BRIEFING PAPER

A successful provocation for a pluralistic global society

The encyclical Laudato Si' – A Magna Carta of integral ecology as a reaction to humanity's self-destructive course

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GERMANWATCH

Brief Summary

This background paper explores the potential relevance within a pluralistic society of the important encyclical *Laudato Si'* issued by Pope Francis in June 2015. It considers whether the encyclical documents a reflected faith that accepts the primacy of science in secular knowledge as well as the primacy of democratically elected governments, human dignity, and human rights in the political sphere. *Laudato Si'* presents a paradigm shift from the image of the dominion of mankind over the rest of creation to universal fraternity with even weak and marginalised people as well as fellow beings threatened with mass extinction. The Pope carefully double codes the paradigm shift in scientific and theological terms. On this basis, the background paper explores whether this encyclical could provide new stimuli within a pluralistic society. The Pope presents it as a counter-strategy to strictly utilitarian approaches, in which people experiencing social exclusion – the weak members of the ecological environment – are threaten to slip through the net. The encyclical therefore calls for the protection of common goods such as the environment and the climate and insists on financial commitment for those affected by climate change. The background paper concludes with a discussion of whether religion can help to motivate the necessary collaborative action in a pluralistic society or what functional equivalents for this task might look like.

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Content

Preface

Pfr. Pirmin Spiegel, MISEREOR

One year after the publication of the encyclical *Laudato Si'*, we at Misereor acknowledge that Pope Francis has achieved a major success with the encyclical. He has surprised people, both in and outside of the Church and religions, as well as across religious and ideological boundaries by placing on the agenda urgent issues relating to humanity in politics and social movements. He has also influenced the international political agenda regarding the most important questions for the future: overcoming global poverty in a highly commercialised world, sustainable forms of nutrition, limiting man-made climate change, ensuring a life of dignity in rural areas and in the growing cities. The timing of its publication was deliberately set to precede a number of major international conferences. In September 2015, an agreement to address global challenges was reached with the Agenda 2030, including Sustainable Development Goals (SDG), and the UN Climate Summit of Paris was held in December 2015. A UN conference on living in global cities is scheduled for October 2016. Now it all depends on the large-scale implementation of the agreements and it is unclear as to how successful this will be. How to ensure it succeeds?

In *Laudato Si'*, the Pope assembles what he has experienced across the world and observed on his travels. He has looked and listened in order to discover how things are for the poor and the planet. Religious commitment to the environment and religious social criticism certainly existed before *Laudato Si'*. Pope Francis casts suspicion on the dominant form of capitalist economics: it kills because it does not respect either humanity or the planet. That is why *Laudato Si'* is a social and environmental encyclical that has a cross-cutting theme of justice. It incorporates scientific findings, lists the specific threats to humanity and cites episcopal conferences. Backed by these different analyses, the fundamental beliefs of the Christian faith come into play. Wide-ranging social and environmental change is necessary if all people are to live in dignity and the earth as a whole is to have a future. The earth and that everything lives on it owe their existence to an "Other". In Christian terms, they are gifts from God.

The Pope says that we can only achieve this if we join forces to create a different economy and politics as well as sustainable, modest life styles. The tone of the encyclical is not one of despair and powerlessness, but filled with hope and confidence. The Pope brings together all the processes for bringing about change in this direction, from the grassroots up to the United Nations. Different alliances are necessary to break down the prevailing system. It calls for dialogue, dialogue, and more dialogue.

But there is also clear opposition to the changes described because they threaten the interests of those who hold the technological, economic and political power, who enjoy prosperity and who, at least at first glance, have something to lose. Doesn't that mean that dialogue has its limits if force is used to maintain harmful behaviour? Change will only come about through commitment at various levels. Pluralism, not otherwise generally associated with the Catholic Church, is used here as the basis for this pontifical provocation, as Christoph Bals calls the encyclical. This is a committed pluralism that is not indifferent; one in which people may dispute the issues in order to find the best way forward. *Laudato Si'* expresses a hope that we can achieve this, together! But it will require a radical ecological conversion. Faith communities around the world have found the necessary support for this in *Laudato Si'*.

There is evidently a risk that this will simply remain a provocation and not ultimately change reality. So the question is: at what levels can who start to do what? Here are a number of approaches and the inevitable questions that they raise:

In the interests of credibility, the Church itself must start reversing environmental degradation. In Germany a lot of things are already happening, starting with fair trade, energy efficient building management, sustainable investments, eco-social procurement and mobility planning. But thus far there is no coherent strategy along the lines of the one outlined in *Laudato Si'*. It is possible, to a greater extent than ever before, to do more at the grassroots level and within all ecclesiastical contexts. What about ecclesiastical commitment to real changes in the energy policy and a sustainable farming industry? How can the Church become involved in urban development to respond to the urgent need for new buildings for the socially disadvantaged, for incoming refugees as well as those stranded at the borders or fighting for their lives in the sea? Who does the Church work with: other religious communities, secular organizations, private companies, trade unions…? What worldwide church projects does it support: will they be able to implement change in accordance with *Laudato Si'*, i.e. ecological conversion or social justice?

Laudato Si' analyses the structural causes and seeks out their origins or consequences in the thinking and action of individuals. In this respect, the encyclical invites Christians to also take a look at their own lifestyles. Consequently, the question is addressed to all, within their respective contexts: What is each and every individual doing to make his/her behaviour more equitable in global terms? In rich countries like Germany we have a different responsibility because we have more possibilities than people in poor countries, who can only hope their standard of living will one day improve.

At a time when both the international community and Europe threaten to break apart to protect the national interests of individual countries, the call to essential cooperation is a counter tendency. How can alliances between the churches, religions and civil society be strengthened so as to make fraternity between everyone, empathy, compassion and mercy, recognition of others and interest in their well-being the basic attitude? This includes exchange programs in all directions, solidarity and support for political processes and social projects. How to deepen an awareness that Germany and other European countries are, in terms of the overall logic of the SDGs, also developing countries that need to change?

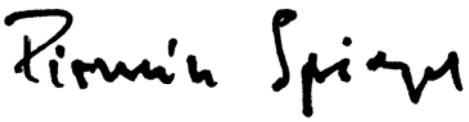
How should the Church deal with the economic and political alliances that stand in the way of the social and ecological changes the Pope is promoting? How to increase support from within the Church, and how can passive Christians become active participants? The many fundamental processes of civil society in which religious groups participate need to be strengthened. The approaches of the younger generation should have their place, rather than being dismissed by older people. There are also calls for a Synod of Bishops to focus on the global challenges. With *Laudato Si'*, there are now good guidelines for Catholics, the problem is how to implement these within the international, regional and national contexts. It is therefore necessary to consider whether continental or national synods can use *Laudato Si'* as a basis for national churches to respond to pressing issues such as: flight and migration, the gap between the rich and the poor, the consequences of climate change and its limitation, and the use of natural resources? Inter-religious alliances could work together to promote ethical aspects: for example, those that relate to justice and solidarity, making climate protection technologies available to poorer countries at reduced prices, and appropriate vocational training so as to make it possible to skip the fossil fuel development stage.

The lines of conflict run through the Church as well as throughout politics, the economy, the financial markets and science. Managing internal ecclesiastical conflict is one side of the coin, the other is a willingness and ability to act in the interests of the poor and the ravaged earth, to fight against

powerful groups in society and – where necessary – rescind alliances. How can the Church free itself from the embrace of money, and not just in Central Europe? Pope Francis provides inspiration by employing symbols of wealth and power that go far beyond the church. How, as part of a critical movement, can the Church contribute to the social and ecological transformation of the system? How can one counter the limitations of dialogue, while at the same time focusing on change that is brought about through dialogue? How, in the interests of education for peace, can one break the spiral of violence and convert opponents into participants in the new order? We live in a time when the common witness to ecological conversion, whether between the Christian churches or between religions, has the power to promote ecumenism. Churches and religions can work together to support the implementation of the Agenda 2030 and the climate agreement, and also use their moral force to press for the necessary action. This moral potential was evident in the mutual cooperation at the climate negotiations in Paris. Even governmental and multilateral development cooperation actors are now discovering the positive contribution that religions can make to social and ecological transformations. How can cooperation in this area be strengthened, while maintaining the independence of all actors?

These questions clearly demonstrate that the Catholic Church's encyclical has opened up new spaces for cooperation with other actors. It expresses its own strengths, but does not seek to take over the other actors. Instead, it urges them to demonstrate the relevance of their own message for justice and the environment. The opportunities that the encyclical offers for a united response to the cry of the poor and the environment in a pluralistic society, albeit in different roles, are set out in a highly readable manner in this paper by Christoph Bals. I hope readers will have the time and inclination to rise to the encyclical's challenge. Concern for our common home means that this is vital.

Aachen, June 2016



Pirmin Spiegel,

Chief Executive of the episcopal
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Summary[1]

The encyclical *Laudato Si'*[2] of June 2015 has provoked a worldwide debate about the relationship between poverty and the ecological question in the face of what Pope Francis has identified as humanity's self-destructive spiral in these crisis-ridden times.

This background paper begins by discussing the relevance of the encyclical – a statement by a religious body – for a *pluralistic* society. Recent considerations by the philosopher and sociologist Jürgen Habermas on the role of religion in today's global society [3] form the conceptual and methodological basis for a critical examination of the encyclical. His reflections on the role of religion in a post-secular age not only respond to the empirical observation that – despite the contrasting tendency towards rapid secularisation, especially in parts of Europe – around 80 per cent of humanity practises a religion. This means religion is unlikely to disappear in the foreseeable future. But above all, he aks whether past experiences of crisis that is manifested in religious discourse and images can also contribute to resolving the current crises in a pluralistic society by means of contributions from a *reflected faith*. Does this make it possible to open up new perspectives, which have thus far been missing from the secular debate on the environment and development?

This background paper therefore considers whether the encyclical is documenting a *reflected faith*, because only a reflected faith can be a serious interlocutor in a pluralistic society. The encyclical appears to use double coding to substantiate its main theses: by scientific or secular arguments on the one hand, and theological ones on the other. For secular matters, science is given priority, and in questions relating to government, legitimised politics. This is not done apologetically, but the priority to science and legitimised poltics is supported by theological arguments. However, at the same time, the encyclical urges that scientific findings should be interpreted and evaluated with the intelligence of the heart, which is sensitive to the cries of the poor and the plight of the ecological environment. In the light of this assessment, people must change their way of life and also join forces to intervene in politics. This approach – which goes beyond the boundaries of religious ethics – expands the horizons of an aesthetic, moral and ethical evaluation of the scientific facts of the climate crisis and other social and ecological crises. Human rights are acknowledged – with a particular emphasis on social human rights. However, the encyclical still has a number of significant blind spots, especially in relation to the role of women and homosexuals and transsexuals.

This background paper also considers whether the encyclical actually succeeds in inviting other religions and secular-minded people to engage in discourse between equals. In a remarkably open manner, it emphasises that all cultures and religions must do their utmost to campaign for cooperation to divert the self-destructive crisis. No single tradition alone can solve the problems.

The question raised by these preliminary clarifications is whether the encyclical can succeed in doing that which has been done time and again throughout the course of history: translate the experiences of crisis management recorded in many different religious languages and images into a language which can be understood by a pluralistic society. This might open up completely new perspectives, which are relevant to society as a whole, outside of the circle of believers. The con-

[1] My thanks in particular to: Christiane Bals, Vera Künzel and Stefan Rostock for their comments, additions and constructive suggestions for improvement.

[2] The English edition of the encyclical *Laudato S''* can be found on the Vatican website: http://w2.vatican.va/content/francesco/en/encyclicaencyclicalls/documents/papa-francesco_20150524_enciclica-laudato-si.html

[3] See especially, Jürgen Habermas: Nachmetaphysisches Denken II, 2012.

cept of the person or of emancipation are historical examples of such translation processes. The picture in the creation story, that men and women are created in the image of God is particularly relevant for the development of human rights and human dignity; and specifically, for an expression of human rights which protects humans, not just because of their cognitive abilities among "species", as it were, but that protects the dignity of each individual. At the same time, this image of men and women created in the image of God has had an extremely ambivalent historical influence. It also forms part of the ideological equipment of a technocratic and economic world view of modernity, which sets the stage for the merciless dominion mandate of humankind in relation to the ecological environment.

In the encyclical *Laudato Si'*, Pope Francis responds to this ambivalent situation with a paradigm shift *from the dominion mandate for humanity to universal fraternity with all fellow creatures.* Not only humans, but also the world, are created by God. Every creature and also every ecosystem reflects an aspect of God. Once again, he double codes this paradigm shift towards *universal fraternity* in scientific and theological terms, applying this fraternity not only to humankind – emphasising the poor – but also to the ecological environment. To underpin the new paradigm in scientific terms, he refers to the findings of quantum theory, the theory of relativity, research into ecosystems and in particular the theory of evolution – genetic kinship with the other living beings.

In theological terms, Pope Francis performs an interesting shift in perspective. Whereas the dominion paradigm describes the world from God's perspective from a point outside it, which facilitates access and analytical dissection into smaller and even smaller entities, the encyclical is dominated by an inner perspective, which makes it possible to experience the bond between the individual and the environment surrounding them and with other people. This perspective makes it possible to experience the unifying whole. Through this change of perspective, the Pope connects to the mystical tradition of all religions, e.g. Christianity and Islam, which is at the same time the dominant perspective in Eastern religions. The Pope cites in this context, not only Protestant and Orthodox actors, but also a representative of Islamic Sufism. This shift in perspective opens up new possibilities for ecumenical and inter-religious dialogue. But he also opens the door to dialogue with modern science, as, on an abstract level, the transition from classical Newtonian physics to the Copenhagen interpretation of quantum theory represents a similar shift in perspective.

This paradigm shift contains the core justification for the integral or holistic ecology that Pope Francis proposes. This aims to achieve ecological balance at various levels: inner balance with oneself, balance that is achieved through solidarity with others, and a natural balance with all living beings. In the context of the religious encoding, which from the secular point of view looks like a holistic perspective, a fourth level is also added: spiritual balance with God.

This paradigm shift and the integral ecology that it justifies,

- Rejects *purely utilitarian approaches,* which hold everything that short-term calculations do not regard as viable: the socially excluded, the weak members of the ecological environment and ecosystems with a usefulness that is hard to define, should be disposed of by a throwaway society. Instead, the encyclical emphasises the intrinsic value of every human being, every creature and the counter-intuitive intrinsic value of ecosystems.
- Stresses the character of the environment and the climate *as a common good*. This has a number of important consequences. For example, it prompts the Pope to urge that the coal, oil and gas which puts too great a strain on the common good of the climate or oceans, should remain in the ground. This transformation requires providing financial support for poor countries wanting to rebuild their economies and societies. It also requires recognition of those who are forced to migrate as a result of the burden on the climate or environmental common good.

The final section of the background paper introduces the controversial debate about whether a spiritually based approach – as suggested by Pope Francis – can help to provide an additional impetus for the necessary cooperative action in a pluralistic society and usefully complement the important but abstract morality based on equity. Meaningful cooperative action is needed to address current and future crises. What are the potential solutions? When does it become dangerous to set ones hopes on sources of archaic solidarity? Can spirituality beyond religion exist or what would functional equivalents to spirituality look like?

The background paper suggests various ways in which the encyclical could develop a way forward and asks a number of important questions:

- Will the discussion process in the Vatican succeed in initiating a synodal process to assist with the "digestion" of the new paradigm within the Catholic Church worldwide, and have its consequences taken into account in the dealings of the world's largest religious body?
- Can it help to revitalise the ecumenical "conciliar process for justice, peace, and the integrity of creation" initiated by the World Council of Churches, to which the Pope refers?
- For example, in the run-up to the climate summit in Morocco in November 2016, might there be a strengthening of inter-religious dialogue? If, as is currently being discussed in Egypt, an Islamic fatwa is issued on climate protection, this could open up very interesting perspectives.
- Will the Pope's concrete proposals result in support for small farmers, cooperatives and collectives? Will the joy that comes from using as few resources as possible and wise use of consumer power – including boycotts – as well as decisive political commitment, encourage new dynamics within civil society?
- Can the paradigm of universal fraternity, also justified in scientific terms in the encyclical – which takes into account poor and marginalised people as well as the environment – spur a new debate about establishing human dignity and the intrinsic value of the ecological environment by taking seriously the insights from quantum theory, ecosystem research and the theory of evolution?
- We need to heed the plight of the poor and of the ecological environment. Will intelligently linking them lead to new forms of cooperation between social movements, development players and the environmental movement, which focusses on human rights, access to water, food, housing and energy, as well as the global and regional limits of the planet?
- Can the encyclical's insistence on the fact that the environment and the climate are a common good introduce a new dynamic into an important political debate?
- Is there a new dynamic for transformative partnerships between rich and poor countries – involving cities and the civil society – that will link the extraction of coal, oil and gas with access to energy for the poor?
- In the secular debate, can there be functional equivalents to the encyclical's attempt to identify the moral obligation for not only individual but cooperative objectives of people with different ethical points of view, to avert the consequences of global self-destruction?
- Are there functional equivalents in a pluralistic society for the motivating force of a spirituality that is oriented towards a love for others and the environment, or is this an important contribution of constructive forms of religion to society today that do not as yet have a substitute?
- Can the tone of the encyclical, which pulls no punches when describing the situation, but nevertheless reads as good tidings rather than a threatening message, provide a new impetus for the environmental and development movement? Can it act as an incentive to continue celebrating the communion with other human beings and the ecological environment as well as a cooperative engagement that is often a longstanding one?

