makes the point that the expression, 'integrity of creation,'

²⁴⁰ Ibid.

²⁴¹ Lovelock 2006, p. 32.

²⁴² Tomren 2019, pp. 58-60.

is ontologically oriented, meaning that it is about views and attitudes towards nature, whereas the term ‘safeguard’ is ethically oriented.²⁴³

Still, the concept of the integrity of creation remained undefined throughout the entire JPIC process. It nevertheless served as a catalyst for a new ecotheology, new perspectives and an exchange of theological impulses. Granberg-Michaelson, who was program director for Church and Society at the time, believes that the lack of a definition was an advantage. In 1994, he wrote that the lack of clarity on the concept resulted in ecumenical conversations and conferences.²⁴⁴ When I look at how the integrity of creation became one of the most prevalent motives in contemporary ecumenical ecotheology and how it spread to an African mission church such as the ELCC, I am tempted to agree with Granberg-Michaelson.

In Cameroon and the ELCC, the concept of the integrity of creation was included in the constitution without much debate, and without further clarification of the concept’s meaning. This can therefore be an indication that creation is (1) an integrated system, or (2) something to be respected as a subject with intrinsic value, or (3) to be interpreted in line with a connection with an underlying Gaia hypothesis.

The idea that Earth is an integrated system is an ecological truth that isn’t controversial to Christian theology. The other interpretation, wherein nature is given subject status, is more problematic. One person critical of what he refers to as “pantheistic models,” is the Ghanaian theologian Ben-Willie Kwaku Golo. His criticism is that one can easily romanticise nature, and that there is a risk of confusing nature and God.²⁴⁵ “Nature is not a representative of God,” writes Golo, fearing that a theology that blurs the lines between creation and the creator has the potential to result in idolatry of nature.²⁴⁶

Golo also takes issue with theological concepts that emphasize this connection and that “nature” has an intrinsic value. Golo states that these types of metaphors and models tend to equate the value of human life with that of everything else in nature. Doing so is problematic because

²⁴³ Brander 2002, pp. 23–33.

²⁴⁴ Granberg-Michaelson 1994, p. 98.

²⁴⁵ Golo 2004, p. 225.

²⁴⁶ Ibid.

the Bible clearly states that humans have a unique role and value, and because so, such a way of thinking fails to provide useful guidance in ethical conflicts where consideration for other species must be weighed against consideration for humans.²⁴⁷

In order to assess the suitability of the concept of the integrity of creation as a theological base motive, we must not limit ourselves to viewing it against established ecotheology. We must also take a pragmatic and contextual approach and look at how the theology works and is received in the African church in question, i.e. the ELCC.

African ecotheology

In a 2011 article on African ecotheology, Golo refers to John Pobee, who states that African theology is characterised by a Christological and soteriological approach.²⁴⁸ Moreover, he states that the link between creation and salvation is almost always present in African theology. In the African context, salvation refers not only to spiritual liberation but also to political, economic and cultural liberation. It is therefore natural, according to Golo, for African ecotheology to expand the perspective and develop an African, Christ-centered ecotheology where salvation too, is linked with environmental problems.²⁴⁹ In his doctoral thesis (2006), Golo points to the incarnation motive and ecocristology as the one most suited to his Presbyterian home church in Ghana. Based on Golo's statements, it seems natural to conclude that the formulation in the ELCC's constitution, which makes no reference to the Second Article of Faith or salvation, is not ideal for a Cameroonian ecotheology.

Ernst M. Conradie's study "Christianity and Environment in (South) Africa: Four Dominant Approaches" presents a somewhat more nuanced picture of African ecotheology. Having studied (South) African ecotheology, Conradie identifies four main directions in African ecotheology. The first emphasizes the idea of stewardship and resources (environmental protection), the second, the idea of a need to recreate the ancestral landscape, the third, sustainable development, and the fourth,

²⁴⁷ Ibid.

²⁴⁸ Golo 2011, p. 314–316.

²⁴⁹ Ibid.

social justice.²⁵⁰ Based on Conradie's findings, an African ecotheology does not need to be based on the Second Article of Faith in order to be perceived as relevant.

Ecotheology in EELC

How does the ELCC's approach fit with the analyses of Golo and Conradie?

The answer is that the concept of "protecting the integrity of creation," as stated in the ELCC's constitution, contains elements from at least two of the approaches identified by Conradie. It is possible to extract both an idea of (1.) a custodial/ stewardship responsibility and (2.) an allusion to respect for "holy" nature from the formulation. The ELCC formulation invites the development of a theology associated with what Conradie and Golo refers to as *the stewardship model* and models that emphasize what Conradie refers to as *ancestral landscapes*. That is, a theology that states that parts of nature are holy. Neither of these ideas corresponds to Golo's view, which argues in favour of linking African ecotheology with the Second Article of Faith.

In western Protestantism in general, *the stewardship model* is dominant enough to be referred to as the main model of Protestant ecotheology.²⁵¹ The idea here is that God has created everything, that everything on Earth belongs to God and that God has tasked humans with caring for the Earth in line with God's wishes. Even though the model has become very dominant, it is also heavily debated and criticized. The objections are primarily that the model exalts and detaches humans from the rest of nature. Moreover, the model and the concept are criticized for having economic connotations that reduce nature to a resource. Finally, it is criticised for lacking Biblical support.²⁵²

In his book *Gerant des biens de Dieu, Un stewardship Holistique*, Joseph Ngah, principal of ILTM for many years, states that he has been reluctant to use the concept of stewardship (gestionnaire, économiste, intendant, steward) as it carries an economic connotation and because it brings to mind

²⁵⁰ Conradie 2007.

²⁵¹ Tomren 2019, p. 290.

²⁵² Ibid. pp. 278–290.

the “management” tradition.²⁵³ Ngah also states that the concept is discredited in Africa due to its use by western colonial masters during that era, and that it is a loaded concept, seeing as much of contemporary African administration is marred by corruption and self-interest. Ngah therefore speaks of a new form of stewardship that he refers to as holistic (*un stewardship holistique*).²⁵⁴ When Ngah presented a proposed environmental liturgy for the ELCC, he did not, as we will see, emphasize the stewardship motive.

If one interprets the motive of the integrity of creation as an expression of nature’s holiness, this could be read as something reminiscent of the approaches that Conradie refers to as the ancestral landscape. The notion of holy forests, trees, animals and waters lives on in Cameroon. Theology associated with ancestral landscapes, holy nature, trees and plants found in African ecotheology is therefore not unfamiliar in the ELCC context.

Thomas Christensen, former principal of ILTM, published a study on Sore, the holy tree of the Baya people, and developed a theology focusing on how Sore could be developed into a metaphor for the ELCC’s preachings and theology.²⁵⁵ Christansen’s work is familiar to most ELCC theologians. His work on Sore as a metaphor is also expressed in the Church’s liturgy in the Baya language. Joseph Ngah has also studied and published articles about holy trees and how they can be used as metaphors when preaching to and educating the Tikar people.²⁵⁶ The work of Christansen and Ngah indicates that it would be appropriate to use traditional ideas of holy trees and places in theology, education, preaching and liturgy within the ELCC.

The motive of *holy trees* became relevant during my field study of the ELCC’s environmental project in Mbé in February 2018. When asked about what surrounded the zone set aside for tree planting, the respondent answered that this was the holy forest used by the Dii people for initiation rites.

According to local pastor Martin Zanguim II, who worked in the village between 2014 and 2019, the village chief allocated the tree planting area with the idea that the link with the holy forest would ensure greater

²⁵³ Ngah 2017, p. 3.

²⁵⁴ Ibid. p. 6.

²⁵⁵ Christensen 1990, pp. 1–14.

²⁵⁶ Ngah 2002, pp. 80–82.

protection for the ancestors' holy place, and that a plantation around the forest would shield those participating in initiation rites from onlookers as the zone was, at the time, very deforested.²⁵⁷ This could be seen to indicate that the idea of holy forests, trees and animals could be activated and integrated into a Cameroonian ecotheology.

Relevance and context

In this article, I suggest two parameters to assess to what extent the theology is perceived as relevant. First, I will assess it based on *what theology becomes integrated into the liturgy* developed for the ELCC to celebrate the Day of Creation. Secondly, I will examine *what pators and church leaders think about the topic*.

The creation liturgy was designed by Joseph Ngah and discussed by regional bishops and parts of the central church administration at a seminar in Ngaoundéré from December 11-12, 2019.²⁵⁸ At the 2019 General Synod, it was decided that the ELCC would dedicate the final Sunday in September to the celebration of the Day of Creation, taking effect in September 2020. Ngah's liturgy is expected to be adopted at the General Synod in 2021.

The main theological motive in Ngah's liturgy is incarnation theology, with an emphasis on John 1. In the sermon part of the liturgy, which is intended as a part of the liturgy, we find a reflection linked to logos-cri-stology. The message is that the incarnation is proof that God involves Godself in history, and that Jesus participated in the creation process as the Word of God.²⁵⁹ In this text he also points to Luther and to the fact that the reformer interpreted the doctrine of creation linked to the doctrine of salvation through faith alone, a "good work that points to the justification in Christ."²⁶⁰ Both creation and the teaching of justification by faith alone are a call to the faithful to respond with gratitude. Gratitude

²⁵⁷ Zanguim II, interview on 10 March 2020.

²⁵⁸ EELC 2019, p. 10.

²⁵⁹ Ngah 2019, p. 6.

²⁶⁰ French: La création est le modèle symbolique de la justification par la foi; Luther voit la création comme une expression de la bienfaisance de Dieu préfigurant la justification par la foi en Christ, Ibid..

must be expressed both towards God and towards other creatures, concludes Ngah. In the proposed liturgy we also find theological motives such as creation (Ps 104), the role of humans as the protectors of Earth and works, love for one's neighbour and the atonement of Christ. Except for the concept of creation (*la création*), the liturgy does not include the constitution concepts. Neither the idea of the integrity of creation nor sauvegarde has been included. This could indicate that the concepts are not deemed relevant to the liturgy.

The second method that I use to gain knowledge about which theological motives are perceived as good and relevant within the ELCC is to ask pastors and church leaders for their thoughts on the matter.

At a theological seminar in Ngaoundéré from March 11-12, 2020, where all the church's bishops and directors of all ELCC institutions were represented, I led a group session where participants were asked to discuss the theological motives that were relevant to the ELCC. Having presented some of the various theological motives used within international ecotheology, I asked the group to discuss which motive they felt would work best when it came to conveying to the members of the ELCC that environmental protection was part of the church's mission. The answers that emerged from this session were: *the pact motive*, where after the flood where God promises to protect all life, and the consequential idea that we as God's messengers have a duty to protect this life; *the holiness motive* as demonstrated in Bible verses that emphasize that all life is holy; *the love motive* as demonstrated in Bible verses that emphasize our duty to look after the Earth and to protect other beings from suffering; and *the redemption motive* emphasizing that Christ is the world's redeemer and that we have been called to follow his example as redeemer.²⁶¹

Objections to the *integration motive* from the international ecotheological discourse, analyses by the African theologians Golo and Conradie, and practice and reflections from ELCC leaders all indicate that the theological motive in § 4 of the constitution (sauvegarde and l'intégrité) is not a natural first choice for the ELCC's ecotheology. The formulations in the constitution very much reflected the time in which it was drafted and were innovative in western theology in the 1980s and 90s. However, there

²⁶¹ EELC 2020, p. 15.

are strong indications that African churches and theologians prefer other motives in 2021. The ecotheology is about to be contextualized and, on the basis of what we have seen so far in terms of ecotheological reflection in the ELCC, it is not unthinkable that § 4 will be revised in years to come to include theological metaphors that are more in line with the dominant thinking within the church.

If I were to indicate which theological motives, I believe would be a good match for the ELCC in the coming years, I would highlight motives linked with the Second Article of Faith. As previously mentioned, John Pobee's studies show that African theology is strongly linked with Christology and soteriology. We have also seen how Joseph Ngah emphasised Christology when developing the liturgy for the Day of Creation.

Furthermore, we have seen that priests and church leaders felt that soteriology could become an important motive for the ELCC. In the article WWJD (What would Jesus do?) in this book. I show how it is possible to build theological bridges between Christology and environmental ethics. My conclusion is that a further development of eco-Christology with an emphasis on stewardship responsibility as environmental ethics, and linking it with contextual theological metaphors, would be fruitful. One person who has done this is the previously mentioned US theologian Thomas Christensen, who uses the Gbaya people's idea of the Sore tree as a holy tree, as a metaphor for Christ. Christensen is not particularly concerned with the ecotheological potential of the metaphor, but in a context where deforestation and tree planting are central themes, this ought to be explored.

Along the same lines, it may be very valuable for an African church such as the ELCC to explore theology with an emphasis on the intrinsic holiness of nature. In his study of South African ecotheology, Conradie observes that many churches work actively with theology, emphasising the link between the traditional understanding of holy forests and a Christian understanding of nature as something holy. The traditional understanding of holy forests often features the idea that the location is protected by a transcendent reality, by ancestral spirits, and that failure to respect the place will bring bad luck. When ELCC church leaders were asked to indicate which *motive* they felt was relevant to their church, they included the *holiness motive*. By emphasising theology with a focus on the immanence of nature, linked with the Holy Spirit for example, it is natural

to associate this with the traditional African notions of holy forests, lakes, elves and animals. One example of this is the Association of African Earthkeeping Churches (AAEC), which planted trees in Zimbabwe from 1985–2003.²⁶² When Marthinus L. Daneel studied how the AAEC churches worked with tree planting, he found that the congregations ritualised the work and associated it with traditional rites and communion celebrations. These experiences could benefit a church like the ELCC.

The ELCC is well on its way towards developing its own unique ecotheology, but the work is still at an early stage. In other words, it is difficult to know for certain what shape and format the ecotheology work will take in future. Regardless, it will be exciting and interesting to follow how environmental problems stimulate and contribute to new theology and ideas of the world in Cameroon, and in Central Africa generally, in the time to come.

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²⁶² Daneel 2010, p. 16.

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*Teaching about tree planting in the
Evangelical Lutheran Church in Cameroon.*



SECTION 3:

Ethics and best practices

Ecclesiastical environmental work in Sub-Saharan Africa. A case study of the effects of the Evangelical Lutheran Church of Cameroon's environmental work

Tom S. Tomren

Keywords: Missiology, Environmental project, Sub-Sahara, deforestation, conflicts, ritualized tree planting

Research question, data and method

Having studied the reasons for the emergence of the ELCC's environmental work in the article "A central African church goes green" in Rimmer, Philips and Tomren (ed.): Religion, Sustainability and Education: Pedagogy, perspectives and praxis toward ecological sustainability (2021), and analyzed the ELCC's official ecotheology in "Ecotheological reflections in the Evangelical Lutheran Church of Cameroon" (previous article in this book) , what remains is to assess the extent to which the ELCC's practical environmental projects have a positive impact. This will be the theme of the present article. Specifically, the research question is the following: *What effects has the ELCC's environmental work had on its own organization, society, other affected stakeholders and the natural environment in northern Cameroon?* With the expression «environmental work», I am referring to the ongoing Environmental Project of the ELCC (awareness of climate change and combating desertification in the Great North of Cameroon) which began in 2015.

As I wrote in the previous article, the ELCC is a Lutheran church in Cameroon with around 350,000 members. The church's main area of operation is the Adamawa region in northern Cameroon. The administrative seat of the church is in Ngaoundéré, in what was at one time the largest mission station in western Africa. The church is a so-called mission church. This means that it is the product of missionary work by western missionaries. The historical background of the church stems from the

activities of the Norwegian Mission Society (NMS) and the US Sudan Mission, which later became part of the Evangelical Lutheran Church in America (ELCA). The first missionaries arrived in the Adamawa region in the years 1923-1925, and the ELCC formally became an independent church in 1973.

The context in which the EELC operates is characterized by climate change, deforestation and migration. A report issued by the church for an external partner organization describes the context as follows:

In Cameroon, pressure on land and natural resources is increasing, whether for subsistence, firewood, grazing or logging. Despite its rich potential, the phenomenon of desertification and land degradation tends to become widespread and affects even the most humid ecosystems. That is why the Cameroonian state has made the fight against climate change a national cause. Similarly, the Lutheran Evangelical Church of Cameroon, which is part of the civil society organizations in Cameroon, has not remained indifferent.²⁶³

The ELCC has traditionally been involved in evangelism, health care, agricultural work and education. However, since 2015 the church has also been heavily involved in an environmental project. ELCC made a few sporadic attempts at environmental projects in the period 1990–2011,²⁶⁴ but since 2015, the church has been working systematically in the form of the *Environment Project of the ELCC*. This is the project that I will be analyzing and assessing in terms of its impact.

The term *effects* or *impact* refers to the effects that the theological proclamations and practical measures that have developed through the project have had at various levels of the ELCC, on its members and other affected parties.

The data that I am presenting as the basis for the research consists of reports, qualitative interviews, e-mails, and, to some extent, field observations. The data indicates that I am making use of the “four main methods for qualitative research methods”, i.e. observations, interviews,

²⁶³ EELC 2017 a, p. 7.

²⁶⁴ Tomren 2021, pp. 275-298.

transcription and text analyses.²⁶⁵ The benefit of a multiple approach is that we are able to study the research question from several angles and that, together, the findings paint a more complete picture of reality than would be the case had only one method been used.

As a researcher, I am not neutral. Like all researchers, I write, and question based on a set of prejudices. My background is in an ecotheology tradition that aims to help society become more sustainable. Ecotheology is normative, with an element of action research. It is also interdisciplinary.²⁶⁶

In order to quality-assure the article, the text has been presented to project manager Thérèse Nocke and to Marcel Ngirinshuti for fact checking. The project has also been registered and approved by the Norwegian Centre for Research Data. The purpose of the analysis is to generate more knowledge about the ELCC's role as an environmental ethics actor and provide suggestions for what the church and its partners can do to improve the effects of the work going forward.

Environment Project of the ELCC 2015-2017

The main aim of the first phase of the Environment Project of the ELCC in 2015–2017 was “to promote the awareness of populations of climate change and to help to identify and find sustainable solutions to the different problems they face”. This was concretized through three sub-aims:

- a) To educate its members, and the populations of the target areas on the challenges of climate change and the fight against desertification.
- b) To inform and train Christians and the populations of the targeted areas in the use of alternative methods (improved stoves, solar power etc.) in households.
- c) To encourage Christians and the populations to plant at least 5,000 trees in their communities and to ensure their growth. In this context, 5 districts will be considered Pilot Districts. These are the districts of Mbé, Gamba, Ngong, Garoua (1 & 2) and Maroua.²⁶⁷

²⁶⁵ Silverman 2011, p. 42–44.

²⁶⁶ Tomren 2019b, p. 11.

²⁶⁷ EELC 2015, pp. 4–5.

The project was funded by external partners, meaning that detailed annual reports were submitted which make it possible to track the project's progress (the budget and accounts for the project varied: 438 370 Norwegian kroner (NOK (2015), 501 538 (2016), 598 992 (2017), 732 423 (2018), 729,925 (2019).²⁶⁸ 1 NOK is about 0,1 euro.

According to the *annual report from the first year* (2015) the project was initially delayed. It was meant to start in June of that year, but project manager Thérèse Nocke was not hired until November.²⁶⁹ In the report we can read about a trip to the village of Mbé, where the project was presented to the local authorities and chiefs. Due to a lack of activity, part of the funds that had not been used for the project. NOK 260,730 were carried over to the following year.²⁷⁰

The 2016 annual report shows that the work had now started. There were reports on tree planting and training initiatives in all five locations: Mbé, Gamba, Ngong, Garoua 1, and Maroua. Plantation field sizes are given for four out of the five: 7 hectares in Mbé, 32 hectares in Gamba, 25

hectares in Garoua and 5 hectares in Maroua. The Ngong area was not specified.²⁷¹ In total, the project reached 70 congregations in 2016. The number of individuals who underwent training on climate and the environment totalled 231, while 86 people received training in the construction of eco-friendly stoves.²⁷² The project group and church leadership also met with 70 representatives for local administrative and traditional governing bodies in all the selected areas.²⁷³ Following the meeting, the

²⁶⁸ E-mail, Eline Rangøy, 13 October 2020.

²⁶⁹ EELC 2015, p. 7.

²⁷⁰ E-mail, Eline Rangøy, 13 October 2020.

²⁷¹ EELC 2016 b, p. 33.

²⁷² EELC 2016 b, p. 6.



local governing bodies officially recognized the ELCC as a partner in the work to combat climate change. They also promised to contribute technical and theoretical expertise. Over the course of the year, 1,269 trees were planted in the aforementioned areas.²⁷⁴

In 2016, the project group also organized gatherings for its national leaders and the church's women's movement, *Femmes Pour Christ* (FPC). The group also participated in the ELCC's large youth camp. Some of these gatherings featured group sessions in which potential future focus areas for the project were discussed. The input from these sessions would influence the project work going forward. The groups proposed that the General Synod establish a *Day for the Environment* in June and create a day in the liturgical calendar dedicated to the environment.²⁷⁵ The annual report concludes by stating that the project had gone according to plan, and that there had not been any major problems. This is broadly accurate, but a detailed reading of the report reveals warnings of the problems to come: The Garoua I (Bambla) plantation, planted in spring 2016, was delayed due to cattle entering the field. As a result, 92 per cent of the plants were destroyed.²⁷⁶ Generally, the two first years of the project were characterized by constant conflict between herdsmen and the church's work to establish tree plantations. This type of conflict would lead to repeated setbacks for the tree planting work in the years to come.

In 2017, meetings and training initiatives were reported for all five locations.²⁷⁷ The number of training session participants was 350, at least 40 congregations participated, and 113 active volunteers were involved. In 2017, the environmental work encountered more resistance and difficulties: The Ngong soil was dry and hard, and out of 250 seedlings planted only 35 survived. The plantation field in Garoua was sabotaged and the field that surrounded it was destroyed. This was attributed to resentment on the part of Fulani herdsmen.²⁷⁸ It was also reported that a

²⁷³ EELC 2016 b, p. 8.

²⁷⁴ EELC 2016 b, p. 6.

²⁷⁵ EELC 2016b, p. 92.

²⁷⁶ EELC 2016b, p. 82.

²⁷⁷ EELC 2016b, pp. 117 ff.

bush fire in Maroua destroyed many of the plants there.²⁷⁹ Bush fires are often started deliberately by herdsmen who want to create good grazing for their animals. Another problem was that late payment from the NMS meant that planting could not be carried out as planned in the northern-most locations.²⁸⁰ On a positive note, the project had succeeded in building a greenhouse for shoots in Mbé, and there was significant interest in the stove construction training scheme. Nocke emphasised that the improved stoves were well received not only because they conserve fuel but also because they generate less smoke and contribute to better household economies by cutting fuel cost.²⁸¹ For African women, the inhalation of cooking fumes is a cause of lung cancer and other respiratory illnesses.

This year (2017), a revised project description was created for the period 2018 to 2022. The plan was to expand the geographical spread from five to ten church districts as of 2018. The project's focus area was also expanded. Up until 2017, the focus had been on tree planting and deforestation. More emphasis would now be placed on political lobbying and climate adjustment among the population. Aims for the identification of additional, new sources of revenue for the population, soil revitalization and the expansion of renewable energy were included in the project.²⁸²

With reference to the UN's sustainability targets, I would argue that the project has been hereby expanded to include not only environmentally-/ecological sustainability aims but also social and economic objectives. The project application has been approved until 2022.

Environment Project of the ELCC 2018-2019

In the 2018 report we can read about meetings in the five initial locations (Mbé, Gamba, Ngong, Garoua 1, and Maroua). In Mbé, Gamba, and Emmaus, the local committees became more organized. The meetings were attended by around 300 people. A course focusing on the const-

²⁷⁸ EELC 2017b, p. 12.

²⁷⁹ Ibid., p. 15.

²⁸⁰ EELC 2017a, pp. 9–41.

²⁸¹ EELC 2017a, pp. 38–39.

²⁸² ELCC 2017b, pp. 5–7.



Cameroonian women in the EELC who work with clay to make stoves that use less wood.

project was temporarily halted by the national bishop Ruben Ngozo and payments to the project were stopped between April and June. When the project restarted, the planting season was over. This meant that 40 per cent of the seedlings that had been planted were lost.²⁸⁴ As a result, the development of the plantations was greatly delayed.

As part of the work of expanding the geographical scope of the project, the project group held meetings with the church and political and traditional authorities in Pitoua/Moura in Garoua. The result was that the local authorities proposed an area measuring five hectares for tree planting projects. In September, this was followed up by training sessions on climate, the environment and tree planting in which 173 people participated.

Compared with previous years, we can see that new measures were

ruction of improved stoves held in Ngong attracted 80 participants. Originally, the plan had been to manufacture 50 ovens for poor households, with the hope that the Cameroonian government would provide funding. The application for funding was submitted after the established deadline and was therefore not processed.²⁸³ In the old Gamba location, the work to plant trees and cultivate seedlings continued with the help of 33 volunteers who helped complete the seedling facilities/“greenhouses”.

Challenges existed also in 2018: The plantations in Mbé and Gamba burned down and were destroyed, and herdsmen brought cattle into the area. As a result,

²⁸³ EELC 2018, pp. 10–19.

²⁸⁴ Ibid., p. 29.



introduced in 2018 which changed the profile of the project. Firstly, a seminar on the establishment of the Day of Creation was held. Church leaders and bishops participated, and the result was a statement that emphasized the desire to commence work on a liturgy in connection with the introduction of the Day of Creation.²⁸⁵ This represented a follow-up on the idea introduced in 2016. Secondly, the project management organized gatherings and teaching for the Bible schools in Poli, Garo-Boulai, and Ngaoundéré. The theme was expanded from tree planting to deal more with fuel-efficient stoves and training.²⁸⁶

The final year included in this study is 2019. The annual report states that the project team visited, ran campaigns, and taught in 35 villages, meeting with 2,732 people. They distributed 7,100 seedlings and trained 272 people.²⁸⁷ We can also see that the project placed greater emphasis on education this year than in the years 2015–2017. Topics including climate, environment and ecotheology were taught at the Bible schools in Tchoillere and Meng, as well as at ILTM. In addition, there was a gathering of Sunday school teachers and the church's annual youth camp. Tellingly, an international academic seminar titled *Environmental Education and Behaviour Change* was also held.²⁸⁸

²⁸⁵ Ibid., pp. 9–11.

²⁸⁶ Ibid., pp. 20–21.

²⁸⁷ EELC 2019, pp. 55.

²⁸⁸ cf. EELC 2019, pp. 9.

The project groups marketed the project actively and lobbied for the churches to become more central actors in environment and climate work. The church's leadership met with the Cameroonian Minister of the Environment, Nature Protection, and Sustainable Development and with the Secretary General for the Ministry of Forestry and Wildlife in Yaoundé. The aim was to strengthen the church's role as a partner in the climate and environment work. The Minister of the Environment, Nature Protection and Sustainable Development felt that the improved stove initiative was particularly important, while the Secretary General for the Ministry of Forestry and Wildlife expressed that the governing authorities were positive about contributing to the tree planting project on a practical level. Another initiative aimed at strengthening the ecclesiastical environmental commitment in Cameroon this year was a consultation between the president of the Church of the Lutheran Brethren and Rubel Ngozo, the leading bishop in the ELCC. At this meeting, an agreement was reached on the establishment of a network of "green" churches in the so-called Far-North region of Cameroon.²⁸⁹

The church continued its work on the *Day of Creation* in 2019. At the *General Synod* in May, climate and environment were the main topics and it was decided that the *Day of Creation* would be introduced as a liturgical day on the last Sunday in September. This is a great victory for the Environment Project, which has been working since 2015 to raise awareness among Church members to engage in the fight against climate change and the advance of the desert.²⁹⁰

The decision to introduce the Day of Creation was followed up through a working seminar in December where the participants continued to look at how to implement the decision in practice. Rev. Dr. Joseph Ngah presented his proposed liturgy, which was approved by the seminar participants.²⁹¹

Throughout 2019, the geographic area of the tree planting project was expanded to include Bokouli and Rhumsiki. In the villages of Gamba and Mbé, the local work was formalized through additional organization and

²⁸⁹ EELC 2019, p. 23.

²⁹⁰ EELC 2019, p. 32.

²⁹¹ Ibid., pp. 16–17.

the involvement of other villages in Mbé.²⁹² Work on the local plantations continued: 10,000 seedlings were planted this year. Once the growing season was over, only 1,018 plants had survived.

In this year too, the plantation fields in Mbé and Gamba experienced difficulties in the form of forest fires and herdsmen letting their cattle graze on the plantations. The report summarizes the event: "Bush fires: It is a scourge that has always existed in our localities of North Cameroon. Whatever the measures taken, most of the tree plantations are burned down, which destroys all the efforts of the project."²⁹³

The frustration at the constant setbacks to the work of establishing plantation fields is evident from the report. Project manager Thérèse Nocke writes:

Sometimes conflicts arise between groups of volunteers and cattle herders. Conflicts arise because of the eternal struggle between pastoralists and agriculture, better known under the name of agro-pastoral conflicts. Our volunteers are helpless in the face of these people who are protected by influential authorities because they own the cattle. Conflicts arise when livestock farmers bring their cattle into reforestation sites and set fire to them to create pastures or devastate the small plants they give as food for their cattle. As a measure, we have implemented security with barbed wire but, despite this, the breeders²⁹⁴ continue to devastate the reforestation sites. Their action has the consequence of destroying all our efforts to combat desertification, which show the Cameroonian community our commitment to safeguard creation.²⁹⁵

This is a historic line of conflict between herdsmen (Fulani's) on one side and the settled population on the other that has resulted in the involvement of the police and the forestry commission. Another obstacle familiar from previous years was the difficulty in ensuring that project funds were paid on time. In 2019, this continued to cause issues for the

²⁹² EELC 2019, pp. 25–27.

²⁹³ EELC 2019, p. 55.

²⁹⁴ A breeder is a person who breeds livestock, racehorses, other animals, or plants. In this context, it refers to cattle breeding.

²⁹⁵ EELC 2019, p. 70.

project. The part of the activities that are dependent on the agricultural calendar have had to be postponed or cancelled due to late payments from partners.²⁹⁶ In 2019, the work was strengthened by giving the improved stove activities an even more central role. The improved stoves is now being referred to as the “flagship” in the annual report.²⁹⁷

Conflict between local farmers and semi-nomadic herdsmen

The annual reports and interviews with actors show that the tree planting project is vulnerable. The project has been marred by a classic conflict with semi-nomadic herdsmen on one side and settled farmers on the other. The Fulani herdsmen traditionally burn the bush to ensure fresh, healthy shoots for their herds to graze on. This has resulted in the destruction of virtually all plantations, in some cases repeatedly. After burning the fields, the herdsmen have cut and destroyed the barbed wire surrounding the fields and driven their cattle inside to allow them to graze. On at least one occasion, this has resulted in a police investigation and in fines being issued.²⁹⁸ In most cases, there has been no response from the authorities to these incidents. Repeated setbacks are obviously a source of frustration and stagnation for the project. We can see that the church leadership halted the project for a period of four months due to this conflict.

The conflict between local farmers and semi-nomadic herdsmen is ongoing and is typical of large parts of the Sahel region. In Cameroon, it coincides with the ethnic conflict between Fulanis and Mbororos on one side and other local tribes on the other. The Fulanis conquered Northern Cameroon and the Adamawa region in several waves between 1809 and 1902.²⁹⁹

Traditional structures of power and governance have been established, where local chiefs must answer to the regional Fulani Muslim leaders (lamidos), with the lamido traditionally demanding taxes and slaves.³⁰⁰

Historically, the village of Gamba is in a special situation. Historically,

²⁹⁶ Ibid., p. 55.

²⁹⁷ Ibid., p. 49.

²⁹⁸ Interview with Zanguim II, 10 March 2020.

²⁹⁹ Frouisou 2002, p. 85.

³⁰⁰ Ibid.

the chiefs of Mbé and the Rey Bouba lamido have fought over command of Gamba.³⁰¹ This adds to the confusion surrounding the origin of the conflict between the herdsmen and the church's plantations.

During my field visit to Gamba in March 2018, we came across a herd grazing in the plantation, surrounded by herdsmen. The police were summoned. Just ten minutes before their arrival, the herd was called and wandered off to graze elsewhere before we could get a good look at the herdsmen. During the field visit, we were also informed that the chief who had given the plantation land to the church had passed away recently and that this had caused complications.³⁰² On the same field visit, the project management had brought a film team from the Cameroonian TV station CRTV who were to do a report on the environmental project. This meant that the incident was filmed and documented on national TV.³⁰³ Even though Gamba has been particularly afflicted, almost all the ELCC's plantations have suffered bush fires and cattle grazing. The history and underlying classic tensions have resulted in the plantations becoming a battleground for established conflicts. It is difficult to imagine that the creation of plantations will be able to succeed unless a serious effort is made to investigate who is responsible for the destruction and establish sustainable agreements between herdsmen and the settled population.

Internally displaced people and deforestation

Another issue that needs to be included when assessing whether tree planting is a sound and sensible venture for the ELCC or not, is that the areas where the church has tried to establish plantations is characterized by significant and increasing deforestation. This is primarily attributable to the large numbers of internally displaced people in the region. In the municipality of Mbé alone, 5,444 internally displaced people who have gone to on to settle have been recorded. This pattern repeats itself in most villages between Ngaoundéré and Garoua. The refugees represent various ethnic groups: Moufou, Mafa, Guiziga, Guidar, Daba, Mada, Kapsiki, Fulani, and

³⁰¹ Ibid.

³⁰² Notes from own field visit 13. March 2018.

³⁰³ CRTV, 14 March 2018: <https://www.youtube.com/watch?v=JVuQ1QvhAag>.