1 A carefully prepared provocation by the Pope

With *Laudato Si'*, Pope Francis has issued an encyclical that ushers in new dimensions and that has a relevance that could extend far beyond the Catholic Church. It focuses on *the poor* and *the environment*. It acts as a provocation to a pluralistic world society that, – as the Pope says – is currently caught in a "self-destructive spiral".

The British newspaper, *The Guardian*, refers to the "most astonishing and perhaps the most ambitious papal document of the past 100 years"[4]. Brazilian theologian Leonardo Boff calls it the "Magna Carta of an integral ecology"[5]. Canadian activist Naomi Klein, who describes herself as secular person with a Jewish and feminist background, calls it a poetic, courageous document and notes "that the Catholic Church reaches out to everybody in the world"[6]. US President Barack Obama expressed the hope that, in the run-up to the global climate negotiations in Paris, "all world leaders – and all God's children – will reflect on Pope Francis's call to come together to care for our common home"[7]. The former GDR civil rights activist and winner of the German Peace Prize, Friedrich Schorlemmer, spoke of a "fanfare of hope"[8]. US environmental activist Bill McKibben called it "one of the most influential documents of recent times"[9]. The philosopher and theologian Hermann Haring referred to the launch of a "brightly shining rocket": "The rocket has been launched. As an inhabitant of Earth, we wish her a stable orbit around our troubled, but still vibrant, blue planet."[10] The former executive director of the United Nations Environment Program, Klaus Töpfer, refers to the encyclical as "Guidelines for our society". With it, Pope Francis "has stepped on a number of toes and they deserve it"[11]. Some people are protesting in outrage. "Where the Pope has gone wrong" the FAZ strikes back against a document "full of a critique of civilisation and anti-liberal views"[12]. The Neue Züricher Zeitung also criticizes the "initiative, which criticises capitalism and technology"[13]. The political magazine Cicero regards the Papal edict as an "anti-capitalist diatribe"[14]. There is no doubt that it is provocative.

The leading scientific journals, Nature [15]and Science[16] responded to the encyclical in their editorials. "This is unprecedented in the Western history of dialogue between religion and science".[17]

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[4] The Guardian, 18/06/2015: The Guardian view on Laudato Si': Pope Francis calls for a cultural revolution. The Pope links the destruction of the environment with the exploitation of the poor. The world should pay attention; Last modified on Friday 19 June 2015 00.00 BST; www.theguardian.com/commentisfree/2015/jun/18/guardian-view-on-laudato-si-pope-francis-cultural-revolution

[5] Boff, Leonardo, 18/6/2015, www.leonardoboff.wordpress.com/2015/06/18/the-magna-carta-of-integral-ecology-cry-of-the-earth-cry-of-the-poor/

[6] Klein, Naomi: A Radical Vatican? New Yorker, 10/7/2015.

[7] See also Catholic Herald: Obama calls for world leaders to heed Pope Francis's message, www.catholicherald.co.uk/news/2015/06/19/obama-calls-for-world-leaders-to-heed-pope-franciss-message/

[8] Schlorlemmer, Friedrich: Hoffnungsfanfare, in: Die Zeit, 24/6/2014, https://pbs.twimg.com/media/CIWQm0wXAAA59YC.jpg

[9] McKibben, Bill :The Pope and the Planet, in: The New York Review of Books, 13.8.2015, www.nybooks.com/articles/archives/2015/aug/13/pope-and-planet/

[10] Häring, Hermann: In jedem Laut dieser Welt ein Geheimnis (Al Khawwas) – Ein dialogfähiger Papst hat den richtigen Ton gefunden, 22/6/2015, www.aktionsgemeinschaft-rottenburg.de/laudato-si_Komm_hhaer.pdf

[11] katholisch.de: Therapieanleitung für die Gesellschaft – Klaus Töpfer lobt Enzyklika Laudato Si' von Papst Franziskus; 2/7/2015, www.katholisch.de/aktuelles/aktuelle-artikel/therapieanleitung-fur-unsere-gesellschaft

[12] Grossbarth, Jan: Wo der Papst irrt, in: Frankfurter Allgemeine Zeitung, 20/6/2015.

[13] Hofmann, Markus: Öko-Kritik des Papstes geht fehl, in: Neue Zürcher Zeitung, 23/6/2015.

[14] Kissler, Alexander: Der Papst gibt Energiespartipps, in: Cicero, 18.6.2015, www.cicero.de/salon/umweltenzyklika-von-papst-franziskus-umweltenzyklia-von-papst-franziskus/59420

[15] Nature 522, 391 (2015).

[16] Mc Nutt, M., Science 349, 6243 (2015).

In the context of the Pope's scheduled visits to Asia and Latin America some weeks after the publishing of the encyclical, at the UN summit on the post-2015-sustainability agenda, in the US Congress, and in the context of the climate summit in Paris, political commentators discussed whether it marked the beginning of a new and effective diplomatic model[18] to ensure that the plight of the earth and the cries of the poor are heeded. This might be an effective model that is similar to the one established under very different political circumstances and with a different political direction by the Polish Pope John Paul II, who stood shoulder to shoulder with Ronald Reagan against the countries of the Eastern bloc and against abortion.

Anyone who for decades had the impression that the Catholic Church was following "a hermetic theology that only revolves around itself"[19] is now rubbing their eyes in surprise. The extent to which the Catholic Church will actually use this opportunity to enter into an inspirational discourse survival with other religions and a pluralistic society on current questions remains unclear. Thus far, a more marked response to the encyclical has come from churches and businesses in the countries of the south[20] and in Southern Europe[21], rather than in Central Europe and the USA.

1.1 Starting point: reaction to the "suicidal course of humanity"

In his encyclical, the Pope responds to a cascade of crises caused by "natural disasters as well as social and even financial crises" that has been witnessed since 2006 (61)[22]. Ever since the financial crisis, the risks of unbridled financial capitalism have also become evident to everyone. The Pope sees this as a missed opportunity for "new ways of regulating speculative financial practices and virtual wealth" (189). Many countries are still reeling from its economic and political consequences – the ongoing crisis in southern Europe being one of these. The bank crisis led to a financial crisis, mass unemployment and political radicalisation. The growing number of refugees in parts of Europe is becoming an epochal challenge with many risks and opportunities. The wars and civil wars in Syria and Iraq have forced many people to flee to neighbouring countries and the EU. For the Pope, "our lack of response to these tragedies involving our brothers and sisters points to the loss

[17] Edenhofer, O., Flachsland, C., Knopf, B.: Science and religion in dialogue over the global commons, in: Nature Climate Change, Vol, 5, October 2015, S. 907–909, Corrected after print, 24. September 2015, www.nature.com/natureclimatechange, S. 907.

[18] Toni, Ana & Amorim, Alice: Religious Diplomacy: a game changer for the climate negotiations?, 28/9/2015, www.nivela.org/blog/diplomacia-religiosa-uma-virada-no-jogo-do-clima/en

[19] Rainer Hagencord, Öko-Enzyklika des Papstes revolutioniert die Haltung zur Natur, Landeszeitung Lüneburg (New edition: name in introduction corrected), 25/6/2015, 18.14h; www.ptext.de/nachrichten/landeszeitung-lueneburg-untertan-erde-dr-rainer-hagencord-priester-zoologe-oeko-958455; Bereits die Enzyklika Evangelii Gaudium (2013) broke this patter. The sentence 'This economy kills" made people sit up and take notice.

[20] The Archbishop of Cape Town, Thabo Makgoba, wrote: "Across Africa and in other developing countries, we are already suffering the impacts of climate change, and the people hit hardest by severe droughts or storms are in our most vulnerable communities. [...] we heard of changes to seasons, rising sea levels, the acidification of seawater, depleted fishing grounds and of 'climate refugees' – people displaced by the changes. [...] I join Kofi Annan, former Secretary General of the United Nations, when he challenges leaders at the climate talks in Paris in December to show the same inspired moral and ethical leadership", http://archbishop.anglicanchurchsa.org/2015/06/archbishop-makgoba-welcomes-pope.html. SACFEI, which represents all the major religious groups in southern Africa, "expresses support and enthusiasm for Pope Francis' encyclical, which explains how human life is grounded in three fundamental relationships: one with God, one with our neighbours, and one with the Earth, and that the relationship with the Earth has been ignored by Christian theology." www.safcei.org/safceis-response-to-the-popes-encyclical, www.safcei.org/wp-contengimt/uploads/2015/06/respsonse-to-Pope-Encyclical-final.pdf

[21] See, for example: Enrique Sanz Giménez-Rico (ed.), Cuidar de la Tierra, cuidar de los pobres, Laudato Si', desde la teología y con la ciencia, Maliano, Spain, 2015.

[22] All the citations from the encyclical *Laudato Si'* have numbers in brackets. These do not refer to page numbers but the numbered sections in the text. This means the quoted section is always easy to find in each edition of the encyclical in different languages.

of that sense of responsibility for our fellow men and women upon which all civil society is founded" (25). This provides the grounds for the Pope's reaction at the time of the encyclical's publication as a reaction to mass death in the Mediterranean.In the meantime we need to ask ourselves whether it is always a question of a lack of a sense of responsibility, or sometimes even a feeling of being overwhelmed that is starting to become widespread. Is there not a lack of political perspective not only to speak about challenges but also to make use of the situation, and to develope new opportunties for refugees, for the host regions and for the countries of origin?

More and more people have the feeling the world could be turned upside down. In the 1990s, it seemed that phenomena such as piracy or mass beheadings and cruelty were things of the past, but today we are far from being sure "that piracy and torture are things of the past"[23], says sociologist Hartmut Rosa. "For as long as I can remember, I cannot think of a time when we were assailed by so many international crises in so many different places at the same time"[24], says German Foreign Minister, Frank Walter Steinmeier.

Into this situation of upheaval: "which is in many ways unprecedented in the history of humanity" (17) and in which Stéphane Hessels'[25] booklet, "Empört Euch [Time For Outrage]" attracted a lot of attention worldwide, the Pope, the head of the Catholic Church, the world's largest religious body with 1.2 billion members, plants the encyclical *Laudato Si*'. For the first time in the history of Catholic social doctrine, a papal encyclical deals with "the complex issue of the environmental challenge in a systematic and comprehensive manner and in connection with the global development issue"[26].

Following lengthy consultations with scientists, the Pope writes that the planet's capacity is stretched to the point "that our contemporary lifestyle, unsustainable as it is, can only precipitate catastrophes, such as those which even now periodically occur in different areas of the world" (161). He refers to the fact that a "very solid scientific consensus indicates that we are presently witnessing a disturbing warming of the climatic system." Although there are other factors affecting the climate, "a number of scientific studies indicate that most global warming in recent decades is due to the great concentration of greenhouse gases (carbon dioxide, methane, nitrogen oxides and others) released mainly as a result of human activity" (23). The Pope warns that these "doomsday predictions can no longer be met with irony or disdain" (cf. 161).

At the same time the Pope argues – which is why it is much more than "just" an environmental encyclical – "that a true ecological approach always becomes a social approach; it must integrate questions of justice in debates on the environment, so as to hear both the cry of the earth and the cry of the poor" (49). In vivid, poetic language he succeeds where so many others have repeatedly failed, both in the environmental movement and social movements, that is, to systematically link social and environmental issues[27]. The Pope presents some refreshingly concrete examples. For example, how it is the poorest, in particular, who has to suffer the consequences of the crises. The

[23] Rosa, Hartmut: Beschleunigung und Entfremdung, Berlin, 2013, p. 65.

[24] Steinmeier, Frank-Walter: Die Welt ist aus den Fugen geraten, Rede beim Deutschen Kirchentag [speech delivered at the German Protestant Church Congress], Stuttgart, 7/6/2015.

[25] Stéphane Hessel, who survived incarceration in a concentration camp during the Second World War and was an assistant to Henri Laugier, vice-secretary general of the United Nations, attended the meetings of the newly-created UN Human Rights Commission in 1946 at which the General Declaration of Human Rights was adopted.

[26] Vogt, Markus: Würdigung der neuen Enzyklika Laudato Si' – Über die Sorge für das gemeinsame Haus, München, 18/6/2015, p. 1, www.kaththeol.unimuenchen.de/lehrstuehle/christl_sozialethik/aktuelles/veroeffentlichungen/laudato-si.pdf

[27] See the criticism of this issue from the "left" Franz Segbers: "Most people on the left too often only consider the necessary system change in terms of society rather than in relation to nature", in: Franz Segbers: ... die Klage der Armen ebenso hören wie die Klage der Welt, 8/7/2015, http://kirchentag.blog.rosalux.de/2015/07/08/franz-segbers-die-klage-der-armen-ebenso-zu-hoeren-wie-die-klage-der-erde/

depletion of fish stocks "especially hurts small fishing communities without the means to replace those resources" (48); "water pollution particularly affects the poor who cannot buy bottled water." (ibid.); "rises in the sea level mainly affect impoverished coastal populations who have nowhere else to go." (ibid.).

The Pope, who stated on the day he was elected: "I come from the end of the world – from Argentina", is concerned about the poor *and* the ecological environment. The current crises have caused "sister earth, along with all the abandoned of our world, to cry out" (53) and we cannot keep on ignoring this. He criticizes the lifestyle of a rich minority of the world's population, which cannot be generalised: "We all know that it is not possible to sustain the present level of consumption in developed countries and wealthier sectors of society, where the habit of wasting and discarding has reached unprecedented levels. The exploitation of the planet has already exceeded acceptable limits and we still have not solved the problem of poverty" (27). He is conscious of the fact that the world no longer fits into the former categories of industrial and developing countries. This means his criticism includes not only rich countries, but also the wealthy classes anywhere in the world. And he makes it clear that it requires more than just an examination and analysis of the situation. This encylcllical is a "cry outpleading that we take another course" (53).

1.2 Parallels with the nuclear weapons crisis

This is the second time that a Pope refers in an encyclical not just to members of his Church but "to all men and women of good will". Pope *John XXIII* chose to do this in the *Pacem in Terris*[28] encyclical in 1963. During his era, the world was threatened by the Cold War, and shortly after the Cuban Missile Crisis (October 1962) it teetered on the brink of nuclear war. Nuclear technology made it possible to accumulate so much destructive potential that "overkill"[29] by humanity could no longer be ruled out in the event of war.

As a reaction to his concern about tendencies that "at times appear […] self-destructive" (55) for the inhabitants of the "Home of the Earth"[30], Pope Francis now goes beyond addressing only those people of good will, "to address every person living on this planet" (3). "It is the first time in the history of the Roman Catholic Church that a Pope has addressed an encyclical not only to all Roman Catholics or 'all people of good will'"[31]. He asks: "What kind of world do we want to leave to those who come after us, to children who are now growing up?" (160).

It is interesting that in the face of both crises – the threat of nuclear war and the climate crisis – a group of Nobel Prize winners have also spoken out. Recently, the *Mainau Declaration 2015* on climate change was signed by 30 Nobel Laureates. They followed in the tradition of the Nobel Laureates who, in 1955, also "on the island of Mainau, made a declaration about the dangers of the recently discovered nuclear weapons technology"[32]. Incidentally, like the Pope, the Nobel Laureates also point out that the threat of a nuclear war has not gone away. At the same time, they warn that, without massive reductions in greenhouse gas emissions, climate change will "lead to whole-

[28] Pope Johannes XXIII.: Pacem in terris encyclical (1963): https://www.ewtn.com/library/encyc/i23pacem.htm By endorsing and supporting the 1948 Universal Declaration of Human Rights, the Pope incorporated into Catholic social doctrine the concept of inalienable human rights and fundamental freedoms.

[29] The term "mass destruction capability" used in the Cold War highlights the futility of the nuclear arms race.