Toupouri. The latter account for the majority, according to Assana.³⁰⁴ The migrations are caused by various factors. One such factor is climate change, which has made areas further north too arid for food cultivation. Another is the security situation and the threat from terror organization Boko Haram.³⁰⁵ The migrations mean that several of the areas where the ELCC is planting trees are subject to major social upheavals that put added pressure on the environment.

An additional complicating factor is that parts of the Gamba location are situated next to the Buffle Noir national park. The unstable situation has resulted in both internally displaced people and members of the settled population entering the national park to collect firewood and poach.³⁰⁶ Moreover, there is conflict between migrants, settled populations and forest rangers who collaborate with international organization.³⁰⁷

Considering that the tree planting project finds itself at the forefront of major structural conflicts, it seems natural to conclude that this part of the project contributes to the escalation rather than to the mitigation of conflicts. Based on reports, interviews, and my own observations during field visits, it is difficult to imagine that the strategy of establishing large plantations will succeed unless the surrounding structural challenges associated with the relationship between semi-nomadic herdsmen and the settled population, internally displaced people and the national park is resolved. These are major structural challenge so entrenched historically that it is unlikely that a small stakeholder such as the ELCC will be able to affect change on its own. There is reason to fear that by constantly re-planting fields that are in turn vandalized, frustration and conflict levels will only increase.

Proposals for the road ahead

In the current situation of intense deforestation associated with migration, there is also much to indicate that there is a need for projects that raise awareness of the need for trees to ensure a functioning ecosystem. This

³⁰⁴ Assana 2020.

³⁰⁵ Ibid.

³⁰⁶ interview with Tiere Isahie, 10 March 2020.

³⁰⁷ Assana 2020.

work must also involve the migrants who are responsible for much of the intensified deforestation. In order to succeed, the tree planting strategy needs to be considered very carefully.

One prerequisite for success is the creation of a *real collaboration* between the churches and the pastors from the denominations that the migrants belong to, as well as with Muslim leaders in the area. Many migrants are from the north and members of the Lutheran Brotherhood church while others are Catholic or Muslim. In the 2019 project report, Thérèse Nocke wrote that the project management and the ELCC leadership had held meetings to discuss how to collaborate on environmental projects in northern Cameroon. When the ELCC leadership discussed the way forward, they mentioned the need to combine this work with a dialogue between Muslim and Christian leaders, and that this must become a theme in conversations between church leaders in the various Cameroonian ecumenical associations.³⁰⁸ Ecumenical collaboration and dialogue across religious divides may be crucial to the success of the tree planting work, and the ELCC leadership wishes to intensify its dialogue with other denominations and with Muslim leaders.

Another strategy to consider is to focus on ritualized tree planting around established sacred places: churches, sacred forests and similar. We know from Ethiopia that the areas around churches can seem like green oases in otherwise deforested landscapes.³⁰⁹ There are examples of ritualized tree planting in the ELCC's practice. FPC ritualized tree planting by asking women to plant a tree in their gardens and by their houses and naming that tree.³¹⁰ When the bishops and leadership of the ELCC made their statement regarding the Day of Creation in December 2019, they recommended that the day be linked with tree planting.³¹¹ This encourages a ritualization of the tree planting.

The AAEC in Zimbabwe is a good example of how many African churches have used the idea of holy forests and incorporated it into environmental work and liturgies. The congregations involved in the

³⁰⁸ EELC 2019, p. 19.

³⁰⁹ Gobena 2021b, pp. 220-241.

³¹⁰ Tomren 2021, p. 284.

³¹¹ EELC 2019, pp. 17-19.

AAEC are primarily Zionist and Apostolic churches, with around 2 million members in total.³¹² Marthinus L. Daneel, who studied how the AAEC churches worked with tree planting in the period 1985-2003, found that the congregations ritualized the work and associated it with communion celebrations. The local church leaders had little access to western ecotheology materials and had largely developed the theology around the tree planting rituals based on traditional African religion and cosmology.³¹³ Another example of how churches develop theology and practice on holy forests can be found in the Ethiopian Orthodox Tewahedo Church, having a long tradition of planting trees near churches and burial groves to create a good framework for prayer and meditation.³¹⁴ The idea of holy forests is prevalent among many Cameroonian ethnic groups. One example is the Toupori, who account for the majority of recently arrived migrants in the area where the ELCC plants trees. In her study "L'espace 'symbolique' chez les Tupuri du Tchad" (2009), Elisa Fiorio documents the Toupori tradition of planting holy trees (jak-sir) to mark their establishment in a new location. The holy forest represents a meeting point between the subterranean ancestral spirits and the living population.³¹⁵

Experience from the AAEC and the Ethiopian Orthodox Tewahedo Church, in combination with the respect for holy trees shown by the Toupori and other tribes, indicates that it may be of interest to develop concepts to test whether a similar approach could work for the ELCC.

A third strategy, outlined in the evaluation report by Ngirinshuti and Messoh, is to increase the share of *useful crops/fruit trees* in the tree planting project (fruit trees and similar). The local pastor who was involved in the project until 2019 was on the same page here:

In connection with the project currently run by the church, the population is more interested in planting fruit trees. This has a double advantage. Not only does it help combat climate change, but it also provides economic revenue for the population.³¹⁶

³¹² Daneel 2010, p. 16.

³¹³ Ibid.

³¹⁴ Gobena 2021b, pp. 220-241. See also Gobena 2021a in this book.

³¹⁵ Fiorio 2009, p. 71.

³¹⁶ Interview with Martin Zanguim II, 20 March 2020.

Based on the report and Pastor Zanguim II's statements, trees that provide direct revenue could increase motivation to participate in the project among the local population and thereby also help protect the area from forest fires and vandalism. Ngirinshuti and Messoh believe that the transition to useful crops could also resolve a self-inflicted problem for the project, namely that the environmental project's management has been paying the tree planting participants.³¹⁷ In their report, they state that financial motivation in the form of cash carries a significant risk of the tree planting project collapsing as soon as the payments stop. Ngirinshuti and Messoh therefore believe that it is better to let the participants plant fruit trees that, if cared for, will provide them with revenue in years to come. Experiences of plantation vandalism and a lack of protection of the areas indicate that the church should assess its strategy if it is to continue to focus on tree planting. A transition to fruit trees could be one. Another is relocating the plantation to churches, holy places, or nearer to villages.

In contrast to the tree planting project, which has been characterized by repeated setbacks, the initiative to provide training in the construction and use of improved stoves has been a complete success. The stoves have had a direct economic benefit for the households, as well as a direct health benefit in the form of reduced smoke inhalation on the part of the women doing the cooking. The fact that this initiative has generated both local and national authority support, that it involves a direct connection between environmental protection, economy, and health and that it does not result in any external conflicts means that this should be given more emphasis in the project in future.

The attitudes of ELCC members

At present, no broad surveys have been conducted on the attitudes of ELCC members to the environment and climate themes. I have, however, found a limited survey conducted in one congregation. As part of a bachelor's thesis submitted in spring 2019, ELCC pastor Paul Hugues presented a survey of members of the ELCC's Yaoundé II congregation which is relevant here.³¹⁸

³¹⁷ Ngirinshuti and Messoh 2020.

³¹⁸ Hugues 2020.

Hugues collected questionnaires featuring nine multiple choice questions from 50 people who were present on a given Sunday. All respondents agreed that the ecological situation in Cameroon gave cause for concern. When asked if they had noticed the ELCC's involvement in environmental issues, they all stated that they had.³¹⁹ All respondents had also heard their local priest speak about the topic. When asked which Bible verse they associated with the environmental commitment, fifteen answered Genesis 1 while thirty-five answered Genesis 2:15.³²⁰ They were then asked what they felt the church ought to do. Here, fourteen answered that it should reduce plastic consumption, ten that mass media should be used to influence church members, ten that environmental studies should be introduced into religious education and Sunday school activities, and ten that the church should focus on tree planting and on regulating hunting and fishing.³²¹

The Yaoundé congregation largely consists of affluent members who have moved to the capital to study. One must therefore take care when assessing the representativeness of these findings considering that most of the church's congregations are based in more rural locations. It is also possible that this congregation had a pastor who was passionate about the topic and that this is perhaps not the case in the other congregations. That being said, Hugues' study indicates that many ELCC members feel that the church should involve itself in environment and climate work, and that the church is in the process of becoming an educational arena for adults, children and young people when it comes to these topics. Another visible sign showing that EELC's commitment to environmental education has broad support in the church is the wording in its "Internal regulations". Section 1 with the heading "EELC's tasks" states that: "To achieve the goal that has been adopted, EELC will integrate in its teaching respect for human life, the promotion of human rights and the protection of nature".³²²

Despite some practical challenges, there are many indications that *Environment Project of the EELC: Awareness of climate change and combating desertification in the Great North of Cameroon* has helped put the environment

³¹⁹ Ibid.

³²⁰ Ibid.

³²¹ Ibid.

³²² EELC 2009, p. 18.

and climate high up on the ELCC's agenda. The church leadership has held regular seminars on ecotheology and the environment, and the topic has also been introduced in education through seminars, camps, Bible schools and theological institutions. The environment and climate have been the topic of gatherings of the church's women's movement, the church's national youth camp, and a gathering of Sunday school teachers. In addition, the topic has been taught at local gatherings in connection with the ten selected locations.

Even though the environment and climate are high on the church's agenda today, there is no guarantee that this will continue to be the case once project funding ceases and the project is terminated. However, a few simple measures could ensure that these issues remain high on the agenda forward towards 2030. The first measure involves giving ecotheology a central place when designing curricula at ILTM and the Bible schools. These institutions represent the ELCC's core activities and are likely to remain long after the environmental project has concluded. Integrating these topics will have a lasting impact on the ELCC. Another measure in the same vein is to integrate and strengthen the topics in the ELCC's religious education plan and materials in line with one of the questions asked by Hugues in his questionnaire. By emphasizing and integrating these topics into confirmation studies and Sunday school manuals used by the church, the ELCC will be able to reach the grassroots and the coming generations with attitude-shaping work on the environment and climate. This will also be logical measures in light of the fact that the church has for many years had the dormant wording in its internal regulations. Section 1 which states that the EELC will integrate in its teaching" the protection of nature.

Conclusion

Overall, there are many indications that the ELCC is becoming a central actor in the environmental work in northern Cameroon. The church is gradually gaining more and more expertise on environment and climate. In the article *Ecotheological reflections in the Evangelical Lutheran Church of Cameroon* earlier in this book, I stated that ecotheology is increasingly being contextualized, and here we have seen new partnerships develop. We have also seen the church gradually having to take a stand on more and more complex topics such as climate, migration, war, struggles for resources, women's health and education. The environmental project has

over time been expanded from focusing solely on environmental issues to incorporate social and economic dimensions too. What started out as a purely environmental project is now increasingly transforming into a complex sustainability project. The ELCC is in the process of transitioning from an environmental actor to a sustainability actor.

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Anthropocene, Greed and Ecological Racism in the light of the Economy of Life index evaluation (Ecolife) concept

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Keywords: Greed indicators, fuzzy logic, sustainability, Economy of Life, WCC

Introduction

In this work, we want to analyze anthropocentric greed which is fuelled by limitless economic growth and examine its role in ecological racism. The root cause of human greed is examined from the perception of Christian theology and theological concepts of the three-fold nature of human needs (material, mental, spiritual) needs. The conceptual description of structural greed is presented in correlation to the findings of the WCC greed line group study on poverty, wealth and ecology.³²³

After an ecotheological reflection on the biblical verse in Luke 12:15 as an introduction, the paper will start by exploring the notion of the anthropocene era and the concept of human greed. The third section will deal with the methodology of assessing the Economy of Life Index with the “Ecolife” model. The fourth section will explore ecological racism and its current forms such as neocolonialism, nuclear testing and climate apartheid on international levels.

The aim is to present a new alternative concept of sustainable development assessment and advocate for the abolition of unveiled ecological racism in order to promote eco-justice on global dimension.

Ecotheological Lesson from Luke 12:15

In Luke 12:15, Jesus warned of the destructive effects of greed with regard to the integrity of life. In the New Century Version (NCV) of Luke 12:15 says “Be careful and guard against all kinds of greed. Life is not measured

³²³ Peralta and Mshana 2016.

by how much one owns.” Jesus pointed out that it is wrong to measure life with the quantity of ecological or economic possessions. Socio-political or spiritual components of life are more important values by which to measure the quality of life. From this teaching of Jesus in Luke 12:15, we should pay close attention, practically and theologically, to all kinds of greed. In this article we will see that there are at least five kinds of greed: ecological, economic, financial, social and political greed.

Ecological, economic and financial dimensions of greed can be quantitatively measured by their abundance. However, the criteria for evaluating spiritual greed are social and political in nature. These criteria can only be qualitatively measured by the nature of the relationship between humans (justice and morality) or between humans and the rest of creation (domination or sacredness) or between humans and God (humility).

The historical context of the biblical teaching of Jesus in Luke 12:15 is the misleading assessment of the importance of the abundance of possessions by the two brothers. Someone in the crowd said to Jesus, “Teacher, tell my brother to divide with me the property our father left us.” (Luke 12:13). This person had sorrow and bitterness towards life because he could not have his share of property from their inheritance. The only issue that matters to him is the quantity of his possessions with respect to his brother’s possessions. We do not know if this person was poorer or richer than his brother, but we know he felt that his life was meaningless because of his materialistic greed. Jesus wanted to remind us that qualitative dimensions of life (social and spiritual relationships) are more important than the quantitative aspects of life (ecological and economic-financial). Reconciliation with oneself, with the rest of creation, and with God is the key to a valuable life. Jesus showed that the measurement of life is not restricted to the computation of the current possessions, but it goes far beyond the physical existence and time - to eternity. Jesus called us to relate the measure of our earthly lifestyle with the same quality of life for future generations and eternity. A God-fearing life, which values love and the Holy Spirit above all, is a right measurement of the fullness of life (Luke 12:4). Spiritual fruits are the only everlasting treasures that accompany human beings even after the physical death. Jesus concluded in Luke 12:21 that social and spiritual values are riches toward God. If human beings manage to understand the relative values of every dimension of life, greed can be controlled and an economy of life could

prevail. The triune nature of God is reflected in the triune nature of the human, which is made in the image of the creator. Among the threefold nature of human needs, the spiritual component is the most determinant (Luke 12:10). The ecological and global crisis that humankind faces is the result of spiritual recession and the wrong measurement of the values of life (Luke 12:20).

Are we living in the new Anthropocenic Greed Era?

“We are now well into a new geologic era — the Anthropocene — characterized by the acceleration of environmental change”, confirms Brett Milligan.³²⁴ The impacts of humankind’s activities on the natural environment and the earth’s atmosphere has led to the end of the Holocene, the geological epoch that was characterized by the 12,000 years of stable climate since the last ice age during which all human civilization developed.³²⁵ The Anthropocene era is characterized by the constantly increasing concentration of carbon dioxide in the atmosphere since the mid-20th century, rise in sea levels, the global mass extinction of species, and the transformation of land by deforestation and other human artefacts. One of the Anthropocene’s defining characteristics is the displacement of materials and processes at exponentially accelerated rates.³²⁶ Prof Jan Zalasiewicz, chair of the Working Group on the Anthropocene (WGA), asserts: “The significance of the Anthropocene is that it sets a different trajectory for the Earth system, of which we of course are part.”³²⁷

The UN Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) identified the following disturbing trends, confirming anthropocene greed in the current century:³²⁸

75% of terrestrial environments are severely altered to date by human actions (marine environments 66%).)

³²⁴ Milligan 2015; see also Latour 2014.

³²⁵ Carrington 2016.

³²⁶ International Geosphere-Biosphere Programme 2015.

³²⁷ <http://quaternary.stratigraphy.org/working-groups/anthropocene>.

³²⁸ UN Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) 2019.

47% reduction in global indicators of ecosystem extent and condition against their estimated natural baselines, with many continuing to decline by at least 4% per decade.

Only 28% global land area held and/or managed by Indigenous Peoples, including more than 40% of formally protected areas and 37% of all remaining terrestrial areas with very low human intervention.

Approximately 60 billion tons of renewable and non-renewable resources extracted globally each year, up nearly 100% since 1980

15% increase in global per capita consumption of materials since 1980

>85%: of wetlands present in 1700 had been lost by 2000; loss of wetlands is currently three times faster, in percentage terms, than forest loss.

Tens to hundreds of times higher global species extinction rate compared to the average over the last 10 million years, and the rate is accelerating.

Up to 1 million species threatened with extinction, many within decades
>500,000 (+/-9%) share of the world's estimated 5.9 million terrestrial species with insufficient habitat for long term survival without habitat restoration.

300% increase in food crop production since 1970.

>100% growth of urban areas since 1992.

100% increase since 1980 in greenhouse gas emissions, raising average global temperature by at least 0.7 degrees.

10 times: increase in plastic pollution since 1980.

These are all proof of the ongoing Anthropocentric greed for which **Jesus Christ** warned human beings "to guard against all kinds of greed (Luke 12:15)".

Descriptions of Human Greed

There are many descriptions of human greed: individual, institutional, national, corporal and global. One of the hallmarks of human behaviour is greed. In Greek the word "greedy" is *ἀπληστος* (*a-plistos*). "*Aplistos*" is derived from the privative «*a*» and "*plistos*", which means "complete" or "full" (*πλήρος*). Therefore "greed" is the insatiable desire to have more materials or power. The opposite of greed is the «*plistos*», which means «full-integrated» or theoretically defined as a standard value, because supposedly doing well with his or her situation. The wholeness of human being consists in the fulfilment of a balanced threefold need: material,

mental and spiritual. (Mathew 4:4; Deuteronomy 8:3). According to Ancient Greek philosophers, happiness could be reached if all needs are satisfied in moderation, avoiding extremes.³²⁹

Anthropocentric Greed and its Measurement

"In today's complex economy where people often fail to recognize the structural connections between their desire to improve their living standards (greed) and the destructive effects suffered by others, Christian churches and ecumenical organizations have the task of making visible – and lifting up the voices of – those people who are in the socio-economic margins."³³⁰ The systematic approach of greed focusing on the holistic interconnections between its potential causes and its effects to the global society is attributed to structural greed.³³¹ Romans 10 reveals the Pauline teaching that human greed is a sin that has adverse consequences not only on our neighbours, the natural ecosystem and humankind, but also on creation as a whole.³³² At the individual level, structural greed accounts for the effects of greed into the balance of threefold human need: material, mental and spiritual.³³³ On the national level, it includes the effects of greed on the three basic pillars of the society: ecological sustainability (material overconsumption), monetary accumulation (economic-financial) and power inequality (socio-political).

The Greed Lines Concept

Greed lines are the levels of resource consumption, money accumulation or power seizure beyond which societal or individual behaviors may harm well-being and the integrity of creation. The negative effects of behaviors beyond greed lines can be expressed in terms of relative poverty, socio-economic injustice, political instability, biodiversity loss, climate change, etc. The Green Patriarch Bartholomew recommends that the impact of human greed on natural environments could be described as

³²⁹ Cleobulus of Rhodes (6th cent. BC).

³³⁰ Raiser 2011.

³³¹ Andrianos 2011.

³³² Rom. 8:20.

³³³ Andrianos 2012; see also Larrea 2012 and Goudzwaard 2011.

ecological sin.³³⁴ The earth is a common home for all human and non-human life whose survivals are interconnected. Therefore, every activity, or crime, which pushes nature beyond its natural capacity to regenerate should be confessed as an ecological sin.

While the poverty line is drawn at the point of personal consumption allowing for the satisfaction of basic needs, the greed line could be drawn at “the highest point of personal consumption which can be obtained without negatively affecting the integrity of nature, the welfare of society and that of future generations.”³³⁵

The methodology of Economy of Life index evaluation (Ecolife) Model

The WCC Ecological and Economic justice group (WCC-EEJ) began to explore the possibility of identifying multidimensional indicators of greed at the structural level which could be further developed into a structural greed index as the inverse complement of the Economy of Life index. The indicators could have as a basis people’s economic, social and cultural rights enshrined in the United Nations human rights conventions, which essentially define the protective limits for maintaining human life and promoting human development.³³⁶ As with the multidimensional Greed indicators (MGI) proposed by Michael (Taylor, 2011), the indicators ought to be simple and manageable enough (amounting to not more than 15) so as to be able to effectively communicate a message to a targeted audience of churches, policymakers, business establishments and citizens. Aside from raising awareness among the general public, the indicators are envisioned to eventually lead to the development and implementation of policies and decision-making measures that promote an economy of life by averting structural greed.

Computation of the Economy of life Index

An economy of life is by definition an economy where greed lines and poverty lines are carefully respected. An economy of life is optimal when the value of greed indicators are in moderation with respect to the

³³⁴ Ecumenical Patriarch Bartholomew 2011.

³³⁵ Larrea 2011 and Andrianos 2012.

³³⁶ UNDP 2011.

currently maximum achievable (greedy human performance) and the minimum (poverty human status) statistically available.

Our assessment of greed is based on Christian teaching outline above, which corresponds to the three-fold nature of human needs.³³⁷ The Economy of life index (EcoLI) is inversely related to the Multidimensional Structural Greed index (MSGI) in percentage: EcoLI = 100 – MSGI (%).

The MSGI has three major dimensions: Environmental (ecological sustainability), Monetary (economic-financial) and socio-political (power inequality). These three indexes will be referred to as the primary components of the MSGI. The overall multi-dimensional Structural Greed index is a function of the individual subsystem's integrity, which will be devised logically via fuzzy logic in an equal weight.³³⁸ This logic consists of combinations of IF-THEN derived from expert knowledge. By their nature, these functions are highly non-linear. The term integrity is defined as the degree to which each greed variable fulfills criteria of greed lines. Criteria of greed lines are critical targets that each greed indicator should surpass to be considered as greedy.

The economy of life is experienced in full (fictive 100%) if there is no human greed at all (fictive 0%). Similarly, the economy of life is absent (0%) if the society is totally governed by 100% human greed.

Assessment methodology and selections of indicators

Analytically, the multidimensional structural greed index (MSGI) of a country/individual is a combination of three primary components of structural greed: Environmental component (ENV-GI), referred as the ecological sustainability greed index, Monetary component (MON-GI), measured as the economic financial greed index, and Power greed component (POW-GI) that is the socio-political greed index

The Physical dimensions of the three primary greed indexes comprise five secondary structural greed indexes, which are:

- Ecological sustainability greed index (ESUS-GI),

³³⁷ Andrianos 2011.

³³⁸ The MathWorks Inc., 2012b. <http://www.mathworks.com>.

- Financial greed index (FINA-GI),
- Economic greed index (ECON-GI),
- Social greed index (SOCI-GI),
- Political greed index (POLI-GI).

Each secondary greed index is then assessed using the “Status-Desire/Trends” approach, which assumes that greed index is computed by the assessment of the current achievement (status) of accumulation or consumption of goods, money or power and the desire to increase or to reinforce that situation (desire/trends).

Therefore, the five secondary greed indexes are the result of the fuzzy combination of *nine variables* of structural greed, called greed indicators as explained below:

- The Ecological Greed Index (ECOL-GI) comprises only one greed indicator:
 - (1) The global ecological footprint³³⁹ (on national or individual level), because it is an evaluation of both status and desire aspects of resource use including land use, biodiversity use, “water use”, “energy use” and CO2 emissions.
 - The Financial Greed Index (FINA-GI) comprises two tertiary components or financial greed indicators, which are:
 - (2) The bank assets ratio (national level of financial assets share) or personal financial assets (on institutional or individual level) as status indicator for money accumulation;
 - (3) The country real interest rate (national level) or financial interests rates (on institutional or individual level) as desire/trends indicator for money speculation greed.
 - The Economic Greed Index (ECON-GI) comprises also two tertiary components or economic greed indicators, which are:
 - (4) The PPP GNI (purchase per parity gross national income) or annual revenue (on institutional or individual level) as status indicator for wealth sustainability;
 - (5) The governmental debt as percentage of GDP (national level) or households debts (on institutional or individual level) as desire/trends

³³⁹ <http://www.footprintnetwork.org/en/>.

indicator for wealth production vs. consumption.

- The Social Greed Index (SOCI-GI) comprises three tertiary components or social greed indicators, which are:

(6) The poverty ratio (national headcount percentage) or living standard (on institutional or individual level) as status indicator for social greed with respect to human rights;

(7) The top 10% of national income (national level) or social class (on institutional or individual level) as desire/trends indicator for socio-economic inequality.

- The Political Greed Index (POLI-GI) comprises two tertiary components or political greed indicators, which are:

(8) The corruption perception index (national level) or morality standard³⁴⁰ (on institutional or individual level) as status indicator for global ethic;

(9) The civil liberties indicator (national level) or personal freedoms (on institutional or individual level) as desire/trends indicator for power seizure and dignity inequality.

The variables for the structural greed evaluation are called greed indicators. Quantitative values of greed indicators, whose statistical data can be obtained from many sources such as United Nations University (WIDER)³⁴¹ and related organizations, World Bank,³⁴² World Resources Institute,³⁴³ Germanwatch,³⁴⁴ International Federations, governmental, universities,³⁴⁵ and nongovernmental organizations, etc., constitute the physical domains of greed variables. Further details on the methodologies as well as case studies implementation of the GLIMS assessment of Economy of life index can be found at the *Kairos for Creation – Confessing Hope for the Earth*³⁴⁶

³⁴⁰ <http://www.moralityindex.com/>

³⁴¹ www.wider.unu.edu

³⁴² <http://data.worldbank.org/data-catalog/world-development-indicators/wdi-2012>

³⁴³ <http://www.wri.org>

³⁴⁴ <https://germanwatch.org>

³⁴⁵ <http://www.sustainability.tuc.gr/index.html>

³⁴⁶ <https://www.ecen.org/articles/kairos-creation-publication-offers-theological-response-climate-emergency>

publication that has been released by a group of international theological experts who met in June 2019 in Wuppertal, Germany.³⁴⁷

Ecological Racism and its Contemporary Forms

Ecological racism refers to any attitude, policy, practice or decision that affects individuals or communities' environment differently based on race, colour or social class identities.³⁴⁸ It also includes all restrictive measures that exclude or undermine the full authority of locals in decision making processes related to the fate of their immediate environment. Ecological racism is revealed by examining the four pillars of ecological sustainability which are: land, air, water (Ocean) and, biodiversity of the ecosystem where Indigenous people live.³⁴⁹

In this section we will consider ecological racism in the context of colonialism (land occupation), climate apartheid (air pollution) and nuclear tests overseas (water and biodiversity mass destruction).

Colonialism as the Basic Form of Ecological Racism

Colonialism is defined as control by one power over a dependent area or people.³⁵⁰ It occurs when one nation subjugates another, conquering its population and exploiting it, often while forcing its own language and cultural values upon its people.

Neocolonialism is a form of domination in which a foreign power uses military force to impose its political, economic, social and cultural institutions on an Indigenous population so it can control their resources, labour and markets.³⁵¹

The main motive for colonialism is to control natural resources which belong to other ethnicities. In the beginning of colonial history, Christopher Columbus set sail from Spain in 1492 and landed in the Bahamas and claimed it for Spain. Since the "discovery" of the new world (the Americas) Indigenous people have been deprived of their right to manage their land.

³⁴⁷ The Wupperhal Call 2019.

³⁴⁸ Pager and Shepherd 2008.

³⁴⁹ Phillis and Andriantsoaholainaina 2001.

³⁵⁰ <https://www.merriam-webster.com/dictionary/colonialism>

³⁵¹ Marger 1991.

Colonialism was the first and most cruel manifestation of ecological racism while powerful countries continue to defend it in the name of “progress”. Between 1492 and 1800, Europeans took profit from the conquered and colonized North America, South America, Asia, and Africa, they have established the foundation of international trade between nations since then. Through colonialism and neocolonialism, local people are forced to cultivate crops and extract minerals or raw material for export to colonists’ home countries. When colonists needed a labour force, they imported slaves from other conquered countries. Between the mid-fifteenth century and nineteenth century, an estimated 11.7 million enslaved Africans were transported to the new world to support colonialism.³⁵²

The industrial revolution, which started in Britain around 1850 and then spread to other European countries and the United States, resulted in a high demand of raw materials for the benefit of the colonizing countries. This period, known as the age of imperialism, saw the most rapid colonial expansion in history.³⁵³ By 1914, almost 84% of Africa had been divided into European colonies. Colonizing countries justified their conquests by asserting that they had a legal and religious obligation to bring civilization to “barbarians” and “savage nations”. While colonialism was challenged by the international period of decolonization around 1960, Indigenous people are still struggling with current neocolonial practices that continue to take benefits from their land without their consent.

Since its conception, colonialism and slavery are pure acts of ecological racism. Moreover, colonialism’s impact on colonized nations are environmental degradation, economic instability, ethnic rivalry and human rights violations. In some countries, such as Ghana, colonial governments encouraged medical and technological investments, but colonists are still ruling over indigenous people as if they are commodities for their prosperity.

Today there are still many islands and countries that remain under colonial rule. For example, France has New Caledonia, Haiti, Bora Bora and other Polynesian islands. Half of St Maarten, Aruba and Curacao in the Caribbean islands are under Dutch colonial rule. Hawaii and Puerto Rico are owned by the United States. West Papua is ruled by Indonesia.

³⁵² Chaliand and Rageau 1995.

³⁵³ Ferrante 2008.

Smaller Caribbean islands are still under colonial control by the US, UK, France, and Netherlands.

The United Nations has tried to promote decolonization and declare the 21th century as decade of decolonization. According to the United Nations list of non-Self-Governing Territories, there are still 17 countries that are under colonizing rule and suffer from ecological racism as of May 2019.

Colonization also had a deep psychological impact on Indigenous people. Not only were their lands taken away, but also their identity have been demolished. The colonized were made to feel inferior race compared to the 'whites', shattering their self-esteem and poisoning their culture. Do you ever wonder why English, French, German and Spanish are considered some of the most important languages to learn, or why they are the most commonly used languages across the world? The answer is colonialism and the motivation was ecological racism.

The power of colonialism has enormous ecological effects. Developed nations or international corporations that exploit other nations for their own gain by imposing their culture and by exploiting natural resources are perpetrating ecological racism. Under the guise of development, there are still few colonized territories with significant economic importance for the colonists. The Cayman Islands and Bermuda are on the top ten lists based on GDP per capita, and Guam provides important regional security. Gibraltar and the Falklands are diplomatically disputed, so it is becoming difficult to decolonize them.

Colonialism is essentially a greedy game of power that needs to be completely eradicated like the rampant disease that it is. Apart from physical decolonization (ecological racism), decolonizing the minds of the colonized is also important, since colonialism still impacts the memory and attitudes of the victims (economic and social racism), many of whom find it difficult to move on from those horrors. The Black Lives Matter protests in the USA is a current manifestation of the ongoing aftermath of the neocolonialism in our century.³⁵⁴

Nuclear Testing Overseas as the Culmination of Ecological Racism

³⁵⁴ <https://artaflicamagazine.org/the-universal-truth-of-black-lives-matter-a-view-from-europe/>

During the Anthropocene, human greed undermines not only civilization, but the sustainability of the whole earth is threatened by weapons of mass destruction. Nuclear technology, which is used to create nuclear weapons, is promoted as a solution to the need for clean energy in developed countries, but it is mainly used in the production of weapons to maintain the international political balance of power. Countries with nuclear weapons believe they have more right to legitimize their policies, so the race for nuclear weapons is a proxy for the balance of power for the twentieth century civilization.

Despite international efforts to ban nuclear tests, powerful countries keep their nuclear weapon projects running. Knowing the devastating effects of nuclear bombs on biological ecosystems, they look for other territories to carry out their nuclear tests which are needed to determine the effectiveness, yield, and explosive capability of their nuclear weapons.³⁵⁵

A nuclear weapon (also called an atom bomb, nuke, atomic bomb, nuclear warhead, A-bomb, or nuclear bomb) is an explosive device that derives its destructive force from nuclear reactions, either fission (fission bomb) or from a combination of fission and fusion reactions (thermo—nuclear bomb). A nuclear device no larger than conventional bombs can devastate an entire city by blast, fire, and radiation. Since they are weapons of mass destruction, the proliferation of nuclear weapons is a focus of international relations policy.

Nuclear weapons were firstly used near the end of the World War II in 1945 by the United States to destroy the Japanese cities Hiroshima and Nagasaki. These bombings caused injuries that resulted in the deaths of approximately 200,000 people at that time and health problems are still related to these bombings after many decades.

From the tragic atomic bombings of Hiroshima and Nagasaki until the beginning of the twentieth first century (2017), nuclear weapons have been detonated over two thousand times for testing and demonstration by few powerful nations which possess such weapons or are suspected of seeking them. The only countries known to have detonated nuclear weapons—and acknowledge possessing them—are (chronologically by date of first test)

³⁵⁵ https://en.wikipedia.org/wiki/Nuclear_weapon

the United States, Russia, the United Kingdom, France, China, India, Pakistan, and North Korea. Israel is believed to possess nuclear weapons, though, in a policy of deliberate ambiguity, it does not acknowledge having them. Germany, Italy, Turkey, Belgium and the Netherlands are nuclear weapons sharing states. South Africa is the only country to have independently developed and then renounced and dismantled its nuclear weapons.³⁵⁶

Since the first nuclear test on July 16, 1945, at least eight nations have detonated 2,056 explosions at dozens of test sites from Lop Nor in China, to the atolls of the Pacific, Nevada, Algeria (where France conducted its first nuclear device), western Australia (where the U.K. exploded nuclear weapons), the South Atlantic, Semipalatinsk in Kazakhstan, across Russia, and elsewhere.³⁵⁷

Most test sites are on the lands of Indigenous peoples and far from the capitals of the testing governments. Indigenous people have no right to resist -or even to know- about the nuclear weapon tests. However, they are the ones who suffer immediately from radioactive driven health problems. Simultaneously their lands and atmosphere are polluted by the remaining radioactive materials from nuclear tests. 528 tests have been detonated in the atmosphere, which spread radioactive materials through the air. Many underground nuclear blasts have also vented radioactive material into the atmosphere and left radioactive contamination in the soil.³⁵⁸

Nuclear testing overseas is one of the most criminal forms of ecological racism as it is driven by the selfish protection of colonizing territories and globally endangers the remote colonized ecosystems with mass destruction through destructive radioactive materials. Many generations of Indigenous people and many local species could suffer from chronic genetic diseases or extinction because testing nations want to proof-test new sophisticated warhead nuclear weapons for political reasons.