[30] "Our home, the Earth" is a common topos in Latin American discourse; see Leonardo Boff: Unser Haus der Erde. Den Schrei der Unterdrückten hören [Cry of the Earth, Cry of the Poor], Düsseldorf, 1996; Boff, Leonardo: Haus aus Himmel und Erde, Erzählungen der brasilianischen Urvölker, Düsseldorf, 2003. At the same time, the term "Common Home" played an important role in Gorbachev's reform and peace policy.

[31] Edenhofer, O., Flachsland, C., Knopf, B., October 2015, pp. 907–909, corrected after print, 24 September 2015.

[32] Mainau Declaration 2015 on Climate Change, www.lindau-nobel.org

sale human tragedy", especially if it is not possible to limit "a rise in the average global temperature of more than 2°C"[33][34].

In each case, leading scientists and the moral authority of the Catholic Church are pushing for a "reversal". However, it is important to note that the environmental and climate crisis presents quite a different challenge from the perspective of *game theory*. Whereas immobilising the atomic conflict *through deterrence* appeared feasible, at least for some time, though it was certainly always precarious and therefore difficult to defend[35], in the case of climate change, this strategy is doomed to failure. "Deterrence" by means of persistent high emissions causes a reflex reaction in others and leads to increased rather than reduced greenhouse gas emissions. Climate change falls within the family of problems described as the "tragedy of the commons". This refers to the risk of depletion of freely available but finite resources (in this case the role played by the atmosphere and the oceans in reducing CO_2). The dilemma is that, high levels of usage appear rational for each individual until, sooner or later, overuse results in a situation where the entire community is affected. A solution can only be found through appropriate forms of cooperation.

Taking into account the common good and inclusion of the excluded, the Pope attempts to move this cooperation onto a new level; a process "to bring the whole human family together to seek a sustainable and integral development" (13). Like John XXIII, who "not only rejected war but offered a proposal for peace" (3), Pope Francis also wants to propose solutions. He wants to initiate a global dialogue about the causes and the scope of action in the face of the crisis.

But he has no illusions in doing so. He is aware of "powerful opposition but also [...] a more general lack of interest. Obstructionist attitudes, even on the part of believers, can range from denial of the problem to indifference, nonchalant resignation or blind confidence in technical solutions" (14). But he relies on positive trends – for example, among young people or global environmental and social movements –- and the numerous grassroots local initiatives: "We require a new and universal solidarity" (14).

[33] ibid.

[34] It is interesting that the UN-Paris Agreement of December 2015 goes even further than this appeal by the Nobel Laureates. It wants to limit the rise in temperature to "significantly below 2°C", or even 1.5°C, to take into account the interests of the countries most affected by the rise. Vatican diplomats actively promoted this shift in the final days of the negotiations. (Author's own observation).

[35] The dilemma of the deterrent approach was and is the fact that its effectiveness is based on the opponent *threatening a credible* nuclear strike. And that calamitous path dependencies as well as errors may arise from this.

2 New stimuli for a pluralistic global society?

Germanwatch is a pluralistic organisation in which people from different religious backgrounds, individuals with indeterminate religious attitudes, atheists and agnostics join forces to campaign "for global justice and the preservation of resources". A non-governmental organization, we focus on public policy lobbying around the issue of the global impact of the policies and economy of countries in the North. The point of departure for our work is the situation of the most disadvantaged people especially in the South.[36] Since Germanwatch was founded in 1991, we have drawn attention to the close links between regional or global ecological limits on the one hand, and on the other, the human and environmental development emedded therein. We understand climate change as being an environmental *and* development issue and make people aware of the associated basic injustice: it is those who contribute least to causing climate change who are the most affected by its consequences – the poor of today and future generations. It is gratifying that the Pope is now expressing similar concerns. But Germanwatch sees the decisive question as being: Will his encyclical provide *additional* stimuli for a *pluralistic* global society?

"Will anyone listen?" asks The Guardian, in view of the numerous different calls to action. "The Pope is scathing, and rightly so, about the lack of action that has followed high-minded declarations in the past. Why should this time be different?"[37]

Is the papal encyclical only generating such a lot of interest because he is finally saying what others have been stating for decades? Hermann Ott and Wolfgang Sachs, scientists at the Wuppertal Institute, point out that the Catholic Church waited until 1891 – approximately 50 years after the Communist Manifesto – to respond to the classic social question in its first major social encyclical *Rerum Novarum*, while at the same time promulgating the principles of Catholic social doctrine. It has taken a similarly long time, "from the wake-up call for the environmental movement, Rachel Carsons's book, 'Silent Spring', to '*Laudato Si'*"[38], for the Catholic Church to be serious about taking up the ecological question as another important social issue.

Or is its poetic and accessible style what makes the encyclical so attractive and also stand out from the bulk of the literature on the environment and development? After all, in August 2015, the encyclical occupied third place in the Süddeutsche Zeitung list of non-fiction books of the month.[39]

Or is it the fact that, surprisingly, the spiritual leader of the Catholic Church approaches the subject with a degree of humility, and appeals to all religions and all people to engage in dialogue in the light of humanity's "suicidal course"?

What makes the encyclical relevant and interesting to a pluralist society?

In recent years, Jürgen Habermas has made a number of observations about [40] the relevance that religious impulses might have in a pluralistic society facing critical developments. He is referring not only to economic crises and the ecological environment, but also, and above all, to interventions in the context of human genetics. On the basis of his reflections, one might test the encyclical regarding the following questions:

[36] See the Germanwatch mission statement at www.germanwatch.org/leitbild
[37] The Guardian, 18/06/2015:
[38] Ott, Hermann E. & Sachs, Wolfgang: Wie viele Divisionen hat der Papst? Die Umweltenzyklika und ihre Wirkung auf die Klimapolitik, in: Politische Ökologie 142, 2016, pp. 124–127; esp. p. 124.
[39] Süddeutsche Zeitung, Sachbücher des Monats, 3/8/2015, p. 11.
[40] Vgl. vor allem Habermas, Jürgen: Nachmetaphysisches Denken, Vol. II. , Berlin 2012.

(1) What challenges are presented by the encyclical as a document of a *reflected faith*?

(2) Does it represent a call to inclusive dialogue or a discourse among equals?

(3) Can the encyclical contribute to *new impetuses in terms of content and inspiring images* for a pluralistic global society?

(4) Can it unleash additional *motivations for action* among believers – and also non-believers?

2.1 What challenges does the encyclical present as a document of a reflected faith?

With this encyclical, the Catholic Church is engaging with a pluralistic society as a serious, ethically committed "community of interpretation"[41] on the issue of "Environment and Equity". Also where secular-minded people are concerned, the Pope "wants to use compelling or shocking contributions on relevant issues to influence public opinion and policy formation"[42]. Habermas stresses that our ideologically diverse societies are a receptive sounding board for such interventions by religious bodies because they "are increasingly fragmented by political conflicts of value which need to be addressed."[43] In a society where debates about values are often concealed and conducted in a pseudo-objective manner as economic or technical debates, religious communities frequently get a lively response when they link values to powerful intuitions or effective traditional images. This also applies in the face of the looming global crises, where environmental issues are reaching crisis point. This means they are increasingly experienced and perceived as existential challenges – connected with different related dimensions of equity. And this at a time when inequality on this planet is indeed dramatically increasing. "The data show right now that inequality is reaching almost absurd heights: for instance, the six heirs to the Walmart fortune have more assets than the bottom 42 percent of all Americans combined."[44]

If a religion in a pluralist society now wishes to initiate a serious discourse with other religions and secular-minded people, a discourse which goes beyond negotiating a modus vivendi for this religion, this can only succeed from the position of a *reflected faith*.

It is therefore important to begin by considering whether the encyclical is a document of a *reflected faith* that inspires dialogue on equal terms in a pluralistic society and that therefore one can also assume a basic willingness to learn on the part of the other actors in society.

According to Habermas, a reflected faith is a faith that "places itself in relationship to other religions and which respects the essentially fallible [45] findings of institutionalized science and accepts human rights."[46] It therefore accepts the important *progress in learning* in society since the Enlightenment. Within the European context at least, this means the *nominalist revolution* is understood as a milestone of learning in relation to medieval thinking. This "laid the foundations for the emergence of modern science, humanism and the new epistemological and rational approaches, as well as for Protestantism and the secularisation of Christianity, that is, for what the Catholic

[41] Schüssler Fiorenza, F.: The Church as a Community of Interpretation, in: Browning, D.S., Schüssler Fiorenza, F. (Hg.9, Habermas, Modernity and Public Theology, New York 1992, pp. 66–91.
[42] Habermas, Jürgen, 2012, p. 313.
[43] Habermas, Jürgen, 2012, p. 313.
[44] McKibben, Bill, 2015.
[45] "Fallible" emphasizes the fact that science is based on propositions which do not have the character of dogma but are basically fallible, i.e. If they are refuted, they can be replaced by other propositions at any time.
[46] Habermas, Jürgen: Nachmetaphysisches Denken II, Aufsätze und Repliken, Berlin, 2012, p. 99.

Church initially understood as 'secularisation'".[47] The Catholic Church has long interpreted such tendencies as a *history of decline* and not seen the learning processes from which these trends derive. In principle, this step was only taken with the *Second Vatican Council* at the beginning of the 1960s. This was "a theological reflection [...] that finally reconciled religious awareness to the fact of ideological pluralism, to the fact that the legitimacy of the secular state is based on human rights, and to the monopoly of science in terms of secular[48] knowledge.[49][50]

The following therefore examines whether the encyclical

- accepts the *primacy of science* for issues relating to the world,
- the role of a *secular state* and also
- human rights.

Pope Francis expressly refers to the Pastoral Constitution *Gaudium et spes* of the Second Vatican Council[51] as the main document in which the Catholic Church decided to recognise "the rightful autonomy of earthly affairs" (80). More importantly, the encyclical does not simply accept this autonomy out of necessity but uses *its own* – theological – *reasons* to support it. When Pope Francis writes that "God is intimately present to each being, without impinging on the autonomy of his creature, and this gives rise to the rightful autonomy of earthly affairs"[52] (80), he uses religious grounds to pave the way for the autonomy of science, philosophy, art and politics. Here, this autonomy is not seen as a history of decline, it is not simply tolerated, but is welcomed on its own terms.

2.1.1 Acceptance of the primacy of science in the double-coded description of the world

"Since enlightenment, the relationship between science and religion has generally been characterized by conflict rather than cooperation. Religion has struggled to identify a division of labour on questions related to cosmology, evolutionary theory, socio-biology, economics or reproductive medicine."[53] Viewed retrospectively, the fact that here the Pope is opening a new chapter in the relationship between the Catholic Church and science may represent a watershed in intellectual history. As long as the Church regarded science as an opponent which undermined its authority in one field after another, it could only lose one rear-guard action after another. "In this struggle, it can be said that religion has been losing epistemic authority to science in one territory after an-

[47] Habermas, Jürgen, 2012, p. 106.
[48] secular, relating to the world as a whole
[49] Habermas, Jürgen, 2012, p. 300.
[50] It should be mentioned in passing that reflected faith is just one of the typical modern forms of belief. The strong tendency towards fundamentalist beliefs in almost all religions is also a typically modern response to uncertainty in the face of a pluralistic modernity, society that has changed rapidly even within a generation, science that is basically fallible, and the renunciation of moral insights that cannot be scrutinised. The short circuits of this kind of fundamentalist position cannot be discussed in more detail in this context.
[51] See Second Vatican Ecumenical Council, Pastoral Constitution: Gaudium et spes über die Kirche in der Welt von heute, http://www.vatican.va/archive/hist_councils/ii_vatican_council/documents/vat-ii_const_19651207_gaudium-et-spes_en.html
[52] Aquinas, Thomas: Summa Theologiae I, q. 104, art. 1, ad 4.
[53] Edenhofer, Ottmar, Flachsland, Christian, Knopf Brigitte: Science and religion in dialogue over the global commons, in: Nature Climate Change, Vol. 5, October 2015, pp. 907-–-909, Corrected after print, 24 September 2015, www.nature.com/natureclimatechange.

other. Perhaps the most striking aspect of the encyclical is that Pope Francis seems unwilling to continue this conflict."[54]

Pope Francis, a trained chemical technician, begins with a brief overview of the scientific progress relating to some of the major ecological and social crises. And he attempts to initiate a discourse between religion and science (see Sections 199–201) on the fundamental challenges confronting humanity and the ecological environment in their common home.

Methodologically, it is worth noting that he systematically double codes the encyclical's key messages in both *scientific* and *theological terms*. Or in the words of Leonardo Boff: "This judging is done in two aspects, the scientific and the theological"[55].

Scientific compatibility with complex systems theories: the end of predictability and the role of tipping points

At various points Pope Francis shows that he has reflected on the relevance of the departure from the Newtonian image of the world, which is still dominant in the secular world. According to this, we live in a strictly determined world, following the paths established by the laws of nature, in which our predictive capabilities are limited only by our lack of knowledge. Francis has a fine sense of the extent to which this paradigm makes many decision-makers in politics and the economy believe they can control development despite ever greater interference by mankind. He rejects the essential determinism of this world view. "Just as the different aspects of the planet – physical, chemical and biological – are interrelated", writes the Pope, "so too living species are part of a network which we will never fully explore and understand" (138). Here, Pope Francis is addressing the *failure* of the deterministic presentation of the Newtonian world view, which states that our inability to make deterministic projections is only because of our *subjective ignorance*. The Pope is alluding to the *intrinsic uncertainty* of complex processes, something which is important for the entire environmental and social debate.

The ignorance based on intrinsic uncertainty needs to be distinguished from two other *forms of Ignorance*[56]:

(1) It is possible that we have ignored the *current state of knowledge*.

(2) It is possible that the current state of knowledge *is not yet sufficient* to predict the development of a system.

However, and here starts the conflict with the Newtonian world, the scientific developments of the last century demonstrated that there is also a third form of ignorance:

(3) Both at the microscopic level (quantum theory) and at the macroscopic level in complex systems – as is shown by the theories of equal weight remote systems, open systems as well as chaos theory – we are *principally* not in a position to make safe *predictions*, no matter how much we know about the system.

Initially this fundamental ignorance, based on the distinctly stochastic *nature of* our knowledge about the future, was detected by quantum theory at the micro level. In the last four decades of

[54] ibid.
[55] Boff, Leonardo, 16/6/2015.
[56] Bals, Christoph: Sabotage am Klimaschutz, 4/3/2004. First publication: Das Ende der Sensation vom Klimamärchen, 1997; www.sfv.de/lokal/mails/wvf/klimazw3.htm. Here, these three forms of ignorance are discussed in relation to climate change deniers/climate sceptics.

the 20th century, the analysis of complex systems and non-equilibrium processes illustrated that, in the vicinity of their *bifurcation points*, predictions about the development of these complex systems can *principally* only be specified as probabilities. It became clear that we also "observe at the macroscopic level a 'mixture' of determinism and probability"[57], as pointed out by Ilya Prigogine, who was awarded the Nobel Prize for his study of these complex systems.

In 1986, Sir James Lighthill, President of the International Union of Theoretical and Applied Mechanics delivered a remarkable statement: "Here I have to pause and to speak once again on behalf of the broad global fraternity of practitioners of mechanics. We are all deeply conscious today that the enthusiasm of our forebears for the marvellous achievements of Newtonian mechanics led them to make generalizations in this area of predictability [...] which we now recognize as false. We collectively wish to apologize for having misled the general educated public by spreading ideas about the determinism of systems satisfying Newton's laws of motion that, after 1960, were to be proved incorrect."[58]

When assessing the development of complex systems – the climate system being a prime example of this – it is important that this is not determined *at the bifurcation* or tipping points of the system. This is why they are not strictly to control, even if one has optimum knowledge. In the light of the magnitude of the interventions in climate and nature man has made, the Pope speaks of "unrestrained delusions of grandeur" (114).

Relevance to the climate debate

Hans Joachim Schellnhuber, a scientist who delivered key scientific statements at the presentation of the encyclical, is one of the world best experts on these complex systems and their tipping points. When the encyclical was being prepared in 2014, at a workshop held by the Pontifical Academy of Sciences, he stated that:

> "The climate system is a most delicate fabric of interwoven planetary components (such as the atmosphere, the oceans, the cryosphere, the soils, and the ecosystems) that interact through intricate physical, chemical, geological and biological processes (such as advection, upwelling, sedimentation, oxidization, photosynthesis, and evapotranspiration). […] We eventually become aware of the fact that even slightly pulling one single string might have the potential to tear apart the entire fabric."[59]

Influencing important elements in such highly complex systems one cannot simply anticipate linear progression. There are risk thresholds beyond which the system or certain parts of the system change their character fundamentally. Because of the multiple feedback in the system, relatively small external disturbances are often sufficient to tip a system into a different state. "Fundamental changes of state, caused by a relatively small external disturbance, are possible due to the complexity of the associated nonlinear system"[60].