Negotiations on a global Comprehensive Test Ban Treaty (CTBT) were

³⁵⁶ Executive release. «South African nuclear bomb». Nuclear Threat Initiatives. Nuclear Threat Initiatives, South Africa (NTI South Africa). Archived from the original on September 28, 2012. Retrieved March 13, 2012.

³⁵⁷ <https://www.armscontrol.org/factsheets/nucleartesttally>

³⁵⁸ https://en.wikipedia.org/wiki/Nuclear_weapons_testing

concluded and a treaty was opened for signature on September 24, 1996, but it has not yet entered into force. The CTBT aims at prohibiting «any nuclear weapon test explosion or any other nuclear explosion» and establishing an international test monitoring and verification system. Before the CTBT, there was also the Treaty on the Non-Proliferation of Nuclear Weapons³⁵⁹ which entered into force in 1970 with the aims to reduce the spread of nuclear weapons, but its effectiveness has been questioned, and modernization of weapons continues to this day.³⁶⁰

The World Council of Churches and many faith-based NGOs have manifested their support of the treaty on the Non-Proliferation of Nuclear weapons since the time of cold war. The international Campaign to Abolish Nuclear Weapons (ICAN) is a coalition of non-governmental organizations that promotes adherence to and implementation of the United Nations Nuclear Weapon Ban Treaty.³⁶¹ The World Council of Churches has consistently emphasized the need to engage in ethical reflection and advocacy on nuclear weapons and nuclear energy from the standpoint of justice, participation and sustainability. The WCC First Assembly in 1948 declared war with atomic and other modern weapons as “a sin against God and human”. Church policies have addressed nuclear dangers ever since. In July 2014, the World Council of Churches Central Committee issued a statement towards a Nuclear-Free World. This statement followed its 10th general assembly in South Korea which has the highest geographic concentration of nuclear power plants in the world.³⁶² Even today the WCC is leading anti-nuclear campaigns and advocacy, especially in the Pacific Islands, by promoting the ban of nuclear tests in these regions. Nuclear tests are undeniably the most disastrous ecological racism as it endangers the whole creation with mass destruction and harms the innocent indigenous communities with irreversible health damages.

Climate Apartheid as the new face of ecological racism

³⁵⁹ https://en.wikipedia.org/wiki/Treaty_on_the_Non-Proliferation_of_Nuclear_Weapons

³⁶⁰ Ian Lowe, «Three minutes to midnight», Australasian Science, March 2016, p. 49.

³⁶¹ <https://www.icanw.org/>

³⁶² World Council of Churches Central Committee 2014.

A 2019 report from the UN Special Rapporteur on extreme poverty and human rights says “An overreliance on the private sector could lead to a climate apartheid scenario in which the wealthy pay to escape overheating, hunger and conflict, while the rest of the world is left to suffer.”³⁶³ The effect of the climate crisis does not have boundaries and it affects mainly those who are already victims of poverty. Because of undermined economic and basic social rights, people in poor countries have no right to decide on the way to mitigate the effects of climate change in their own areas. Developed industries and intensive agricultural exploitation in affluent countries create immense air pollution, which affects the global temperature of the entire planet. The rise of temperature due to the accumulation of greenhouse gases (carbon dioxide, methane, FCFC, etc.) impacts vulnerable communities whose survival depends directly on the weather conditions. Global warming brings extreme droughts, floods or climate related diseases that are hard to overcome for powerless communities such as local farmers in remote Africa, Asia or Latina America. Climate apartheid is evident when people living in rich countries use their polluting cars many times a day to go for shopping or for leisure while poor farmers are dying from lack of food and shelter because of a rise in sea or extreme weather events such as ice melting, droughts and floods. In the press release following the 2019 report, the Special Rapporteur said the impacts of global warming are likely to undermine not only basic rights to life, water, food, and housing for hundreds of millions of people, but also democracy and the rule of law.³⁶⁴

On a global scale, climate change threatens to “undo the last 50 years of progress in development, global health³⁶⁵, and poverty reduction worldwide” as it was stated by the UN expert Alston in 2019. About 70% of the costs of the ongoing climate crisis will be paid by developing countries in terms of ecological destruction and socio-economic recession, while they contribute the least to global carbon dioxide emissions.

Despite international efforts to promote climate justice by issuing

³⁶³ UN Special Rapporteur on extreme poverty and human rights 2019a, para. 51 (extracts); see also Carrington 2019.

³⁶⁴ UN Special Rapporteur on extreme poverty and human rights 2019b.

³⁶⁵ Carrington 2018.

climate treaties for the mitigation of climate change effects, global warming is still on course for an increasing catastrophic 3 degree Celsius of heating. Radical change in environmental laws to push “polluters” to pay for climate damages overseas is needed, otherwise climate apartheid will continue to jeopardize human rights and the inequality gap, which is basically rooted in socio-ecological racism.

Without a decisive shift in the understanding of climate change as an issue of ethical apartheid, the climate crisis will have the greatest impact on the most vulnerable as “it could push more than 120 million more people into poverty by 2030” according to UN report.³⁶⁶

Conclusions

To achieve the fullness of life, we need a new alternative to the concept of sustainability, which is based on the moderated interrelations between all members of creation. That could be measured by the Economy of Life Index where the effects of human greed are assessed in a holistic approach.

The fragile balance of the Earth’s sustainability has been threatened to an unprecedented level by unlimited human greed during the last two centuries. The deep and fast human effect on the earth environment has led to a new geological era called the “Anthropocene”. The main characteristics of the Anthropocene are a higher concentration of carbon dioxide in the atmosphere, plastic and chemical pollution of the water system, the rise of global temperature and sea level, biodiversity extinction, radioactive elements worldwide, etc. Disrupting the holocene epoch, anthropocentric greed will determine the future of the earth’s habitability and the sustainability of human society that is fraught with economic inequalities, ecological racism, and social injustice. Church leaders, policy makers and faith-based communities will need a scientific tool to quantify the effects of human greed in order to promote sustainable policies toward eco-justice and sustainability. The Economy of Life Index evaluation can increase understanding and measure the effects of human greed.

In this essay, we introduced two concepts which are inversely interrelated using the methodology of fuzzy logic. We presented the

³⁶⁶ UN News 2019.

model, called “ECOLIFE” (Economy of Life Index Evaluation), which is an expansion of the previously developed model “GLIMS” (Greed Lines and Life Indexes Measurements System”), to provide an explicit description of the concept of economy of life versus structural greed. Using linguistic variables and fuzzy linguistic rules, the model offers quantitative measures of principal greed indexes, which are then combined into a multidimensional structural greed index (MSGI). The global Greed index is then converted into the final Economy of Life index measurement of the system. The method allows greed indexes in national and individual levels to be measured according to nine greed indicators with ecological, economic and socio-political dimensions.

The proposed Economy of Life index evaluation provides perspective for tackling anthropocentric greed and issues of ecological racism such as neo-colonialism, nuclear overseas testing and climate apartheid. It reveals the need for ecological conversion and the global restoration of the relationships between human beings, creation and God the Creator. The solutions to curb anthropocentric greed and to eradicate ecological racism are not only economic and technological but social and spiritual conversions. The concept of ecological crimes, viewed as ecological sins by Christian leaders, should be incorporated in sustainability policies so as to limit multidimensional structural greed and prevent forms of ecological racism.

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Buryat Shamanism and Buddhism and Environmental Concerns in the Lake Baikal Region (Russia)

Anastasia Fedoseeva and Alan S. Weber

Introduction

Indigenous knowledge systems have gained greater attention in recent ecotheological studies, since even non-theistic worldviews (based on metaphysical forces, powers, or spirits) inevitably posit some relationship between spiritual practice and material nature and natural ecosystems. This paper explores the ecotheological beliefs of the Buryat peoples living in the Lake Baikal region of Russia, both with respect to Shamanism and Buddhism, which are the two main spiritual orientations of the Buryat people along with Russian Orthodox Christianity. The research attempts to answer the question of whether the traditional theological worldviews of the Buryats can form the basis of sustainable ecological practices in the Lake Baikal area, a region experiencing serious environmental threats. The authors first summarize the hydrological, geological, and ecological research related to sustainability issues in the Lake Baikal region collected by Russian, and joint Russian-American, -Japanese, and -Belgian scientific expeditions beginning in the 1950s.

Study of the ecology of Lake Baikal began with mineralogical reports in the 1860s-1870s for potential exploitation of oil and natural gas resources first described by I.M. Gmelin in 1833.³⁶⁷ The lake floor contains methane gas hydrates and the natural release of methane gas bubbles has been noted by the indigenous peoples.

The authors then review the anthropological and theological studies of Buryat religion, both traditional Shamanism and Buddhism, including religious views of the natural world and the Buryat's spiritual orientation towards natural ecosystems. In 2019, the authors made 3 field trips to the

³⁶⁷ Kontorovich et al. 2007, p. 1046.

Lake Baikal region (Irkutsk, Bol'shoye Goloustnoye, and Ulan-Ude) and interviewed local Buryat traditional Shamans and Buddhists concerning their ecotheological perspectives. The authors were also able to obtain local pamphlets on Lake Baikal ecology and natural history published in Russian by Buryat environmental activists. Lake Baikal is an important world Biome since it is the largest freshwater lake in the world by volume at 23.6 cubic kilometers. Scientists estimate that it holds approximately 23% of the world's fresh water due to its extraordinary depth of 1,642 meters. With the earth's fossil freshwater resources in decline through over-exploitation, and increasing anthropogenic desertification, water scarcity will be one of the key challenges facing mankind in the Anthropocene. As glaciers are melting at unprecedented rates, more and more of the earth's fresh water stored in glacial ice is entering the oceans and becoming salinated.

Lake Baikal has witnessed increasing industrialization of its watershed; tourism, increasing population growth, illegal logging, mining, overfishing and pollution from input rivers are the current primary ecological threats to the Lake Baikal region. Buryats are the main indigenous inhabitants of the Lake Baikal region, and many derive their livelihood directly or indirectly from the Lake. The religious views of Buryat people on ecological sustainability are key to an understanding of the current environmental challenges facing the region, and must be accounted for in any mitigation strategies to prevent further ecological harms to Lake Baikal. In 1996, the Lake Baikal basin was declared a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site.



Ecology of Lake Baikal and Threats to the Baikal Biome

Excluding the Caspian Sea with an average salinity of 1.2%, Lake Baikal

is Russia's largest freshwater lake by volume at 23,615,390 square kilometres.³⁶⁸ Baikal is also the earth's deepest lake at 1,642 meters and potentially the world's oldest lake as well, estimated at 25 million years.³⁶⁹ Lake Baikal represents a unique natural research laboratory for sedimentologists to measure the progress of climate change since its sediments have not been scoured by ice sheets, which offers strong arguments to preserve the lake in its natural state for scientific research.³⁷⁰

Mining within the Baikal watershed including the lakebed itself represents one of the key sustainability issues for the region, since although mining activities can pollute surface and groundwater, and damage natural landscapes, the considerable mineral resources in the region also provide employment opportunities. Thus, in all sustainable thinking about the environment, a balanced approach must weigh protection of the environment against human needs. Therefore, proposals such as total exclusion zones are not practical since the lake and its watershed are a source of food, raw materials, pasture lands and employment (fishing, grazing, shipping, mineral extraction, tourism, etc.) for local peoples. The region could potentially become an area of major economic development because of "abundant natural resources such as fuel and energy (bituminous and brown coal, oil and gas, condensate), hydropower and wood, gold, mica, iron ores, semiprecious stones, Baikal water, etc.... unlike other regions of the world, it has vacant lands fit for habitation and for all kinds of economic activity."³⁷¹

Lake Baikal is the only known fresh-water lake with confirmed clathrate hydrates. Gas hydrates or clathrates are frozen crystalline lattices or cages that trap but do not chemically bond to other liquids and gases, such as methane (CH_4 or 'natural gas') and hydrogen (H_2). Clathrates form in permafrost or deep ocean sediments. Methane clathrates ($\text{CH}_4 \cdot 5.75\text{H}_2\text{O}$) and ($4\text{CH}_4 \cdot 23\text{H}_2\text{O}$) can be used as fuel sources, and China and Japan are developing deep water extraction methods of hydrates for energy production. Local people have long known about methane gas seepages

³⁶⁸ De Batist, 2002.

³⁶⁹ Ibid.

³⁷⁰ USGS, "Lake Baikal".

³⁷¹ Koptyug and Uppenbrink 2011, p. 103.

from Lake Baikal since gas bubbles liberated near surface lake ice can be ignited into an entertaining fire burst. In 1997, Mikhail Kuzmin of the Institute of Geochemistry in Irkutsk, recovered gas hydrates from a depth of 120-160 meters under the lakebed.

Future mining of Lake Baikal hydrate deposits could potentially cause the following environmental damage: 1) increase in water turbidity, with cascading consequences for the food web from reduced sunlight; 2) release of dissolved methane and other gases into Baikal, changing current hydrochemical conditions; 3) contribution to climate change from released methane, one of the most potent greenhouse gases with the highest radiative forcing. As Klerkx points out, "voluminous methane release can result in acceleration of global rise of the Earth's temperature by 10 to 100 times, which would lead to further decomposition of natural hydrates. Arctic regions and adjoining areas, rich in gas hydrates deposits, are regions at great danger."³⁷²

Organic pollution sources are also a concern at Lake Baikal. Belykh et al. documented paralytic shellfish toxins.³⁷³ Toxic cyanobacteria blooms threaten other micro-organisms essential for the food chain, as well as human drinking water and animal water. Algae blooms often result from phosphorous-induced eutrophication, which normally arises from agricultural run-off and domestic wastewater. The decay of nuisance algae blooms releases hydrogen sulphide which is toxic to most other organisms.

In 2008-2013, previously unrecorded green algae were detected in southern Lake Baikal with areas of 100% coverage of stone bottom sediments.³⁷⁴ Lake Baikal Buryats living at Bol'shoye Goulostnoye confirmed to the authors that washing soaps brought by tourists as well as

³⁷² Klerkx et al. 2004.

³⁷³ Timoshkin, De Baptiste et al., 2015, pp. 13-23; Moreover, Kravtsova et al. 2014, pp. 441-448, reported "for the first time, species of the genus Spirogyra, non-typical of the open nearshore waters of Lake Baikal, formed algal mats with Ulothrix zonata, Ulothrix tenerrima, and Ulothrix tenuissima near the village of Listvyanka, Russia", linking this phenomenon to the "increased recreational load".

³⁷⁴ Mass development of green filamentous algae of the genera Spirogyra and Stigeoclonium (chlorophyta) in the littoral zone of the southern part of Lake Baikal. O. A. Timoshkin et al. 2015. pp. 13-23.

inadequate local septic systems were a serious problem for the lake, and they observed that the appearance of green algae on the lake shore has arisen only within very recent times.

A mass mortality event of Lake Baikal seals in 1987-88, traced to morbillivirus infection, may have been triggered by high levels of man-made organochlorine compounds such as DDT and PCBs since these chemicals have been implicated in reduced immune function in mammals.³⁷⁵ The Baikal seal is not endangered and can be legally hunted by Buryats subject to quotas. The collapse of the collective farming system in the 1990s in Russia and the reduction of the use of expensive agricultural chemicals may have benefitted the lake's ecosystem, but renewed industrialization is again increasing chemical pollutant levels. The Baikal seal is the top predator along with man in the lake's food chain and its extinction would cause disruptive and unpredictable changes in the entire food web.

Savchenko et al. have additionally proposed based on epidemiological evidence a potential link between pollution in the industrialized Irkutsk region of Lake Baikal and decreased immune function in humans: "a worsening of the population's health is manifested, first of all, in disturbances of the immune system, when teratogenesis, mutagenesis and carcinogenesis are activated. A correlation between water quality and public health is observed. For the last 20 years, an annual increase of incidence of lung diseases has been recorded. The mean mortality from these diseases in Russia is 62.7 per 1000; in Eastern Siberia this figure is 65.6 and in the Irkutsk region 66.0."³⁷⁶

The Buryats of Lake Baikal a. Cultural and Political History of the Buryat People in Siberia

Paleontological evidence of the native peoples of Siberia stretches back to the Neanderthal period with Denisovans, *Homo neanderthalensis* and *Homo sapiens* documented to ca. 40,000 BCE. The term Siberia is a loose geographical designation for the region west of the Ural Mountains. Due to extreme weather conditions, especially in the north, Siberian peoples

³⁷⁵ Kouichi et al. 2004, p. 92.

³⁷⁶ Savchenkov et al. 1996, p. 93.

were closely adapted to their environment with many of the indigenous tribal units following nomadic hunter-gatherer patterns of life or semi-settled pastoralism in the Steppe regions.

Thus, a detailed knowledge of the limited number of edible plants, animals, fungi and insects was paramount to survival, as well as knowledge of the properties of essential raw materials such as wood, grasses, dungs, and animal hides for shelter, transportation, clothing and hunting implements. D.G. Anderson lived among the Evenki, a nomadic people of Siberia, and noted their extensive knowledge of the wood of every tree species – what it could and could not be used for, its preparation for use in sleighs, hunting implements, and tentpoles, etc.³⁷⁷ Although all pre-industrial peoples needed these skills to some extent, the variable and extreme weather patterns particularly in northern Siberia (arctic Tundra conditions, reduced number of edible species, severe winter temperatures, lack of natural shelters) and the southern regions (drought, water scarcity) necessitated close observation of nature and how to extract life-saving materials from it, and how to avoid its life-threatening dangers. At the other extreme of natural environments are the tropical regions with greater Net Primary Productivity, where a wider range of vascular plants (autotrophs) produce edible fruits, nuts, leaves and roots without cultivation, and where there is ample rain and moderate temperatures so that both animal and plant food sources regenerate more quickly, and fast-growing species such as rodents and poultry can be exploited rapidly for food. These primary conditions have undoubtedly shaped cultural patterns. Thus, the Siberian peoples have not only made nature their locus of religious practice, but also the object of their knowledge systems.

The Lake Baikal region has been politically contested among indigenous central Asian tribes, Mongols, and later Russians. Ethnic Russians settled Cisbaikal and Transbaikal from 1625 to 1689, with Buryat Mongols becoming Russian subjects after the Treaty of Nerchinsk in 1689. Widescale conversion to Buddhism from Shamanism occurred in 1712 in Buryatia after the arrival of 150 Tibetan Monks and Lamas from Tibet and Mongolia. Following the recognition of Buddhism in Buryatia in 1741 by Empress Elizabeth of Russia, the region became increasingly autonomous

³⁷⁷ Anderson, 2000, pp. 122-23.

up until the Russification campaigns of the 19th century, and then the suppression of Siberian cultures (including Shamanism and Buddhism) during the 1920s and 1930s. Collectivization of farms, which required the settling of nomadic tribes, caused further cultural disruption. By the 20th century, Russians were the dominant ethnic group in Siberia, followed by Buryats, the largest of the indigenous groups of Siberia.

The Republic of Buryatia, north of Mongolia in the Lake Baikal region, is an autonomous republic within the Russian Federation. About 460,000 Buryats live in the Russian Federation (census 2010) with smaller populations in Mongolia and China. In the late 19th century, Buryats were granted more autonomy by the Russian Tsars, then followed a period of farm collectivization under the Soviets in the 1920s and 1930s. Soviet schooling resulted in most Buryats becoming fluent in the Russian language. In 1992 Buryat and Russian were designated as the two official languages of Buryat Republic, but Russian is now the dominant means of communication.

b. Shamanism in the Buryat Region

Shamanism has been studied in depth by ethnographers, cultural anthropologists, and sociologists but there is no agreement on its origins, practices, and meanings. The archetypal approach of Mircea Eliade, who found common mythological elements in Shamanistic practices among extremely diverse cultures in Africa, Meso-America, and Siberia, has been called into question by modern scholars. Broadly, Shamanism refers to a set of religious practices carried out when a specially designated person ('priest' or 'shaman') contacts or mediates the spirit world in altered states of consciousness. The word shaman may derive from the Evenki or Tungus language word šamán, for 'one who knows.' Thus Shamans are connected both with knowledge of, and by extension control over, the natural world.

Beginning in the 19th and early 20th century and in the Soviet period, Shamans "were branded by Russian settlers as practitioners of fraudulent medicine and perpetrators of outdated religious beliefs in a dawning age of science and logic. Shamans were sometimes jailed and accused of anti-Soviet activity. By the 1980s most shamans of Siberia and Central Asia had indeed been discredited with their people by Soviet officials and

doctors.”³⁷⁸ It is plausible to argue that the suppression of both the Buryat language and their nature-based form of spiritualism (along with forced sedentarization and subsequent westernization) has led to unsustainable lifestyles and ecological imbalance in the Lake Baikal region. A shift towards western patterns of life has certainly introduced consumerism, manufactured goods, plastics, chemical industries, pesticides, automation, automobiles, etc. which all contribute to pollution and increased resource use. However, as most of the Buryat interviewees told the researchers, it is now difficult or impossible, and perhaps not even desirable, to reject modernism and return to traditional patterns of hunter-gatherer and nomadic life.



Traditional prayer flags at Lake Baika.

³⁷⁸ Balzer 2011, xiii.

c. Buddhism in Buryatia

Tibetan Buddhism was introduced into Mongolian society through the Yuan Dynasty (1271-1368), and re-emerged two hundred years later after a reversion to shamanistic practices. A fusion with traditional shamanistic practices naturally occurred. In Buryat historical sources, Buddhism was deemed insignificant until 150 Tibetan and Mongolian lamas visited the Selenga and Khori clans.³⁷⁹ In 1764, Empress Catherine the Great proclaimed Pandito Khambo Lamas as the head of the Buryat Buddhists, which had the political effect of weakening ties with neighboring Mongolia and the Tibetan Buddhist community, and encouraging the dependence of Buryats on the Russian state.

Many northern Mongolians preferred Tsarist rule to political domination by Mongolia, thus 18th-century Buryats were not colonized by Russia *per se*, but entered into a symbiotic relationship with the Russian State. The western Buryats of Irkutsk region in general have been most impacted by Russian culture, choosing Russian names and sometimes simultaneously practicing Russian Orthodox Christianity and Shamanism. It should be noted that many Buryats do not consider Christian, Shaman, or Buddhist practices as mutually incompatible.

In 1924, the Russian-backed communist Mongolian People's Republic was established, and Khorloogiin Choibalsan instituted a massive purge of Buddhist leaders, the execution of lamas, and destruction of monasteries since Buddhist groups had organized into powerful political and financial networks in both Mongolia and southern Buryatia. After the Soviet Union collapsed, and transitioned to a multi-party democracy, both Buddhism and Shamanism experienced a resurgence. According to Elaeva, "in 1996-97, 35.7% of Buryats identified as Buddhist as a marker of their cultural difference, while only fifteen years later, in 2012-2013, 46.7% expressed this view."³⁸⁰

Governmental and Scientific Solutions to Lake Baikal Environmental Concerns

Several informal and formal Lake Baikal environmental activism groups

³⁷⁹ Bernstein 2013, p. 3.

³⁸⁰ Ibid, p. 24.

have arisen since the 1950s, for example “the Communist Party-sanctioned All-Soviet Society for Nature Protection (VOOP) and the Komsomol student nature protection movement, the *druzhiny*.³⁸¹ Informal groups have also been formed to protest the Baikalsk Pulp and Paper Mill and to support the Great Baikal Trail, a hiking path around the lake.

In the early 1990s, V. Gukov, Section Chief of the Department of Regional Economics and Location of Productive Forces of Eastern Siberia, proposed that the state purchase Baikal under a ‘Fund of Future Generations’ or ‘Lake Baikal Fund’. “The newly established fund (or the system of funds) would have its capital in the form of a portfolio of shares (possibly including foreign shares) and would be getting dividends (capital assets are not to be spent) which might be directed to social programs, as well.”³⁸²

Research on the environment has been carried out by the previous Soviet government and Russian Federation government, as well as academic research institutions in Irkutsk along with foreign scientists. A study by a Cambridge, UK group in 1996 comparing the Russian and Mongolian sides of the southern Baikal region using satellite imagery, suggested that settled and mechanized agriculture may be contributing to greater land degradation in Buryatia. The team examined the different national policies applied to Mongolia, Inner Mongolia, Buryatia, Chita, Tuva and Xinjiang which have similar pastoral societies. The report noted that: “Local officials estimated that over 70% of the pasture at both case-study sites had suffered degradation, whereas in the Mongolian [Russian] and Tuvan case-studies the amount of degraded pasture was considered by interviewed officials to be negligible, considerably less than 10% in each case. This is confirmed by the analysis of satellite photographs that show that along the Russian - Mongolian border there appears to be a severe loss of topsoil on the Russian side, and almost none on the Mongolian side. In Buryatia and Chita agriculture is generally more mechanised than in the other parts of Inner Asia. Livestock is relatively static and there is a relatively large amount of fodder grown, cut by machines, and moved to the animals.”³⁸³

U.S. President George H.W. Bush and Russian President Boris Yeltsin

³⁸¹ Brown 2018, p. 19.

³⁸² Koptyug & Uppenbrink 1996, p. 88.

³⁸³ Ibid, pp. 268-269.

signed a 1992 agreement to protect the Lake Baikal Watershed. A 1993 report called the “Comprehensive Program” led by the private American environmental planner George Davis mapped out the environmental resources of the region and proposed land use plans.³⁸⁴ The planning involved local Buryat leaders and councils as part of the planning processes. Some of the land use programs were carried out in the Okinsky region of southern Buryatia, such as transfer of forest lands to protected reserves.

The environmental planning by the joint Russian-American group for the Okinsky region south of Baikal which resulted in the Oka Declaration represents a successful model of government planning which takes into account local religious practices, including preservation of sacred sites. As explained by David Plumley:

The Oka Declaration is, in essence, an ethics and policy statement by the indigenous people of the Oka, in which they identify the aspects of their culture, lifestyle, and environment that they want to protect and conserve. Overwhelmingly adopted by plebiscite in February 1995, the Oka Declaration accomplished several important things: it affirmed local support for the comprehensive program for the entire Lake Baikal Basin, consolidated support for the proposed Okinsky National Park and Culturally Protected Landscape, articulated the cultural, spiritual, ecological, and economic priorities of the native peoples of the region, and finally, it provided a policy document for future decision making.³⁸⁵

In addition, The Global Environmental Facility (GEF / UNDP) instituted the 3.9 million USD project for Integrated Natural Resource Management in the Baikal Basin Transboundary Ecosystem in 2011; presenting the project objectives as “ensuring ecosystem resilience, reduced water quality threats in the context of sustainable economic development.”³⁸⁶

Governmental responses to concerns such as declining fish catches have been addressed by such measures as quotas on catches and building fish hatcheries: at the Bolsherechensk fish hatchery in operation for 85 years, the number of released larvae of endemic Baikal omul fish (*Coregonus*

³⁸⁴ Center for Citizen Initiatives 1993.

³⁸⁵ Plumely 1998.

³⁸⁶ Global Environment Facility (GEF) and UNDP 2014, VI.

migratorius) has steadily risen from the 1970s to 2007, from 0.43 to 0.93 billion larvae.³⁸⁷

A 2014 law signed by President Vladimir Putin specifies:

under the law, any new construction or significant reconstruction will require a permit and review by environmental experts. Experts also will delineate water and fisheries protection zones around the lake. Additionally, the law bans hazardous waste disposal on Baikal nature territory.³⁸⁸

Ecotheological Solutions to Lake Baikal Environmental Concerns

The name Lake Baikal derives from the Mongolian Байгал нуур (Baigal nuur), which means “Nature Lake.” Shamanism as with many indigenous systems of thought by necessity is a holistic and integrated worldview.

Shamanism not only concerns itself with the afterlife and ethics, but also day to day existence. As Znamenski notes:

like many other non-industrialized peoples, native peoples of [Alaska and Siberia] approached reality in holistic terms and treated economic, social, political, and spiritual activities as inseparable parts of a single entity. Moreover, indigenous beliefs were concerned with maintaining the integrity of these realms. Not surprisingly, ‘native religions’ equally dealt with the problems of both daily existence and the afterlife. As one ethnohistorian of Siberian native peoples has put it, native belief was more than a religion: ‘it was the way of survival’.³⁸⁹

As a Buryat Shaman informant told the authors in an interview: “Shamans are guardians of nature. If there is a forest fire somewhere, as a Shaman you need to make offerings, so it will rain there, and the fire will be extinguished. If you see an ambulance on a road, as a Shaman you need to help that person. To make his way faster to the hospital, and to bless him, and make his time of recovering faster. If there is a fight on a street, you need to stop this system mentally (in your thoughts).”

A Buryat Buddhist informant additionally noted that “there are certain

³⁸⁷ Semenchenko 2018, p. 66.

³⁸⁸ Water Environment Federation 2014.

³⁸⁹ Znamenski 1999, p. 253.

issues in the [Buryatia] region and most of them concern Lake Baikal; what is going on with the lake because the water level is changing, the transparency of the water is getting worse, and there are lots of other issues, and as Buddhists I think that we over a course of a long period of time we lost this touch with nature, like nomadic Buryats, they lived in nature.”

Buddhists in the Russian Federation, including in Buryatia, have been active in faith-based ecological initiatives and resolutions in the last three decades. For example, Ch.-D. Budayev Humbo-Lama, Chairman of the Central Buddhist Board of the Russian Federation, and V.V. Mantatov have jointly stated

Instead of the idea of man’s domination over nature and man’s uniqueness, Buddhism puts forward the idea of the denial of the individual reality of ‘the self’, of the intrinsic self-importance of every living creature; instead of the idea of nature conquest, the ‘akhimsa’ principle, that is, not to harm any living being; instead of the ideology of political violence, the concept of a natural non-violent way of development, the principle of tolerance; instead of estranged values, genuine happiness.³⁹⁰

Similar ecotheological views are evident in the closely related Mongolian branch of Buddhism. As Wallace notes, “the Mongolian landscape and its climatic conditions, which evidence the experiences and struggles of both humans and livestock, have influenced the Mongolian Buddhist culture and its reverential approach to the natural environment and the nonhuman entities controlling the landscape....it also provided new ritual means or purifying the natural environment and controlling the weather”.³⁹¹

In addition, the Buddhist Khambo Lama Choijamts, Abbott of Gandantegchinlen Monastery in Mongolia, believes that “selecting an ecologically important site inhabited by rare species of wildlife and vegetation as a sacred locale for ceremonial worship should not be seen merely as a religious activity but also as the preservation of the natural environment for future generations. He also asserts the social importance of the preservation of the traditional worship of sacred landscapes as

³⁹⁰ Budayev and Mantatov 1996, p. 27.

³⁹¹ Wallace 2015, p. 221.

prevention from natural disasters, suffering, and sickness that gives rise to material and social insecurity".³⁹²

A Buryat Shaman interviewed for this research indicated that for followers of Shamanism Lake Baikal is a living being who suffers from pollution, and tourists are an additional serious problem as they contribute to contamination of the lake: "a tourist comes and throws plastic, washing liquids and it all goes to the Baikal Sea. Today a wave comes and brings slime, tomorrow it will be clean, a day after tomorrow it will bring plastic bottles. Baikal walks. A Grandfather walks. It goes everywhere. It walks to the South, and other parts to check his possession. So a tourist is a problem." The Buryat Shaman additionally discussed the reciprocal relationship of man with nature at the heart of traditional Shamanism: "people need to wake up. Everything they take from nature, they should bring back and preserve it for children, grandchildren, or we need to sit together at a round table and have a dialogue."

Similar to the Buddhist views of the other respondents, the Buryat Shaman did not assign blame for Baikal's ecological problems to particular groups, individuals, or governments – all humans contribute to environmental threats: "but we cannot judge people, and say that he or she is bad or good. It shouldn't be like this. A human is a human. It doesn't matter if it's a tourist or businessman... There is one word - a human. He is a human. He is a host on Earth and he needs to protect it. And then there will not be any problems. Our grandparents saved it for us, now it's our turn to save it". Additionally, the Buryat Shaman believed that more widespread knowledge of Shamanistic philosophy would help improve the ecological perspectives of all faiths, not just those of the Lake Baikal region: "[if people knew more about Shamanism] they would respect [nature] more. It wouldn't be just a place for a vacation for them. They would respect it, and then they will go back to their places and would treat their places with respect too. Their motherlands, their culture, their people. There is no bad tribe, no bad people. There is a bad man amongst a people in a tribe, who maybe didn't get enough education, or isn't disciplined enough. But people are all the same. We only look different and speak different languages."

³⁹² Ibid, p. 222.

As noted earlier, although both Buryat Buddhists and Shamans interviewed for this paper attributed recent ecological problems at Lake Baikal to modern ways of life, none of them rejected scientific or technological solutions and none believed that the clock could be turned back to traditional patterns of existence. A Buryat Shaman pointed out that “to live you need to make money. You cannot live by only breathing sacred air. So nature gives to you, and you need to give back. In that way we can have harmony. It’s good that we have progress, we shouldn’t live as we did one hundred years ago.” Thus Buryats appear to be open to government-sponsored and technological solutions to ecological conservation of the Lake Baikal basin in the context of their traditional religious perspectives on nature.

Conclusions

One of the Buryat Buddhist informants of this study noted that the world views and philosophy of Buddhism, but not necessarily the traditional pre-industrial daily survival practices of the Buryats, could inform modern sustainable living practices: “it is impossible [to go backwards in time], but I think we can transform those ideas [of traditional thinking], these interactions and very well balanced interactions that we had with nature. We should try to transform that into contemporary life...”.