Schellnhuber points out that – despite the numerous scientific advances – these highly complex systems cannot be understood in terms of deterministic prediction. Our everyday understanding, trained in Newtonian physics and according to which, cause and effect are usually closely connected in time, space and extent, is blown apart by this: "Although the respective dynamics of

[57] Prigogine, Ilya: Die Gesetze des Chaos, Frankfurt, 1998, p. 29.
[58] Lighthill, James: The Recently Recognized Failure of Predictability in Newtonian Dynamics, Proceeding of the Royal Society, A/407 (1986), pp. 35–50, esp. p. 38.
[59] Schellnhuber, H. J. Martin M. A.: Climate-System Tipping Points and Extreme Weather Events, in: Pontifical Academy of Sciences and Pontifical Academy of Social Sciences: Sustainable Humanity, Sustainable Nature: Our Responsibility, 2014.
[60] ibid.

those elements is beginning to be better understood, our ability as human beings to intuitively grasp nonlinearities is surprisingly limited: in our everyday experience, cause and effect are usually closely connected in time, space and extent"[61].

It is therefore of the utmost importance that the scientific community communicates clearly this risk in relation to climate change: "*Climate change, caused by this tiny molecule of CO_2, can trigger sudden, irreversible and large-scale disruptions in the above-named interwoven physical and ecological systems [...]* crossing certain thresholds may turn tiny holes in the fabric into long, ever increasing ladders"[62].

On the occasion of the presentation of the encyclical in Rome, Hans Joachim Schellnhuber demonstrated some of the feared and much-discussed tipping points in the climate system, which could be triggered if the threshold values of the global rise in temperature are exceeded: on the ice sheet in West Antarctica, other ice sheets (e.g. Greenland), glaciers in the high mountain ranges, the permafrost in Siberia and in North America, the monsoon systems, the jetstream, the El Niño pattern as well as ecological systems affected by climate change, such as coral reefs and the Amazon rain forest. He stresses that limiting the global temperature to a value at which the various tipping points are not exceeded may be one of the most important arguments in favour of restricting global climate change to a maximum of 2°C or even 1.5°C. On the one hand, because of the magnitude of the associated risks, on the other hand, because of the difficulty in adapting to a world with limited predictability, where different outcomes are possible after crossing these tipping points.

The Pope speaks in the encyclical of a "vicious circle which aggravates the situation even more" (24) and cites three of the potential tipping points referred to by Schellnhuber (see 25). The following visualization of these risks presented by Schellnhuber in Rome illustrates the relationship of this debate to the internationally agreed objective of governments to limit global climate change to less than 2°C as compared to pre-industrial times, but also why many of the countries most affected are calling for the threshold to be lowered to 1.5°C:

[61] ibid.
[62] ibid, emphasis by H. J. Schellnhuber.

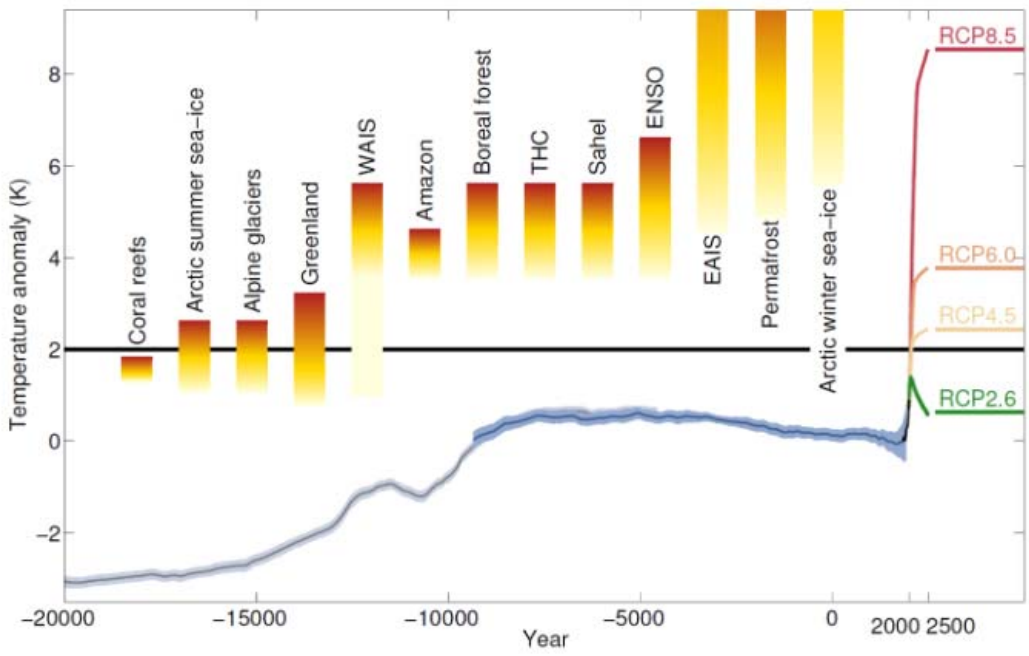

Figure 2:
Global-mean surface temperature evolution from the Last Glacial maximum through the Holocene, based on paleoclimatic proxy data ([13], [14]) (light gray), instrumental measurements since 1750 AD (HadCRUT data, black) and different global warming scenarios for the future (see [15] for the latter). Threshold ranges for crossing various tipping points where major subsystems of the climate system are destabilized have been added from refs. ([15]–[20]).

The figure shows: following massive fluctuations in temperature in the previous millennia until the last ice age it follow, for around 10,000 years a paradisical stable clilmate – this geological era is referred to as the Holocene. Since this time humans were privileged to live in an Eden-like, stable climate (blue curve). At the beginning of this new geological era, when the seasons became reliable, the Neolithic revolution took place – the transition from communities of hunters and collectors to agriculture. All human civilisations – such as China, Persia, India, Greece, Israel or the Mayans – began to develop from that point onwards.

Now – since the start of industrialisation – we are in the process to catqpult us out of this Eden-like stable climate period at an ever increasing pace. The steep black upward curve shows where we currently stand. If we continue producing emissions at the same rate as today, a rise in temperature of 4 degrees Celsius can be expected by the end of the century (see the different scenarios).

The figure also shows the probability for each threshold value of important parts of the system being tipped irreversibly into a fundamentally different state. For tipping points such as the collapse of coral reefs and triggering irreversible melting processes in Greenland (and according to recent research results, also in the West Antarctic), the tipping point may already lie below the 2°C-threshold. What is clear is that: every tenth of a degree of the global rise in temperature increases the probability of this happening for all tipping points.

Precautionary principle in view of the essentially limited knowledge and the severity of the risks

The “threat of extreme weather events (204) combined with the fundamental impossibility of forecasting (beyond probabilities) such events is also a strong basis for the Pope’s invoking the precautionary principle established in the Rio Declaration on Environment and Development of 1992: “serious and irreversible damage may result, a project should be halted or modified, even in the absence of indisputable proof” (see 186). The Pope recalls that reversing the burden of proof associated with this principle should serve to protect the weakest. Because every experience and sce-

nario shows that the poorer sectors of the population in all countries, but especially the poorest countries, are the most severely affected by major changes.

Nevertheless, this view is opposed by Doug Bandow, who worked as a "special assistant" to US President Reagan and is a "senior fellow at the Cato Institute, a major US think tank with a libertarian focus. According to him, "the encyclical endorses the *precautionary principle*, which basically demands proof of safety before allowing innovation rather than proof of harm before blocking innovation."[63] This debate demonstrates the importance of understanding the *priciple character of the ignorance* regarding these complex systems (see above). Anyone who requires definitive certainty about the occurrence of tipping points at specific temperature thresholds in non-linear systems as the basis for serious countermeasures has not understood this. In this situation, *prior to the occurrence of the irreversible major changes,* statements can, in principle, only be made with probability, not with certainty. Doug's claim therefore suggests that action will only be taken once the tipping points – with catastrophic consequences – have been exceeded. So the position of Bandow is a nice example of the technocratic paradigm which is so fiercely criticised in the encyclical.

The scientific connectivity of the enzyclicel's statements on global climate change

Even in advance of publishing of the encyclical, there was a lot of debate t about the its statements on global climate change. The Christian Right in the USA, which is largely reluctant to acknowledge man-made climate change, even conjured up a new Galileo-like situation if the Pope should dare to accept the scientific evidence of climate change. "The church has gotten it wrong a few times on science," said Rick Santorum, the then Catholic Republican presidential candidate. "We probably are better off leaving science to the scientists, and focusing on what we're really good at, which is theology and morality."[64] Cardinal Turkson, co-author of the encyclical, countered: "Today the earth, our sister, [is] mistreated and abused [...] Science is the best tool by which we can listen to the cry of the earth"[65]. In the double coding – theological and scientific – which is evident in this sentence, science definitely takes priority regarding the analysis of the facts. The Pope by no means tries to present himself as being the better scientist in the encyclical. "The aim of the encyclical is not to intervene in this debate, which is the responsibility of scientists, and even less to establish exactly in which ways the climate changes are a consequence of human action" [66]

But the encyclical provides a concise summary of the current state of science as represented by the leading academies of science and the Intergovernmental Panel on Climate Change (IPCC) – though without explicitly mentioning the IPCC. "A very solid scientific consensus indicates that we are presently witnessing a disturbing warming of the climatic system. In recent decades this warming has been accompanied by a constant rise in the sea level and, it would appear, by an increase of extreme weather events, even if a scientifically determinable cause cannot be assigned to each particular phenomenon" (23).

Disturbing questions "which we can no longer sweep under the carpet" (19) should not continue to be dodged, Quite the contrary: One must face up to the findings of science. Otherwise humanity

[63] Bandow, Doug: Laudato Si Misses the Problem of Politics, 24/6/2015, http://blog.acton.org/archives/79640-doug-bandow-laudato-si-misses-the-problem-of-politics.html

[64] Atkin, Emily: What Did Actual Scientists Think Of The Pope's Climate Encyclical?, in climate progress, 18/6/2015, 2:11pm, http://thinkprogress.org/climate/2015/06/18/3671118/pope-climate-encyclical-scientists-react/

[65] Harris, Elise: Vatican: Encyclical aims to promote common good, not take sides, CNA, 18/6/2015, www.catholicnewsagency.com/news/vatican-encyclical-aims-to-promote-common-good-not-take-sides-84878/

[66] ibid.

will be inclined to adjust to things, "[...] carrying on with our present life styles and models of production and consumption. This is the way human beings contrive to feed their self-destructive vices: trying not to see them, trying not to acknowledge them, delaying the important decisions and pretending that nothing will happen." (59).

On the basis of the best available knowledge, the Pope urges action on climate policy: "Humanity is called to recognize the need for changes of lifestyle, production and consumption, in order to combat this warming or at least the human causes which produce or aggravate it" (23). By establishing that human beings are the main cause of climate change, while not excluding the potential role of other factors (cf. 23), Pope Francis adopts a clear and unequivocal stance. Given the strong support in some churches for climate change deniers[67] – especially in the USA –, this will be a crucial discussion point for the reception of the encyclical in some places.[68] The Pope is unequivocal that the scientific findings are confirmed by experiences in many countries. This relates both to the exirience of respective national churches as well as development organizations. It is enough to "take a frank look at the facts to see that our common home is falling into serious disrepair" (61).
One example: in Germany, one organisation, calling itself the "German Employers Association", reacted to the encyclical on the grounds of climate change denial. This organisation has no formal connection with the Federal Association of German Employers' Associations (BDA), the leading labour and social policy association for the entire German economy which represents the interests of all sectors of the private industrial sector in Germany. The so-called "German Employers Association" had climate change denier Wolfgang Thüne proclaim that the statements on climate science in the encyclical *Laudato Si'* represented "regression to the time before the European Enlightenment"[69].

In a very unusual course of events, in 1996, the professional association of weather and climate scientists, the German Meteorological Society (DMG), distanced itself from similar statements by the same Dr. rer. pol. Wolfgang Thüne. At the time, in a series of letters, newspaper articles[70] and conference contributions, he denied the existence of the entire greenhouse effect, not only the man-made one, and presented it as being in conflict with the Second Law of Thermodynamics. Thüne's theories, which contain many scientific terms, are almost unfathomable for non-specialist editors. In doing so, the DMG stresses in its deliberately matter-of-fact style, "terms are used, but also claims made, which require a rectification on the basis of science." The DMG contradicts then Thüne's theories in detail and comes to the conclusion that "there can be no doubt about the basic principle of the greenhouse effect, and also about the man-made effect. The occurrences are in line with all physical laws, including the Second Law of Thermodynamics." (DMG press release 1/96). The fact that Thüne went on to repeat some of the refuted arguments in other journals, without even mentioning the criticism by the scientific body[71], is completely frivolous. Even today,

[67] The term "climate change deniers" is selected here instead of the commonly used term "climate sceptics". The professional code of ethics of scientists means that each hypothesis has to be received with scepticism and placed on the test bench. This is welcome – and this is how progress is made, even in climate science. It is only annoying if the scepticism itself becomes dogmatic. If, instead of responding to refutations in peer-reviewed journals with new arguments, it keeps trotting out the same old critical propositions. Or if their criticism is not submitted for criticism in peer-reviewed journals. It is criminal if the criticism is paid for to sow doubts about scientific hypotheses – in this case, man-made climate change – in order to defend economic interests in the face of knowledge to the contrary. See, for example: Oreskes, N., Conway, E. M.: Merchants of Doubt, New York, Berlin, London, Sydney, 2010.

[68] Vogt, Markus, 16/6/2015, p. 3.

[69] Thune, Wolfgang: Enzyklika Laudato Si', A relapse of the European Enlightenment, in: Deutscher Arbeitgeberverband, 8/7/2015, www.deutscherarbeitgeberverband.de/wissenschaftzukunft/2015_07_07_dav_wissenschaftzukunft_enzygklika_laudatosi_01.html?q=th%C3%BCne

[70] For example, in the Handelsblatt, 22/11/95.

[71] See Energiepolitische Tagesfragen, 47. 1997, issue 10.

he does not base his allegations on unchallenged articles from peer-reviewed scientific journals. Is this what the struggle for enlightenment looks like?

The Pope seems to have similar cases in mind when he writes: “There are too many special interests, and economic interests easily end up trumping the common good and manipulating information so that their own plans will not be affected” (54; see also 135, 188). Eric Conway and the science historian Naomi Oreskes have analysed in detail the economic and ideological interests behind the strategies of many climate change deniers theories in their book, “Merchants of Doubt”[72].

The scientific connectivity with the double-coded description of the destruction of “our common home”

The Pope sees humanity and the ecological environment as interconnected, not just by a common origin, but also by future threats.

As in the case of climate change, the encyclical makes it clear that science should have the last word, even in the analysis of the cascade of “natural disasters as well as social and even financial crises” (61): “On many concrete questions, the Church has no reason to offer a definitive opinion; she knows that honest debate must be encouraged among experts, while respecting divergent views” (61). The Pope also explicitly recognizes that “there is no one path to a solution” (60). And he presents his analysis – prepared with the support of the Pontifical Academy of Sciences – of the state of the natural sciences as well as the social science debate as the basis for his own stance.

The Pope lists what *is happening in our common home* (17-61). In addition to climate change (20-22), there is the issue of water (27-31), the loss of biodiversity (32-42), the decline in the quality of human life and the breakdown of society (43-47). The Pope denounces global inequality – worldwide and in individual states – which affects all areas of life (48-52). Its main victims are the poor (48). And he comes to the conclusion that: “Never have we so hurt and mistreated our common home as we have in the last two hundred years” (53) – the common home of humanity and the ecological co-world.

Interpreting science with the intelligence of the heart

On the one hand, the encyclical clearly indicates the primacy of science for analysing the facts. On the other hand, Pope Francis also challenges the *positivist understanding* of science. The classic formulation of positivist understanding comes from the young Wittgenstein, who in his *Tractatus Logico-Philosophicus* asked philosophy to "*say nothing except what can be said, i.e. the propositions of natural science*[73]". This should mark the limit of a meaningful discussion.