None of the interviewees encountered by the researchers expressed negative views about science or technology, nor were these forces blamed for ecological problems, i.e. industrialization as a source of chemical pollution. The informants also took personal responsibility, as humans living in an industrialized nation, for their contributions to the degradation of the environment. Science was viewed as a source of solutions – none of the respondents expressed a desire to return to the earlier state of traditional nomadism, but believed that traditional religious perspectives could provide the attitudinal and behavioural foundation for sustainable practices at Lake Baikal. Shamanism emphasizes the sacredness of nature, in that it provides for humans and humans must therefore respect it and preserve it for future generations. Buddhism emphasizes karmic balance, and the perspective that harmful deeds to any part of creation such as the natural environmental return to the originator of those deeds. Thus abundant evidence through sociological inquiry in Buryatia was uncovered that the traditional ecological philosophies em-

bedded in both Buryat Shamanism and Buddhism are key to creating an ecotheological way of being in the Lake Baikal region that satisfies human needs and protects this unique ecosystem for future generations of species, including mankind.

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How is Church of Norway's public communication on environmental ethics viewed by Norwegian leaders?

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Keyword: Church, environmental ethics, public communication

When the most drastic consequences of the corona crisis are over – which will take years – climate change will most likely remain at the top of the agenda, nationally and internationally. The efforts of the churches in promoting the necessary changes and whether these efforts are actually acknowledged is highly relevant when discussing environmental ethics. I have investigated whether and how these efforts are acknowledged in Norway, and I have limited myself to one church: Church of Norway (CoN).

Are approaches applied by CoN, for instance stewardship, caring for creation and climate justice acknowledged by people who have most diverse knowledge of the CoN's environmental and climate commitments and decisions? How do they view the CoN's overall communication, and are there differences between those who support CoN's positions and those who tend to disagree? Did the various categories of leaders find that CoN is too political, which is a criticism raised by some governmental ministers?³⁹³ To be able to answer these questions I interviewed 18 Norwegian leaders, also asking them to fill in a small questionnaire during the interviews. The leaders represented four segments of Norwegian society: businesses, youth parties, environmental organisations and CoN itself.

CoN is not acting in isolation. Being the majority church in Norway with 68.6 per cent of the Norwegian population as members, CoN is the main owner of the Norwegian Church Aid (NCA) and has been a member

³⁹³ For two examples, from current and former ministers of petroleum and energy, see Topdahl and Berntsen Jåsund 2015, quoting current minister Tina Bru; and Borten Moe 2012.

of the international church bodies since their founding. Moreover, CoN has a close relationship to the many Norwegian missionary organisations and diaconal organizations. As regards public visibility, it is also important to note that several other issues that CoN is involved in, generate considerably more attention. This applies particularly to individual ethics, for instance same-sex marriage.

First, I will demonstrate what characterizes the commitment to environmental ethics over the last 20 years, particularly climate change, in CoN. I will also reflect on the mobilization potential of what appears as two major contradictions in the climate debate: fear and hope. As a theoretical embedding I will make use of public theology. Then I present the survey and present and discuss the responses, first by distinguishing between the non-church and CoN informants. Then I show how CoN's approaches – illustrated by titles of relevant decisions and distinct terms introduced by CoN – are viewed by all informants, before a discussion of what has been found.

The research question that this chapter seeks to answer is: *Based on interviews and questionnaires among 18 Norwegian leaders, how do they view CoN's public communication on environment and climate, and how can we explain the different views?*

I do acknowledge that the low number of informants, the relatively low requirements concerning previous knowledge of CoN among the non-church informants, and the narrow scope of the questions raised do all give reason for caution regarding how strong conclusions that can be made concerning how CoN is viewed. Nevertheless, I sincerely think that the survey did find interesting trends that are of relevance both in Norway and beyond.

What characterizes CoN's communication on climate and the environment? CoN as a Lutheran church and state church until 2017 has in recent decades frequently challenged the Norwegian authorities,³⁹⁴ including to take more decisive action to curb climate change and protect the

³⁹⁴ Bakkevig and Kristiansen 2018; see also Holbæk 2019, finding that environment has been a main concern for CoN's synod meetings, and Haugen 2015.

environment. Surveys have shown that a very small proportion of the Norwegian population wants religious leaders to influence voting, but a relatively large proportion believe agree that it is positive that bishops participate in TV debates.³⁹⁵ Furthermore, 34 percent believe that “the church” – most persons would most likely think of CoN – has too much power.³⁹⁶

Analyzing environmental issues more specifically, Tomren’s dissertation from 2014 studies the wording of various decisions from the Synod (CoNS) and the Bishops’ Conference (CoNC),³⁹⁷ identifying the policy impacts of these decisions. The dissertation was updated with the latest decisions and published as a book in 2019.³⁹⁸ He looks at political impact, changes internally in CoN and other churches, and changes at the individual level.

When identifying the political impact over the last 20 years, Tomren brings up five cases:³⁹⁹ (i) Equinor’s (prev: Statoil) decision to withdraw from tar sands exploitation in Canada; (ii) new investment programs in the Government Pension Fund - Global; which is erroneously referred to by Tomren as “new ethical guidelines”; (iii) not to build gas-driven power plants with old technology; (iv) emissions reduction from the Sellafield plant in Scotland; and (v) refraining from opening certain areas for oil exploration. Attributing all these breakthroughs as a result of CoN’s efforts and influences is ambitious. Nevertheless, it is true that CoN has been consistent in its positions, and CoN has been considered important by a number of key actors.

Even more ambitious, however, is the evaluation of the nine-year Norwegian ecumenical project named Creation and Sustainability (2008–2016). The evaluation states: “Throughout, the project has clearly

³⁹⁵ Botvar 2010, p. 99; figures from 2008; the proportion who support the two statements are 8 and 63 per cent, respectively.

³⁹⁶ Botvar 2010, p. 102; the proportion is up from 24 per cent in 1991.

³⁹⁷ Tomren 2014.

³⁹⁸ Tomren 2019.

³⁹⁹ Tomren 2019, p. 268; see also 146–148 – which quoted several key actors in the debate regarding gas-driven power plants – and 180–181 – which shows how important it was to get Dnk to speak out against the opening of new areas for petroleum exploration.

contributed to changes in society, not only in Norway, but also internationally through the Paris Agreement.”⁴⁰⁰ Writing that the Church of Norway has contributed is about what has been achieved together with others. In Norway, this is about the Climate Election Alliance (more than 100 members, 30 of which are church-related), the conferences Bridges to the Future, and formulating climate rules for the parliamentary elections and municipal elections. NCA does more lobby work on party programs compared to CoN.

Changes within CoN are somewhat easier to identify. Among the latest expression of increased awareness is Theologians’ Action on Climate,⁴⁰¹ a call which, among other things, asks the authorities to phase out petroleum exploration and which supports all measures for rapid and necessary transformation. So far, more than 250 theologians, including retired priests and theology students, have signed. Tomren provides additional insight into CoN’s efforts.⁴⁰²

Among the church-active population – that also include members of other churches – high ecological awareness can be identified. 80 per cent of the so-called church active have supported that it is important to care about nature and the environment, compared to 60 per cent among those who are church members but not active – but the difference has become less in the subsequent years.⁴⁰³

In summary, the commitment concerning caring for the environment have been emphasised by CoN decision-making bodies throughout the last decades. Some of the decisions have generated more attention and direction for future work, for instance CoNS 1996 decision Consumption

⁴⁰⁰ Skaperverk og bærekraft 2017, p. 40.

⁴⁰¹ Teologenes Klimaaksjon 2020.

⁴⁰² Tomren 2019, p. 238 – with a discussion of various projects – and 264–265 – finding that most congregations have diaconal plans and faith education plans that thematize caring for creation and struggling for justice. Moreover, there has been an increase in the number of green congregations, but only 40 percent of the congregations report increased environment and climate activities. For calculations of the proportion of sermons with a ‘green profile’, showing that sermons with a ‘green profile’ are the third most common, see Thorbjørnsen and Supphellen 2018.

⁴⁰³ Tomren 2019, p. 237, based on figures from the European Social Survey; in 2016 the difference between the two groups was only 4.3 per cent.

and justice and the CoNS 2003 decision Protection of the sea.⁴⁰⁴ Interestingly, Tomren finds that CoNS decisions include wider motifs as compared to CoNC decisions,⁴⁰⁵ and the latter are quite general and often shorter. Analysing the content, Tomren identifies different phases with different emphasis. The most explicit biocentric perspectives are found in decisions from 2003 to 2008, while the 1990s and 2010s were dominated by anthropocentric perspectives, more specifically justice issues. Although the theocentric perspectives has been present throughout the period, there has been a declining tendency to refer to specific Bible verses.

Climate fear: Tool for mobilization?

Mobilization implies that some actors exert pressure in various forms on other actors to induce them to act in certain ways.⁴⁰⁶ In another chapter, I have discussed various ways to frame responses to the climate crisis: hope, fear, anger, courage and love – in that order.⁴⁰⁷ To identify the best framings, I refer to several studies on Swedish children, youth and adolescents by Maria Ojala, who have found that hope is better than fear of mobilizing for action. Another study has found that young environmental activists, mainly in Denmark and Sweden, can strengthen their own readiness for action by using terms like fear and collective guilt, but they are careful not to communicate this to the outside world. Fear is described as a strategy that does not foster action.⁴⁰⁸

It is relevant to discuss Greta Thunberg's approach, as she is a strong voice for bold climate action. Her speech at the World Economic Forum in 2019 was quoted in the introduction to the 2019 CoNS decision The Church supports climate-striking youth – but the quote is not precise.⁴⁰⁹ Most notably, her sentence “I do not want your hope”⁴¹⁰ was not included

⁴⁰⁴ Tomren 2019, p. 151, identifying new alliances with parts of the environmental movement; see also 232 and 174, specifying that the demands presented by CoN have been relatively moderate.

⁴⁰⁵ Tomren 2019, p. 230.

⁴⁰⁶ Jodoin 2017, p. 21.

⁴⁰⁷ Haugen 2021.

⁴⁰⁸ Kleres and Wettergren 2017, p. 512.

⁴⁰⁹ More details are provided in Haugen 2021.

in the introduction to the CoNS decision. In her TED talk,⁴¹¹ she is more nuanced: "So instead of looking for hope, look for action. And then, only then, hope will come."⁴¹²

To summarize this brief assessment, we see that fear can act as a mobilizer for those who already have a strong readiness to act. For the vast majority of those who are not yet equally committed in demanding courageous climate policy from politicians and in making real changes in their own lives, exposure to concrete practices and concrete communication characterized by hope will be a better basis.⁴¹³

Public theology: To understand the political role of the church

Jürgen Moltmann is perhaps the most well-known spokesman for both a theology of hope and for public theology.⁴¹⁴ He highlights a God's kingdom theology, and emphasizes that theology should challenge injustice and abuse of power, be both critical and prophetic, and highlight both complaint and hope.⁴¹⁵

An important feature of public theology is that it should not be initiated or led by theologians or academics but be rooted in the local congregations' priorities. de Gruchy specifies what characterizes good public theology: (i) seeks to promote the common good; (ii) uses an accessible language; (iii) has knowledge of public policy and the relevant issues; (iv) applies an interdisciplinary approach; (v) takes the victims' perspective; (vi) is anchored in theological reflection and worship; and (vii) builds on a spirituality that enables a lived experience of God.⁴¹⁶ Summing up these, one should not apply dogmatic theology in arguing for why I am right and the others are wrong. Kim operates with five

⁴¹⁰ Thunberg 2019.

⁴¹¹ TED stands for Technology, Entertainment and Design; TED records and disseminates short presentations (6-12 minutes) on a given topic.

⁴¹² Thunberg 2018: 10:11-10:19.

⁴¹³ Hope is highlighted in numerous publications on climate, also with an embedding in Christianity; see Poole 2020 and Doran 2017.

⁴¹⁴ Moltmann 2019; 1999.

⁴¹⁵ The word hope is used about 20 times in the Lutheran World Federation's study document *The Church in the Public Space* (2016)

⁴¹⁶ De Gruchy 2007.

rationales for public theology: (i) seeks a wider audience; (ii) is not neutral but distinctive; (iii) has openness to engage in public debate; (vi) utilizes theological insight in public discussions; and (v) avoids the temptation to become too pragmatic.⁴¹⁷

These insights from public theology – along with the understandings of hope and fear outlined above – will be used to discuss the responses by leaders.

Who are the leaders, how were they selected and what were they asked about?

Among the 18 people interviewed at least 16 can be referred to as top leaders in their respective organisations, companies or bodies. Six of the informants were from CoN, including one who did not want to refer to himself as a leader. I sought for leaders from the most representative bodies. The five leaders from the youth parties included two who had just been acting leaders, but at the time of the interview they were deputy leaders. I was conscious to choose leaders from the youth wings of the four largest parties. From the business world, I spoke with four leaders from the petroleum sector, including a leader of a large trade union, and a person who was not in the leadership group of a large company. I interviewed three leaders in three environmental organizations. I originally sought for five environmental organizations, but had two apologies: one from an organization that on a global level has worked with religious leaders – as explained in more detail by Tomren⁴¹⁸ – and one from an organization that has for many years collaborated with CoN on the Bridges to the Future conferences.

The interviews were conducted by physical encounters from December 2019 to February 2020. The project and data collection were approved by Norwegian Centre for Research Data (NSD) in October 2019. Everyone has been sent a draft article, and almost half of them responded, with no objections to the analysis.

For the interviews, I brought an interview guide that also had two sections for indicating approval of titles of eight CoN decisions 2000-2019

⁴¹⁷ Kim 2011, pp. 9-10.

⁴¹⁸ Tomren 2019, pp. 45; 175.

and 11 concepts either launched by churches or actively used by them. Four decisions with less distinct titles were not included.⁴¹⁹ Climate shame was among the 11 concepts, but it was clarified that this concept was not used in any decision from CoN – but has been used by NCA's youth organisation, Changemaker.

The informants were also asked to consider six statements related to the planet, life, water, earth, fire and air – that were formulated by me to accommodate both hopeful and fear- and anger-promoting elements. Two sections of these statements were taken from others: "With everything on earth are we connected",⁴²⁰ which is the first part of the statement about land; and "gives the earth a fever",⁴²¹ which is the last part of the statement about fire (energy).

All leaders – whom in advance had received an information and consent form and a project description, but had not received further information – should express their views on how the CoN relates to environmental issues and climate change, as specifying this by indicating degrees of agreement, from high (score 4) to low (score 1; also possible to indicate 'not possible to answer') to titles of CoN's decisions, central concepts and the statements formulated by me.

It was specified to all informants that they did not have to say anything about their own relationship to the Christian faith or church affiliation. The emphasis was on what CoN does in public. Nevertheless, I emphasized that if they had other experiences, such as hearing environmental or climate-related sermons or other communication during services or in some other way, they could also reflect on these. I believe that my overall approach complies with fundamental research ethics. Nobody was pressured, and one could always say – or tick – that one cannot answer.

At the beginning of the interviews, it was emphasized that the fear of climate change is greatest among the younger generation. Three surveys

⁴¹⁹ Tomren 2019 includes all decisions since 1969.

⁴²⁰ IKO-forlaget 2011, 94; the line is taken from a song by Stephan Vesper, inspired by Chief Seattle's alleged letter to the President of the United States in 1855; the song has been translated into Danish and Norwegian by Leif Rasmussen.

⁴²¹ Møller Krystad 2008; original title is 'Jorden har feber'.

from 2019 show different emphasis among young people on Norwegian petroleum expansion; two where the youngest are highly sceptical⁴²² and one where the 18-22-year-olds are most in favour of opening new areas.⁴²³

Knowledge and assessments among non-church informants

By knowledge I mean knowledge of whether the Bible has a message about caring for nature, and what the core of this is, and whether they had registered CoN's appeals for the environment in the public. Assessments refer to what CoN should emphasize more or less.

To the question about the Bible, everyone answered in the affirmative, but what they experienced as the core of the message varied. Most emphasized stewardship, but some also emphasized taking care of all that is appreciated, loving your neighbour, and respect for both people and nature.

When asked about CoN, four of the informants did not have knowledge about CoN's appeals for the environment in the public. One of these, who worked in a large company, was well acquainted with the Church of England's (CoE) actions as a shareholder of this company. In particular, the consortium Climate Action 100+, in which CoE is involved, was mentioned as an important driver for changes in this company. After the company launched its climate ambitions, CoE was positive, but emphasized that at least one other oil company had come even further.⁴²⁴ This informant did not experience that CoN was visible in those arenas where other organizations participated. Of the three others who had not registered involvement from CoN, one mentioned NCA and Changemaker, and one had heard about Pope Francis' appeals. The latter had registered one CoN bishop's public appeals.

In general, the assessments varied considerably, depending on their own

⁴²² Nature and Youth 2019: 60 per cent of those between the ages of 16 and 19 will phase out the oil industry (Children and Youth Survey 2019); Taksdal Skjeseth 2019: 53 per cent of those between the ages of 18 and 24 want Norway to stop further oil and gas exploration (survey commissioned by Future in Our Hands); for figures showing that 1 of 5 of those under 30 years are very concerned for climate change, see Cicero 2019, p. 28; 2018, p. 28.

⁴²³ Skaare Oskarsen 2019.

⁴²⁴ Adomaitis og Solsvik 2020.

political affiliation. Many had a positive assessments of CoN, but also commented that the involvement is not particularly visible in the local congregations. Two of those who were fundamentally positive – where one was questioning why not more conservatives are involved in the climate issue – emphasized that CoN should avoid being perceived as belonging to the left. Clearer communication based on values was emphasized as important. One informant identified so-called 'aggressive Christians' who stands for what he described as dominion thinking, a thinking that can find support in Genesis 1, verses 26 and 28 ('rule over'). Among liberal-conservative youth party leaders, there was a far greater skepticism of CoN's rhetoric and emphasis, where one used the term 'excluding' to describe how conservatives were not accommodated. These had, however, a recognition of how CoN historically contributed positively to society.

The business people urged CoN to take on the bigger picture, being essentially about the world being dependent on fossil energy for many years to come and emphasized that facts must be the basis for the climate debate. While the trade unionist was not so clear that the world has to get away from its fossil dependence, the other three business representatives were very clear that this change must come.

Three words were emphasized by the informants: Hope, change and solidarity / justice. Only one of the informants thought that CoN should avoid using terms that might lead to negative reactions and people leaving CoN. The others thought that CoN had to stand up for its core mission, also to avoid indifference in relating to CoN.

Knowledge and assessments among CoN informants

By knowledge I mean here biblical resources that convey God's love for all creation, and I also asked what they understand as the core of the Bible's message of caring for nature. I further asked what CoN should place more and less emphasis on.

For these informants, the core of the Bible's message was hope. Stewardship and godliness with frugality were also highlighted. One emphasized CoN's special responsibility as Norway's largest movement. I asked about Bible verses that should be more applied – and verses that should be discouraged. Two responded by referring to the prophets, like Jeremiah, about the future and hope, and Amos, about justice, water, and

punishing haughtiness. Another, who emphasized that he was more concerned with long lines than individual Bible verses, thought that there was too much ‘soft’ communication in CoN, and emphasized the prophetic-diaconal, to emphasize that it is we who must act.

The Bible verses from the Old Testament that I brought up were three: God cares for everything that has the spirit of life in it (Gen 1.30), the annual rhythm that will never end (Gen 8.22) and that God provides food for the animals in the sea (Ps 104.27). This created interesting associations, and one emphasized that these Bible verses need more attention. Another emphasized that the man in the Garden of Eden was not a meat eater. Others emphasized that God sustains and renews creation, and that there is a delicate balance in the atmosphere.

The Bible verses from the NT that I brought up were three: the unknown third mission commandment, conveying the Gospel to all that God has created (Mark 16.15), that creation longs for liberation (Rom 8.21) and that the tree of life will give fruit and healing (Rev 22.2). The unknown mission command was relatively unknown, and one associated this with Francis of Assisi, while another had just read this text at an Epiphany (6 January) service. One informant was very positive about this text, but warned against the last two, since all verses that point to the future might lead to passivity. Another person found these verses very interesting.

These informants considered that CoN communicates too little and too weak about the climate challenges, and it does not adequately put words into action. Christianity was linked to nurturing values among Christians and in society in general, and in these efforts CoN’s role was acknowledged. One raised that we are both the voice of God and the hands of God in the world.

How are the titles assessed – by everyone?

All the informants were presented with the same titles, and if they ticked ‘impossible to answer’ these answers were excluded from the calculation. The three first listed decisions are by CoNC and the subsequent five are by CoNS. They were not asked to assess the content of the decisions.

Brief titles ⁴²⁵	Business n=4	Youth parties n=5	Environmental org. n=3	CoN n=6	All n=18
Earth responsibility	3,75	3,4	4	3,6	3,65
Urgent costly mitigating	3	2,6	3,67	2,8	3,13
Better future	3,5	3,8	3	3	3,35
Support climate strikers	2,5	3,5	3	3,33	3,12
Creation & sustainability	3	3,2	2,67	3	3
Petroleum, pension fund	3	1,8	3,33	3	2,87
Threatened life & faith	2	3,4	1,5	3,2	2,75
Protecting the sea	3,5	3,8	4	3,4	3,65
Average	3,03	3,26	3,22	3,24	3,20

We see that Earth responsibility and Protecting the sea appeal most to the informants. The long title on the management of the petroleum resources and the Pension Fund Global and the title Threatened life & faith appeals the least. We see that especially the youth party leaders are not very enthusiastic about the first, and it is important to know that the term ethical was used together with the term management in the title of this decision. One of the informants from business emphasized that ethics is a problematic term. We also see the youth party leaders differ from the other non-church informants by being predominantly positive to the title that contains the word faith. One of the explanations may be that most of these were Christians, but a youth party informant with no contact with CoN gave this title a score of 3. Interestingly, Urgent costly mitigating was the title that appealed least to the CoN informants.

Overall, the informants have a positive assessment of the titles, and an average score of 3.20 out of 4 must be said to be high. It is also worth noting that more CoN informants than non-church informants ticked 'impossible to answer' (in total this was indicated for 12 out of 144). That youth party leaders had the highest score is also notable; one was over-enthusiastic.

⁴²⁵ The full titles and reference are (BM is CoNS; and KM is CoNS): Vis ansvar for jorden og verdens fattige (BM 28/13), Det haster, det koster, det nyttet (BM 26/07), En bedre fremtid er mulig (BM 27/02), Kirka støtter klimastreikende ungdom (KM 16/19), Skaperverk og bærekraft (KM 16/17), Forsvarlig etisk forvaltning av norske petroleumsressurser og bruk av oljefondet (KM 12/13), Truet liv - troens svar (KM 04/07), Vern om havet (KM 12/03).

How are the concepts assessed - by everyone?

I then asked for assessments of 11 concepts and emphasized that climate shame was not used by CoN.

Concepts used	Business n=5	Youth parties n=5	Environmental org. n=3	CoN n=6	All n=18
Climate justice	3	3,4	3,67	3,83	3,53
Sustainable life	3,5	4	2,33	3,17	3,33
Renunciation	1,5	3	2	2,5	2
Green church	3,33	3,8	3,67	3,33	3,12
Climate shame; not CoN	1	1	1,33	2	1,44
Caring for creation	3	3,6	3,67	3,5	3,44
Stewardship	3,5	3,8	3,33	3,17	3,44
Climate choice (voting)	3,5	2,8	3,67	3,33	3,28
It's burning!	1,25	2	3	2,8	2,25
Green jobs	2,2	3,4	3,33	3,33	3,22
Climate pilgrim	3	2,2	4	3,67	3,13
Average	2,49	2,96	3	3,15	2,93

We see that it is Climate justice that scores highest, followed by Caring for creation and Stewardship. Climate shame gets the lowest score, followed by Renunciation. Also "It's burning!" meets little enthusiasm among the informants. This overall tendency is similar for the church informants, except from the fact that Climate pilgrim gets a high score, and Stewardship scores lower.

Stewardship, and Green church receive a higher score among the non-church informants as compared to the CoN informants. CoN informants also rank Sustainable life and Caring for creation relatively low.

What is the reason why these four have a relatively low score among the

CoN informants? One explanation may be that Stewardship and Caring for creation can be associated with what one of these informants described as 'soft' communication in CoN, as seen above. Little attraction of the concept Green church may be due to the fact that this has become a somewhat 'worn out' concept among CoN leaders, but has greater appeal to the outside world. The appeal of the concept Stewardship among non-church informants can be explained by how they understand it, being about using nature, not conserving nature, as expressed by some of them. Green jobs have little appeal among the informants from the business,

which may be due to the fact that this term implies that their companies or sector are implicitly excluded from this category.

In the assessment of the concepts, there were only 8 blank answers, out of 198 answer alternatives. The total score of 2.93 is also a high score, and 8 out of 11 terms received a score of over 3.

Finally, I will briefly comment on the six statements, related to the planet, life, water, earth, fire (energy) and air. The elements of these that were formulated negatively – such as being greedy, getting angry and depletion – received negative assessments. The parts that were formulated positively - such as ‘home of all living’ or ‘life originated in water’ – received positive assessments. The statement about the water received the best assessment.

Concluding discussion: Are CoN’s environmental appeals heard and acknowledged?

I have analysed whether almost 20 years of environment activity in CoN has been heard and acknowledged. Whereas some decisions are action-oriented seeking to inspire action within CoN, other decisions have attempted to give politicians support and courage to make allegedly unpopular decisions. In these efforts, CoN has tried to promote both hope, justice and responsibility, in line with Moltmann’s overall approach in the face of the environmental crisis.

The informants acknowledged CoN’s overall positive role in society, even though liberal-conservative youth party leaders emphasized that CoN could risk excluding certain persons, due to how certain issues were presented, in decisions and from the pulpit – highlighting also that CoN is boring. The informants also acknowledge that CoN should play a political role, and advocate for change, embedded in hope, global justice and long-term concerns.

It is worth noting that four of the non-church informants had no knowledge of CoN’s environmental and climate appeals. If the questions had included NCA and Changemaker, the responses would have been somewhat different, but it was intended that the survey should only focus on CoN. Merely on the basis of this finding it is reasonable to say that CoN is not adequately heard and acknowledged.

As specified above, I am fully aware that the number of informants is small. I believe, however, that the article presents interesting findings.

Among these findings is that concepts such as Stewardship and Green church are acknowledged to a somewhat greater extent by the non-church informants than by the CoN informants. Stewardship is increasingly a concept that refers to utilizing resources. Moreover, all informants had – with some clear exceptions – positive assessments of the appeal in both decisions' titles and concepts.

Particularly, the acknowledgement of Climate justice is worth noting. There is therefore reason to say that CoN has succeeded in finding a language with broad appeal.

The informants also gave a good assessment of the positive elements in the statements that were presented. Moreover, with one exception, they emphasized that CoN must convey its views in the public – with no restrictions.

Kim's five rationales for public theology are extended target group, distinct voice, active participation, theology as a resource, and avoiding pragmatism.

While space does not permit a discussion of these in detail, it is reasonable to conclude that the non-church informants recognize the first four rationales for CoN. Concerning the avoiding pragmatism rationale, this seems more difficult, as the informants want CoN as a partner in shaping public opinion, in order to be able to meet the challenges of the future together. This must be said to be precisely a pragmatic approach, and while preparing for change is important, I believe that CoN must emphasize the holistic, long-term, global and urgent – not merely the pragmatic.

A full assessment of de Gruchy's seven criteria for good public theology are also beyond the scope of this chapter.

Nevertheless, the non-church informants do confirm that CoN's overall approach meets the requirements of common good, accessible language, interdisciplinarity, victims' perspectives, and theological and spiritual grounding. What the informants, particularly those from business, were more critical of was whether CoN saw the 'whole picture'. Specifically, they asked whether CoN decision-makers have sufficient knowledge and competence in the field that deals with global energy supply and needs. In this context, it is relevant that especially NCA, having CoN as its largest owner, has over many years been very explicit in emphasizing that the climate, poverty and energy crisis must be solved simultaneously.

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Climate Apartheid and the role of religious leaders and institutions in combating it

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Keywords: Climate Apartheid, Sustainable Development, Legal Protection of the Environment

Research question and method

Significant changes in climate patterns, devastating floods in the Himalayas' foothills due to melting glaciers, fires of unprecedented proportions in forests, and dozens of other signs prove that the environmental situation is fragile.

One of the lesser-known dimensions of the environmental crisis is its impact on the intensification of severe class discrimination between the rich and the poor's mass in the world. In 2019, Prof. Philip Alston, the UN Special Rapporteur on extreme poverty and human rights, warned against the possible occurrence of «climate apartheid,» the situation in which the rich can provide the expense of their welfare, but the poor will not be able to meet the essential needs of life. Even if current climate change goals are met, poverty will hit millions globally, he says. This article will provide some of the visible examples, also some signs of the dark horizon of this apartheid.

This article is trying to answer the following questions in three separate parts:

1- What is climate apartheid?

2- Why do we need more effective legal efforts and the importance of activating the existing mechanisms and using the international and human rights law system's capacities to control the environmental crisis?

3- What is the role of religious leaders and institutions in combating climate apartheid?

The content and research presented in this article consist of international examples and reports indicating the gap between different societal levels and how the economy of different groups affect dealing with environ-

mental crises; therefore the method used is text (reports) research and critical analysis.

Part One: Climate apartheid

This part will bring the reader's attention from actual scientific facts to understanding the grave danger the humankind will face in the coming years caused by climate change; while, illustrating whom such destruction will hit first and how the gap between different human communities will deteriorate the situation in the course of time, which we describe as "Climate Apartheid".

In part one, the definition of apartheid and how it is related to what will come upon our civilization will be explained, and then a report on climate change and its acute effect written by a UN expert will be elaborated.

Definition of "Climate Apartheid"

For a concept that has originated in South Africa, it is important to understand the origin of the term "Apartheid." Davenport and Saunders accept the view of Nic Rhoodie that the term originated during the 1930s in the Transvaal and, more specifically, in the political circle in which M. C. de Wet Nel, a later Cabinet minister, moved.⁴²⁶ However, there are much stronger claims that the man who coined the word "apartheid" was an Afrikaner clergyman of the Gereformeerde Nederduitse Kerk (Dutch Reformed Church), Jan Christoffel du Plessis. He was responsible for the first recorded use of the term in the sense that it became accepted in the 1940s.⁴²⁷ Interesting to know that it was originally a theological term and not a political notion.

The word "apartheid" lost all religious connotations when it was hijacked as a political slogan in 1936. Due to the Oxford dictionary, since the 1940s apartheid literally means 'separateness,' from the Dutch word apart 'separate' plus -heid (equivalent of -hood) defining a policy or system (in South Africa) of segregation or discrimination on the grounds of race.

In this article, the word apartheid will be used in a wider meaning and

⁴²⁶ Davenport and Saunders 2000.

⁴²⁷ Giliomee 2003.

will be revisited and redefined as a notion in the discourse of climate change and its social effects and political outcomes. The concept of discrimination is happening in the international world regarding the consequences of exploiting nature unsustainably and overlooking its effects on different races living in different countries; while the well-being of some societies have become more important than other communities. This approach is discounting humanitarian rights alongside detracting rights based on another criterion that diminish other communities' accessibility to a healthy and clean environment and being kept safe from the environmental crisis. The long-promised effects of environmental crisis and climate change have already started, and it is affecting some communities which by no international law could be decompensated. Keeping in mind that in the long-term, humankind living on earth will face these challenges, and it might be too late to act upon preventive measures.

This article discusses the concept of "climate change" and how it should be redefined in the international discourse regarding the existing patterns of environmental impacts. International examples will be illustrated as explained in the UN reporter's Statement as how democracy and the rule of law, as well as a wide range of civil and political rights are every bit at risk, the risk of community discontent, of growing inequality, and of even greater levels of deprivation among some groups, will likely stimulate nationalist, xenophobic, racist, and other responses. Maintaining a balanced approach to civil and political rights will be extremely complex.

Climate Apartheid in United Nations Perspective

Reports by special rapporteurs does not represent the views of the states or the UN, but the 2019 report on climate change by the UN Special Rapporteur on extreme poverty and human rights, Professor Philip Alston, deserves attention. Climate change will "undermine the enjoyment of almost every human right...",⁴²⁸ but capacities to cope vary enormously: "An over-reliance on the private sector could lead to a climate apartheid scenario in which the wealthy pay to escape over-

⁴²⁸ UN Special Rapporteur on extreme poverty and human rights 2019, paragraph 62.

heating, hunger, and conflict, while the rest of the world is left to suffer.”⁴²⁹

Even if current targets are met, tens of millions will be impoverished, leading to widespread displacement and hunger. Quoting the World Bank, climate change “could push more than 120 million more people into poverty by 2030 and will have the most severe impact in poor countries.”⁴³⁰ Even in the best-case scenario of a 1.5°C temperature increase by 2100, extreme temperatures in many regions will leave disadvantaged populations with food insecurity, less incomes, and worsening health. Moreover, many will have to choose between starvation and migration, he said. “Perversely, while people in poverty are responsible for just a fraction of global emissions, they will bear the brunt of climate change and have the least capacity to protect themselves”⁴³¹ Prof. Alston flagged. “We risk a ‘climate apartheid’ scenario where the wealthy pay to escape overheating, hunger, and conflict while the rest of the world is left to suffer.”⁴³²

As summarized by UN News (2019):

Climate change carries immense implications for human rights, including to life, food, housing and water. It will also impact democracy [...] as governments struggle to cope with climate consequences and persuade constituents to accept the major social and economic transformations required – rendering civil and political rights vulnerable. [...] Most human rights bodies have barely begun to grapple with what climate change portends for human rights, and it remains one on a long laundry list of ‘issues,’ despite the extraordinarily short time to avoid catastrophic consequences... [...] As a full-blown crisis that threatens the human rights of vast numbers of people bears down, the usual piecemeal, issue-by-issue human rights methodology is woefully insufficient... [...] States have marched past every scientific warning and threshold, and what was once considered catastrophic

⁴²⁹ Ibid., paragraph 50 (extract).