The Pope, on the other hand, urges science to methodically recognize its own methodological limits and to accept that there is more to say: “It cannot be maintained that empirical science provides a complete explanation of life, the interplay of all creatures and the whole of reality. This would be to breach the limits imposed by its own methodology. If we reason only within the confines of the latter, little room would be left for aesthetic sensibility, poetry, or even reason’s ability to grasp the ultimate meaning and purpose of things.” (199). In this sense, the encyclical calls for an “openness to categories which transcend the language of mathematics and biology” (11). To

[72] Oreskes, N., Conway, E. M.: Merchants of Doubt. How a Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Global Warming (Bloomsbury, 2011).
[73] Wittgenstein, Ludwig: Tractatus logico-philosophicus, Frankfurt, 1963, 6.53, www.gleichsatz.de/b-u-t/trad/witt.html

put it another way, he embraces the position of the late Wittgenstein[74] and stresses that the different language games – aesthetics, poetry, morality and religion – definitely *have their own* sense[75].

Pope Francis therefore wants to put science in its rightful place, but not limit himself to simply collecting facts and being sidelined by the positivist fear of value judgements. For the Pope, the goal is not to "amass information or to satisfy curiosity, but rather to become painfully aware, to dare to turn what is happening to the world into our own personal suffering and thus to discover what each of us can do about it" (19). Already the initial question of the encyclical: "what is happening to our common home" (17) allows him to escape the narrow confines of positivist science. This enables him to read the data "with sensitive intelligence or intelligence of the heart [...], because he perceives that it obscures the tragedy and suffering of humanity and also of Mother Earth[76]. Here he is listening with ears that are expressly open to the language of beauty and fraternity. And the Pope warns against disparaging this approach as "naive romanticism" (11), because limiting the horizon in this way "affects the choices which determine our behaviour" (ibid.).

Aesthetics as a counterpoint to utilitarian thinking

The Pope wants to overcome the "little room" (199) of positivist thinking. On the one hand, in order to be alert to that which is beautiful. Where "aesthetic sensibility, poetry" (199) wanes, the resistance to the technocratic paradigm and its utilitarianism is also diminished. "If someone has not learned to stop and admire something beautiful, we should not be surprised if he or she treats everything as an object to be used and abused without scruple" (215). According to the Pope, the desire to create something beautiful and to contemplate beautiful things "manages to overcome reductionism through a kind of salvation which occurs in beauty and in those who behold it" (112). Here the Pope detects one of the opposing forces to Adorno's dictum that there is no right life in the wrong one[77]. Systemic constraints cannot "suppress our openness to what is good, true and beautiful, or our God-given ability to respond to his grace at work deep in our hearts" (205). This education for the perception of beauty, the practice of corresponding thought patterns should be considered if we "want to bring about a deep change" (215).

But the Pope warns against lapsing into abstract aestheticism in order to only "seek the beauty of design" (150). As more important he considers "another kind of beauty" (ibid.). Here he refers to the relationships of humans in the context of three-dimensional integral ecology. The commitment to the "people's quality of life, their adaptation to the environment, encounter and mutual assistance" (ibid.). Here too, he is quite specific. It is not just a question of building beautiful things but part of the beauty is always providing the population with an opportunity to participate: "urban planning [should] always take into consideration the views of those who will live in these areas" (ibid.).

Justice as a counter-strategy to utilitarian thinking

Pope Francis sees it as important to work out the relationship between facts analysed scientifically on the one hand, and, on the other, the ecological crisis, between the experience of people – especially the poor – and the *question of justice*. He argues "that a true ecological approach always becomes a social approach; it must integrate questions of justice in debates on the environment, so as to hear both the cry of the earth and the cry of the poor" (49). He sees the need for an ethical

[74] Wittgenstein's "Philosophical Investigations" is the first thing that springs to mind here.
[75] See Wittgenstein, Ludwig: Philosophische Untersuchungen, Frankfurt, 1984, p. 225 ff., (First edition 1945).
[76] Boff, Leonardo, 05/07/2015.
[77] Adorno, Theodor W.: Minima Moralia, in: Gesammelte Schriften 4, Frankfurt am Main 1997, p. 43.

or moral evaluation of the scientific results. “He chooses to embrace science while pointing out that ethical questions cannot be resolved by science alone”[78].

The Pope interprets ecological questions – on the basis of the *metaphor of the common home*, also as questions of justice, which especially affect the poor and future generations. With the key sentence from his last encyclical: “realities are more important than ideas” (110), in this encyclical, the Pope also warns about getting caught up in ideological concepts and losing sight of the concrete reality for humans and the co-world. Accordingly, again and again he attempts to ground abstract reasoning by using refreshingly concrete examples – here about the connection between the ecological crisis and justice:

- The Pope notes “a tragic rise in the number of migrants seeking to flee from the growing poverty caused by environmental degradation. They are not recognized by international conventions as refugees; they bear the loss of the lives they have left behind, without enjoying any legal protection whatsoever.”(25).
- The *worst effects of climate change* “will probably be felt by developing countries in the coming decades. Many of the poor live in areas particularly affected by phenomena related to warming, and their means of subsistence are largely dependent on natural reserves and ecosystem services such as agriculture, fishing and forestry. They have no other financial activities or resources which can enable them to adapt to climate change or to face natural disasters, and their access to social services and protection is very limited” (25).
- The *depletion of fish stocks* “especially hurts small fishing communities without the means to replace those resources” (48),
- “Water pollution particularly affects the poor who cannot buy bottled water”(ibid.),
- And "rises in the sea level mainly affect impoverished coastal populations who have nowhere else to go." (ibid.).
- He unequivocally condemns the proposals for the *internationalisation of the Amazon*, which "only serve the economic interests of trans-national corporations” (38).

His moral judgement is clear: “We can be silent witnesses to terrible injustices if we think that we can obtain significant benefits by making the rest of humanity, present and future, pay the extremely high costs of environmental deterioration” (36).

“What can non-Catholics and nonbelievers learn from the Pope’s encyclical about the ethical dimensions of climate change?” asks Donald A. Brown of the Commonwealth Law School of Widener University in the USA. Like various outside observers, he too perceives that, with his encyclical, the Pope has created an important space for the ethical and moral dimensions of environmental and development issues:

“If the Pope’s encyclical is successful in getting civil society to see climate change as essentially a moral and ethical issue, it is likely to have a profound practical importance for climate change policy making, in fact, it could radically transform how climate change policy has been debated for over 35 years. There are two reasons for this.

One, climate change more than any other environmental problem has features that scream for attention to see it fundamentally as a moral issue. In fact, climate change policy makers can’t think clearly about policy until they respond to several ethical questions.

[78] Edenhofer, O., Flachsland, C., Knopf, B., October 2015, pp. 907–909, Corrected after print, 24. September 2015, p. 907.

Second, those who have opposed action on climate change for over 35 years have tricked citizens, including most members of environmental organizations, to argue about climate change policies in ways that ignore moral and ethical questions and in so doing have weakened the strongest arguments that can be made in response to arguments made by opponents of climate change policies."[79]

2.1.2 Acceptance of the secular state and a call for an international political and structural policy to regulate the common good.

The Pope emphasizes very clearly that, just as he does not presume to solve scientific questions, nor does he claim "to replace politics" (188). He is more concerned with encouraging honest and transparent debate so that "particular interests or ideologies will not prejudice the common good" (ibid.). Even in speeches where he advocates strong positions – for example, his address to social movements in Bolivia – the Pope warns that his political proposals should be regarded as nothing more than contributions to the discussion. He refers to himself in the third person: "So don't expect a recipe from this Pope. Neither the Pope nor the Church have a monopoly on the interpretation of social reality or the proposal of solutions to contemporary issues"[80]. Now, in a pluralistic society, it is self-evident that no single actor can claim a monopoly on interpreting of social conditions. But one look at the history books is sufficient to show that this attitude could not always be taken for granted in the case of the leaders of the Catholic Church.

However, not wanting to replace politics is not at all the same as not getting involved in politics. Because, as the Pope argues: Any technical solution "science claims to offer will be powerless to solve the serious problems of our world if humanity loses its compass, if we lose sight of the great motivations which make it possible for us to live in harmony, to make sacrifices and to treat others well" (200). Here, he sees a key role of religions as being to provide these "great motivations".

The Pope raises the question of what kind of international system of governance would allow "radical decisions to reverse the trend of global warming [and] achiev[e] the goal of eliminating poverty" (175). What is needed, in effect, is "an agreement on systems of governance for the whole range of so-called 'global commons'"(174).

The Pope notes that the 21st century with its systems of governance inherited from the past "is witnessing a weakening of the power of nation states, chiefly because the economic and financial sectors, being transnational, trends to prevail over the political" (175). In this context he calls for "stronger and more efficiently organized international institutions, with functionaries appointed fairly by agreement among national governments, and empowered to impose sanctions" (ibid.). Considering the requirements of disarmament, peace and safety, environmental protection and also "to regulate migration", he recalls Pope John XXIII's call for a "true world political authority" (ibid.).

[79] Brown, Donald A.: "What can non-catholics and nonbelievers learn from the Pope's encyclical about the ethical dimensions of climate change?", 3/10/2015, http://ethicsandclimate.org/2015/10/03/what-can-non-catholics-and-nonbelievers-learn-from-the-popes-encyclical-about-the-ethical-dimensions-of-climate-change/

[80] Asia News: Pope in Bolivia, 7/9/2015, www.asianews.it/news-en/Pope-in-Bolivia:-we-need-and-want-a-change-in-an-economy-that-kills-34736.html

Seeing the demand for a world political authority as proof that the Pope is "suspicious"[81] of the fundamental principle of subsidiarity or is even calling for a world government, would be to misunderstand the social teaching of the Catholic Church. The Pope repeatedly emphasises that problems should be solved by the lowest level that can do so. The common good requires the "overall welfare of society and the development of a variety of intermediate groups, applying the principle of subsidiarity" (157). He points out that "[a]ttempts to resolve all problems through uniform regulations or technical interventions can lead to overlooking the complexities of local problems which demand the active participation of all members of the community. New processes taking shape cannot always fit into frameworks imported from outside; they need to be based in the local culture itself." (144).

Hee also emphasizes the "committed and generous civic responses" of civil societies (165), "which draw public attention to these issues and offer critical cooperation, employing legitimate means of pressure, to ensure that each government carries out its proper and inalienable responsibility" (38).

But the Pope also shows that this *principle of subsidiarity* in the social teaching of the Catholic Church has two sides. On the one hand, he wants as many decisions as possible to be placed in the hands of the groups that are closest to the people. On the other hand, in situations where these groups are unable to solve the problem, he sees the higher level – often the state – as being obliged to compensate for this failure with regard to the common good: "Let us keep in mind the principle of subsidiarity, which grants freedom to develop the capabilities present at every level of society, while also demanding a greater sense of responsibility for the common good from those who wield greater power" (196).

The Pope points to an example where the common good needs intervention by the state: in cases of social stability and security, which always require "a particular concern for distributive justice" (157). "Society as a whole, and the state in particular, are obliged to defend and promote the common good" (ibid.).

The Pope therefore is not thinking of a world government when he recalls the repeated call by Popes since *Pacem in Terris* (Pope John XXIII) for instruments and forms of a "world political authority" (175). On the contrary, as shown above, he makes it clear that, "what is needed, in effect, is an agreement on systems of governance for the whole range of so-called 'global commons'" (174). So the Pope views it more as a question of what Jürgen Habermas describes as a "global domestic politics without a world government"[82], a global multi-level system, which does not, however, have the character of a state[83].

Shift in emphasis between the state and the market

The Pope is neither for nor against the market per se, but he is very decidedly against the "magical conception of the market, which would suggest that problems can be solved simply by an increase in the profits of companies or individuals." (190). He therefore argues against Adam Smith's concept of regulation of problems solely by the "invisible forces of the market" (123). With this in mind, he opposes an "unregulated market" (210), "obsessed with maximizing profits" (190).

[81] Winkler, Hans: Eine Weltautorität, die alle Problem lösen soll, in: Die Presse, 29/6/2015, http://diepresse.com/home/meinung/gastkommentar/4765140/Eine-Weltautoritaet-die-alle-Probleme-losen-soll

[82] Habermas, Jürgen: Die postnationale Konstellation, Frankfurt a. M., 1998, p.2.

[83] Habermas, Jürgen: Hat die Konstitutionalisierung des Völkerrechts noch eine Chance? In: Habermas: Der gespaltene Weste, Frankfurt am Main, 2004, 113-19.

Anyone who trusts the logic of an unregulated market, where profits alone count" (ibid.), cannot be expected to "reflect on the environmental damage which they will leave behind for future generations" (ibid.). The Pope lists the things that the magical view of the market threatens to sweep under the table:

- There is "no thinking about the rhythms of nature, its phases of decay and regeneration" (ibid.),
- or thinking about "the complexity of ecosystems which may be gravely upset by human intervention" (ibid.),
- or about the intrinsic value of animals and plants, biological diversity, if they may be "considered at most a deposit of economic resources available for exploitation," (ibid.).
- If cutting down trees in a forest increases production, he ponders that "no one calculates the losses entailed in the desertification of the land, the harm done to biodiversity or the increased pollution" (195).

But not only one can hardly expect the logic of the magical view of the market to be concerned about the *ecological environment. It also cannot be expected* to factor in "the real value of things, their significant chance for persons and cultures, or the concerns and needs of the poor" (190):

- "[T]he current model, with its emphasis on success and self-reliance, does not appear to favour an investment in efforts to help the slow, the weak or the less talented to find opportunities in life" (196).
- The market by itself guarantees "integral human development and social inclusion" (109). Anyone who does not contribute to profit as a customer or employee is threatened with exclusion.
- As a concise example of market failure, the Pope refers to the growing tendency in some places to privatise the scarce resource of water. Access to water is a key human right, and privatisation of water means "turning it into a commodity subject to the laws of the market" (30). This means the poorest will be denied access to water.

As a speaking example of the danger of the magical view of the market, he criticices the trickle-down effect. According to this, growth brings increased prosperity, and not only for the parties directly involved, but some positive effects trickle down to improve the living conditions of the impoverished masses. So he considers it as wrong "that the problems of global hunger and poverty will be resolved simply by market growth" (109).

He rejects the one dimensionality of the principle of maximizing profits as inappropriate because it tends to be "frequently isolated from other considerations" (195). For him, this one dimensionality "reflects a misunderstanding of the very concept of the economy" (195). It would lead to a situation, where "whatever is fragile, like the environment, is defenceless before the interests of a deified market, which become the only rule" (56). This is the central justification for the key statement that attracted so much attention in Pope Francis' previous and first encyclical: *Evangelii Gaudium*: "This economy kills".

The Pope also draws attention to the consequences for the consumer of an unregulated market, which tends to "promote extreme consumerism in an effort to sell its products" (203). He sees a danger that "people can easily get caught up in a whirlwind of needless buying and spending" (ibid.).

There is a systems theory insight that a system that follows only its own logic will ultimately destroy itself. This is in line with the statement, that "economics without politics cannot be justified" (196). The Pope sees that a market economy cannot work in the long term if the risks are socialised and the profits are privatised. Instead of the one-dimensional logic, he calls for one that is able to more appropriately target "various aspects of the present crisis" (196).

Here, too, he doesn't stop with abstract criticism, he insists on implementation of the *polluter-pays principle*. "Yet only when 'the economic and social costs of using up shared environmental resources are recognized with transparency and fully borne by those who incur them, not by other peoples or future generations', can those actions be considered ethical." (195).

He does not regard the polluter-pays principle as a panacea, but something to be supplemented by *regulatory* action. Here too, he is able to provide examples. These include:

- "industrial production with maximum energy efficiency and diminished use of raw materials, removing from the market products which are less energy efficient or more polluting" (180). This statement could be used to support approaches such as the EU design directives, which led the phasing out of old light bulbs.
- "improving transport systems" (ibid.). [...]
- "encouraging the construction and repair of buildings aimed at reducing their energy consumption and levels of pollution" (ibid.)
- Local political action "aimed at reducing their energy consumption" (ibid.)
- "developing an economy of waste disposal and recycling" (ibid.)
- "protecting certain species" (ibid.).
- "planning a diversified agriculture and the rotation of crops" (ibid.).
- "Agriculture in poorer regions can be improved through investment in rural infrastructures, a better organization of local or national markets, systems of irrigation, and the development of techniques of sustainable agriculture" (ibid.).

However, actions of the state also conceal the possibility of *state failure.* Thus it could easily happen that some economic groups "come forward in the guise of benefactors, wield real power, and consider themselves exempt from certain rules" (197). This could go as far as "tolerating different forms of organized crime, human trafficking, the drug trade and violence" (ibid.).

Despite the criticism of a one-dimensional and unregulated market economy, the Pope does not advocate "state central planning" (195). Like the market, such a concept is – so the Pope – dominated by a one-dimensional "purely static analysis of realities in the service of present needs" (195). Instead of planned economic approaches that stifle "human creativity and its ideals of progress, [...] that energy [should be directed] along new channels" (191).

Neither an unregululated market nor state central planning – the Pope is interested in the interplay of politics and the economy. The state and the market should not keep shifting the blame for poverty and environmental degradation onto each other. "It is to be hoped that they can acknowledge their own mistakes and find forms of interaction directed to the common good" (198).

Digression: financial crisis of 2007/2008 – new financial market crisis as a result of climate change?

The Pope regards the financial crisis of 2007–2008 as a missed "opportunity to develop a new economy, more attentive to ethical principles, and new ways of regulating speculative financial practices and virtual wealth" (189). It could have been used for "rethinking the outdated criteria"(ibid.) and "reviewing and reforming the entire system" (ibid.). Instead of tackling the reform of the system, says the Pope, the focus after the crisis was on "saving banks at any cost, making the public pay the price" (ibid.). The price of doing so "only reaffirms the absolute power of a financial

system, a power which has no future and will only give rise to new crises after a slow, costly and only apparent recovery" (ibid.).

Only a few months after the publication of the encyclical, Mark Carney, Governor of the Bank of England and the chairman of the "Financial Stability Board" made his views clear. In the context of the crisis in the financial markets of the G20 countries, the Financial Stability Council has the task to identify and mitigate the risks for the financial market. Carney enumerates for the players in the financial market and the G20 the fact that climate change has the potential to endanger the stability of the financial market. He presents the G20 governments that commissioned him to carry out the analysis with concrete recommendations for action[84].

In order to counter the climate-related risks to the financial market, Mark Carney proposed three consecutive concrete solutions: (1) the publication of climate-relevant information, (2) the introduction of the CO^2 price corridors, and (3) the implementation of climate "stress tests".

1. The establishment of a "Climate Disclosure Task Force" to improve the **disclosure obligations for companies** and so the transparency of the emission data required for risk assessment. Companies should therefore calculate and disclose both their current emissions, and also – and this addition is very innovative – set out their strategy for transition to a low carbon economy. According to Carney, the assessment of these strategies should be included in the company rating. The published data therefore needs to be **consistent, comparable, reliable** and **clear**. According to Carney, the G20 countries and the Financial Stability Board should be responsible for coordinating the development of common standards. He considers that the G20 countries are an appropriate starting point for such an initiative because they are responsible for more than two thirds of global emissions and thus have huge potential to drive forward change.
2. Carney also proposes that governments in the G20 countries should **provide stimuli for fixing CO_2 prices.** Variable but increasing lower and upper limits could specify a **price corridor** used for compliance with the two-degree limit. Countries could decide whether the CO_2 price should be implemented on the basis of a cap and trade system, taxation, levy or regulatory measures. This approach combines flexibility in the price-fixing with the need for a reliable – but more flexible – policy framework.
3. Carney finally asks for climate change **stress tests for the big companies**. Stress tests make it possible to simulate the impact of a decarbonisation policy and increasing CO_2 prices on key financial figures or assets. According to Carney, climate change risks could act as curbs on company profit. Stress tests could therefore be the best means of mapping the extent of the potential loss of profit. This instrument, which is used and perfected by the insurance industry in particular, could make future risks visible already today.

There is now a concrete proposal for the way that the G20 could regulate the financial market in order to mitigate climate risks. It will be interesting to see whether the pessimism of the encyclical is justified and governments – especially G20 countries – also fail to use this opportunity.

[84] Mark Carney: Breaking the tragedy of the horizon – climate change and financial stability, speech on 29. September 2015, www.bankofengland.co.uk/publications/Pages/speeches/2015/844.aspx

2.1.3 Acceptance of human dignity and human rights

The Catholic Church formally recognised human rights for the first time in the early 1960s in the *Pacem in Terris* encyclical (see Section 1.2). This was about 100 years after Pope Pius IX, in his *Quanta Cura* encyclical, dismissed as "erroneous opinion" the theory that "the liberty of conscience and worship is each man's personal right" . By contrast, in *Pacem in Terris* Pope John XXIII emphasised respect for human rights as a necessary consequence of the Christian image of mankind. He noted that "every man has the right to life, to bodily integrity, and to the means which are suitable for the proper development of life". He also explicitly endorsed the 1948 *Universal Declaration of Human Rights* and supported it. By doing so, he incorporated the concept of inalienable human rights and fundamental freedoms into Catholic social doctrine.

Pope Francis expressly locates the encyclical *Laudato Si'* within the tradition of the *Pacem in Terris* encyclical (see Section 1.2). At the same time, he stresses that human rights should not be interpreted in a biased way. He stresses in accordance with the social teaching of the Catholic Church, the need for a development model, which, in addition to individual human rights, also includes "social, economic and political human rights, including the rights of nations and of peoples' (93).

Pope Francis stresses that, in the light of the crisis symptoms which he describes, *social human rights*[85] in particular have now become more important. Borrowing from liberation theology, he derives a clear *option for the poor*: "In the present condition of global society, where injustices abound and growing numbers of people are deprived of basic human rights and considered expendable, the principle of the common good immediately becomes, logically and inevitably, a summons to solidarity and a preferential option for the poorest of our brothers and sisters" (158).

The Pope provides specific references for the need to implement *social human rights*:

- He criticises – with reference to the basic, fundamental and universal human right to water – the tendency to privatise water in some places (see above). This is because "*access to safe drinkable water is a basic and universal human right, since it is essential to human survival and, as such, is a condition for the exercise of other human rights.*" (30). He refers to "a grave social debt towards the poor who lack access to drinking water" (ibid.), because this means "*they are denied the right to a life consistent with their inalienable dignity*" (ibid.).
- He stresses that each *campesino* (peasant) has a natural right to *land*, *a home* and a *livelihood*. "This right must be guaranteed so that its exercise is not illusory but real. That means that apart from the ownership of property, rural people must have access to means of technical education, credit, insurance, and markets"(94), he quotes the Episcopal Conference of Paraguay.
- Just how serious he is about social human rights is evident when the Pope quotes the Bishops of New Zealand. He joins them in asking what the commandment "thou shalt not kill" means if "twenty percent of the world's population consumes resources at a rate that robs the poor nations and future generations of what they need to survive" (95).

[85] After the adoption of the *Universal Declaration of Human Rights in 1948*, two international, legally-binding human rights conventions were concluded by the United Nations in 1966. One is the "civil pact' (International Covenant on Civil and Political Rights) and the other is the "social pact" (International Covenant on Economic, Social and Cultural Rights). Both agreements came into force ten years later in 1976, after a sufficient number of ratifications by states.

Blind spot: Gender issues

There are numerous examples of how, in arduous battles between religions, the recognition of human rights has to be claimed in the face of massive resistance, the Catholic Church being an important example of this. This is an ongoing process.

The Catholic Church itself still provides a prime example of *bigotry that violates human rights,* for example, in relation to the equality of women and homosexuals. The encyclical is in many ways acutely sensitive to the dignity of the human person and the threats to it, as well as to the exclusion of people and the violation of fundamental human rights (see for instance.158). At the same time, it suppresses the connection between male dominance in society as well as Church and the *technocratic* paradigm and despotic anthropocentrism, which the Pope so vehemently criticizes. The structural disadvantage of women is also a consequence of the technocratic paradigm.

In relation to gender issues and issues of homosexuality, the encyclical does not break through the traditional defence lines of the Catholic Church. In the encyclical (see 155), the Pope specifically cites part of the most problematic sentence of his April 2015 audience: "I ask myself, if the so-called gender theory is not, at the same time, an expression of frustration and resignation, which seeks to cancel out sexual difference because it no longer knows how to confront it."[86]

Elsewhere, the encyclical actually has created the potential to shake off this bigotry. For example, when it states that: "New processes taking shape cannot always fit into frameworks imported from outside" (144). This would actually pull the ground out from traditional under the natural law reasoning. But the Pope does not draw the logical conclusion. While "modern social philosophy has almost completely abandoned the idea of an invariable human 'nature' or 'essence'"[87], Pope Francis does regarding those questions not move away from the footsteps of his predecessors. He cites the human ecological approach of Benedikt XVI., according to which, "man too has a nature that he must respect and that he cannot manipulate at will" (155). But isn't the position of the catholic church an attempt to manipulate the nature of people who feel e.g. as homosexual?

Elsewhere, the encyclical repeatedly emphasises that God found each part of creation to be good. Why should this not apply to homosexuals? And why should a person only "recognize myself in an encounter with *someone who is different*[88], a man with woman and a woman with a man" (155)? But until further progress, such changes will have to be accomplished by means of a referendum[89], as in Ireland, or by the US Supreme Court, as in the United States[90], not least in the face of opposition from the Catholic Church.

At a summit of the African Union (AU) in late January 2012, UN Secretary General Ban Ki-moon strongly criticised the fact that homosexuals as treated as second-class citizens or even criminals. "Fighting this discrimination is a challenge," says Ban Ki-moon, "but we must fulfil the ideals of the Declaration of Human Rights. "[91]

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[86] Pope Francis, General Audience (15 April 2015): L'Osservatore Romano (German edition), Year 45, No.17 (24 April 2015), p. 2.
[87] Rosa, Harmut: Beschleunigung und Entfremdung, Berlin, 2013, p. 97.
[88] Emphasis by Christoph Bals.
[89] See Finke, Björn: Wie das katholische Irland sich revolutioniert, SZ, 23/5/2015, www.sueddeutsche.de/politik/volksabstimmung-zur-homo-ehe-wie-das-katholische-irland-sich-revolutioniert-1.2492164
[90] Spiegel Online: Gender equality: Oberstes US-Gericht kippt Bundesgesetz gegen Homo-Ehe, 26/6/2013, www.spiegel.de/politik/ausland/oberstes-us-gericht-kippt-bundesgesetz-gegen-homo-ehe-a-908007.html
[91] German Federal Agency for Political Education: Homosexualität und Menschenrechte: Das Beispiel Uganda, 12/9/2012, www.bpb.de/gesellschaft/kultur/filmbildung/143592/homosexualitaet-und-menschenrechte

The attitude of the Catholic Church is so far part of this challenge. Is the Pope not putting pressure on himself to overcome this challenge when he proclaims: "I appeal to everyone throughout the world not to forget this dignity which is ours" (205). Does this not apply to homosexual or transsexual people?

2.2 Is this a monopolizing dialogue or a discourse between equals?

One can only speak of a dialogue when a text is structured in such a way that the persons reading it really feel they are being invited to participate. And the Pope has ambitious plans. "Pope Francis is risking everything with this encyclical. He invites the whole human family to a discussion about preserving the planet and couples it with his option for the poor"[92], says the philosopher and theologian Hermann Häring. The encyclical does not begin with theological declarations of principle, but "'from below', i.e. with a perception of reality [...] and [compels] Christian thought into current thinking that encourages communication"[93]. The "New Mathilda" blog analyses: "[…] the Pope uses concepts of 'ecology' and 'interconnectedness with nature' to provide a rationally acceptable platform with which to dialogue with the non-religious of the world (and in particular, the largely atheistic modern environmentalist movement)"[94]. Unlike many of its predecessors, this encyclical is not therefore arguing from an idea, but from the issue. The Pope also speaks unpretentiously, "not with the force of higher authority, but as a committed interlocutor"[95]: "Now, faced as we are with global environmental deterioration, I wish to address every person living on this planet [...] In this encyclical, I would like to enter into dialogue with all people about our common home" (3). He wants to "outline the major paths of dialogue which can help us escape the spiral of self-destruction which currently engulfs us" (163).

This raises the question of whether the encyclical can form the basis for a serious dialogue on equal terms between believers, those of a different faith, agnostics and atheists. According to Habermas, basis for such a discussion has to be that "one side is ready to account for the the own political statements and actions towards the other"[96] and in which "the participants mutually concede beliefs, practices and forms of life to the counterpart that they themselves reject"[97]. Scepticism is called for in the case of the corresponding debates in Germany when Cardinal Marx, chairman of the German Bishops Conference, presents the encyclical as if it "could provide guidelines for all people of good will"[98] . But the encyclical itself does not reek of this paternalistic spirit of guidelines; the Pope stresses the "need for forthright and honest debate" (16) with all the inhabitants of the common home. Each actor should learn from those debates, open to the silent power of the better argument.

"We need a conversation which includes everyone, since the environmental challenge we are undergoing, and its human roots, concern and affect us all" (14). *Dialogue* is a key concept in the encyclical – it appears 23 times. In every single heading in Section 5, where he discusses the need for orientation and action. His call for dialogue has different dimensions: the situation within the

[92] Häring, Herrman, 22/6/2015.
[93] ibid.
[94] New Mathilda: For The Love Of God: Ditch The Sound Bites And Read Laudato Si, 19/6/2015, https://newmatilda.com/2015/06/19/love-god-ditch-sound-bites-and-read-laudato-si/
[95] Häring, Herrman, 22/6/2015.
[96] Habermas, Jürgen, 2012, p. 318; for a similar take on the public use of reason, see also J. Rawls: Politischer Liberalismus, Frankfurt a. M., 1998, pp. 312–366.
[97] Habermas, Jürgen, 2012, p. 318.
[98] Marx, Reinhard, 18/6/ 2015.

Church, especially between churches in rich and poor regions; the ecumenical and inter-religious discourse; the discourse with decision makers in politics and economy; and the dialogue with all people.

In this multi-dimensional dialogue, the Pope defines two of the positions which he regards as extreme. The first is taken by those that "doggedly uphold the myth of progress and tell us that ecological problems will solve themselves simply with the application of new technology and without any need for ethical considerations or deep change" (60). The other is the opinion that "men and women and all their interventions are no more than a threat, jeopardizing the global ecosystem, and consequently the presence of human beings on the planet should be reduced and all forms of intervention prohibited" (ibid.). He suggests thinking up different scenarios between these two extremes, as there is "no one path to a solution" (ibid.). Based on those scenarios, there should be a dialogue in order to find the best possible "comprehensive solutions" (ibid.).

The Pope feels it is important that the problems of excluded people, "they are the majority of the planet's population, billions of people" (49), should not just be raised in nice words, "one often has the impression that their problems are brought up as an afterthought, a question which gets added almost out of duty or in a tangential way, if not treated merely as collateral damage" (ibid.). The Pope sees one reason for this tendency as the fact that "many professionals, opinion makers, communications media and centres of power, being located in the affluent urban areas, are far removed from the poor, with little direct contact with their problems. They live and reason from the comfortable position of a high level of development and a quality of life well beyond the reach of the majority of the world's population" (ibid.).

He contrasts this with the concept of "fraternity" or "siblinghood" that does not exclude anyone or anything – neither mankind nor the environment (see 92). This is also the basis for Pope Francis' passionate call for "Peace, justice and the preservation of creation are three absolutely interconnected themes, which cannot be separated and treated individually without once again falling into reductionism" (ibid.).

The good news is that the Pope is calling for such a dialogue. However, it is regrettable that he cites here the Conference of the Dominican Bishops[99] but does not discuss in greater detail the "conciliar process for Justice, Peace and the Integrity of Creation, initiated and carried out very successfully by the World Council of Churches in 1983."[100]

In Germany today, other actors, such as the climate alliance – a broad alliance with over 100 civil society organizations – would actively engage alongside church organisations if a new process for peace, justice and the integrity of creation were initiated. This also provides an opportunity for dialogue with other Christian churches and different religions.

2.2.1 Non-monopolizing dialogue with other religions

In the face of the global crisis, Pope Francis sets out two key objectives for the dialogue, "the protection of nature" and "the defence of the poor". The economist Nicholas Stern has expressed this as follows: "If we fail on one, we fail on the other"[101]. What is interesting about the invitation to dialogue extended to other religions, churches and Christian communities is its non-missionary

[99] Conference of the Dominican Bishops: Carta pastoral sobre la relación del hombre con la naturaleza (21 January 1987).
[100] Häring, Herrman, 22/6/2015, www.aktionsgemeinschaft-rottenburg.de/laudato-si_Komm_hhaer.pdf
[101] Stern, N.: The Global Deal: Climate Change and the Creation of a New Era of Progress and Prosperity (PublicAffairs, 2009).

and non-monopolizing tone. He acknowledges their "deep concern and [...] valuable reflections on issues which all of us find disturbing" (7). It is a question of "building networks of respect and fraternity" (201). He hopes that there will be a dialogue between religions: "The majority of people living on our planet profess to be believers. This should spur religions to dialogue among themselves" (201). Just as he declines to refer *exclusively* to science, he also tries not to present the theological statements of the catholic encyclical as *the only* religious and cultural answer to the global crisis. "Given the complexity of the ecological crisis and its multiple causes, we need to realize that the solutions will not emerge from just one way of interpreting and transforming reality. Respect must also be shown for the various cultural riches of different peoples, their art and poetry, their interior life and spirituality" (63). For that reason, the Pope hopes that, in order to achieve this diversity, religions will join forces to counter the "consumerist vision of human beings" (144). Because this tends to have a "levelling effect on cultures, diminishing the immense variety which is the heritage of all humanity" (ibid.). It is necessary "to respect the rights of peoples and cultures, and to appreciate that the development of a social group presupposes an historical process which takes place within a cultural context and demands the constant and active involvement of local people from within their proper culture" (ibid.). This approach could actually open up exciting prospects for interreligious dialogue.