⁴³⁰ Ibid., paragraph 13.

⁴³¹ UN Office of the High Commissioner for Human Rights 2019.

⁴³² Ibid.

warming now seems like a best-case scenario... [...] Even today, too many countries are taking short-sighted steps in the wrong direction. [...] States are even failing to meet their current carbon emissions reduction and climate financing commitments and continue to subsidize the fossil fuel industry with \$5.2 trillion per year. [...] Maintaining the current course is a recipe for economic catastrophe. [...] ...[W]hile economic prosperity and environmental sustainability are [...] fully compatible [...], they require [...] decoupling economic well-being and poverty reduction from fossil fuel emissions. [...] This transition needs local policies to support displaced workers and ensure quality jobs. [...] A robust social safety net will be the best response to the unavoidable harms that climate change will bring... [and] this [...] should be a catalyst [...] for states to fulfil [...] long ignored and overlooked economic and social rights [...], including to social security and access to food, healthcare, shelter, and decent work. [...] If climate change is used to justify business-friendly policies and widespread privatization, exploitation of natural resources and global warming may be accelerated rather than prevented... [...] There is no shortage of alarm bells ringing over climate change, and an increase in biblical-level extreme weather events appear to be finally piercing through the noise, misinformation, and complacency, but these positive signs are no reason for contentment... [...] A reckoning with the scale of the change that is needed is just the first step.⁴³³

In another news article, Alston is quoted: "Climate change threatens to undo the last 50 years of progress in development, global health, and poverty reduction...".⁴³⁴ In the report he asserted, with data from the World Development Report 2010: "Developing countries will bear an estimated 75-80 percent of the costs of climate change",⁴³⁵ despite the poorest half of the world's population causing just 10% of carbon dioxide emissions.⁴³⁶ His criticisms is harsh:

⁴³³ UN News 2019.

⁴³⁴ UN Office of the High Commissioner for Human Rights 2019.

⁴³⁵ UN Special Rapporteur on extreme poverty and human rights 2019, paragraph 11.

Somber speeches by government officials at regular conferences are not leading to meaningful action. Thirty years of conventions appear to have done very little. From Toronto to Noordwijk to Rio to Kyoto to Paris, the language has been remarkably similar as States continue to kick the can down the road. The essential elements of climate change were understood in the 1970s, and scientists and advocates have been ringing alarm bells for decades. Yet the United States have marched past every scientific warning and threshold, and what was once considered catastrophic warming now seems like a best-case scenario.⁴³⁷

The report also condemns Donald Trump personally for actively silencing climate science,⁴³⁸ and criticizes the Brazilian president, Jair Bolsonaro, for promising to open up the Amazon rainforest to mining.⁴³⁹ Meanwhile, the UN Special Rapporteur acknowledged some positive developments, including legal cases against states and fossil fuel companies.⁴⁴⁰

According to one count, the fossil fuel industry spent \$370 million lobbying on US climate change legislation from 2000 to 2016,⁴⁴¹ and even more on funding think tanks, research institutions, and industry scientists. Within the US, this was depressingly effective: the Kyoto Protocol was never ratified, public understanding about climate change dropped precipitously, and the current president has referred to climate change as a “hoax” created to hurt domestic manufacturing.

The impacts of the climate crisis could increase divisions, he said. “We risk a ‘climate apartheid’ scenario where the wealthy pay to escape overheating, hunger, and conflict while the rest of the world is left to suffer,” he said. He illustrated this point with the example of “when Hurricane Sandy wreaked havoc on New York in 2012, stranding low-income and vulnerable New Yorkers without access to power and healthcare, the Goldman Sachs headquarters was protected by tens of thousands of its

⁴³⁶ Ibid., paragraph 14.

⁴³⁷ Ibid., paragraph 29.

⁴³⁸ Ibid., paragraph 30.

⁴³⁹ Ibid.

⁴⁴⁰ Ibid., paragraph 75.

⁴⁴¹ Yale Environment 360 2018.

own sandbags and power from its generator.” Prof. Alston strongly criticizes all those working to uphold human rights, including his own previous work, for not making the climate crisis a central issue. He said the most recent HRC resolution on the climate crisis did not recognize “that the enjoyment of all human rights by vast numbers of people is gravely threatened”,⁴⁴² or “the need for the deep social and economic transformation, which almost all observers agree is urgent if climate catastrophe is to be averted.”⁴⁴³ International climate treaties have been ineffective, the report said, with even the 2015 Paris accord still leaving the world on course for a catastrophic 3° C (equivalent to an increase of 5.4° F) of heating without further action.

However, the required changes to societies and economies could be an opportunity to improve poor people’s lives, the UN Special Rapporteur asserted:

Climate change should be a catalyst for States to fulfill long ignored and overlooked economic and social rights, including to social security, water and sanitation, education, food, healthcare, housing, and decent work.⁴⁴⁴

Ashfaq Khalfan at Amnesty International was interviewed on the day of the launch of the report:

Climate change is a human rights issue precisely because of the impact it’s having on people. The primary obligation to protect people from human rights violations lies with states. A state that fails to take any feasible steps to reduce greenhouse gas emissions is violating their human rights obligations. [...] We need everybody to live up to their responsibilities to act on climate change and protect human rights...⁴⁴⁵

In the United States alone, there have been 241 weather and climate disasters since 1980 that have each exceeded \$1 billion in damage costs, with a cumulative cost of \$1.6 trillion.⁴⁴⁶

⁴⁴² UN Special Rapport on extreme poverty and human rights 2019, paragraph 19.

⁴⁴³ Ibid.

⁴⁴⁴ Ibid., paragraph 55.

⁴⁴⁵ Carrington 2019.

⁴⁴⁶ NOAA 2019.

Yet there have been some positive developments. Forty-nine countries have already seen their emissions begin to decline. More than 7,000 cities, 245 regions, and 6,000 companies have committed to climate mitigation. Coal is no longer competitive, and renewable energy is quickly becoming cheaper.⁴⁴⁷ According to the International Energy Agency, 304 billion dollars have been invested in order to produce electricity from renewable energies, and 25 billion dollars have been invested in usage of clean energy in the transportation and home heating sectors. Moreover, 240 billion dollars has been spent in increasing productivity and the usage of clean energy in the domestic, industrial, and transportation sectors. The total sum of investment worldwide on the energy sector was 1.8 billion dollars in the past year, and allotment of its third to renewable energies, and increasing productivity is promising. However, the amount of the investment has not increased during the past two years.

China was the largest producer of carbon dioxide but it was also the largest investor in renewable energy as noted by the UN Special Rapporteur: "China is moving to end reliance on coal, but exporting coal-fired power plants abroad and failing to implement its regulations for methane emissions at home."⁴⁴⁸

Part two: Climate effects

As explained in part one of this article, there exists a growing gap between the wealthy and poor encountering the effects of 'global warming,' which is now called 'climate change,' decreasing its graveness and the stress it causes by changing the wordings of the environmental crisis happening. Now, more than ever, the effects of global warming can be seen in different continents, and, as the floods and drought comes upon different countries, it is observed that those who are capable will emigrate from such areas and avoid environmental disasters, while those who are less privileged will be forced to stay and the face the consequences.

In this part, the consequences of global warming and the effects of climate change will be studied in the social, political, and economic contexts. In

⁴⁴⁷ UN Environment 2018.

⁴⁴⁸ UN Special Rapporteur on extreme poverty and human rights 2019, para. 30 (note omitted).

addition, some possible solutions to onward crisis will be given regarding the education of the next generations, protecting environmentalists working and researching all over the world, and allowing the citizens of this global village to decide their future by discontinuing consumerism.

Climate Change Outcome

Scientists have high confidence that global temperatures will continue to rise for decades to come, mainly due to greenhouse gases produced by human activities. The Intergovernmental Panel on Climate Change (IPCC), which includes more than 1,300 scientists from the United States and other countries, forecasts a temperature rise of 2.5 to 10 degrees Fahrenheit over the next century.

According to the IPCC, the extent of climate change effects on individual regions will vary over time and with the ability of different societal and environmental systems to mitigate or adapt to change.

The IPCC predicts that increases in global mean temperature of less than 1.8° to 5.4° F (1° to 3° C) above 1990 levels will produce beneficial impacts in some regions and harmful ones in others. Net annual costs will increase over time as global temperatures increase.

« Taken as a whole,» the IPCC states, «the range of published evidence indicates that the net damage costs of climate change are likely to be significant and to increase over time.»⁴⁴⁹

The negative effects on millions of people are now evident in many different ways, such as people living near the oceans and seas who are seeing sea levels rise. As a result, the economic situation of many families and the food security of the world is at risk. The emergence and spread of unknown diseases, disasters affect the lives of millions of people around the world and will increasingly affect a larger population, especially women, children, and the poor. On the other hand, rich countries and a minority of the rich in other parts of the world can - completely, or significantly - stay safe from these damages.

They can adapt themselves to climate change and stay safe from climate change by having the financial means, the use of expensive technologies, and the use of scientists to design more advanced systems.

⁴⁴⁹ IPCC 2007 and 2013.

This systematic discrimination and social class divide can be called Climatic Apartheid.

Social and Legal Solutions to deal with climate apartheid

Here, we do not mean scientific and technological solutions and initiatives, such as hybrid cars or the use of renewable energies, but to achieve a comprehensive solution, we want to emphasize the importance of another set of measures alongside scientific and technological solutions: *Shielding Environmentalists and Ensuring the safety of environmental activists.*

The first step to solving any problem and crisis is to know its nature and dimensions. Climatic apartheid is no exception.

Qualified individuals and institutions, who are aware of the nature and extent of the climatic apartheid and environmental crisis, should be able to share their findings freely, and of course, with their audiences.

But unfortunately, environmental reporters and journalists are faced with threats, harassment, and death. According to the number of journalists killed, reporting about environmental issues such as drug trafficking is the most dangerous area of journalism after journalists on the battlefield. Thirteen journalists who have been investigating environmental damage have been killed in recent years, and many have faced violence, harassment, intimidation, and complaints.

«The Journalists Protection Board», which examines the extent of the damage done to journalists, has recorded five more deaths in the past decade. Threats against environmental reporters do not just occur by authoritarian regimes. Everywhere in the world, many, who have reported abuses of natural resources and wealth for organizational and political gain and the manufacture of products ranging from mobile phones to food containers, have faced these kinds of problems.

Although many of these journalists have not been endangered, police and security forces have prevented them from discovering the truth and informing them, and this, in effect, means blocking the news.

One example: In investigating a mine in Tanzania, journalists, who were trying to investigate its activities and their environmental impacts, were harassed, and their investigations were stopped by police and government officials. They lost their jobs, and two newspapers closed down. In some cases, some villagers were displaced or shot dead by police and security forces. Some women also reported that they had been raped.

The group has also been in southern India, where it has invested billions of dollars in sand mining. India is one of the most dangerous places in the world for journalists. In the last three years ago, three of the five journalists have been killed in the field. Three others worked in the Philippines. Others killed in Panama, Colombia, Russia, Cambodia, Myanmar, Thailand, and Indonesia were working as journalists.

«Threats keep critical information hidden from people,» says Ramesh Bushal, project director for the Earth Journalism Organization. As a result of these encounters, reporters become discouraged from writing about these critical issues and eventually write about problems that are easier to cover and not threatened.»

In Central and South America, for example, Guatemala reporters are in serious danger.

Comprehensive Education and having a more active & creative education system

We need to reprogram the educational system to make sure that the next generations have ample information regarding natural resources and how to live in harmony with it while benefiting. It is essential to teach the future leaders and rulers of the world that nature is not there only for their consumption and that some actions will have irreversible damages that lead to the elimination of species and destruction of living conditions in parts of the world. In other words, as it is explained in part one of this article, the destruction of the communities which do not have access to means of rescuing from the outcomes. Unfortunately, this means that most of the population of the world would be in unsafe situations.

Other than teaching a balanced relationship between profiting from the environment and safeguarding it, it is also crucial to train the next generation that the countries are only apart by political borders, and the effects of natural imbalance are bigger and graver than political borders. What really matters is to understand that we live in a global village where all governments' actions affect other people's lives, as it is explained in the butterfly effect.

Therefore, because changing society's view about the environment and understanding existing threats, such as any social transformation, is a time-consuming and gradual process requiring education for the new generation, we need to add climate apartheid, climate change, and related

issues to different levels of formal education from preschool to university. The formal education system can and should play its role well in dealing with the climate apartheid and environmental crisis, teaching humans and making them more aware of the environmental situation while in the coming decades. Hopefully, by using substitute technologies, the future could be greener and healthier for the rich and poor.

Increasing public awareness

In this case, people do not vote for a party or populist politician who supports polluting industries such as coal or denies the environmental crisis and considers investing in promoting renewable energy a waste of time and budget. Law clinics and their Street Law programs can play an active role in this awareness-raising. Given the seriousness and urgency of the threats against humanity, it is essential to use all available capacities, including NGOs, religious institutions, and religious leaders in increasing public awareness.

Global solidarity

One of the essentials to combat climate apartheid is strengthening global solidarity and an open-minded understanding of the right to self-determination. Because climate apartheid and the environmental crisis do not recognize political boundaries. Contrary to what the rightist and nationalist parties advocate, it is necessary to support and improve global solidarity. Interpretation and implementation of the right to self-determination we need to have a broad and forward-looking perspective. For example, in the massive fires of Russian polar forests or the Amazon forests, the issue should not be considered solely in the exclusive jurisdiction of the Russian and Brazilian governments because those forests are essential to humanity's existence and health.

Agreement on Strong Law Enforcement Guarantee

If a government supports terrorism, commits genocide, conducts unauthorized nuclear tests, or attempts to obtain nuclear and chemical weapons, it will face a deterrent response from international institutions, including the UN Security Council. But passivity and lack of protection for the environment and protection for those affected by climate change, worse, deliberate, and profound environmental degradation and

destructive actions by governments do not hold them accountable or punished.

It is time to design and enforce regulations against such governments with specific guarantees.

Global Village and deciding its prospect

The world is now facing three main threats in the close future: nuclear war, global warming, and terrorism.

The international law community is not unfamiliar with controlling international threats as it has been applied for the past fifty years, trying to maintain an order helping all countries live in a safer and more stabilized world. Even though international law is relevantly a new field of law which is still endeavoring to discover new ways of applying and guaranteeing the international law by different countries, it has made distinctive positive changes in recent years.

A good example is when UN Security Council and the International Atomic Energy Agency confront with deterrent reaction from international bodies and nuclear testing and nations' efforts to acquire nuclear and chemical weapons, or as when the widespread and organized violation of human rights in any country faces international legal consequences.

It is assumed that if the global warming and environmental crisis are taken serious enough by countries and do not become inconsiderable compared to the great financial and economic benefits of countries; then the international world will take determined steps towards accounting governments for exploitation of natural resources, gas emissions, and their irreversible actions towards demolition of what is needed for humans to continue their journey on earth. As a UN expert explained, the time for declarations and conventions have passed, and countries such as Brazil who allow the Amazon forests to burn and be exploited or Russia for not taking action to extinguish fires in the polar forests must face international accountability. It is essential to accept that regarding environmental rights, national sovereignty could no longer stop global actions and to understand that one governments' gas emission and unbalanced efforts towards natural resources could lead to the earth's irrevocable damage.

Besides, international law needs to safeguard those who have used the

natural resources righteously but still have to pay the high price of losing their lands and homes because of the climate change effects. Unfortunately, governments with the most waste production and gas emission have significant financial resources at their hands to escape and outrun the outcomes headed towards less privileged communities who had the least to do with the caused situation.

Part Three: The role of religious leaders and institutions in combating climate apartheid

The majority throughout the world have religious beliefs, both in developed and developing countries. This is not a claim by religious groups, but reliable non-religious sources say it. For example, based on the World Economic Forum's official website (in their Global Agenda Council on the Role of Faith 2012-2014), 80% of the world's population adheres to a religion. In these societies, recognizing the role of faith and religious culture in public life and tackling global problems is growing. In such societies, faith groups exercise authority, strengthen the social capital, and provide services, and they advocate for change and mobilize communities.

Religious leaders and institutions can and should use this tremendous social capital, citing scriptures and the behavior of prophets and saints, to invite people, governments, social institutions, and all actors in the public arena to recognize and combat climate danger apartheid. The heart of the struggle against apartheid - of any kind - is justice. And justice is one of the most central teachings of religions. Respect for the sanctity of nature and all of God's creations, as well as the paramount importance of justice in the religious texts of religions, are two crucial assets of religious leaders and believers in protecting nature and combating climatic apartheid.

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Art Activism and the Environment

Evelyn A. Armstrong

Keyword: Ecoart, ecojustice, colonial legacy

The visual arts are among the most sophisticated forms of human communication, at once shaping and shaped by context in which they find expression. [Stokstad (1995) p. 24]

Introduction

The prominent position of the feminist movement has not only challenged institutions of education but also the Western canon of art history. Encouraging the integration of feminist thought, "... into curatorial strategy, recent developments in feminist practice and theory have helped to move contemporary art towards a new internationalism."⁴⁵⁰

In this sense ecofeminist art fits well within the contemporary Ecoart movement which is critical, political, local, regional and global. From an ecofeminist viewpoint respect for nature—rather than domination—stands as ground for ethical configurations conjoined with our emotional, physical, and spiritual lived experiences. While climate change and its uneven impact on the lived environment has been a defining issue, ecological degradation, ecojustice and environmental racism have become active agents in a major global critique on how we impact nature.

As I discuss art activism as key to the experience of environmental and cultural diversity, I draw examples from installation art and performative activities. I also draw attention to the power of documentary and mainstream film to show consequences of human actions. The works that I cite may be viewed online at any number of public web sites. The artists that I discuss work in myriad media. In many different ways their interest in

⁴⁵⁰ Reilly and Nochlin 2007, p. 15.



Proponents of waste to energy projects cite acceptable levels of toxic pollution—such as dioxin and mercury—as a small price to pay for a solid waste incinerator that will bring capital-intensive growth to a host community.

nature falls in line with the global Ecoart movement that is generally directed toward raising public awareness of global issues. To paraphrase Susan Stewart, we can know nature but we ought to acknowledge that nature "...enables knowledge of the world."⁴⁵¹ As I outline wide spread concerns pertaining to ecojustice, ethics and aesthetics I stress the interrelation of local and global, which is not a vague aphorism but the concrete underpinning of each human act that ought to be directed toward a sustainable future for Planet Earth. As Val Plumwood declares: ...even though it is clear that at the technological level we already have the means to accomplish the changes needed to live sustainably on and with the earth...the problem...is about developing an environmental culture that values and fully acknowledges the non-human sphere and our dependency on it, and is able to make good decisions about how we live and impact on the non-human world.⁴⁵²

In my own multicultural communities, I have personally addressed the concept of "environmental culture". Moreover, through the experience of arguing against the building of a dangerous and polluting toxic waste incinerator near residential areas in my home town, my research opened a greater understanding of the global economic systems that "threaten the

⁴⁵¹ Stewart 2005, p. 238 & 248.

⁴⁵² Plumwood 2006, p. 3.

biosphere".⁴⁵³ A short documentary film titled "The Rush to Burn" by the Green Peace group states without apology that the attitude toward placing polluting industry near "disadvantaged" communities was and continues to be commonplace. By sharing this film with the community, I was able to distribute valuable health information about waste incineration. While proponents of burning or garbage argue that incineration is "safer" than landfills research has shown that burning creates pollutants that

...are linked to a range of health problems, including asthma and heart disease. Researchers said that even incinerators operating within their permits are adding to public health problems that heavily burden black, Hispanic and poorer communities.⁴⁵⁴

Proponents of ecojustice⁴⁵⁵ point out that hazardous polluting industries often target economically disadvantaged marginalized communities—multicultural communities and Indigenous groups. Research shows that such areas are left vulnerable to what is now commonly known as manifestation of environmental racism. This is not a narrow concept of racism but connected with broader issues to do with decision making focused on environmental policy, "...and pre-existing longstanding social and economic inequalities that are products of Canada's colonial legacy."⁴⁵⁶ Exposing vulnerable peoples to high levels of social and environmental hazards not only impact individual homeowners, but this has a toll on the land use and land rights of Canada's Indigenous communities.⁴⁵⁷

⁴⁵³ This small interior town in south central British Columbia was targeted three times: the first proposal was to burn toxic waste; the second was to incinerate hospital waste; and, a third was a proposal to burn „ships waste.

⁴⁵⁴ Milman 2019.

⁴⁵⁵ Climate justice is a term used for framing global warming as an ethical and political issue, rather than one that is purely environmental or physical in nature. This is done by relating the effects of climate change to concepts of justice, particularly environmental justice and social justice and by examining issues such as equality, human rights, collective rights, and the historical responsibilities for climate change. A fundamental proposition of climate justice is that those who are least responsible for climate change suffer its gravest consequences Wikipedia www. (first accessed May 24. 2019).

⁴⁵⁶ Waldron 2018, p. 6.

⁴⁵⁷ For more information go to https://www.theguardian.com/environment/2019/may/21/us-pollution-incinerators-waste-burning-plants-report?CMP=Share_iOSApp_Other (first accessed May 22, 2019)

As Wendy Wickwire writes, colonial settlement resource and development “...heralded promise [for the newcomers but] for the local Indians, it heralded betrayal.”⁴⁵⁸ A brief look into the history of British colonial activities in North America shows that the Royal Proclamation of 1763 clearly states land rights of the First Nations:

The Royal Proclamation is a document that set out guidelines for European settlement of Aboriginal territories in what is now North America. The Royal Proclamation was initially issued by King George III in 1763 to officially claim British territory in North America after Britain won the Seven Years War. In the Royal Proclamation, ownership over North America is issued to King George. However, the Royal Proclamation explicitly states that Aboriginal title has existed and continues to exist, and that all land would be considered Aboriginal land until ceded by treaty. The Proclamation forbade settlers from claiming land from the Aboriginal occupants, unless it has been first bought by the Crown and then sold to the settlers. The Royal Proclamation further sets out that only the Crown can buy land from First Nations.⁴⁵⁹

Despite the edicts set by the royal proclamation, European settlers were welcomed to take up “unoccupied” land. Wickwire quotes an earlier 1693 court case, “...where a colonial possession was acquired through discovery rather than conquest, „judges assumed that English law flowed across the legally empty terrain automatically...”.⁴⁶⁰ This judicial reasoning concludes that if the land was deemed unoccupied, then it could be taken over.⁴⁶¹ Wickwire explains, “These laws established a government-sanctioned narrative that helped legitimize the English settler claims to „empty lands.”⁴⁶² However, for the First Nations the 1763 Royal Proclamation set precedent in their favour: this, not only for legal interpretation of land rights but also for just, cultural, moral and ethical land use. As per Dara Culhane:

⁴⁵⁸ Wickwire 2019, p. 42.

⁴⁵⁹ See https://indigenousfoundations.arts.ubc.ca/royal_proclamation_1763/ (first accessed September 4, 2019).

⁴⁶⁰ Ibid.

⁴⁶¹ Ibid.

⁴⁶² Ibid.

"Foremost among Aboriginal understandings of these [legal] agreements was the notion of continuity into perpetuity of their relationship to their lands, and of coexistence with other peoples....According to Aboriginal interpretations, guaranteed negotiations would be required in order to change use of lands, and to determine the relative jurisdictions of Aboriginal and Canadian law and governments."⁴⁶³

From an anthropologists® point of view, Culhane gives weight to intercultural communication as recognition of the existence of sovereign Aboriginal nations rather than being a creation of the Crown.⁴⁶⁴ Although land use and the recovery of resources on First Nations territory are constantly challenged, the ongoing argument calls for just and ethical land use that is, "...built on a strong and just foundation."⁴⁶⁵ Following David Suzuki, "The Haida [First Nations] believe that a common sustainable future based on Haida respect for the land and its plants and animals is possible for all people."⁴⁶⁶ Nevertheless, Suzuki warns that the sacred balance between the elements of the earth and human life, including non-human entities, are undergoing, "...rapid and catastrophic degradation."⁴⁶⁷

Loss of sacred lands and the exploitation of natural resources on First Nations territory are ongoing. Five examples will be presented. First, the Quebec government launched a massive hydroelectric project on unceded Cree lands the traditional meaning of a people belonging to the soil in perpetuity was demolished: this, along with the destruction of ancient fishing and hunting sites.⁴⁶⁸ Second, in a recent Canadian Broadcasting Corporation documentary, a Nova Scotia Northern Pulp company has been accused of dumping polluted material into a place known as Boat Harbour that is right at the back door of Pictou Landing First Nations. Third, when the City of Vancouver acquired a large parcel of rural land

⁴⁶³ Culhane 1998, p. 356.

⁴⁶⁴ Ibid.

⁴⁶⁵ Ibid.

⁴⁶⁶ Suzuki 1993, xxvi.

⁴⁶⁷ Ibid. xxxiii

⁴⁶⁸ McMillan, Alan D., and Eldon Yellowhorn. (2004) *First Peoples in Canada*. Vancouver: Douglas & McIntyre, p. 125. For a report on the issues of concern for the Cree First Nations see <https://www.cbc.ca/archives/topic/the-james-bay-project-and-the-cree> (first accessed July 5 2019).

for a landfill site, the fact that it encroaches onto the Bonaparte Indian Reserve was, apparently, ignored.⁴⁶⁹ Fourth, after a prolonged highway closure followed by a sit-in at the interior office of Christy Clarke, the former premier of British Columbia, Chief Aaron Sumexheltza proudly accepted conditions for a moratorium on dumping biosolids close to the Lower Nicola Indian reserve at Shulus.⁴⁷⁰ Fifth, in Nova Scotia, a similar situation is called into focus in a recent documentary titled *In Whose Backyard?* This 30-minute documentary film focuses on environmental racism in Nova Scotia. The film, produced by Pink Dog Productions, "... captures the voices of Mi'kmaw and African Nova Scotian community members who share their stories and struggles against environmental racism in their communities."⁴⁷¹

Thus, research show communities vulnerable to what is now commonly known as manifestation of environmental racism is also a legacy of long-standing social and economic inequalities. The first research coordinator for the Enrich Project, Ingrid R.G. Waldron writes:

inequalities in Indigenous and Black communities are not only outcomes of the disproportionate exposure to environmental contamination and pollution but are also worsened by pre-existing and long-standing social and economic inequalities that are products of Canada's colonial legacy.⁴⁷²

Waldron argues, along with Lorenzo Veracini, that settler-colonial societies differ from colonial states because the colonizers eventually return home. In the case of settler colonialism, homesteading lasts indefinitely and carries the distinct, "...and uneven power relations between individuals indigenous to the land and newcomers...".⁴⁷³ As Waldron writes, "...it is important to situate environmental racism within broader social, economic, and political inequalities that disproportionately impact

⁴⁶⁹ For a brief history and to view images of this landfill site go to https://en.wikipedia.org/wiki/Cache_Creek_landfill (first accessed September 4, 2019).

⁴⁷⁰ See CBC Docs The Mill 2019 Pictou County Nova Scotia.

⁴⁷¹ For more information and images go to <https://www.enrichproject.org/resources/> (first accessed July 5 2019)

⁴⁷² Waldron 2018, p. 6.

⁴⁷³ Ibid., 38.

African Nova Scotian communities in this province through racist policies, as well as the absence of policies for addressing structural harms in this community.”⁴⁷⁴

In a BBC TV Mini Series on Australia (2013), the commentator Simon Reeve holds no bounds in stating that the indigenous peoples are vulnerable to environmental racism. Stating that, “...despite being guardians of the land for more than 30,000 years,” Reeve goes on to say that “Aborigines displacement and disinheritance is widespread.”⁴⁷⁵

As Françoise Dussart and Sylvie Poirier point out:

In the course of the past two centuries, traditional hunters and gatherers in Australia and Canada have been disposed of their lands, forced to settle, „invited” to engage in the market economy, and more recently involved in long and arduous processes of partial recognition of their land rights and titles. However, and in spite of these constraints and new deals, contemporary Indigenous peoples in Australia and Canada have been involved in some form of maintenance of their intimate relationship with territories, some of which have been reposed while others have been irretrievably lost.⁴⁷⁶

To underscore this, I cite a film from 1984 by the acclaimed German filmmaker Werner Herzog, *Where the Green Ants Dream*. The opening shots of the film provide a stunning aerial view of a vast landscape pockmarked with heaps of earth: evidence of underground tunnel uranium mining. The camera zooms in on a group of Aborigines standing guard over the earth. The camera turns to focus on an enormous machine slowly advancing toward the group. It is pushing a payload of dusty earth. A harried employee of the mining corporation rushes to halt the machine: just as the dirt is about to fall over the very feet of the elders.

The emerging discourse, centred on economical development, is also about colonial empowerment. This remarkable film—albeit creative

⁴⁷⁴ <https://nsadvocate.org/2016/12/01/op-ed-environmental-racism-is-violence/> (first accessed July 5 2019).

⁴⁷⁵ For more information go to <https://www.bbc.co.uk/programmes/b01xzcwd> (first accessed July 26 2019) Viewed on Knowledge Network July 25 8-9pm 201

⁴⁷⁶ Dussart and Poirier 2017, p. 12.

writing—stands as a testimonial to contemporary and just demands of Aborigine tribes of Australia.⁴⁷⁷ Filmed at a mining site and with interviews with elders, we view the group observing ancient beliefs, cultural ritual, and struggling to support legal claims to their ancient lands. Throughout, the language of colonialism and capitalist determination threatens to erase the ancient culture: their knowledge and use of land, their attitude toward holy sites and to destroy the landscape. The filmic narrative includes stories passed on over generations: this, while the corporate company representatives proceed with the plans to “destroy the holy ground.”

The ancient and vibrant laws, legends, culture are not only threatened by mining, but also by development. At a sprawling shopping centre mall, the earth has been paved over for a parking lot. The holy site, reverend by the Aborigine group, is covered by buildings. Inside a grocery store a group of men are shown seated on the floor between aisles of shopping goods. A store employee explains that the young men are sitting at the exact spot where once stood a sacred tree. He explains that the young men are practicing a “dream time”. Following in the traditions of the elders—their fathers and father’s fathers—they dream of bringing their own sons and daughters to the future.

Making a place of a diversity of voices and views, we hear from artists, poets, writers, filmmakers, and environmentalists that have been presenting works that not only address public awareness through political engagement, but works that also address the changing climate landscape. For instance, with his paintings and drawings, the Ojibwa artist Norval Morrisseau set precedent—circa 1960s—for his insight toward creating a lived, traditional style. Drawing his inspiration from, “...the legends of his people and from the images in rock paintings and birch-bark scrolls...”⁴⁷⁸ Morrisseau is known for his spiritual quest and his political leadership.⁴⁷⁹

In the wider art world, the 1960s are known for the introduction of, “....

⁴⁷⁷ Cultural Survival Quarterly Magazine 1985.

⁴⁷⁸ To view art works and more information go to <https://www.aci-iac.ca/art-books/norval-morrisseau/biography> (first accessed July 3 2019).

⁴⁷⁹ McMillan and Yellowhorn 2004, pp. 127-128.

process art, environmental art, ecological art, earthworks and Land Art" all of which opened to a global conversation on land use and promoted an interest in using the body in the landscape.⁴⁸⁰ Over the opening years of the early 1970s, "...the Feminist Art movement presented a challenge to mainstream modernism that radically transformed the art world in the United States."⁴⁸¹ Women artists also became more involved in the field of public art.⁴⁸²

From an Ecoart point of view, Nancy Holt and Mierle Ukeles stand as exemplary artists committed to raising public awareness of land use. While some earth art has been criticized for destroying the landscape, Holt's masterpiece titled Sun Tunnels stands as a testimony to her theme of the relationship between sky/ground. Mierle Ukeles is best known for a performance piece titled Touch Sanitation wherein she raised awareness for the workers of New York City's Department and, "...shook hands with and personally thanked all 8,500 workers."⁴⁸³ The land art and earth movements, performance art, video and film have all played a part in setting the global ecology and environmental movements in motion. As Andrew Brown writes:

...this trend has been five decades in the making... [and] confront some of the most urgent social, political economic, scientific, technological and ethical issues facing humankind today.⁴⁸⁴

Confronting ethical issues of land use, Vancouver First Nations artist Lawrence Yuxweluptun Paul has used his large scale painting titled *Red man Watching White Man Trying to Fix Hole in Sky* (1990) to set a hard-hitting critique aimed towards bringing awareness of environmental devastation to the general public. Rebecca Belmore went a step further by taking her large installation performance piece speaking to their mothers⁴⁸⁵ to varied and isolated communities: not only to draw attention to environmental destruction, but also to draw attention to the unresolved

⁴⁸⁰ Tiberghien 1995.

⁴⁸¹ Broude et al 1994, p.8.

⁴⁸² Ibid, p.23.

⁴⁸³ Ibid, p. 245.

⁴⁸⁴ Brown 2014, p. 7.

⁴⁸⁵ sic

issue of unchecked energy extraction on unceded aboriginal lands in Canada. In support of environmental justice, these and other environmental artists bring the public face to face with issues of environmental racism, justice and climate change. While these activities are restricted to relatively small areas of Canada, a report prepared for the United Church of Christ Justice and Witness Ministries, reveals that the location of polluting industry and hazardous waste facilities are more often than not located throughout the United States on land close to predominantly mixed race communities. This report, which was carried out in 1987, "...was significant because it found race to be the most potent variable in predicting where commercial hazardous waste facilities were located in the U.S., [this] more powerful than household income, the value of homes and the estimated amount of hazardous waste generated by industry." A follow up to the report was released in 2007 titled Toxic Wastes and Race at Twenty 1987—2007. The full report may be accessed in PDF form, see below. From this research it is clear that environmental sacrifice zones are disproportionately located near vulnerable communities.