2.2.2 The internal and the external – Two perspectives ingrained since the Axial Age to keep the world at a distance

One important shift in perspective undertaken by Pope Francis increases the encyclical's potential to not just trigger inter-religious discourses about the global crisis in the short term, but also lend a new intensity to the inter-religious exchange. The relevance of the shift in perspective is evident when one compares the different religions and systems of thought that were established during the so-called Axial Age. The philosopher Karl Jaspers introduced this globally discussed concept of an Axial Age[102]. It refers to the period from approximately 800 to 200 BC. During that time, the societies of four – largely – independent cultural areas (China, India, the East, and the West) simultaneously made significant philosophical, religious and technical progress. Jaspers is referring in particular to Buddhism and Jainism in India, Daoism and Confucianism in China, Talmudic Judaism, Zoroastrianism in the Ancient Orient and philosophy in Ancient Greece.

In this context it is relevant that during the Axial Age these different religions and world views were established and that all of them made it possible for human beings to find a *point outside or inside the world* to put distance between their perspective and the world where they live. The consequence is very relevant: "From a *transcendental point of reference on this side* or *the other side* of inner-worldly events, one can view interpersonal relations in their entirety and judge them based on universal imperatives."[103] The religions and ways of thinking from the Axial Age are therefore differentiated in terms of *where* they construct this viewpoint outside of the world. In the monotheistic religions it was (predominantly) a god *outside/above* the world, and in the Eastern religions (as well as the mystical traditions of other religions), this transzendental point was *located within the human being*.

Considered in the abstract, there are two opposing perspectives for putting distance between oneself and the world. On the one hand, the *view from without*, which tends to dissect and analyse

[102] Jaspers, Karl: Vom Ursprung und Ziel der Geschichte, 1949.
[103] Habermas, Jürgen, 2012, 109; emphasis by Christoph Bals.

everything that comes into view right down to the smallest detail in order to make it manageable (which then encourages a tendency to consider it as a resource). Classic science as well as ethics (in terms of a conception of justice between all people) originate from this perspective. The alternative was the *view from within*, which initially manifested itself in the Eastern religions and mystical traditions of the monotheistic religions. It acts like a node in the wider context, which connects everything with everything. From this inner point of abstraction, the connection with everything that surrounds us becomes the focal point.

An example: what is a tree when viewed from the one and the other perspective?

The perspective *from without* describes the crown and trunk from which the leaves, blossom and fruit hang. These can then all be dissected into smaller and smaller units (cells, cell parts, molecules, etc.) for examining them in greater detail. The *perspective from within*, however, sees the tree as a "node", a shaft, enmeshed in, for example, the global carbon, nitrogen and water cycle, in a constant interplay with many animal and plant species that can ultimately only survive together as an ecosystem.

Whereas Christianity and Judaism have thus far tended to set the parameters for rationalisations in accordance with the view from without; the Buddhist starting point for rationalization tended to be linked to the other perspective from within.

It is exciting to see that the dual perspective – the internal and the external view – which have been "in fruitful interplay" throughout western history[104], is also reappearing in modern physics. This was a surprising realisation, after initially "rationalism and later the Enlightenment had widened [...the] rift and had declared bivalent logic to be the only true world view, i.e. [...] the only one that adequately reflected the structure of reality. The external view is the basis of triumphant science"[105], of Newtonian physics. It contrasts with the inner perspective of quantum theory. "[M]odern physics [...] has taught us that the structure of reality is essentially very different from the bivalent structure suggested to us by the world we see around us and that is immediately accessible to us, the structure we have acquired through our actions and our knowledge. The bivalent external view that we consider to be generally valid, has only limited validity. It is only an oversimplified image of a deeper reality"[106]. We now know that the perspective of quantum theory is the more fundamental perspective and the Newtonian perspective is a gross oversimplification that is only proven in the case of non-complex macroscopic systems.

The external view and the internal view point are also in opposition within the different religions. In the Catholic as well as the majority of the Christian churches, the "perspective from within", particularly in the form of mysticism and contemplation, has traditionally played only a secondary role, and one that is often viewed with suspicion. In this encyclical, the Pope clearly shifts the focus from the *perspective from without* to the *perspective from within*: "As believers, we do not look at the world from without but from within, conscious of the bonds with which the Father has linked us to all beings" (220). The Pope acknowledges that "Christians have not always appropriated and developed the spiritual treasures bestowed by God upon the Church, where the life of the spirit is not dissociated from the body or from nature or from worldly realities, but lived in and with them, in communion with all that surrounds us" (216). According to the Pope, it would not be possible to commit to great things without a "spirituality capable of inspiring us" (ibid.). Or as he formulates it for agnostics and atheists, without the "interior impulse which encourages, motivates, nourishes and gives meaning to our individual and communal activity" (ibid.).

[104] Dürr, Hans-Peter: Warum es ums Ganze geht, München, 2009, p. 161f.
[105] ibid. 162.
[106] 1997, p. 162.

The Pope is aware of the ecumenical potential of this shift in perspective – towards the mystical traditions in the monotheistic religions as well as in Eastern religions such as Buddhism and Hinduism. The Catholic Pope also begins to use this ecumenical potential when he relates it to the conviction of the Orthodox Patriarch Bartholomew that "the divine and the human meet in the slightest detail in the seamless garment of God's creation, in the last speck of dust of our planet"[107] and invites the Patriarch to the presentation of the encyclical.

Pope Francis also takes bold steps in the direction other religions, in particular the mystical tradition of Islam. He published his encyclical "not only on 18 June 2015, the first day of the Islamic Ramadan, but also cited the *Islamic Sufi Ali Al-Khawwas* (d. 945 after the Hijrah, i.e. 1538 AD), even calling him a "*spiritual teacher*"[108]. Al-Khawwas emphasized, "not [putting] too much distance between the creatures of the world and the interior experience of God" (233, footnote 159). It is the first time an encyclical has referred to a Muslim author.

This encyclical offers the potential for exciting inter-religious dialogue.

[107] Patriarch Bartholomew: Address to the Halki Summit I, Global Responsibility and Ecological Sustainability: Closing Remarks, Istanbul (20 June 2012).

[108] Blume, Michael: Franziskus und Ali Al-Khawwas – Der Papst rühmt einen islamischen Sufi in seiner Enzyklika Laudato Si'; www.scilogs.de/natur-des-glaubens/franziskus-ali-al-khawwas-der/

3 Can the encyclical provide *meaningful impulses and inspiring images* for a pluralistic global society?

It may be the case that, even today, religions – in this case an encyclical – can provide a new stimulus for a pluralist society that has not hitherto been (fully) translated into rationally comprehensible language by the philosophical and social science debates?

Habermas, probably the most important post-war German philosopher, who identified himself as an agnostic and said he was "tone deaf to religion", points out that "in late antiquity [...] the long process of translation started which inserted essential religious content into philosophical language"[109]. He cites the example of concepts such as the *person* and *individuality*, *freedom* and *justice*, *solidarity* and *community*, *emancipation*, *history*, *crisis*, and so on. All these concepts were translated out of religious context, which was inaccessible to secular-thinking actors in a pluralistic society or those belonging to other religions, so that they could be appropriated for a discourse in which only rational arguments count.

3.1 Example of the likeness of God

Habermas has worked out the important role played by biblical image that human beings are the image of God in asserting human dignity and human rights[110]: "The Bible says that every human being is the image and likeness of God. Translated into secular terms and therefore made plausible for all, we could say: Humans as image and likeness of God means the equality and dignity of human beings that demands absolute respect. No human being should be abused for the ends of others."

It is interesting to see how the concept of the image and likeness of God has expanded its horizon of meaning in concentric circles over the course of time. Gregory of Nyssa, the early Christian church father, used this image in his appeal to slave traders to abolish slavery. In 1299, the French King Philip the Fair granted freedom to all his serfs on the crown estates because "every human creature, which is formed according to the image of Our Lord, must be free by virtue of natural law"[111]. And John Locke, so important for the modern history of freedom, derived the *equality of human beings*, including the equality of the sexes, from the image and likeness of God in the story of Creation.[112]

This "translation of a religious message into secular language means that religion continues to be important for humanity as a whole. Religion outgrows the small community of the devout", comments Habermas. This translation, and the subsequent worldwide, pluralistically structured debate about human dignity, has increased the effectiveness and importance, both of the concept and for asserting human rights before governments and now also companies. Interestingly, hu-

[109] Habermas, Jürgen, 2012, p. 102.

[110] See Bals, Christoph: Anfragen an das Ebenbild Gottes in der Umweltkrise. Sermon during the Reformation Service, St Thomas Kirche, Berlin, 31/10/2014.

[111] Keppel, Botho: Weltgeschichte der Sklaverei, in: Weltwoche, 28/10/2014, www.weltwoche.ch/ausgaben/2010-08/artikel-2010-08-weltgeschichte-der-sklaverei.html

[112] In the following, we are going to examine the major shift in emphasis that is now being undertaken by Pope Francis when he refers not only to humans but also the Earth as the image of God – thereby replacing the dominion mandate with the universal fraternity with all creatures.

man rights have also maintained their effectiveness against the bigotry of religious communities (including the Catholic Church, see above), partly back translated here as the “image and likeness of God”.

It is interesting how, *philosophical* and *religious* impulses have interacted to establish the effective concept of human dignity. Many interpreters see the direct predecessors of this concept as Greek philosophy, especially the Stoics, and Roman humanism, for example, Cicero. While this philosophical foundation was important, equally important is its difference to the current understanding of human dignity. It is not the *egalitarian* sense of human rights – all people are equal – that is in the foreground here. Rather, the dignity of the human person is derived from the special rank of humanity vis a vis "lower" creatures because of species characteristics such as the capacity for reason and reflection. The philosopher and sociologist Jürgen Habermas comments: “The superior value of the species might justify some kind of species protection but not the inviolability of the dignity of the individual person as a source of normative claims.”[113]

In other words: Article 1 of the German Constitution, “The dignity of man is inviolable”, can only be derived if the follwing two steps are added. Firstly, it is not *only* about the value of humanity, but the value of *each individual human being*. Secondly, here is not a relatively higher value in relation to other species being highlighted, but simply a “unique worth of each person”[114]. In the late scholastic debate about the image and likeness of human beings, these aspects move to the centre of the discussion, – with a religios reasoning – according to which: “everyone must face the Last Judgement as an irreplaceable and unique person”[115].

3.2 Further impulses from religion?

So there is a case to be made for examining the encyclical to see whether its interpretation of the “Gospel of creation” (Heading of Section 2 of the encyclical) – which, like the stories of other religions, deals with suffering and hope, crises and their management – contains any impulses that have relevance outside of the circle of the faithful. It is interesting to see that the Pope himself indicates that these stories are written in a “symbolic and narrative language” (66). We are therefore not engaged in a fact-oriented language game here, instead the focus is on language game of orientation and motivation.

Such impulses by religion to a pluralistic society may exist, but there is no guarantee that they are there. Habermas sees it as an open question “whether this process of appropriating semantic potential from a discourse that is essentially inaccessible *has been exhausted* or whether it can continue”[116]. However, Habermas sees signs that such impulses are still possible even today. “The definition of terms by religious writers and authors, such as the young Bloch or Benjamin, Levinas and Derrida, is an argument for the ongoing productive nature of this kind of philosophical endeavour.”[117]In the encyclical, which is consistently double coded – for believers and secular-minded people – the Pope himself is involved in this translation of religious images and language games. Does this reveal a semantic potential for a pluralistic society that makes it easier to focus on how to deal with present and future crises?

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[113] Habermas, Jürgen (translated by Ciaran Cronin): The Concept of Human Dignity and the Realistic Utopia of Human Rights, in: Jürgen Habermas: The Crisis of the European Union – A response, Polity, Cambridge, 2012, p. 71–100 , (First published in German as "Zur Verfassung Europas. Ein Essay", Edition Suhrkamp, Berlin, 2011)

[114] ibid.

[115] ibid.

[116] Habermas, Jürgen, 2012, p. 102.

[117] ibid.

The Pope, in any case, is convinced that this potential exists. That is also the reason why the encyclical, which is "addressed to all people of good will, include[s] a chapter dealing with the convictions of believers" (62): "I am well aware that in the areas of politics and philosophy there are those who firmly reject the idea of a Creator, or consider it irrelevant, and consequently dismiss as irrational the rich contribution which religions can make towards an integral ecology and the full development of humanity. Others view religions simply as a subculture to be tolerated" (ibid.). However, he points out that science and religion "with their distinctive approaches to understanding reality, can enter into an intense dialogue fruitful for both (ibid.)".

3.3 Translation proviso

Even if one joins Habermas in assuming that the religious neutrality of the state "is no reason to oppose the admittance of religious statements to political public spheres"[118], the proviso that Habermas makes at the same time is also important: these impulses should only be introduced into the institutionalised advisory and decision-making processes"[119] in a language that can be understood by all. The unacceptable introduction of religious coded *statements into these formal decision-making processes* should "remain clearly separate from the informal participation of citizens in public communication and opinion formation."[120]

The consistent *double coding* in the encyclical shows that also the Pope is aware that, if such impulses are put forward, they cannot be incorporated *untranslated* into the legislative, executive and judiciary actions of the state. In the domain of the state or of the United Nations, which regulate legitimate legislative and – to a varying degree – enforcement measures, "all legally *enforceable* standards must be able to be publicly formulated and justified in a language that all citizens can understand."[121] [122]

The question of who is ultimately responsible for this translation will not be discussed in greater detail here. The Pope seems to take on this task himself as a religious actor in a pluralistic society. He therefore follows the argument put forward by Rawls, who feels that individual religious citizens have a duty to perform this translation. Habermas also insists on a "translation proviso" but – more generously – on one "that is not self-imposed on every individual religious citizen, but that should, if necessary and if possible, be tackled collaboratively."[123] The following sections are an attempt at this kind of collaborative translation.

[118] Habermas, 2012, p. 326.
[119] ibid.
[120] ibid.
[121] Habermas, 2012, p. 155.
[122] It is interesting to see the compromise that resulted from the attempt to channel a religious concept into the text of the Treaty of Paris: "Noting the importance of ensuring the integrity of all ecosystems, including oceans, and the protection of biodiversity, recognized by some cultures as *Mother Earth*, and noting the importance for some of the concept of "climate justice", when taking action to address climate change […]" (Preamble Paris Agreement; http://unfccc.int/files/meetings/paris_nov_2015/application/pdf/paris_agreement_english_.pdf). The term "Mother Earth", which has religious connotations, is translated here into a secular language that everyone understands.
[123] ibid.

3.4 A pluralistic society that is ready to learn?

In a pluralistic society, one can only invite people to engage in serious dialogue. But why should anyone respond with interest and curiosity to an invitation to dialogue from the Pope? In recent decades, few initiatives from the Catholic Church have been considered relevant to the wider society. Religion was – and still is – viewed by many in Germany as an outmoded spiritual framework. Why should we expect any impetus from it? Religion is often seen at best something to be tolerated, but not learned from. If a pluralistic society wishes to seriously examine religious statements for potential inspiration, this not only presupposes interesting suggestions for dialogue from religions, but – according to Habermas – means from the partners "a change in attitude towards a relationship of dialogue and a willingness to learn vis a vis *all* religious traditions". And in this context, a new role also emerges for philosophy, which is "a reflection on the role of post-metaphysical thinking *between* the sciences and religion"[124].

The proof of the *long-term* significance of the encyclical for global society will be whether the *integral ecology* which it justifies or the paradigm shift towards *universal fraternity* that it initiates, can really provide an impetus to open up new horizons in the pluralistic global debate on the environment and justice.

[124] Habermas, Jürgen, 2012, p. 102.