In addition to concerns about contaminated water, it is crucial to understand the terrible nature of mercury poison, "Once ingested, mercury never goes away. It bioaccumulates, meaning it passes from one generation to the next, from mother to child, through the placenta."⁴⁸⁶

A soon-to-be released Hollywood film, adapted from the book Minamata by the acclaimed news photographer W. Eugene Smith and Aileen Smith, will expose the ongoing pain, loss and misery of the, "... slow poisoning of people of Minamata, Japan (1971) through methylmercury." More to the point, when pollution, poison, or toxic waste is uncovered, the clean-up tends to be too slow or too late as in the case of Minamata, Japan. In the case of the Grassy Narrows First Nations, in Canada, a CBC news report makes it known that the "sacrifices" are ongoing:

During the 1960s and early 70s, the chemical plant at the Reed Paper mill in Dryden, Ont., which is upstream of Grassy Narrows, dumped 9,000 kilograms of mercury into the English-Wabigoon River. The fish in

⁴⁸⁶ Ibid.

the river were full of poison, and the people from Grassy Narrows, who relied on the fish as a staple in their diet, were full of it, too.⁴⁸⁷

These stories and many more, carry strands of thought that not only connect far-flung communities with environmental racism, but also with world-wide struggles to understand and to deal with the consequences of more resource exploitation, more industrialization and more development. All of these strands conjoin in the environmental crisis and the impact of climate change. In searching for ways to regain a harmonious balance with the beauty and interconnectedness of all aspects of earth, I have mentioned artists who are joining people who are working to make a difference. In protests, in documenting blockades, and by using the visual and performing arts as a diverse language of engagement, I champion art directed toward the expression of hope, for a sustainable future for Planet Earth.

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⁴⁸⁷ CBC news.ca

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Who Owns The Air? Ethical Allocations of a Limited Resource

David A. Larrabee

Keywords: Climate Change, Lorenz curve, GINI Coefficient, inequality, Sustainable transitions, CO2

Introduction

The current nationally determined contributions of the Paris climate accord would result in a global average 3.2°C temperature rise.⁴⁸⁸ Limiting the temperature rise to 2°C requires emitting less than approximately 1,000 Giga Tonnes of Carbon (GTC).⁴⁸⁹ Approximately 656 of the 1000 GTC limit have already been emitted.⁴⁹⁰ This leaves 344 GTC to be divided between countries. Rather than asking for voluntary commitments, we need to start talking about the required ethical commitments.

How can the remaining CO₂ emissions be divided between the world's countries while minimizing or eliminating inequalities in such emissions? A method is developed to evaluate any distribution strategy. This method is then applied to three possible strategies.

There are conflicting requirements for the ethical transition to a global economy that has zero carbon emissions and limits temperature rise to 2°C. Among them:

- Quickly transition the world to zero emissions of carbon.

Build the infrastructure needed for sustainable development and adaptation.

The time required for the Least Developed Countries to build the infrastructure needed is longer than the time left for the transition to zero emissions of carbon.

⁴⁸⁸ "UN Climate Pledge Analysis," Climate Scoreboard, Climate Interactive, accessed February 15, 2021, <https://www.climateinteractive.org/ci-topics/climate-energy/scoreboard/>.

⁴⁸⁹ Myles R. Allen et al. 2009, pp. 1163, 1165.

⁴⁹⁰ Global Carbon Budget 2018.

About 81% of global energy supply comes from fossil fuels.⁴⁹¹ It takes energy: to build alternative energy sources, to create infrastructure, and to run economies. During the transition to a zero emissions society, much of this energy will come from fossil fuels. Who gets what fossil fuels is a matter of national economic welfare, at least in the short run.

The Human Development index (HDI) is related to the per capita consumption of energy. Between 500 and 900 kWh of electrical energy per person per year seems to be necessary for an HDI greater than about 0.6.⁴⁹² Capping CO₂ emissions from low human development countries could prevent their development.

This paper addresses the question of the ethical division of the remaining CO₂ emissions among countries, using the Gini coefficient measure of inequality among the 213 countries for which CO₂ emission data is available. Projections into the future are generated by a Python program. First a business as usual projection is generated and then three different emission reduction strategies are evaluated for their effect on the inequality of emissions.

The Lorenz Curve and Gini Coefficient

In 1905 M. O. Lorenz introduced a graph that illustrates how wealth is being concentrated or diffused.⁴⁹³ The Lorenz curve has been used to look at the inequality in CO₂ emissions per capita among the world's population since at least 1997.⁴⁹⁴

To understand the Lorenz curve consider a hypothetical world consisting of 3 countries: India, China and the United States in 2017. Create a list of the CO₂ emissions per person in each country and sort that list from lowest to highest. The results are shown in the first column (country) and the second column (emissions per capita) of table 1. The emissions of CO₂ are measured in tonnes of carbon per person per year, where the carbon

⁴⁹¹ "Key World Energy Statistics 2018," International Energy Agency, Data and Publications, accessed June 10, 2019, 2, <https://webstore.iea.org/key-world-energy-statistics-2018>.

⁴⁹² Larrabee 2018, p. 529.

⁴⁹³ Lorentz 1905, pp. 209-219.

⁴⁹⁴ Heil and Wodon 1997, pp. 426-452.

refers to the mass of the carbon atom, not the CO₂ molecule. To convert to tonnes of CO₂ simply multiply by 44/12.

The third column contains the population of each country in millions of people. The fourth column displays the cumulative population. The cumulative population is simply the total population of that country and all previous countries in the list. The first country simply contributes its population, India with 1,339 million people.

Table 1: Lorenz Plot Calculations Example:

Country	1)	2)	3)	4)	5)
India	0.503	1,339	1,339	674	674
China	1.905	1,410	2,749	2,686	3,360
United States	4.433	324	3,073	1,436	4,796

1) CO₂ emissions per capita (tonnes C/p/y)

3) Population(millions)

4) Cumulative Population (millions)

5) Cumulative CO₂ Emissions (10⁶ tonnes C/y)

Each succeeding country adds its population to the preceding total. Since China is next in the list its population is added to India's. The cumulative population at this point is 1,339 +1,410 or 2,749 million people. Finally the United States (US) adds its population, 324 million, to the previous total of 2,749 resulting in a cumulative total of 3,073 million. This last entry contains the total population of all the countries in the list.

The total CO₂ emissions for the country is obtained by multiplying the population times the CO₂ emissions per capita and is displayed in the 5th column in million tonnes of carbon per year.

The final column is the cumulative emissions, computed in a manner similar to the cumulative population. So the first entry is just the total annual CO₂ emissions of India, 674 million tonnes of carbon a year. The next entry adds China's emissions (2,686) to the previous total for a cumulative emission of 3,360. The final entry, the United States, adds its

emissions, 1,436, to the previous total CO₂ emissions (3,360) arriving at 4,796 million tonnes of carbon a year for these three countries.

The Lorenz curve is a plot of the cumulative population on the horizontal axis and the cumulative CO₂ emissions on the vertical axis, usually expressed as percentage of the maximum value. In what follows the data itself will be plotted, rather than percentages. The cumulative emissions will be expressed in billions of metric tonnes of carbon per year (BTC/y).

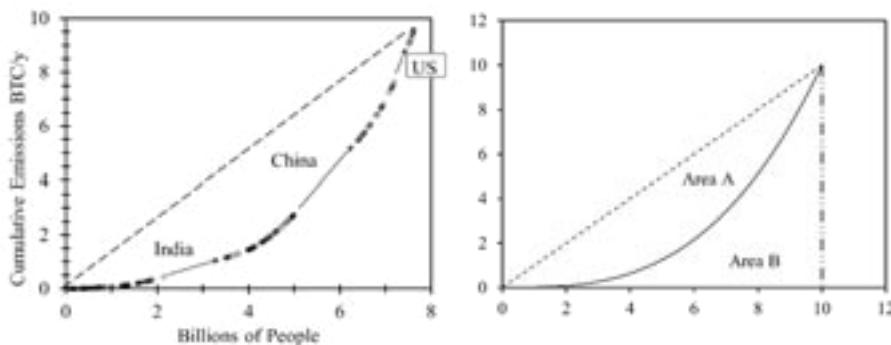


Figure 1. 2018 Lorenz curve for global carbon emissions. (Gini = 0.49).

Figure 2. Calculation of Gini Coefficient.

Figure 1 displays the Lorenz plot for the 213 countries for which we have 2018 data, or reasonable estimates of the CO₂ emissions. The dashed straight line represents the situation where all countries have identical emissions per capita. In this case there is no inequality in CO₂ emissions. The absolute worst case would be if there was only one person who emitted all the carbon. In this case the curve would stay on the horizontal axis, (zero emissions) and rise to the total emissions only at the final point. The area between the dashed line and the actual curve represents the global inequality (area A in figure 2). The Gini coefficient is a numerical measure of the inequality and lies between zero (the curve is the dashed line) and 1, where the curve represents the maximum inequality.⁴⁹⁵ The

⁴⁹⁵ This measure was first proposed by Corrado Gini. *Variabilità e Mutabilità*

Gini coefficient is computed by dividing the area between the equal emissions line and the actual emissions curve (Area A in figure 2) by the total area under the equal emissions line (area A plus area B in figure 2). In the case of the 2018 Carbon emissions the Gini coefficient is very close to 50%, indicating a high degree of inequality.

A few countries have been identified on figure 1 with an arrow showing their contribution. The slope of the arrow for the US, and China exceed the slope of the dotted line. This indicates that on a per capita basis these countries are emitting more than the global average person. India on the other hand has a slope that is less than the dotted line, indicating that they consume less per capita than the global average.

I will use the Lorenz curve to illustrate 3 strategies for CO₂ international emissions allocations. The total CO₂ emissions to be allocated in any given year are the subject of the next section.

Global Emissions Scenarios

Myles R. Allen and his collaborators ran simulations on 250 different future emission scenarios and simulated the results to the year 2500.⁴⁹⁶ The result: how much carbon we emit is more important than when it is emitted. Their results suggest a rule of thumb. A cumulative trillion metric tonnes of carbon put into the atmosphere, starting from 1750, causes a peak temperature increase of about 2°C. As a rule of thumb it is approximate, and there are error bars and limitations to the number. I am interested in insight, not the details, so I shall use their result.

Greenhouse gas emissions include all sources starting from 1750: fossil fuel, industrial releases, land use changes, bunker stocks, as well as releases of methane and other greenhouse gases. Historical data for the national emissions of carbon dioxide from fossil fuels as well as industrial releases is taken from the 2018 Global Carbon Budget.⁴⁹⁷ National historical data for methane, nitrogen oxide and some other greenhouse gases are not available for many countries. Given the lack of data, non-CO₂

contributo allo studio delle distribuzioni e delle relazioni statistiche (Bologna: Tipographia. di Paolo Cuppini, 1912).

⁴⁹⁶ Allen 2009, pp. 1163-1166.

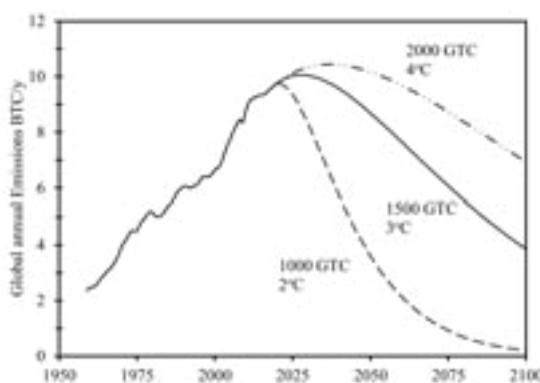
⁴⁹⁷ Integrated Carbon Observation System, “Global Carbon Budget 2018”.

gases are not included in our analysis. Thus the emission scenarios in this report are optimistic.

Approximately 656 GTC of the 1000 GTC limit have already been emitted.⁴⁹⁸ If land use change emissions fall to zero within the next 50 years, future land use emissions might be limited to 48-50 GTC. Bunker stocks, those fossil fuels that are used for international shipping and travel, also have to be reduced to zero. If bunker stock emissions fall to zero in a similar time frame bunker stock emissions might be limited to 11-12 GTC. This leaves about 283 GTC available for distribution among countries for fossil fuel and industrial emissions for the foreseeable future. Figure three displays three scenarios representing trajectories of fossil fuel and industrial emissions that would result in approximately 2, 3, and 4 degree Celsius global average temperature rises along with the historical data. I have chosen the shape of the curves so that they continue smoothly from the historical data as well as exponentially falling away to zero.

In what follows the population projections are from the United Nations revised 2017 medium variant.⁴⁹⁹ The projected future emissions data (business as usual) for each country assume the continuation of any historical trend in emissions per capita, linear if upwards and a declining exponential if downwards.

I will present three allocation strategies that follow the 2°C, 1000 GTC curve shown in figure 3.



⁴⁹⁸ Integrated Carbon Observation System, “Global Carbon Budget 2018”.

⁴⁹⁹ World Population Prospects: The 2017 Revision.

Figure 3. Fossil fuel emission profiles for fixed total cumulative emissions of 1000, 1500, and 2000 Giga tonnes of Carbon.

Grandfathering Allocations

In a grandfathering allocation scheme everyone reduces their total CO₂ emissions by the same percentage of a fixed base year, here taken to be the 2019 for which the emissions are projected. Each year, a common percentage is chosen so that the total global emissions match the desired global emissions scenario for that year. Everyone reduces their emissions by the identical percentage of their base year emissions. This is not a uniform reduction in emissions per capita. Neither is this a reduction in the projected emissions, but it is a reduction from a fixed base year.

Figure 4 shows the sequence of Lorenz curves that result from the application of this rule. The top solid line is the base year 2019. The dotted line is the projection for the year 2050. In between are 5 year increments. Below the dotted line are the projections to the year 2100 in 10 year increments. The population is growing, as evidenced by the final point in each Lorenz curve moving outward. The end point also moves downward indicating that the cumulative emissions are being reduced.

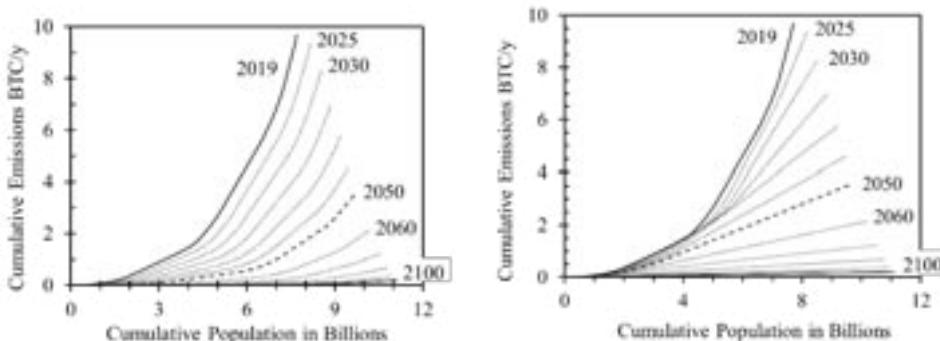


Figure 4. Grandfather allocation scheme Lorenz Curves.

Figure 5. Emissions per Capita Cap Lorenz Curves.

Note that from the beginning 100% of the countries are reducing their emissions. The population growth is largest in the lower emission

countries, so their emissions per capita are being reduced by both the reductions from the base year, and the population growth in the country. The curvature is not being flattened, but is growing. As a result the Gini coefficient is actually increasing (see figure 11). The grandfathering

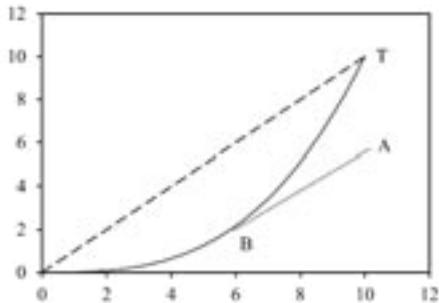


Figure 6. Emissions per capita cap in relationship to the Lorenz Curve.

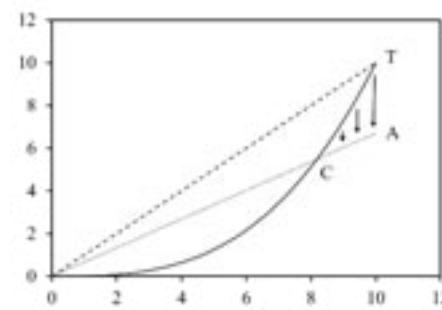
Figure 7. High emitters first strategy in relationship to the Lorenz Curve.

strategy favors the high emitting low population growth countries at the expense of the low emitting countries, with higher population growth.

Capping CO₂ Emissions per capita

Another strategy is to put a cap on the emissions per capita for all countries. The amount of the cap would be determined by the desired reduction in emissions. Countries with emissions below the cap would not be affected. In the case considered here there is no trading in emissions, as in cap and trade schemes, this is a pure cap. If a country's population grows, the emissions are also allowed to grow in proportion. As time goes on the emissions per capita cap would decrease, so as to meet the desired global emissions scenario. Eventually all countries would be effected, but the lower the initial emissions per capita, the longer it would take for a country to be effected.

Figure 6 shows how the emissions per capita cap (EPCC) strategy modifies the Lorenz curve. Without any additional limitations the Lorenz curve would terminate at point T. The dashed line (origin to T) is the current equal emissions line. The desired reductions require a Lorenz that ends at point A. The emissions per capita strategy amounts to drawing a line from the desired total cumulative emissions and population point (A)



to the existing Lorenz curve at a point where the straight line is tangent to the curve (B). This is line B-A in the graph. Between Points A and B all countries have the same emissions per capita. From the origin to point B no additional restrictions are required. So the new Lorenz curve goes from the origin to point B, and then follows the straight line from B to A. This results in noticeable flattening of the curve, reducing the Gini Coefficient. The order of the countries between the origin and B can change order from year to year as their projected emissions per capita changes; some rising, others falling. Thus each year's Lorenz curve will require sorting of the countries. Once point A falls low enough, a country's emissions per capita will be limited by the Line B-A. Eventually all countries are affected.

Figure 5 shows the results when this method is used to allocate the remaining emissions as presented as a series of Lorenz curves. As before, the curves shift to the right due to the population increase and downward as emissions are reduced. The Lorenz curve starts to flatten almost immediately, resulting in less inequality and a lowering of the GINI coefficient. A comparison with the grandfather curves clearly shows that the emissions per capita cap results in less emissions inequality (see figure 11).

High Emitters First (HEF) Strategy

The high emitters First (HEF) strategy meets the global emissions scenarios by reducing the highest per capita emitters to the desired average emissions per capita, in order, from highest to lowest, until the desired emissions target for the year is reached. All other countries emissions are not reduced. Graphically the strategy is illustrated in figure 7. Point T is the terminus of the unmodified Lorenz curve. The solid black curve represents the current Lorenz curve. The dashed line (origin to T) is the current equal emissions line. The desired reductions require a Lorenz that ends at point A. Line origin to A is the desired equal emissions line, ending at the desired emissions point A. Countries that fall below the intersection of the desired equal emissions line and the Lorenz curve are unaffected (point C). The countries between points C and A have their emissions reduced so that their terminal point falls on the A-C dotted line. For countries that have their emissions reduced, the resulting emissions per capita cap is now a maximum limit for all future emissions. Countries immediately below the intersection (point C) can

briefly have emissions per capita above the desired average. This strategy allows for fewer mandatory reductions in emissions per capita in any given year (see figure 10).

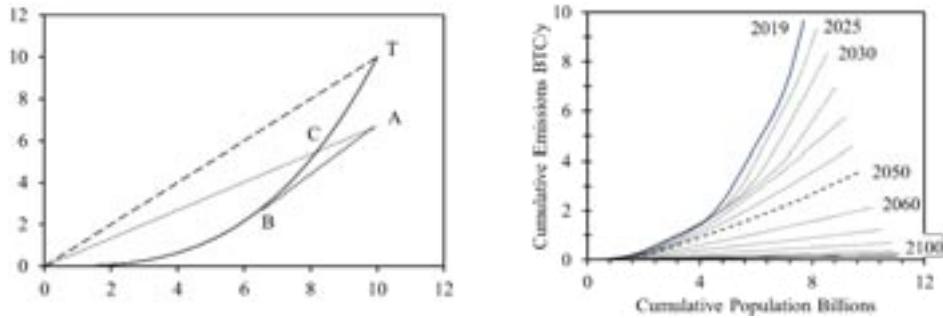


Figure 8. High emitters first and emission per capita cap calculations.

Figure 9. High emitters first strategy Lorenz Curves.

Figure 8 is a composite of figure 6 and 7. The dotted line between points B and A represents the emissions per capita cap (EPCC) line in Figure 6. In the emissions per capita cap strategy all countries to the right of point B are affected. The dotted line between the origin and point A is the new equal emissions line in the high emitter's first strategy. In the high emitter's first strategy, only those countries to the right of point C are affected. The Lorenz curve is monotonically increasing, so point C is to the right of point B. The high emitter's first strategy affects fewer countries in any given year.

This strategy results in the set of Lorenz curves in Figure 9, which are very similar to the Lorenz curves for the emissions per capita cap in figure 5.

In the high emitters first (HEF) strategy the countries order within the Lorenz curve can change in two ways. First, for countries below point C in figure 9 the projections of the emissions per capita can result in a reordering, this is the same as in the EPCC strategy. The HEF strategy allows some countries below point C to have higher emissions per capita than countries that were higher than point C. Thus after the trimming, the Lorenz curve needs to be regenerated, allowing the order of the countries to change.

Comparison

Figure 10 shows the number of countries affected each year for both the EPCC and the HEF strategies. Grandfathering affects 100% of the countries so it is not shown. Capping the emissions per capita results in only 137 out of 213 countries in 2050 having to reduce their emissions in that year below their historical trends. About 65% of the countries are affected in 2050. The HEF strategy involves significantly fewer countries having additional limits imposed on them in any given year. The reductions tend to be larger in a year when reductions are applied, but the number of years when this happens is fewer. Both the emissions cap and high emitters first strategies make additional room for the most vulnerable to utilize fossil fuels in their development efforts.

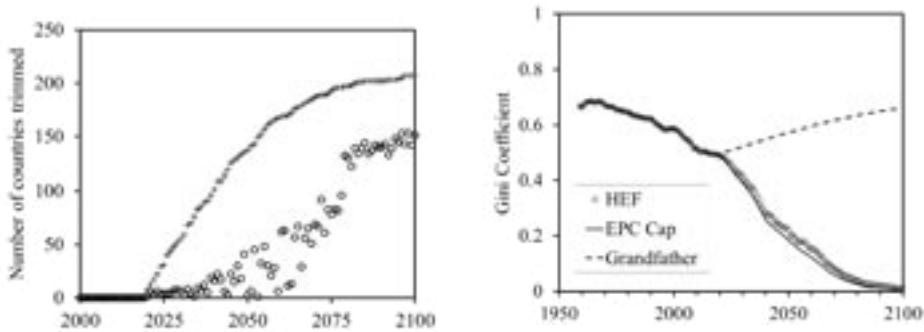


Figure 10. The number of countries affected by year: + top line emissions per capita cap, circle high emitters first.

Figure 11. Gini Coefficient for the three strategies.

Figure 11 is a plot of the GINI coefficient for the three strategies considered in this paper. The grandfather strategy actually increases the inequality (the dashed line). Both the EPCC and the HEF strategies reduce the Gini coefficient to zero, with the EPCC strategy slightly faster, but involving more countries. The historical trend is a falling Gini coefficient. The grandfather strategy would reverse that trend, while the other strategies continue and perhaps accelerate the trend.

Table 3 compares the total remaining emissions (sum of the years 2020 to 2100) for selected countries under the three strategies. Qatar has very high emissions per capita with future emissions strongly curtailed by the

EPCC strategy and even more restricted by the HEF strategy. The United States has about a 50% reduction in the EPCC cap strategy as compared with grandfathering, while in the HEF strategy the US gains slightly over the EPCC strategy. China's future emissions are slightly reduced by the EPCC as compared with grandfathering (14%), and gain back 5% in the HEF strategy. India doubles the future emissions under the EPCC, and increases a little bit more under HEF.

Table 3: Total remaining national emissions for select countries under the three strategies (in millions of tonnes of carbon)

Country	Grandfather	EPC Cap	HEF
Qatar	1,079	195	146
USA	40,324	20,761	20,837
China	78,962	67,562	71,636
India	20,728	43,222	44,231
Greece	565	442	434
Peru	536	1072	1060
D.R. Congo	42	680	680

Since we are meeting in Greece, it thought it only fitting to include that data. Greece does better under grandfathering than the other methods, which reduces total emission by a little over 20%. The less developed countries benefit from a shift from grandfathering to EPCC, Peru for example almost doubling the total future emissions. At the low end, in tropical Africa, where the sustainable development goals are real challenges, Democratic Republic of the Congo (DRC) sees a significant increase in total emissions above grandfathering from 42 million metric tonnes of carbon to 680. Looking at the resulting emissions per capita under the HEF strategy illustrates what would be required of the

developed world. Figure 12 compares United States, China, India, and the DRC. The US emissions per capita are currently falling, while China and India's are rising. The US comes under restrictions first (2024) and within a few years the US emissions per capita is reduced to slightly below that of China (2028). China's reductions start to fall in 2030. From that point on China and the US follow a similar curve of emissions per capita reduction, until they arrive at the same level as India (approximately 2040). After that the US, China and India's emissions per capita all fall together. For the sake of comparison Democratic Republic of Congo's curve is also shown, essentially on the horizontal axis. Figure 13 is a plot of DRC's projected emissions per capita.

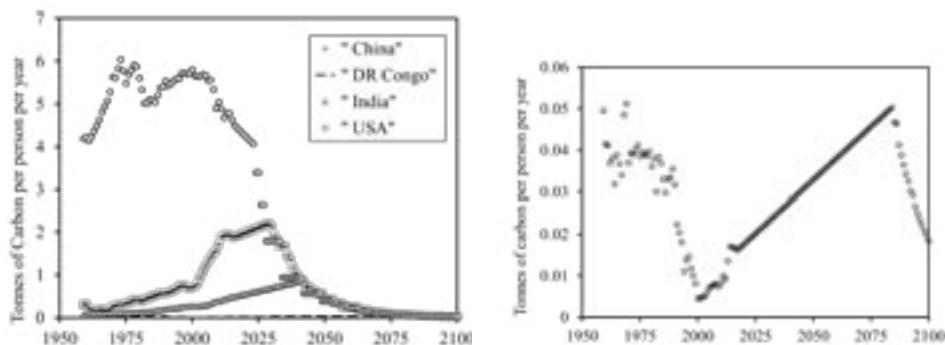


Figure 12. Emissions per capita vs time for US, China, India, and Democratic Republic of the Congo under the high emitter's first strategy.
Figure 13. Emissions per capita vs time for the Democratic Republic of the Congo under the high emitter's first strategy.

DRC's emissions are rising at the moment, but the absolute levels are about 1% of US values. At the current rate it will take 30-40 years to recover from DRC's earlier reductions. In this scenario restrictions do not impact DRC until 2083.

We can also compare the emissions trend for each country for all 3 strategies. Figure 14 shows the emissions projections for the United States under the three strategies. The grandfather strategy is already quite aggressive with the US reducing its emissions from 1.4 Giga tons of Carbon per year at the present to less than 600 Mega tons of Carbon per year by

2050. Both the EPCC and HEF strategies are even more aggressive than the grandfather strategy, dropping the US emissions to under 200 million tons of carbon per year by 2050.

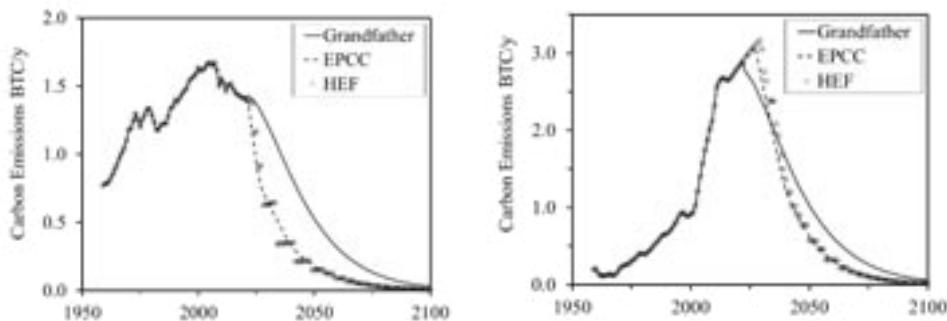


Figure 14. Comparison of strategies for US emissions.

Figure 15. Comparison of strategies of China's emissions.

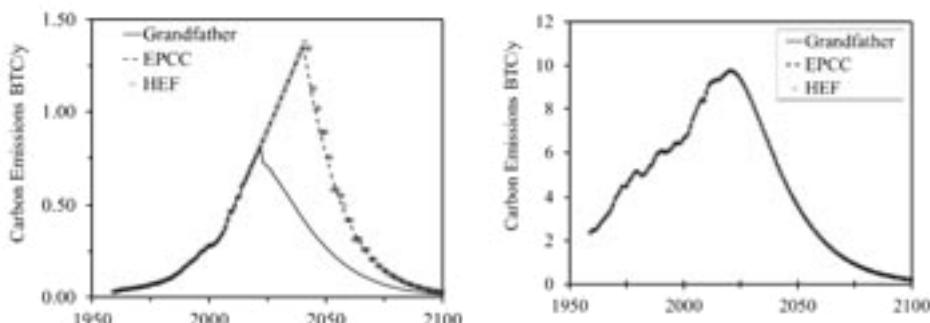


Figure 16. Comparison of strategies for India's emissions.

Figure 17. Worldwide emissions under the three strategies.

Figure 15 shows the required emission history under the three strategies for China. China has larger total remaining emissions under the grandfather scenario, but this scenario also requires that China start reducing its emissions immediately. The other two scenarios allow for some increase in Chinese emissions before they have to fall dramatically. Figure 16 shows the emissions profile for India under the three scenarios. India is significantly better off with either the EPCC cap or the HEF

strategies. Both strategies allow some time for India to increase their CO₂ emissions while they develop the infrastructure for a sustainable future. This is typical of countries that currently have low emissions per capita. Figure 17 shows the total world emissions under each of the strategies. By construction they should be the same, following the 2°C profile in figure 3, which they do.

Conclusion

Usually those most responsible for a problem bear the largest moral burden in correcting the problem. The country with the largest cumulative emissions between 1959 and 2019 will be the United States. Staying within a 2°C global average temperature rise will require rapid decarbonization for the US. If during the world decarbonization process the inequality in emissions is to be reduced, then the US has to decarbonize even more rapidly. The US is likely to pursue a strategy that involves some kind of grandfathering. This is likely to raise the inequality in emissions. In addition, the grandfathering strategy forces countries with lower emissions per capita to pursue reductions prematurely. Such premature reductions negatively impact the ability to achieve the sustainable development goals on a timely basis while still limiting cumulative global emissions to 1,000 GTC. China would have a very limited time to continue increasing its emissions before having to sharply curtail their emissions.

The concept of a poverty line is now widely accepted as one aspect of income inequality. Similarly there is an energy poverty line for a society, below which society does not have sufficient energy to supply basic needs.⁵⁰⁰ The concept of a greed line has been proposed.⁵⁰¹ Similarly an energy greed line can be formulated where increases in energy are not expected to result in significant increases in the Human Development Index. The United States is well above this level of energy use.⁵⁰² Much of the reduction in carbon emissions in the United States could be obtained by a significant reduction in energy usage. Since this is likely to negatively

⁵⁰⁰ Larrabee 2018, p. 529.

⁵⁰¹ Peralta Athena and Rogate Mshana 2016.

⁵⁰² Larrabee 2018, p. 529.

affect the gross domestic product it is a strategy unlikely to be pursued. Consequently, it is unlikely that global cumulative emissions can be held below 1,000 GTC and at the same time allows the less developed nations time to develop before rapid decarbonization. While the US and China are better off with grandfathering, India and the least developed countries would be better off with either the EPCC or HEF strategy.

The choice between strategies should favor the least responsible for the problem, the low-income countries. Therefore, the use of the emissions per capita cap or the high emitter's first strategies as a guiding ethical principle, does make sense, and gives preference for the low emissions' per capita country. The Nationally Determined Contributions should be ethically judged against the reductions suggested by an HEF or EPCC strategy.

The outlook for ethical conduct with respect to voluntary reductions among the developed countries is not good.

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SECTION 4:

Global Contributions



Love Creation as yourself

By Edward Dommen

“Especially in its Western form, Christianity is the most anthropocentric religion the world has ever seen”, wrote US historian Lynn White in a striking formula, which continues to challenge Christians of an ecological bent.⁵⁰³

A sublime communion

Fill the earth and subdue it.⁵⁰⁴

Some religions in the ancient Middle East claimed that the gods had created humans in order to use them as servants. The Bible demonstrates ideological progress by denying this slavery, but it shifts to the other extreme by claiming that God destines his creation entirely to the service of humanity. The idea is rooted from the very beginning of the creation narrative. “God blessed them, and God said to them, … fill the earth, and subdue it, and rule⁵⁰⁵ over the fish of the sea, and over the fowl of the heaven, and over every beast that moveth upon the earth”.⁵⁰⁶

After the flood Genesis presents a downright frightening image of the relationship between humanity and the living world around it : “the fear of you and the dread of you shall be upon every beast of the earth, and upon every fowl of the air, upon all that moveth upon the earth, and upon all the fishes of the sea; into your hand are they delivered”.⁵⁰⁷ This passage suggests that God is resigned about how humanity will use its power; indeed, he had earlier said to himself, “the imagination of man’s heart is evil from his youth”.⁵⁰⁸

⁵⁰³ White, Lynn Jr., 1967, “The Historical Roots of Our Ecological Crisis”. *Science*, Vol. 155, No. 3767, pp. 1203-7.

⁵⁰⁴ The section titles ‘A sublime Communion’ and ‘A Tremendous Responsibility’ are both drawn from *Laudato Si’* - paras 89 & 90.

⁵⁰⁵ ‘Subdue’, ‘rule’ - cf. Gen.1.26 as well : several translations attempt to water these terms down, but they find little support in the original Hebrew.

⁵⁰⁶ Genesis 1:28, Geneva Bible (GNV).

⁵⁰⁷ Genesis 9.2 King James Version (KJV).

According to verse 1.29, human domination extends to the vegetable world: God says: «I give you every herb that bears its seed on the whole surface of the earth and every tree whose fruit bears its seed: it will be your food. « On the other hand, Genesis does not say a word about a possible right of humanity over mineral or atmospheric resources - not even water, which is surprising given the scarcity of water in the Middle East already in biblical times.

The Qur'an contains a passage in a tone similar to Genesis, but including the non-living: "Do you not see that Allah has subjected to you what is in the heavens and on earth? (31:20)". 40.64 as well as other passages, are less categorical about subjection but likewise extend beyond the living : "It is Allah who has assigned you the earth as a stable dwelling place and the sky as a roof and has given you your form, - and what a beautiful form He has given you! - and He has nourished you with good things". 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 ... The central concept of Islam is tawheed or the Unity of God. Allah is Unity; and His Unity is also reflected in the unity of mankind, and the unity of man and nature".⁵⁰⁹

For Zoroastrianism, God created humans, the only beings endowed with consciousness, so that humanity would be the steward (one is tempted to say the coach) of the Seven Creations - heaven, water, earth, plants, animals, humans and fire. It is responsible for the maintenance of the universe; in the end it must return to the Creator a world in its perfect original state. One could venture to say that for the Zoroastrians or Parsis the creator did not create the world for humanity, but humanity for the world.⁵¹⁰ "In the ancient spiritual traditions man was looked upon as part

⁵⁰⁸ Genesis 8.21 KJV.

⁵⁰⁹ "The Muslim Declaration on Nature", *The Assisi Declarations*, 1986, <http://www.arcworld.org/downloads/THE%20ASSISI%20DECLARATIONS.pdf>. In 1986 WWF International organised an interfaith meeting in Assisi on nature to celebrate its 25th anniversary.

⁵¹⁰ cf. ARC, Faiths & Ecology, Zoroastrianism
http://www.arcworld.org/arc_and_the_faiths.asp

of nature, linked by indissoluble spiritual and psychological bonds with the elements around him. This is very much marked in the Hindu tradition, probably the oldest living religious tradition in the world. According to the Vaishnava tradition, the evolution of life on this planet is symbolized by a series of divine incarnations beginning with fish, moving through amphibious forms and mammals, and then on into human incarnations. This view clearly holds that man did not spring fully formed to dominate the lesser life forms, but rather evolved out of these forms itself, and is therefore integrally linked to the whole of creation.”⁵¹¹ The Indian physicist, biologist and botanist J.C. Bose further undermined the walls between species when he established that plants were sensitive to pain.

Laudato Si

*Laudato si*⁵¹² brings a breath of fresh air to Christianity. “In our time, the Church does not simply state that other creatures are completely subordinated to the good of human beings, as if they have no worth in themselves and can be treated as we wish...We can speak of the priority of *being* over that of *being useful*.”⁵¹³ God has written a precious book, ‘whose letters are the multitude of created things present in the universe’.⁵¹⁴ The ultimate purpose of other creatures is not ... us”⁵¹⁵ - another succinct phrase from the encyclical that puts anthropocentrists in their place ! Pope Francis recalls the verse in the book of Wisdom “For you love all things that exist, and detest none of the things that you have made; for if you hated something you would not have made it.”⁵¹⁶

⁵¹¹ “The Hindu Declaration on Nature”, The Assisi Declarations, 1986.

⁵¹² Encyclical Letter *Laudato Si'* of the Holy Father Francis on Care for our Common Home
http://m.vatican.va/content/francescomobile/en/encyclicals/documents/papa-francesco_20150524_enciclica-laudato-si.html

⁵¹³ Ibid. p. 69.

⁵¹⁴ Ibid. p. 85.

⁵¹⁵ Ibid. p. 83.

⁵¹⁶ Wis 11:24, quoted in para. 77.

A terrible responsibility

Humanity is one of the components of a single ecosphere. That is the sublime communion. However, it has an extraordinary capacity to do harm. That is its terrible responsibility. Over the ages it has developed a panoply of rules to limit the harm it inflicts on other humans. The purpose of this section is to cast a glance at whether some of the basic rules for living together peaceably which are deeply rooted in a wide range of moral codes or which have been adopted in international agreements can be extended beyond human society alone to the rest of creation without raising problems of kinds which do not already arise when applying them among people.

A review of the Brundtland Report

In 1983 the Secretary-General of the United Nations appointed a World Commission on Environment and Development. In 1987 it presented its report, *Our Common Future*, to the United Nations General Assembly, which «welcomed» it.⁵¹⁷ It served as a beacon for the thinking of a whole generation on sustainable development. It only began to fade well after the beginning of the 21st century. Chaired by the Norwegian Gro Harlem Brundtland, the Commission was composed of 21 members chosen according to the usual geographical distribution practiced in the United Nations. They were not specialists but personalities coming to the end of a distinguished career, often political. The lucidity and philosophical quality of their recommendations is all the more remarkable.

Its approach is in line with the Judeo-Christian perspective described by Lynn White: “the scope for species to make a fast-growing contribution to human welfare in myriad forms is a major justification for expanded efforts to safeguard Earth’s millions of species. Equally important [it recognises] are the vital life processes carried out by nature... Conserving these processes cannot be divorced from the conserving the individual species within [their] natural ecosystems”.⁵¹⁸

⁵¹⁷ A/RES/42/187.

⁵¹⁸ World Commission on Environment and Development (WCSD), *Our Common Future*, Oxford University Press 1987, p. 147.

Sustainable development

The Commission's definition of sustainable development has flourished, at least in a truncated version: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts: the concept of «needs», and in particular the essential needs of the world's poorest people, to which overriding priority should be given ; and the idea of limitations imposed by the state of technology and social organization on the environment's ability of the to meet present and future needs."⁵¹⁹

The truncated version that is often quoted stops at the end of the first sentence. It already summarises a far-reaching obligation in an impressively concise manner. Everyone and every community must be able to meet their own needs, but without harming others. There is no reason to restrict the notion of others to others of one's own kind. It can easily extend not only to the entire existing creation, but also to that which has not yet come about. It applies to the ability and freedom of each species to evolve according to its needs and the constraints set by its environment, which includes the freedom of all the others to meet their own needs.

While the first sentence is certainly very important, it by no means exhausts the richness of the definition as a whole. The second bullet is the element of the definition that deals with the relationship between humanity and its environment. It is shrewdly drafted. Above all, it is not up to the environment to conform to our wishes, but to us to design techniques and forms of social organization that allow us to live well in our environment.

The subtlety of the definition is hidden in the word «needs», to which the Commission applies no qualifiers. The definition does not specify whether it is the needs of the human community as might be implied by a first reading of its first sentence. As we have seen, the Report recognises that it perforce embraces the needs of the countless species which compose the ecosystem. The attention devoted in its chapter 6 to species extinction points to a second hypothesis, although the chapter is entitled «Species and ecosystems: resources for development». It stresses the bi-

⁵¹⁹Ibid., p. 43.

directionality of the relationship humanity < - > environment. "Development patterns must be altered to make them more compatible with the preservation of the ... biological diversity of the planet", concludes the Commission in a section of the chapter subtitled «A new approach: anticipate and prevent». ⁵²⁰ It foreshadows the principles of prevention and precaution that we will discuss later on.

In the English version of the report, the first bullet only concerns economic relations within human society. It refers to the poor, an essentially social category. The corresponding term in the French translation (actually done in Quebec) in a stroke of genius uses the word "démuni". It roughly corresponds to 'deprived', but it is far more pregnant: in the middle ages, "démunir" meant to take down the walls of a defeated town, to render it defenceless. If someone is deprived of something, it follows that someone else took it from them. The word invites the listener to look for the culprit; being poor can be seen as something which just happens. Furthermore, deprivation is not confined to humans, as any creature can be deprived of something. It is thus easy to extend Brundtland's definition of «sustainable development» beyond its social scope to embrace humanity's relationship with the natural world around it.

That all can meet their own needs

The phrase plunges to the heart social teaching of the Bible. The commandment, which English translations of the Bible tend to render misleadingly as "Thou shalt not steal," is generally taken as legitimating the privileges of possession. On the other hand, the French *Traduction œcuménique de la Bible* renders it as "Tu ne commettras pas de rapt". "Rap" is another word which has no close equivalent in English. It refers to seizing people to enslave them. It targets any alienation of the freedom of others.⁵²¹ Its meaning is captured in the Brundtland injunction to meet your needs without compromising the ability of others to meet their own needs. Calvin, who was conversant with the original languages of the Bible, had this to say on the commandment:

"All means we use to enrich ourselves to the damage to others... must be

⁵²⁰ WCSD, p. 157.

⁵²¹ cf. The French *Traduction œcuménique de la Bible* (2011), note to Ex. 20.15.

regarded as theft... Moreover, the transgression of this precept lies not only in harming others in their money, merchandise or possession: but also in any right whatsoever; for we defraud our neighbour of his good if we deny him the offices to which we are bound... We will therefore obey the commandment if we are satisfied with our condition, if we only try to make a profit by honest and legitimate means, if we do not strive to get rich by doing harm to our neighbour, if we do not arrange to destroy him to attract his goods to us: if we do not put our study to assemble riches from the blood or sweat of others, if we do not greedily scrape together from every quarter, regardless of right or wrong, whatever may conduce to satiate our avarice or support our prodigality. On the contrary, it should be our constant aim as far as we can, faithfully to assist all by our advice and our belongings in preserving what is theirs.”⁵²²

Beyond the biblical tradition alone, «that all may be able to meet their own needs» sums up a profound current of ethics that permeates many cultures. The saying «live and let live» is a common expression. Gandhi gave it an anarchist tone: [in an ideal state where swaraj is realized] “everyone is his own leader. He governs himself in such a way that he never hinders his neighbour.” In Buddhism, the precept is explicitly extended to non-humans. “man and the Earth are one. All forms of life have equal dignity”.⁵²³

First, do no harm

The origins of this lapidary saying are lost in the mists of time, although it is often attributed (on shaky grounds) to Hippocrates, a Greek philosopher at the end of the 5th century BC. Calvin echoes it when he treats any means we use to enrich ourselves to the injury of others as theft.⁵²⁴ It can extend to relationships with other creatures and with nature. Swiss law protects animals not only from pain, suffering, stress and fear, but also protects their dignity.⁵²⁵ In Switzerland... laboratories

⁵²² Calvin, *Institutes*, 2.8.45-46.

⁵²³ Ha Vinh Tho, Programme director of the Gross National Happiness Centre, Bhutan.

⁵²⁴ Calvin, *Institutes* 2.8.45

⁵²⁵ Swiss Federal Food Safety and Veterinary Office (n.d) Animal welfare.

gave up large primates for their animal experiments [because they] looked too much like human beings, which resulted in excessively great ethical reservations".⁵²⁶ From this slant, it seems that the ethical problem lay in the degree of resemblance of the creature to humans. As this bizarre example of anthropocentrism illustrates, extending to the whole of creation the principle of doing no harm can raise tricky choices between the good of different creatures. At least the extension brings the challenge to light and forces us to confront it.

Prevention, Precaution

The principles of prevention and precaution are based on the initial requirement to do no harm, they are corollaries of it. In both cases, the aim is to anticipate the harmful consequences that may result from an action in order to avoid or at least mitigate them. The prevention principle is appropriate for proven risks, the precautionary principle for risks whose nature or even reality is unknown, but which are conceivable.

The principle of prevention

The Swiss Federal Office for the Environment explains the principle in a pleasantly straightforward tone: *The saying "prevention is better than cure" is not only conventional wisdom, it is also the primary concept of Swiss environmental law.*⁵²⁷ Article 130R of the Single European Act says much the same.

The precautionary principle

Intuitively formulated, this principle requires that we refrain from acting until we know the possible consequences of the action we are considering. The principle comes into play when we do not know what these consequences might be. It no longer applies if we know the nature of the possible consequences but not the probability of their occurrence, and

⁵²⁶ Tribune de Genève, 8.12.2017, 5.

⁵²⁷ Swiss Federal Office of the Environment, *Swiss Environmental Law: A brief guide*, 2014, p.8, https://www.bafu.admin.ch/dam/bafu/en/dokumente/recht/ud-umwelt-diverses/umweltrecht_kurzerklaert.pdf.download.pdf/swiss_environmentallaw.pdf. Oddly, this passage appears under the heading 'precautionary principle'.

even less so if we know their probability, we then enter the field of prevention.

The Rio Declaration (1992) provides a convoluted formulation of “the precautionary approach” which confuses the two : “Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.”⁵²⁸

«Cost-effective» is an explicitly economic term. If we do not know either what damage might ensue or its probability, it is strictly inconceivable to estimate the cost-effectiveness of measures designed to prevent it. To recognize the possibility of precautionary measures is to recognize that there are limits to the field of economics, it is to deny the omnipotence of the economy. Hence the unwillingness of economists in positions of power to accept the precautionary principle.

The Principle contains another word, «scientific», whose full import needs to be carefully weighed. The *Concise Oxford Dictionary*⁵²⁹ defines it as «according to rules laid down in exact science for performing observations and testing the soundness of conclusions». Thus the reference to science requires that the precautionary principle be anchored in the procedural standards accepted by the corporation of scientists. It serves to disqualify any knowledge that does not fall within the binding framework of the customs and practices of a specific corporation. It thus disqualifies much local, traditional or indigenous knowledge invaluable to humanity’s ability to get along with its environment. That in turn runs counter to the *UNESCO Universal Declaration on Cultural Diversity*.⁵³⁰ Its article 1 states:

Culture takes diverse forms across time and space. This diversity is embodied in the uniqueness and plurality of the identities of the groups and societies making up humankind. As a source of exchange, innovation and creativity, cultural diversity is as necessary for humankind as biodiversity is for nature.

In this spirit, Article 1 of the Bolivian Law on Mother Earth⁵³¹ states that

⁵²⁸ United Nations 1992, Principle 15.

⁵²⁹ Ninth edition, 1995

⁵³⁰ 2001. <https://unesdoc.unesco.org/ark:/48223/pf0000124687.page=67>

⁵³¹ *Ley marco de la madre tierra y desarollo integral*, 2012, <http://www.fao.org/filead->

its purpose is ... to guarantee the continuity of the components and life systems of Mother Earth, and their capacity to regenerate themselves, recovering and strengthening the systems of local knowledge.

Subsidiarity

Subsidiarity recognises the intrinsic value of each being and their inherent dignity. The principle of subsidiarity requires that any decision be taken as closely as possible to those most directly concerned. If those closest cannot cope on their own, it is up to the next circle to provide them with the help they need. The word «subsidiarity» recalls the Latin «subsidiū». The «subsidiarii» were troops held in reserve, which could be called upon to help if necessary. Subsidiarity implements Gandhi's idea of swaraj, the ability and freedom to govern oneself: the outer circle, he wrote, "will not wield power to crush the inner circle but will give strength to all within and derive its own strength from it."⁵³²

This vision of politics easily extends to the entire ecosphere; indeed Johannes Althusius (1563-1638), one of the first thinkers to formulate the concept in the wake of the Protestant Synod of Emden (1571),⁵³³ uses the word 'symbiotic' to describe this kind of relationship. Subsidiarity thus extended to the whole of creation involves a pair of requirements. First, we must leave each community free to fulfil its own destiny. We must not hinder it and above all not deprive it of the means to flourish. Secondly, if the community is overwhelmed, we must intervene to the extent of our own resources in order to support it in its efforts without diverting it to the service of our own objectives.

In this vein, the World Charter for Nature,⁵³⁴ adopted by the United Nations General Assembly in 1982 against the opposition of the United States alone, states 'Every form of life is unique, warranting respect

min/user_upload/FAO-countries/Bolivia/docs/Ley_300.pdf

⁵³² Murthy, Srinivas. *Mahatma Gandhi and Leo Tolstoy Letters*. Long Beach Publications: Long Beach, 1987, p. 189, quoted in the Wikipedia article 'Swaraj'

⁵³³ For the relationship between them, see e.g. Hueglin, Thomas O., 2006, *Early Modern Concepts for a Late Modern World: Althusius on Community and Federalism*, p. 152. https://books.google.com/books/about/Early_Modern_Concepts_for_a_Late_Modern.html?hl=fr&id=5lQ9DgAAQBAJ.

⁵³⁴ United Nations 1982.

regardless of its worth to man, and, to accord other organism such recognition, man must be guided by a moral code of action.”

Future Generations

According to the World Commission on Environment and Development, we must organise ourselves to meet the needs of the present without compromising the ability of future generations to meet their own needs.⁵³⁵ Extending this principle beyond humanity alone according to the principles we have just reviewed does not pose any major additional challenges. This is reflected in the abundance of international conventions that deal with them.

The question of the size of a future generation, which is particularly sensitive with respect to human population itself, is more frankly addressed when it comes to other species. The very idea of nature conservation presupposes sustainability that is passed on from generation to generation of the species concerned.

Take, for example, the Bern Convention on the Conservation of European Wildlife and Natural Habitats, adopted in 1979. Its article 2 states “The Contracting Parties shall take requisite measures to maintain the population of wild flora and fauna at, or adapt it to, a level which corresponds in particular to ecological, scientific and cultural requirements, while taking account of economic and recreational requirements and the needs of sub-species, varieties or forms at risk locally.”⁵³⁶

In addition, the previous paragraph, Article 1, paragraph 2, states that “Particular emphasis is given to endangered and vulnerable species, including endangered and vulnerable migratory species”. This is simply a contextual expression of the central principle of sustainable development according to which overriding priority must be given to the essential needs of the poorest, i.e. the most deprived or vulnerable.

Species and ecosystems enjoy extraordinary resilience and adaptive capacity; it is obviously all the more rapid when generations are short.

⁵³⁵ World Commission on Environment and Development (WCSD) (1987), p. 43.

⁵³⁶ Note the anthropocentrism of the article. Scientific and cultural requirements are peculiarly human, as are economic and recreational ones. The needs of sub-species come last in the list.

The principle of subsidiarity takes on its full value in a intergenerational context: it is better to let ecosystems find their own internal balance.

To sum up

Extending the injunction to love one's neighbour as oneself to the whole of creation raises countless ethical puzzles, but they are not new. Microbes threaten human life, is it legitimate to kill them? The conditions under which it is legitimate to kill one human being in order to save another are already the subject of constant debate. Should medical care be restricted for the elderly, not to shorten their suffering but to relieve the public purse?

Moreover, humanity already has trouble extending the notion of neighbour to the whole of its own kind. There are people who count for nothing because they are not seen, helpless in the face of the forces of globalisation. Will all pacifists have to switch to vegetarianism? And how should they treat lions and other carnivorous animals? In short, ethics will have to stretch to include new species, but it will not be facing challenges it has not seen before.

True humanity

Hans Jonas formulates thus the principle to which he devotes his eponymous work, "The Imperative of Responsibility: Act in such a way that the effects of your action are compatible with the permanence of truly⁵³⁷ human life on earth".⁵³⁸ He is intensely aware that the continuation of the human race is precarious, and that this is a consequence of its own actions: Man's presence in the physical world can be wiped out by the unprecedented powers of modern technology. According to Jonas, the proper object of responsibility is the perishable. Jonas also insists that responsibility is solicitude, recognised as a duty, for another being who becomes an object of concern when it is threatened in its vulnerability. The founding question from which any active responsibility springs is: what will happen to him, if I don't take care of him?

But true humanity involves more than just humanity: it is a normative concept, to achieve it calls for effort. The need for sympathy and com-

⁵³⁷ Jonas' word is 'echt'.

⁵³⁸ 1984; German original 1979.

passion must extend beyond the human race to the whole of creation, for humanity could not exist without what surrounds it, without the relationships it maintains with the rest of what is present on Earth.

Confucianism is steeped in the ideal of true humanity. Its morality bathes in what can be summarily translated as «benevolence». We must care for nature and show it our love in all our dealings with it.⁵³⁹ Qi, essentially the life force of the universe that runs through everything, integrates humanity with nature. This Confucian way of seeing the universe as holistic underscores that each person has an obligation to behave respectfully towards creation and contribute to the general well-being, acting as a constructive participant in a collective effort. Zhongyong, Confucius' grandson, warns however that only the most sincere, authentic and true are able to fully realise their nature.

As Albert Schweitzer says, it is not through knowledge of the world but through experience of the world that we achieve a relationship with it.⁵⁴⁰

⁵³⁹ Editors note: In traditional Chinese culture, qi or ch'i is the vital force forming part of any living entity. Qi translates literally as "air" and figuratively as "material energy", "life force", or "energy flow".

⁵⁴⁰ This essay is based on the author's book *Aimer la création comme soi-même*, Geneva, éditions Nicolas Junod, 2018.

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Populism and Climate Change – a Depth-Psychological Perspective

Marijke Van Duin

Introduction

Analyzing populism is not an easy undertaking, because the phenomenon is linked with many factors: socioeconomic, political and psychological. Therefore this article starts with a short outline and sketch of the interplay of the key factors, followed by a social- and depth-psychological analysis. What can be done to lessen the threat of populism in societies, especially regarding the fight against climate change?

1. Outline and Interplay

First of all: what *is* populism? Populism shows many faces throughout history, cultures and nations. In general, one could state that modern day populists feel disadvantaged, not heard. They believe an elite class of people makes decisions without their input, which are not in their favour or interest. This results in a counter movement against decision makers and/or less participation in society.

Why is it that populism is on the rise in so many developed countries? What is the role of socioeconomic factors? Developed countries are rooted in what can be identified as the ‘dominant neoliberal financial-economic system’ (DFES), which is based on credit/debt, competition, profit-maximization and growth. This system has been spreading over the world and is commonly known as globalization. In the process many national governments have transferred control over the public domain to the corporate world and the markets.

In spite of widespread criticism of the DFES after the 2008 global financial crisis, there has been no systemic change to date. On the contrary: the corporate world has continued to expand its influence in law making, while administrations either accept it, or struggle to make regulations stricter. In fact, national governments have become an intrinsic part of the DFES through shareholding, thus blurring the

boundaries between private and public domains and interests. As a result, in many countries the free market has entered public health care and education systems, often driving up prices, while social safety nets and pension systems are weakening.

The financial system upholding the neoliberal world economy is based on - again - competition, speculation, credit/debt creation and profit maximization. The world's capital can be divided into two components: 'old' real money and 'new' virtual/speculative money, of which the second has gained ground over the last decades. 'Old' money is privately owned by certain families and businesses, while the other is partly virtual, highly volatile and the subject of (legally allowed) financial speculation. It is this 'new' money that stood at the basis of the financial crisis of 2008. Another distinction within the world's capital is formed by public money versus private money. During the financial crisis and its aftermath, public money was used to save private institutions such as banks. The rationale: otherwise the DFES would have collapsed.

Many of the old DFES-countries have a more or less democratic system and uphold a strong belief in equal opportunities, conveying: 'You are a free individual and on your own. If you do your best and compete well, you will succeed in life.' Nonetheless, the gap between best and worst paid labour, and between rich and poor, has increased considerably. Currently a few (26) individuals possess as much as half the poorest world population (data Oxfam, 2019). All data clearly show that the public domain has suffered and is suffering great losses, while being used to save a system that is profitable to only a small percentage of the population. During the last decades the internet and social media have emerged and have become everyday life pillars; also new technologies and artificial intelligence are on the rise. The internet and social media are connecting people and make previously hidden (dark) realities publicly known. But there are also strong downsides: loss of privacy, increased social control, data mining, market- and information manipulation, fake news, and docile 'following'.

The increased market control and manipulation has led and continues to lead to a less reliable labour situation for many: less fixed jobs, more short contracts, more freelance workers and self-employed. To this mix should be added the huge challenges of climate change and migration. Regarding climate change two political opinions prevail: 1) tackling it

relies on ‘green’ DFES, or 2) climate change is fake news. Yet, among policy makers it is no secret that the adverse effects of climate change, wars and poverty are expected to lead to increased migration. Still there is little attention in politics or media for this intricate link. Considering that in many old DFES-countries the ‘old’ labour immigrant populations often have different religions, cultures and languages, it is no wonder that insecurity and anxiety among large parts of the population in these countries are on the rise. It is understandable that these groups feel they are not heard: their anxieties are not being discussed, nor are climate change, poverty and migration in their mutual relationship.

2. Zooming In - Consequences

More or less freedom

Over the last decades the attractive power of the corporate world somehow got a hold of societies at large, supported by aggressive advertising on television, internet and in the new media. Its dominant morality of competition, outsmarting each other while maximizing profits, played the imagination of many. Here a new type, strong, modern hero-ish human being saw the light – or so it was thought. In their naivety many governments took over this belief and gradually handed over control of public areas to the markets. The assumption was that this withdrawal would allow for more individual freedom, freedom of choice and of identity. A new mantra was born. Gradually the boundaries between the public and private world began to fade. The downsides of the market approach in the public sphere were generally overlooked or ignored: egocentrism, selfishness, loss of group connection and solidarity, greediness and exploitation. The process gradually resulted in the weakening of societal systems based on solidarity, such as social safety nets, unions, pension funds and health care systems, as well as in freezing wages, growing power and profit of (health) (insurance) companies, the disappearance of public money into private pockets, and gross enrichment of a few people.

How has this been possible? Does not the individual really gain more freedom by letting the markets reign? In some cases yes, in many other cases no. Like in earlier times, the outcome proves to be largely determined by the amount of money one has from birth. Individuals in ‘old money’ families had and have again a much better position than

others. But in the old days the elite would consider it more or less its moral duty to look after the less fortunate, which is by and large no longer the case. At the same time public social safety nets have become weaker. So the socially disadvantaged may now find themselves stuck in their unpleasant position more than in the (recent) past.

No equal opportunities

Why does the market approach not work? In short, because it causes flawed identity formation (more on this later), and because the belief in equal opportunities is unrealistic. For genuinely equal opportunities a level play field in society is a prerequisite and that does not exist - neither in education, nor in (financial) appreciation of the different professions. In a system where education has to be paid for by its recipients, resulting in a huge debt for those from non-rich families, the notion of equal opportunities simply does not hold. In a system where many jobs are shockingly underpaid whereas for others the sky is limit, the notion of equal opportunities does not hold either: In order to 'succeed' many will be tempted to pursue an unsuitable position, or feel forced to accept an 'underdog' position, both leading to frustration and unhappiness. Nevertheless, the notion of equal opportunities remains strongly interwoven in the fabric of many societies, esp. in the old DFES countries. Therefore, many people are led to believe that equal opportunities do in fact exist. As a result they (unconsciously) blame themselves for not 'succeeding' in life.

Hero image and flawed identity formation

What is the underlying mechanism of market manipulation? As we have seen the markets are imposing an 'ideal' hero image on society through aggressive advertising. This hero image propagates an individualistic and competitive consumer lifestyle in which a person is happy, healthy, young, beautiful, rich and independent. If he/she is not the above, a person is perceived less worthy. This is the hidden message. But of course, the majority of people are not happy, healthy, young, beautiful, rich and independent, or at least not of all these at the same time.

As no-one wants to feel less worthy, the consumer readily identifies him/herself with the imposed 'ideal' hero image. This is how market manipulation works. In other words: the market hijacks identity for-

mation by providing false identity formation incentives. (Isn't it sad that the following applies to so many: 'I consume, therefore I am'?) Flawed identity formation hampers true development and true identity formation in which a person can develop his/her own originality and creativity - an important condition for happiness. Many unhappy people with weak identities can be easily manipulated and are susceptible to (more consumer) addiction. So a vicious circle emerges.

Flawed identity formation can also lead to a narcissistic personality structure with rigid characteristics. Such a person easily feels threatened and senses a strong need to belong, seeking shelter in 'the own group'. Such a group is closed to the outer world, no-one from outside will be allowed in - thus becoming a modern form of tribalism.

Roots of populism

All of the above leads to a semi- or unconscious sense of powerlessness, insecurity, inferiority, being a loser, mental paralysis and/or anger and stubbornness in many people. In order to break away from this unpleasant state of mind, a couple of strong psychological mechanisms start to play a role: 1) projection and projection identification leading to a borrowed identity and docile followership, 2) reinvention and retreat into one's historic group or 'tribe' while emphasizing its identity and importance, and 3) true or false victimhood combined with the designation of a scapegoat.

Here lie the roots of populism, which is on the rise in so many countries. Populists are likely to resort to borrowed identities while following 'strong men', emphasize the historic culture and identity of their home group or nation, and feel victimized by and oppose other groups such as immigrants. This process can be perceived as a regression, similar to a psychological regression as a result of trauma, stress or fear. 'Identity politics', called as such in the social debate, basically focuses on the above-mentioned topics 2) and 3). However, topic 1) is also important as this article will elaborate further.

3. A Psycho-Social Approach

Heroism and competition

As we have seen the corporate world embodies and advertises the prototype of the hero: independent and strong, healthy and wealthy, a good

competitor and a winner. In many, certainly in old DFES-societies, the psychological pressure to become a winner-hero is very strong and embedded in the psycho-social fabric. No wonder everybody likes to identify with the winner-hero, as it offers a feeling of empowerment and invincibility, and a pleasant (but false) sense of identity. The same identification mechanism explains the incredible influence of sports- and pop music 'hero's' and 'influencers' (sic!), and the degree of identification with these people which borders on hysteria. Social media amplify this effect to unimaginable proportions and offer the possibility to 'follow' such individuals, once more leaving the follower with a hollow, borrowed identity.

The psycho-social pressure to become a winner-hero has also invaded politics. Over the last couple of decades, not political ideas, but political people are placed in the foreground. These politicians magnify their personal importance and career in a narcissistic manner through the (social) media, aiming for many followers. A clear example is (former) US president Trump. After their political activities these politicians often disappear in high corporate positions, ignoring public interest altogether. Hence, it is no wonder that many ordinary people have lost confidence in politics and the government in this era of narcissistic politicians and government withdrawal from the public domain. No wonder many insecure people with low self-esteem look for a 'strong man', a political hero to follow. However, unfortunately these 'strong men' are not concerned with law making to ensure social security or restrict financial speculation.

Is heroism a bad thing then? Is competition bad? Heroism as such is deeply rooted in the human psyche and has many positive sides. A true hero is he or she who struggles to reach maturity (see beyond), or a certain goal. Competition within certain limits can boost this struggle. A true hero will take responsibility for others weaker than him/herself, not revel in narcissistic self-magnification or in hero projection through followers, as false heroes are inclined to do. False heroes usually don't engage in struggle since they believe they 'already have it all', and hence don't build a strong personal identity.

Competition in sports and games and other harmless human activities is fine, for as long as there is a level play field. However, when competition invades all realms of human life, including basic aspects of

existence and identity, it will degrade the social fabric, weaken solidarity, create winners and losers and ultimately lead to the right of the strongest. Maybe one could argue that the right of the strongest is only natural – but is it, really? In the animal kingdom males compete for females, so that the strongest will win and a healthy offspring is guaranteed. But in human societies the right of the strongest has to do with money and power, not with reproduction. On the contrary: in the human world having a lot of children is intrinsically linked with poverty.

On the flip side solidarity, empathy, compassion and co-operation are also deeply embedded in the human psyche. But unfortunately in our time these aspects are regarded second rate or weak, because they are not perceived to contribute to modern day heroism.

Climate change - apprehension and anxiety

The reality and threat of climate change is finally getting more and more political attention. A growing number of people accept the reality of climate change, but feel anxious and powerless. Others, especially populist groups, still consider it fake news. They feel that governments use climate change to force through technology and energy innovations while depositing the bill with society, especially with socially weaker groups like theirs. And they have a point. In societies where environmental costs are still ignored and carbon taxes still heavily debated, vigilance is in order to ensure that the transition costs are shared fairly. The problem of the populist stance is, though, that the climate policy agenda can become a scapegoat projection screen and hence meet with a lot of resistance. This is dangerous: in order for governments to take adequate measures, they need support from society. If not, populist movements will likely complicate and delay things, as we have already witnessed in the USA under Trump. For this reason the international climate movement Extinction Rebellion propagates civilian councils in order to incite and correct politics. To avoid further delay it is imperative that the (populist) climate denial tendency is widely acknowledged and intercept, and the needs of the socially disadvantaged, including populist movements, are understood and met.

Climate change denial can also be caused by normal psychological repression mechanisms, triggered by (unconscious) apprehension, anxiety and survival instincts. Again, these mechanisms need to be understood

and climate denial openly discussed. The sooner everyone comprehends what is at stake, the better our collective response can be. In this way our collective cognitive dissonance regarding climate change can be overcome.⁵⁴¹

But not only climate change is cause for (unconscious) fear: also globalization, labour migration and new technologies / artificial intelligence are. What's more, the less certain one is of his/her means of existence, the less likely one is to face other life-threatening challenges such as climate change. This too probably explains why climate change is being denied or considered a 'hobby for intellectuals' in many populist circles. The situation described above demonstrates that climate change and socio economic justice are interlinked in more than one way. It is about time this insight surfaces in mainstream politics, in order to address the challenges in either field adequately and simultaneously.

4. Depth-Psychological Analysis

Psychological dichotomy and hero archetype

The Swiss psychiatrist and researcher Carl Gustav Jung (1875-1961) discovered that the Western world suffers from a psychological dichotomy by cutting itself off from nature. He describes the predominant Western motives as 'masculine' - competition, conquest and dynamic, linear growth - while 'feminine' motives such as sharing, caring, empathy, co-operation and a more circular approach to life, are being neglected or made less important. This dichotomy leads to a distorted sense of identity and self, both in individuals and in groups, and triggers large scale projection- and projection identification mechanisms. Ironically, in modern DFES societies these projection identification mechanisms have become widely accepted and are regarded as normal. This is potentially dangerous because it blocks true identity formation, freedom of choice, willpower and resilience. Interestingly enough, many populist groups are anti-feminist and anti-LGBTI, and promote old-fashioned 'manhood'.

Jung also developed the concept of archetypes, based on his study of

⁵⁴¹ See my article Tackling Climate Change - Insights From C.G. Jungs Depth Psychology, published in The Ecumenical Review, Volume 70, Issue 4, December 2018.

mythology in different countries and cultures. One of the most important archetypes in every human being – besides ‘mother’, ‘father’ and a few others – is the hero archetype. This archetype stands for the inner struggle to reach psychological maturity through gaining strength (often by defusing an imminent danger), breaking free from parental guidance, and accepting responsibility. Thus a new reality, a new identity, is created. Many myths, legends and fairy tales all over the world tell about this heroic struggle. Their popularity can be explained by the semi-conscious recognition, or ‘knowing’, in all readers and listeners.

Last but not least, Jung spent many years studying symbolism. He discovered that the image *as such* directly appeals to the unconscious. Therefore it is reasonable to assume that the modern, imposed hero image (through imagery!) is resonating with the hero archetype present in all of us, making everyone vulnerable to the message of the former. Yet, the hero *archetype* evokes a person to struggle to reach true self-maturity, with whatever family background, talent or profession one has or pursues, reaching for and internalizing heavily fought inner strength, wisdom and responsibility. During this struggle a person is his/her own hero, which is a necessary step in adequate identity building. But if and when this process is frustrated through identification with an imposed (false) hero *image*, a person may remain his or her own hero in a perverted sense. This can lead to inflation (an inflated self-image) and narcissism, often hiding insecurity and anxiety in deeper layers of the psyche.

The poignant discord between the hero *archetype* and the modern hero *image* largely remains unaware, and as such creates enormous psychological tension and frustration. The ‘failure’ to reach modern day ‘heroism’ results in feelings of powerlessness, anger, low self-esteem and a weak, hollow identity. The affected person will likely unconsciously blame him-/herself for the ‘failure’, split off the desired heroic position from his/her own psyche, project it onto a perceived hero such as a political leader, athlete, pop artist or ‘influencer’, and identify with this person, thus resorting in a borrowed identity and docile followership. This idolatry could even be seen as present day Roman ‘bread and play’. Many (young) people, especially women, are prone to suffer from unhealthy, addictive perfectionism, burn-out and other negative psychological effects, whereas others, especially men, will resort to reinvented ‘tribal’ identities and rebel against other groups and/or authorities.

Victimhood and victim behaviour

Another interesting aspect, well known in depth-psychology, is that of victimhood and victim behaviour. Victimhood means that a person or group *is* or *considers* him-/herself a victim of something or someone. Here we enter dangerous terrain. It is of great importance to make a clear distinction between real victimization on the one hand, and felt or acted victimhood to attract attention on the other. Very often actual victims are not noticed or ignored, e.g. the victims of climate change in poor countries, whereas the victimization claimed by populists should be considered only partly real. When it comes to the loss of social security, the lack of a level play field in society, and reduced appreciation of a large number of professions, they are indeed victims. But when it comes to the ‘danger’ of migrants or of women emancipation, they are mostly projecting fear. However, the victimization they play out will largely be triggered by the first-mentioned factors, therefore it must be taken seriously. When it comes to climate change, not they are victims in the first place, but the populations of poor countries. Yet here too, a sharp eye must be paid: the warning given off by their played-out victimization is real. After all, the climate policy bill should not be deposited with them.

Victim *behaviour* is a well-known phenomenon in depth psychology. It has a negative connotation, because the affected person places responsibility for his or her well-being and actions with others, while remaining passive. In this way a person who suffers from victim behaviour may constantly demand attention and suck a lot of energy away from others. Often a scapegoat is designated to bear the blame of their unwell-being.

On the other hand, true victimization often remains hidden. In order to psychologically heal a person, it is important to expose the actual victimization (in therapy), so that the person can process and integrate it and regain action perspective. The same applies to groups, such as the true victims of climate change, and to societies as a whole. When it comes to populism, it will have to be carefully examined to what extent its victimization, ignored until then, is real or mostly a projection of fear. Only then can appropriate measures be taken, so that all people, not least populists, no longer are or feel like victims and are enabled to develop a more realistic identity and world view – including the reality of climate change and the equivalency of sexes and races.

Scapegoat

Lastly, the scapegoat. In antiquity, rituals helped cleanse society from errors and sins. In ancient Hebrew times two goats were used as scapegoats every year. One was ritually offered to JHWH, while the other, 'carrying the sins', was sent into the desert where it would perish. These rituals symbolized how all man made sins were dissolved by God / the Transcendent and by nature / life, allowing humans to restart afresh and with a clean slate.

Unfortunately, such rituals are not practiced anymore in modern (DFES) societies. But the deep psychological need to cleanse off sins, remains. As a result, sins, or experienced 'sins' such as failure or powerlessness (experienced victimhood), are split off from the personal or collective unconscious and are projected onto other persons or groups - scapegoats. In populist movements scapegoats can be refugees, migrants, women, LBTGIs, people of colour, politicians, the government, left wing people, journalists, and, as mentioned above, even climate change as fake news.

Together, the above explained borrowed identity and docile follower-ship, regressive historic 'tribal' identity, true and experienced victimhood and scapegoat projection, offer fertile ground for (violent) nationalism, populism, racism, misogyny, xenophobia, radicalism and extremism.

Identity building

In depth-psychology a healthy sense of identity is built on four pillars (without hierarchy):

- a) Family, ancestors
- b) Innate character, temperament, talents etc.
- c) Education and (professional) training
- d) God, the Self

Ideally these four pillars or aspects are integrated in a person and give him/her a healthy sense of identity, self-confidence and self-respect. But in many societies one or more pillars are under pressure. Being born in an old money family provides a head start in life regarding education and access to society. Having a talent which matches the trendy preference of society during one's lifetime, also offers a head start. But what about others? How can they develop a healthy identity? After all not many people grow up from the (God-given) belief that 'you are good the way you are', especially not the socially disadvantaged.

Only one scenario allows all identity aspects to bloom freely: a society in which unrealistic 'hero' imaging by the private sector has ended, and which offers a healthy public sphere with effective social security, a level play field including a more equal appreciation of all professions and other (non-paid) socially beneficial activities, and acceptance of all religions, cultural differences and equivalency of sexes and races.

This means that all education should be free or supported by full state scholarships. It also means that all professions should be respected and rewarded with normal living wages – not less and not much more. A basic income for all is recommendable. Right now many professions are being heavily undervalued, receive no or far too little respect and are underpaid. But, as the Covid-19 pandemic has unmistakably proven: which professionals are more important than care workers, garbage collectors and cleaners to keep society going? In other words, the current excessive emphasis on higher education, the digital world and corporate success should end, and many 'old' professions – of which the majority cannot be replaced by artificial intelligence anytime soon – should be revalued. At the same time new professions need space to develop in a sound manner without under- or overvaluation. This will allow the pressure to 'succeed' in society – by competing, earning a lot of money and being a 'hero' – to gradually flow away, allowing everyone to develop his/her (labour) identity in a healthy manner, respect him-/herself and live a fulfilled life.

Outlook

If and when the right of the strongest in human society will prevail, the future of the world looks grim. The needs of a large proportion of the world's population will likely be ignored by a small elite which will live in protected enclaves. In fact this is already starting to happen in Fortress Europe and behind the Mexican Wall propagated by (former) US president Trump. This situation is a form of (climate) apartheid.

On the other hand, if and when other values such as solidarity, empathy and compassion are revalued, a better world scenario can unfold. But for that to happen, a more realistic understanding of the human identity will have to develop as soon as possible. This self-understanding will have to be based on the acknowledgement that we are heavily interdependent vulnerable creatures who are part of nature/creation and for whom group living is necessary, but who also have a strong tendency to selfishness,

greediness, indifference, antagonism, corruption, destruction and violence that needs to be kept in check. Only through being honest with ourselves - in Jungian terms accepting and integrating our Shadow - and allowing solidarity and compassion to be our guidelines, we can hope to steer away from disastrous climate change, warfare and forced migration.

5. Conclusion and Summary

The decreased public control and increased private control in most societies over the last decades has created more freedom for a very small number of people, and more lack of freedom for most. It has led to a growing gap between rich and poor and to deep economic and psycho-social insecurity in many people. The demand for personal success in modern society, combined with weak identity formation as a result of market manipulation, leads to stress, anxiety, frustration and feelings of powerlessness, especially in socially disadvantaged groups. This triggers hero projection and (projection) identification, docile followership, regressive group identity formation, victimization and victim behaviour, and scapegoat mechanisms: the main characteristics of populism.

Populism is dangerous for several reasons. It can lead to (violent) nationalism, racism, xenophobia and extremism. Populists often deny climate change, which can complicate or delay urgently needed climate policies. In order to defuse populism it is essential to fathom and take seriously its real or experienced victimhood, restore social security, offer free education to all, and revalue professions and other beneficial activities through wage leveling. This cannot be done without restricting market control and financial speculation. Removing power from the markets to the public realm will open the way to realistic, adequate identity building and healthy self-esteem for all, and to the adoption of solidarity, empathy and compassion as guidelines, increasing the odds that humanity will be able to avoid disasters as a result of climate change and warfare.

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Eco-Colonialism or Redemption and Innovation?

Linda Vogt Turner

1. Introduction

For this Ecothee 2019 paper, I take a stand with many Canadians and poorer communities who want responsible economic development and a financial stake in the delivery and use of energy—including fossil fuels. Firstly, I define Eco-Colonialism and Eco-Racism from the perspective of a growing number of indigenous Canadians. I am aware of the concerns many people have with fossil fuels. Many activists and a growing number of Canadians want to shut down the fossil fuel industry here in Canada. They are calling on Canada to stop selling and developing fossil fuel for use abroad or anywhere in Canada. Secondly, I urge people to consider the need for poorer nations to develop safe and sustainable ways to rely on and use fossil fuel, while all nations strive to get to negative zero greenhouse gas emissions. Serving that end, I lift up innovative companies who redeem fossil fuel and greenhouse gas emissions to offer hope and reconciliation to our post-colonial world.

2. Eco-Colonialism and Eco-Racism

Eco-Colonialism is a term used by many First Nations people in Canada to describe how they perceive many activists as “trying to control their indigenous land with «divide and conquer tactics.”⁵⁴²

A growing number of First Nations in Canada want responsible economic development in their territories. For many, this includes the development and delivery of Liquid Natural Gas and Oil.⁵⁴³ Eco-Racism is not new in Canada. Many First Nations want to put an end to Eco-Racism. Personally, I do not like the term. I think calling someone an eco-racist or an eco-colonialist prevents conversation and any meaningful discussion. However, sometimes calling someone a name can start an

⁵⁴² Staples 2019.

⁵⁴³ Ogen-Toews 2018.

argument and an argument often clears the air. In British Columbia 160 years ago, the Gold Rush brought a flood of immigrants to BC. Eco-Racism became evident with the collapse of the Gold Rush. The Colonial Government took control of the Indigenous communities struggling to feed and sustain themselves economically and politically. In order to give land and a hand up to immigrants and their dreams for a better life, the Government stopped making treaties with the Indigenous populations and cut their existing land reserves in size.⁵⁴⁴ On reserves, First Nations people were made wards, dependents, of the government. As wards they were treated like little children. They had no say in the government. They could not vote, sell their property or develop and sell their resources.

According to many First Nations, colonial attitudes still exist today. They claim activists are condemning First Nations and other people in Canada who want to develop Canada's oil and natural gas. They say activists are lifting up First Nations people as wise stewards of the land to "protect them" and "save" the environment from business interests—from the fossil fuel industry. Many First Nations are calling foul. They claim this is eco-colonialism and they want it to end.⁵⁴⁵

First Nations people want self-determination. A coalition of First Nations defining themselves as "Project Reconciliation want "clean" drinking water, clean air and a well-managed environment.⁵⁴⁶ That is why they and other like-minded First Nations want a stake in business interests associated with fossil fuel⁵⁴⁷ They too see themselves as wise stewards of the land who want to own things. Liana Wolf Leg of the Blackfoot Nation supports the Canadian Trans Mountain Pipeline (TMX). She believes reconciliation between First Nations and the Canadian Government can be achieved by ceding the management and majority ownership of the TMX to First Nations. She wants economic stability for her community. She says, "Indigenous ownership of the Trans Mountain Pipeline would open so many doors of every Indigenous person who would be involved in it."⁵⁴⁸

⁵⁴⁴ Belshaw 2015.

⁵⁴⁵ Staples 2019.

⁵⁴⁶ Corfield 2019.

⁵⁴⁷ Ibid.

⁵⁴⁸ Wolf Leg 2019.

2.1 Colonial Values and Christianity

Many Christians have caught colonial values. Many judge people with business minds as being unfaithful stewards. They think of them as “greedy” full of lust, unable to follow the “good” teacher because they lack a faithful heart (Mark 10: 17-31.) Many Christians and Canadian environmentalists see the First Nations’ desire to own fifty-one percent of the TMX from Alberta to British Columbia as a sellout. They think Liana Wolf Leg and others have been led astray by the lust for GOLD and the desire to own things.

Many activists want to “keep the oil in the soil” and stop the development of fossil fuels.⁵⁴⁹ In the rush to go “green” elite city dwellers think charging plastic cell phones, cars and planes with electricity sounds like a green idea. What many do not realize is that the demand for electricity and plastic all over the world has increased. They just do not realize that plastic is made from oil and forty percent of the world’s electricity is produced by coal and thirty-five percent by natural gas.⁵⁵⁰

Other Canadian environmentalists claim “foreign-funded” and “home-grown activists have attempted to land lock our resources while we’ve been busy reducing GHG emissions and maintaining the highest environmental and human rights standards for energy development in the world.”⁵⁵¹

Alex Epstein is an American who loves Fossil Fuels. He’s a philosopher, an energy theorist and a moralist. He has published a book called The Moral Case for Fossil Fuels. In his book he points out how fossil fuels have given people all over the world better health and a higher standard of living with each advance made to mitigate pollution.⁵⁵²

Many environmentalists dismiss him and have ridiculed him as a climate change denier. They are not even interested in listening to his thinking. They’ve written him off.⁵⁵³

Greenpeace and leading experts claim fossil fuels are no longer neces-

⁵⁴⁹ Canadians For Canada’s Future 2019.

⁵⁵⁰ Canadian Electricity Association (N.D.).

⁵⁵¹ Canadians For Canada’s Future 2019.

⁵⁵² Kindle Portfolio 2014.

⁵⁵³ Rolling Stone 2013.

sary. They insist our dependency is an addiction that has caused the present climate crisis and is dooming us to imminent catastrophe. These experts insist we stop using fossil fuel immediately and replace them with renewables. Alex Epstein reminds his readers these same experts told us this thirty years ago.⁵⁵⁴

Despite thirty years of predictions and dire warnings of scientists, electricity demand has gone up. Renewables are having trouble keeping pace. With this increased demand for electricity, people around the world have nearly doubled their dependency on fossil fuels. Even, the rising middle class in China have abandoned their bicycles and bought cars.⁵⁵⁵

3. Innovation

To mitigate the increased demand for fossil fuel and affordable energy, researchers have sought innovative ways to use coal and capture the emissions. Researchers from Harvard School of Engineering and Applied Sciences have published a paper in collaboration with other institutions in China, Australia and the US. They have found a way for China to use coal and move towards negative carbon power in an economically competitive way—with bioenergy.⁵⁵⁶

Until now, bioenergy, the process of converting biomass into energy and then capturing and storing carbon was not very efficient or cost effective. However, by turning to «coal» and mixing it with biomass, China and researchers from Australia and the US have demonstrated how Carbon Capture can be cost effective and efficient.⁵⁵⁷

China's strategy uses biomass from agricultural waste and combines it with coal. Gasifying the mixture China develops pure hydrogen and liquifies and captures the CO₂. This process eliminates CO₂ emissions from burning coal and agricultural slash burning after every harvest. The liquid CO₂ is thereby captured and can be stored permanently underground or used.⁵⁵⁸

⁵⁵⁴ Kindle Portfolio 2014.

⁵⁵⁵ Garfield 2018.

⁵⁵⁶ Harvard John A. Paulson School of Engineering and Applied Sciences 2019.

⁵⁵⁷ Harvard 2019.

⁵⁵⁸ Harvard 2019.

4. Redemption

Carbon Engineering is a Canadian company that is using CO₂ and redeeming it.⁵⁵⁹ According to CEO, Steve Oldham, Direct Air Capture “enables the production of synthetic transportation fuels –such as gasoline, diesel, or Jet-A –using only atmospheric CO₂ and hydrogen split from water, powered by clean electricity. It recycles the CO₂ already in the atmosphere and displaces crude oil. More importantly it is drop-in compatible with any vehicle on or off the road today. There is no need to spend forty to fifty thousand Canadian dollars on an electric vehicle. If people can afford to do so, that is great. They are doing their part to reduce the world’s consumption of fossil fuel by helping the transportation sector move away from the use of fossil fuel. The use of synthetic fuel does too. It is carbon neutral and it is clean burning. Even synthetic diesel. More importantly, this synthetic fuel goes one step farther. It pays for Carbon Storage and allows for Carbon Utilization.”⁵⁶⁰

Direct Air Capture facilities can be built to capture one million tons of CO₂ per year. Each facility can do the work of forty million trees. Storing half that amount captured by each facility, would bring air fuel transportation to negative zero emissions and allow the transportation sector to move away from its dependency on fossil fuels.⁵⁶¹

Direct Air Capture is not an easy process. To capture and store carbon costs money and nobody wants to pay for it. People are asking: Wouldn’t it be better to stop putting CO₂ into the air in the first place. Well the problem is. Despite our best efforts we’re not doing that. Carbon Engineering’s synthetic fuel is one way to do that because Carbon Engineering makes money selling what they call “Air to Fuel” to pay for Carbon Storage.⁵⁶²

Carbon Capture and Storage is one way to use technology to clean up the air. Carbon Utilization is another innovative way to use technology to clean the air. Carbon Upcycling Technologies (CUT) is an award-winning

⁵⁵⁹ Oldham 2019.

⁵⁶⁰ Oldham 2019.

⁵⁶¹ Oldham 2019.

⁵⁶² Oldham 2019.

start-up company, based in Calgary, Alberta Canada.⁵⁶³ CUT and their CEO Apoorv Sinha believe “The Carbon Age is imminent.” Unlike the bronze and iron ages, CUT and Apoorv think of “CO₂ as an abundant, renewable resource.” In their vision, “CO₂ is not a liability.” The company was “founded with the goal of making CO₂ green; both environmentally and financially sustainable.”⁵⁶⁴

CUT combine CO₂ and fly ash to make additives to reduce the amount of cement used in concrete. Cement manufacturing accounts for about eight percent of the world’s CO₂ emissions whereas, aviation accounts for only two-point five percent.⁵⁶⁵ In addition CUT make carbon nanoparticles that can be used in plastic, coatings, solar panels and lithium batteries. Surprisingly, these carbon nanoparticles already play a significant role in pharmaceutical drug delivery and cancer treatments.⁵⁶⁶

Clean O₂ is another Canadian Company working to reduce Greenhouse Gases.⁵⁶⁷ According to Jaeson Cardiff, the CEO and Cofounder, they have developed a black box the size of a household furnace they call Carbonix. Carbonix is the world’s first aggregate commercial carbon capture device. It works to reduce energy demands through heat recovery and capture carbon to produce a valuable by product that Clean O₂ turns into soap.⁵⁶⁸

Commercial Carbonix devices can be installed in homes and apartment buildings using Natural Gas for hot water and heat. These devices suck CO₂ into a chamber. The CO₂ then mixes with potassium hydroxide and causes a chemical reaction that produces heat. The heat generated is used to warm the hot water tanks in the boiler room.⁵⁶⁹ The potassium carbonate (a fine, dry white powder) is filtered out and collected every ten days or so, similar in scope to a water bottle delivery service. Over the course of a year four to six tons of this powder can be collected from each apartment or commercial building to make CleanO₂ soap.⁵⁷⁰

⁵⁶³ DeSantis 2019.

⁵⁶⁴ Carbon Upcycling Technologies (N.D.).

⁵⁶⁵ Lehne and Preston 2018.

⁵⁶⁶ Carbon Upcycling Technologies (N.D.).

⁵⁶⁷ Morgan 2019.

⁵⁶⁸ Cardiff 2018.

⁵⁶⁹ Cardiff 2018.

When I contacted Jaeson Cardiff to confirm this amount, he replied, while 4 to 6 tonnes of potash (combined with an additional 4 tonnes of carbon offsets through heat recovery) may seem quite small in comparison to the large emitters, this is an aggregated solution that would see 10s of 1000s of units in operation. Roughly 20% of this country's GHG output comes from creating comfort by keeping us warm in the winter and unwound from a day at the office in a hot shower. Not to mention the other sources of related emissions.”⁵⁷¹

Mark Herrema the CEO of NewLight Technologies based in California in the United States, sees his company as being part a new paradigm shift of how we view carbon emissions. He says, he got the idea for his company reading a newspaper article about how much methane gas, cows produce from BURPS. Remarkably, Mark and his company have found a way to make biodegradable plastics from Methane –from COWS who burp.⁵⁷²

5. Conclusion

I hope you capture Mark Herrema’s enthusiasm and his hope. He is not trying to frighten or panic the world with climate change scenarios that rob our children of an abundant life. Rather Mark sees himself and his company as part of a new generation and a new paradigm shift that is both redemptive and innovative. He looks at something many people think of as smelly bad—methane gas from Cow Burps—and he sees the potential for good. He and those innovative engineers who are behind him and his company, take methane gas out of the air and transform it into useful plastic products everyone wants. Currently, plastic is made from fossil fuel and people are looking for ways to reduce our consumption of fossil fuel and to find ways to collect and recycle plastic. Mark and Newlight Technologies are doing just that. They are making renewable, biodegradable plastic made from greenhouse gases. Their process takes a lot of methane out of the air and recycles it and eliminates the need for a lot of oil-based products to enter the marketplace.

⁵⁷⁰ Morgan 2019.

⁵⁷¹ Personal Communication August 30 2019.

⁵⁷² CNN Business 2014, September 23.

The vision of Apoorv Sinha and Mark Herrema and their companies are similar. Apoorv and Mark do not see CO₂ and Methane gas as bad. They see CO₂ and Methane as redeemable, renewable resources. Like Alex Epstein they recognize how people need the good things that fossil fuels have given them, such as light, electricity, hot water, comfortable concrete homes, commercial buildings, plastic chairs and cell phones. These young men are not saying people should abandon their efforts to develop and use renewable energy. They are merely asking that people rethink their attitudes about fossil fuel and greenhouse gas emissions. They are asking people to promote the responsible use of fossil fuel and include technological tools such as Carbon Capture and Direct Air Capture in efforts to reduce, reuse, manage, and store green-houses gases.

Many environmental activists insist humanity's hunger for gold and their nations' addiction to fossil fuels are the primary reasons we cannot reverse climate change. As this paper asserts, we can reverse climate change. There is no need to panic or promote one solution while protesting others. Conflicting ethics and negative attitudes concerning the development and use of fossil fuels and the market place make it difficult for innovation and for Canada's First Nations to reconcile with one another and all Canadians. Many First Nations and newer Canadians are working side by side to support the fossil fuel industry responsibly. They love the environment and want clean water and clean air too. They are striving to work and support the fossil fuel industry responsibly while supporting renewables and supporting innovations to reduce greenhouse gas emissions to sustainable levels.

Mark Herrema, Apoorv Sinha, Jaeson Cardiff, Steve Oldham and Liana Wolf Leg's commitment to bringing something good out of fossil fuel fills my heart and mind with hope. They have redemptive and innovative attitudes that fill love tanks—fuel people's hearts. Don Stewart, a singer who has won my heart and fills my Love Tank the best brought his band to the Inter-Ecothee 12 and accompanied me to the Ecothee 2013 and 2019 conferences.⁵⁷³ He says "Love makes the world go 'round...jump on." That is so true. Even, when people disagree. Hope, "heartalk"™ and shared enthusiasm for loved ones and the good things in life bring people

⁵⁷³ Stewart (2012)

together to find just and sustainable solutions.

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A short Essay on Church Forests in Ethiopia

Abate Gobena

Ethiopia, located in East Africa, lies within tropics between 3°24° and 14°53° North; and 32°42° and 48°12° East; and covers 1,120,000 km². It is a country of great geographical diversity with an altitude ranging from the 115 meters below sea level in the Afar Depression (one of the lowest and hottest spots in the world) up to the highest mountain peak of Ras Dejen, 4,620 meters above sea level. The climate ranges from equatorial desert to hot and cool steppe, and from tropical woodlands and rain forest to warm temperate and cool highland. This great altitudinal and rainfall variation came to be the main factors that have contributed to richness of Ethiopian biodiversity with great level of endemism and genetic diversity. Forest biodiversity is the richest of all the terrestrial ecosystems, which harbours up to 90% of the world's terrestrial biodiversity. Forests are also important storehouses of genetic material for biodiversity conservation. Loss of forest cover and its biodiversity is a growing global concern. Deforestation accounts for more than one-sixth of greenhouse gas emissions globally and forests are in decline across Africa. In the case of Ethiopia, about 35-40% of the land area was covered with high forests at the turn of the 19th century. Whereas over two million hectares of its forests were lost, between 1990 and 2005, with an average annual loss between 140,000 and 200,000 hectares. Forest biodiversity is increasingly threatened due to anthropogenic activities and this alarming loss mainly caused by rapid population growth, which in turn results extensive forest clearing for cultivation, exploitation of forests for fuelwood and construction materials without proper replanting.

Amidst successive waves of deforestation and depletion of forest biodiversity, however, a unique and valuable natural forest remnant survived in monastic territories and around churchyards of the Ethiopian Orthodox *Tewahido* Church (EOTC). The EOTC belongs to the Oriental Orthodox family of churches. It has more than 50 million followers which makes it the largest Orthodox Church outside Europe. PEW Research

Centre, in its survey on the Orthodox populations, indicates that 98% of the Ethiopian Orthodox population say that religion is important to them and nearly 80% of them go to church weekly to attend services.⁵⁷⁴ With more than half a million clergy of varying rank of ordinance, 40,000 parish churches and 2,000 monasteries distributed all over the country; the Church play significant role not only in the religious but also in the social and cultural life of the people.

Traditionally, all Ethiopian Orthodox parishes and monasteries preserved forests in their compounds and around their chapels. The forests and their biodiversity are preserved as sacred sites and associated with the Garden of Eden. This conservation has allowed many endangered species to survive in areas where their habitat has otherwise been lost. Any visitor to rural Ethiopia often notices the patches of trees atop many of the hills, revealing churches enveloped in a forest. These wooded hilltops in an otherwise treeless landscape northern highlands are home to the EOTC. These church forests appear to be the last remnants of forests. Church forests are important repositories for natural biodiversity and are regarded as the remains of the once vast tropical Afromontane dry forests of northern highlands of Ethiopia some of which are endemic and recognized as critically endangered species. Church forests, in this region, are biodiversity museums, which bear witness to the historical forest coverage and the composition of their surroundings.

Preserved forest biodiversity found in Ethiopian Orthodox parish churches and monasteries are deeply linked to the Church's teaching and instruction in the form of reading sacred scriptures (*meṣahift*); particularly hagiographies, acts of martyrs (*gedle sema'itat*), homilies of saints (*dirsane ṣadiqan*) and liturgical service (*qidasé*). Church forests are part of the sacred churchyard (*asede betekiristiyan*) and are intended to *respectfully cover* and *shelter* the sacred house of God (*bete Egzi'abher qidus*). The Churchyard or monastery compound is also regarded as the Bible's Garden of Eden, the sanctuary of life. The monastery is also celebrated for being habitat of the hermit 'who retreats' (*mennagn*) the worldly/earthly life, who lived in the wilderness 'with abstinence' (*betihirimt*), with minimal interference with their surrounding natural biodiversity (forests, wildlives, etc). Life of

⁵⁷⁴ Pew Research Centre 2017, p. 29.

Saints and the literary works around the ascetic life, acts and homilies of the saints greatly influenced the contemporary practical orientation in parishes and monasteries for the preservation and continued conservation of church forests. If you want to read the whole article, see Religion, Sustainability and Education.⁵⁷⁵

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⁵⁷⁵ Gobena 2021, pp.220-241,

Declaration

**THE DELEGATES AT THE SIXTH
INTERNATIONAL CONFERENCE ON
ECOLOGICAL THEOLOGY AND
ENVIRONMENTAL ETHICS
(ECOTHEE-19)**

**AT THE ORTHODOX ACADEMY OF
CRETE, IN KOLYMVARI, GREECE,**

23 – 26 September 2019,

Acknowledging the inspiration of His All Holiness Ecumenical Patriarch Bartholomew I, the Laudato Si' encyclical from Pope Francis, and the recommendations of the general secretary of the World Council of churches, Rev. Olav Tveit, on the necessity to care for God's creation in unity and faith.

Referring the previous ECOTHEE Conferences and the corresponding Cretan appeals for the environment in 2008, 2011, 2013, 2015 and 2017. Welcoming the call for climate emergency political decisions made at the United Nations Climate Summit in New York this week of 21-27 September, 2019.

Knowing the whole forms the web of life of which the human beings are an integral part and upon which people fully depend.

Recognising scientific, religious and indigenous solutions can be applied to the problems of human survival and further human sustainable developments.

Worrying the on-going threats to biodiversity, the disappearance of species, the depletion of natural resources, the increase of the force and

frequency of droughts, floods, hurricanes, cyclones, climate change, and other manifestations of the increasing environmental crisis.

Recalling the ethical and spiritual roots of the ecological and economic crises.

Recommend and call everyone to

Commit to a radical change of lifestyle and energy use to curb CO₂ emission. Promote climate justice by effective ecumenical, interfaith and multidisciplinary communication among all participants/stakeholders/policy-makers, as a key factor in finding the best solutions for environmental problems.

Promote and encourage the active participation of young people in environmental protection and action.

Support ECO-education and awareness raising initiatives at various levels.

Continue to deepen scientific understanding, ethical and theological reflection on the root causes of the present ecological crisis and its various manifestations.

Build bridges between art, science, technology, philosophy, psychology and theology, in order to analyse case studies, ethical concerns and reflections for the environment.

Encourage further collaboration between science, religion, ethics, philosophy and spirituality to foster universal morals to sustain and renew the whole creation.

Pursue to a holistic approach, bringing together diverse aspects: environmental, biological, economic, political, cultural and spiritual to transform human conflicts and problems.

Repeat strengthening of further collaboration between the Orthodox Ecumenical Patriarchate and other faith leaders and denominations in finding solutions to environmental problems.

Stimulate further exploration of interfaith co-operation: Christian, Jewish, Muslim, and other faith traditions, including indigenous spiritualities.

Support multidisciplinary dialogues on environmental ethics, through conferences such as the ECOTHEE and SAPREJ (Sustainable Alternatives for Poverty Reduction and Ecological Justice) meetings at the Orthodox Academy of Crete and elsewhere.

Transmit this declaration to all organizations, churches, politicians,

decision makers and the general public, to witness to a personal sustainable and spiritual way of life in order to protect the environment for future generations including the whole creation.

Encourage the involvement of indigenous perspective and all faith-based organizations in the search of better solutions for sustainability, climate justice and the care for creation.

Urge the commitment of politicians and all stake holders in the application of ecological debts and the greed line in all levels of practical lifestyle.

The participants express their gratitude to the World Council of Churches- Economic and Ecological justice programme, the Conference of European Churches-European Christian Environmental Network, the Planta Europa Network and many other multifaith and multidisciplinary institutions for the support and to the Institute of Theology and Ecology at the Orthodox Academy of Crete for hosting the ECOTHEE 2019 Conference.

Done in Kolympari, Crete (Greece), 26 September 2019.

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«Ecological responsibility, nature-friendly behaviour and respect for the sanctity and beauty of Creation are the modern unconditional imperatives for the whole of humankind. It does not suffice merely to express our worries about the threat to nature; we must also actively fight for its protection...This is the spirit in which we have set this International Conference of the Orthodox Academy of Crete».

His All-Holiness Ecumenical Patriarch Bartholomew (The «Green» Patriarch)

The 6th International Conference on Ecotheology and Environmental Ethics – Ecothee-19 – took place on in September 2019. The conference brought together 40 academics, church leaders and activists from different parts of the world. This book consists of articles developed in the aftermath of the conference. The original plan was for the lectures to be published as a book in 2020, but due in part to the pandemic, its publication was postponed until 2021. This book is intended as a scientific anthology showing the diversity of ecotheology found in various religious traditions. It is divided into three main sections: Theological and philosophical reflection, Ethics and best practices and global contributions. We are convinced that the book and its contributions will help to provide a deeper insight into the diversity that exists within global ecotheology.

The book contains 22 articles from the following academics and professionals: Louk Andrianos (Greece/Madagascar), Evelyn A. Armstrong (Canada), José Cardoso Duarte, (Portugal), Edward Dommen (Switzerland), Anastasia Fedoseeva (Russia), Abate Gobena (Ethiopia/UK), Hans Morten Haugen (Norway), Harold D. Hunter (USA), Antonios Kalogerakis (Greece), Kamal Kadar (Lebanon), Guillermo Kerber (Switzerland), David A. Larrabee (USA), Liz Marsh (UK), Seyed Masoud Noori (USA/Iran), Peter Pavlovic (Belgium), Lesya M. Sabada (Canada), Nadja Furlan Štante (Slovenia), Tom S. Tomren (Norway), Maryamossadat Torabi (Iran), Linda Vogt Turner (Canada), Marijke Van Duin (Netherlands), Alan S. Weber (Qatar), and Erden Miray Yazgan Yalkın (Turkey).

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