4 One picture held us captive: the paradigm shift from rulers of the environment to partaking[125] in universal fraternity in the common home

4.1 Freedom from outdated paradigms

One sits up and takes notice when Edgar Morin, the French sociologist and Emeritus Director of Research at the Centre national de la recherche scientifique, who calls himself an atheist, speaks of a "providential" document. Providential not in the spirit of divine providence, but because of its outstanding character "in an era of the wasteland of philosophy"[126]. Or when scientists Hermann Ott and Wolfgang Sachs at the Wuppertal Institute say: "The potentially enormous ramifications of the encyclical are primarily in the area of the philosophical and political foundation of climate and environmental policy"[127].

In fact, in view of the crisis, the Pope does not primarily want to invoke quick fix activism. The encyclical is also aiming for a fundamental *paradigm shift*. The Pope stresses: "A strategy for real change calls for rethinking processes in their entirety, for it is not enough to include a few superficial ecological considerations while failing to question the logic which underlies present-day culture" (197). In view of the current crisis, can we get stimuli from a centuries-old tradition of crisis management, are there so far hidden arguments and images that challenge the current culture and which are worth examining in an unbiased and critical manner?

Stéphane Hessel painfully reminds us that even the authors of the *Universal Declaration of Human Rights*, people formed in the West, were unconsciously trapped by the image of humanity as rulers of the world: "While we were working on the Universal Declaration of Human Rights, we were unaware that we are collectively responsible for the Being, and not only for how the human societies behave towards each other. The Judaeo-Christian tradition sees the human beings created by God as the Lord of Creation and not as a humble part of it. The leads to one-sided overestimation and perhaps we were also not free of this at the time."[128]

"Subdue the earth" (Genesis 1:28) – in the modern era, this statement from the biblical creation myth was intepreted as God's legitimizateion for humans to be absolute rulers of nature – and it was one of the important foundations for the legitimacy of a comprehensive instrumental dominance over nature.[129] In Discours de la méthode, published in 1637, Descartes wrote that people are the *sovereigns and owners* of nature (*"maîtres et possesseurs de la nature"*[130]). Francis Bacon expressed similar sentiments. One need only observe the reaction of the religious right to the en-

[125] "Partaking instead of dominion" is also the vision for the future of quantum physicist and Alternative Nobel Prize laureate, Hans Peter Dürr, who died a few months ago. Dürr, Hans-Peter: Warum es ums Ganze geht, Munich, 2009, p. 9.

[126] Morin, Edgar: L'encyclique Laudato Si' est peut-être l'acte 1 d'un appel pour une nouvelle civilisation; la croix, 12/6/2015, www.la-croix.com/Religion/Actualite/Edgar-Morin-L-encyclique-Laudato-Si-est-peut-etre-l-acte-1-d-un-appel-pour-une-nouvelle-civilisation-2015-06-21-1326175

[127] Ott, H. E., Sachs, W., 2015: p. 125.

[128] Habermas, Jürgen, 2012, p. 25.

[129] The relationship between these foundations of legitimacy and the ecological crisis was – even if also rather one-sidedly on account of its monocausality – held responsible for the ecological crisis, for example, by the historian of technology Lynn White (White jr., Lynn: The historical Roots of our ecological Crisis, 1967).

[130] Descartes, René: Œuvres, Vol. VI: Discours de la méthode et Essais, herausgegeben von Charles Adam und Paul Tannery. Léopold Cerf, Paris 1902, S. 62.

cyclical – particularly in the USA – to see that this interpretation still lies at the heart of the ideological equipment of many people who ignore the situation of the planet and the poor of the earth.

"One thinks that one is tracing the outline of the thing's nature over and over again, and one is merely tracing round the frame through which we look at it. A picture held us captive. And we could not get outside it, for it lay in our language and language seemed to repeat it to us inexorably"[131] Wittgenstein once wrote. Many observers see it as "revolutionary"[132] that the highest representative of the Catholic Church wishes to free humanity from an image which apparently describes human beings and nature, but is in fact only tracing round a frame, which turns people and society into objects and exploits them; how radically the Pope breaks with the "centuries-old, mortal"[133] interpretation of the biblical dominion mandate that comprehends human beings as the crown of creation, called to rule over their environment; how Pope Francis breaks with a tradition in the Christian churches, which, so the Pope, is based on a "mistaken understanding of our own principles" (200).

According to the Pope, "[t]he basic problem" (106) with the issues of the day is the technocratic or technical and economic paradigm that allocates a central position to human beings as rulers and owners. Herein he sees the basis of this "undifferentiated and one-dimensional paradigm" (ibid.). The subject "[uses] logical and rational procedures, progressively approaches and gains control over an external object" (106). It therefore appears "as if the subject were to find itself in the presence of something formless, completely open to manipulation" (106).

The Pope argues that: "We are faced not with two separate crises, one environmental and the other social, but rather with one complex crisis which is both social and environmental." (139). He sees the cause of the twofold socio-ecological crisis as the "technocratic paradigm", in the rational-instrumental understanding of the world and the capitalist-instrumentalist dominance over nature, whereby other people and the environment become disposable objects and everything is ultimately monetised.

He fears that a person characterised by this paradigm

- will prioritise its own interests, created by circumstances – and "the rise of a relativism which sees everything as irrelevant unless it serves one's own immediate interests" (122).
- will focus on "[laying] our hands on things, attempting to extract everything possible from them" (106),
- will only regard humanity and the environment as objects and assessing them in terms of their value – "while frequently ignoring or forgetting the reality in front of us" (106).
- by abstraction of reality easily accepts "the idea of infinite or unlimited growth, which proves so attractive to economists, financiers and experts in technology" (ibid.). Because in this context, ignoring and forgetting the reality dodges the "lie that there is an infinite supply of the earth's goods, and this leads to the planet being squeezed dry beyond every limit." (ibid.).
- as consumer, will mirror the economic system's pressure for growth in the form of unchecked will to consume. "Compulsive consumerism is one example of how the techno-economic paradigm affects individuals" (203).

[131] Wittgenstein, Ludwig, 1984: Philosophische Untersuchungen, p. 115.
[132] Hagencord, Rainer: Öko-Enzyklika des Papstes revolutioniert die Haltung zur Natur, Landeszeitung Lüneburg (New edition: Name corrected at the start), 25/6/2015, 18.14h; https://www.ptext.de/nachrichten/landeszeitung-lueneburg-untertan-erde-dr-rainer-hagencord-priester-zoologe-oeko-958455
[133] Ein Gespräch mit Erwin Kräutler: Nicht herrschen, sondern pflegen, Publik Forum, 12, 2015, pp. 32ff.

- will be led to believe that every increase in power means an "increase of 'progress' itself", to advance in "security, usefulness, welfare and vigour"[134] (105), he states, quoting Romano Guardini. This one-dimensional paradigm is missing the other dimension, learning the proper use of this power, and thus "development in human responsibility, values and conscience" (ibid.).

The Pope fears that "new power structures based on the techno-economic paradigm may overwhelm not only our politics but also freedom and justice" (53). It may be "extremely risky" (104) if this power is available "for a small part of humanity" (ibid.) Here he reminds us of two examples: atomic bombs and "the array of technology which Nazism, Communism and other totalitarian regimes have employed to kill millions of people" (104).

In view of the risks and of the systemic agenda of techno-economic power, the Pope highlights *political primacy*. Politics should "not be subject to the economy" (189). In the face of threats to the common good, there is now a much more "urgent need for politics and economics to enter into a frank dialogue in the service of life, especially human life" (ibid.).

However, the economy should not be subject to the "efficiency-driven paradigm" (ibid.) but free itself from the "dictates" of the technocracy. (Many aspects of this have already been examined in previous sections).

The theme of freedom from this picture which held us captive is a central theme that runs through the encyclical from beginning to end. Pope Francis begins his encyclical by addressing this old paradigm: "We have come to see ourselves as her lords and masters [of the earth], entitled to plunder her at will" (2), and he ends it by opposing it with the new paradigm of *universal fraternity*: "In union with all creatures, we journey through this land" (244). Humanity is no longer opposed to nature, but a part of it – even if a very special part.

The encyclical radically completes the paradigm shift away from "tyrannical anthropocentrism" (68).[135] Pope Francis now refers to the ecological *environment*, to animals and plants, even to the wind, sun and clouds, indeed to "all the creatures of the universe", and to "*universal fraternity*" (228). Even in the case of the metaphor of the human being as gardener – the second creation myth of the bible speaks of the command to till and look after [the garden] (see Gen 2,15), the Pope fears this could be used to enable humanity to contrast mankind with nature and turn the co-world into an object. When he refers to tilling and looking after in the encyclical, he immediately adds: "This implies a relationship of mutual responsibility between human beings and nature. (67)"[136]

According to Bishop Erwin Kräutler, who advised the Pope during the preparation of the encyclical, this was a strategic decision by the Pope: "Francis told me that he wanted to avoid a confrontation between the self and nature, because this means nature can all too easily be turned into an object or a thing that is then defined by certain individuals and companies. He is concerned with the inseparableness of nature and humanity, the status of all fellow creatures, *'universal fraternity'* (228) with all of creation. In short: The leitmotif is not environment but co-world."[137] At the end of his long life, Stéphane Hessel reached the conclusion that: "We cannot subdue the earth without destroying ourselves."[138] Similarly, Pope Francis emphasised speaking to Bishop Erwin Kräutler

[134] Guardini, Romano: Das Ende der Neuzeit, Würzburg, [9]1965, p. 87.
[135] Vogt, Markus, 16/6/2015, p. 2.
[136] Emphasis by Christoph Bals; the formulations for the new paradigm are largely, though not entirely consistently, followed through.
[137] Ein Gespräch mit Erwin Kräutler: Nicht herrschen, sondern pflegen, Publik Forum, 12, 2015, pp. 32ff.
[138] Habermas, Jürgen, 2012, p. 26.

that, "his main priority is the question of the survival of humanity and nature. He argues against the destructive and exploitative interests that combine globally into a dynamism of death."[139] The Pope writes in a similar vein: "Once the human being declares independence from reality and behaves with absolute dominion, the very foundations of our life begin to crumble" (117).

4.2 The double-coded rationale

According to Pope Francis, "humanity is one people living in a common home" (164), but so many people are excluded from participation; he stresses that "sublime fraternity with all creation" (221), whose common home is changing to "look more and more like an immense pile of filth" (21). He points out that we have never "hurt and mistreated our common home as we have in the last two hundred years" (53).

When the Pope speaks of a new paradigm, of "universal fraternity", which refers not only to all human beings, especially the poor, but also all fellow creatures, and recalls the hymn of the medieval Francis ("Praise be to you, my Lord, through our Sister, Mother Earth, who sustains and governs us, and who produces various fruit with coloured flowers and herbs" (1), it is hardly surprising that a number of observers dismiss this as being hopelessly naive. The *Frankfurter Allgemeine Zeitung* argues that "pre-industrial times are glorified, as if 'human beings and things' extended 'their hands in friendship' to each other. Going back to those times is a terrible idea."[140] The Pope anticipates this kind of critique and counters that: "Nobody is suggesting a return to the Stone Age, but we do need to slow down and look at reality in a different way, to appropriate the positive and sustainable progress which has been made, but also to recover the values and the great goals swept away by our unrestrained delusions of grandeur" (114). This rebuttal only has substance because the Pope also carefully substantiates it in a double coded manner: in scientific – see Section 4.2.1. – and theological terms – see Section 4.2.2. The differently coded passages alternate continuously in the text. "The sharp transition between the 'religious' and 'secular' linguistic game"[141], which is quite common in Latin American discourse, takes a little getting used to for western ears or eyes. But it is methodologically consistent.

4.2.1 Scientific compatibility of the new paradigm

Despite the accessible language, it is interesting to note with what force the Pope underpins the new paradigm in scientific terms. The statement that "everything in the world is connected" (16) runs "as a central theme"[142] through the encyclical. The Pope attempts to substantiate this *core statement* by a number of the most important *scientific* advances of the last 180 years. The Copenhagen interpretation of quantum theory is undoubtedly essential for understanding at the microscopic level, that everything is connected to everything else. For Heisenberg this was "the most important experimental discovery" in this context. Pope Francis also points out that "not even atoms or subatomic particles can be considered in isolation" (138). The quantum physicist and successor to the chair of Heisenberg, Hans Peter Dürr writes in a similar vein: "If we keep on dismantling matter in the hope of finding the smallest amorphous pure matter, at the end nothing is left that reminds us of matter. At the end there is no substance, only form, shape, symmetry, rela-

[139] Ein Gespräch mit Erwin Kräutler: Nicht herrschen, sondern pflegen, Publik Forum, 12, 2015, pp. 32ff.
[140] Grossbarth, Jan, FAZ, 20/6/2015.
[141] Hengsbach SJ, Friedhelm: Ein Anwalt der ganz Schwachen klagt an, June 2015, www.sankt-georgen.de/nbi/fileadmin/redakteure/Dokumente/2015/kommentar_enzyklika_laudato_si_hengsbach_sj.pdf
[142] Boff, Leonardo, 05/07/2015.

tionship"[143]. The Pope criticizes the enormous constraints of the technocratic paradigm, the tendency towards "fragmentation of knowledge" (110) and a loss of an "appreciation for the whole" (ibid.). This becomes a world in which everything is connected to everything but not equitably. As a result, Dürr writes about the world view according to quantum theory: "The world can no longer be regarded as a complicated interaction of separate parts, but is basically a whole that cannot be taken apart. Everything in the world – material as well as living – is not formed of many separate elements, but through the continuous differentiating of the One. Life therefore begins with commonality and develops within a context."[144]

"Everything is interrelated" (120). In support of this statement, Pope Francis *also* refers to the theory of relativity, according to which space and time vary depending on the speed of the observer. According to this, "time and space are not independent of one another" (138). He also refers to ecosystem research which reveals that, "although we are often not aware of it, we depend on these larger systems for our own existence. We need only recall how ecosystems interact in dispersing carbon dioxide, purifying water, controlling illnesses and epidemics, forming soil, breaking down waste, and in many other ways which we overlook or simply ignore" (140).

The Pope recalls the self-destructive naivety of a way of thinking that only analyses individual parts while losing sight of relationships. "It follows that the fragmentation of knowledge and the isolation of bits of information can actually become a form of ignorance, unless they are integrated into a broader vision of reality" (138). Quantum physicist Hans Peter Dürr states something very similar: "Dissecting it into rationally comprehensible sub-projects does not make the whole rational, instead the irrational remains hidden to the research scientist and technician carrying out detailed research if they do not attempt to distance themselves and examine the whole."[145] And: "What is meaningful about the interaction of the as-if-parts always arises from the whole which includes them."[146]

The encyclical also rethinks the consequences of the theory of evolution. This is substantiated by a general recognition of the relationship with everything as an insight into the *kinship relationship of human beings with their ecological setting*. It took a long time for the Christian churches to accept Darwin's theory of evolution– some have yet to do so – one needs only to look at the fundamentalist criticism of evolution in the USA.

While the problems of fundamentalist Protestantism can be tied to the evolutionary *Origin of Species* under the keyword of creationism, the Catholic Church's reservations focuses usually on the *origin of humans*.

The central message of the *Humani generis* (1950) encyclical issued by Pius XII expresses this reluctance: the teaching authority of the Church does not forbid a discussion of the theory of evolution or a consideration of its pros and cons. However, he limits this by stating that this has no effect on the soul, as that is "created immediately by God". "Almost exactly half a century after 'Humani generis', Pope John Paul II stressed in a communication to the members of the Pontifical Academy of Sciences that recent evidence suggested that the theory of evolution was 'more than a hypothesis'. However, the catechism of the Catholic church still maintains that 'every spiritual soul is created immediately by God'"[147].

[143] Dürr, Hans Peter, 2009, p. 86.
[144] Dürr, Hans Peter, 2009, p. 168.
[145] Dürr, H.-P., 2009, p.60.
[146] Dürr, H.-P., 2009, p.87.
[147] Kreiner, Armin: Warum die Entstehung des Menschen kein wissenschaftliches Rätsel mehr ist, wohl aber immer noch ein theologisches Problem, in: zur debatte, 6/2015, pp. 23-25, esp. p. 23; The criticism by fundamentalist Catholic theologian

Here there is a fear lurking in the background that admitting humans originated from animals would mean "he is also only at best a more developed animal and consequently only deserves to be treated as such."[148]

Laudato Si' goes beyond the *past half-hearted acceptance of the theory of evolution* by the Christian churches, which Friedrich von Weizsäcker criticized: "The theory of evolution may have been accepted by theologians today [...], naturally without, as it seems to me, seriously thinking through the consequences of fraternity with our fellow creatures."[149] He emphasised the common origin of humans and their fellow creatures and the largely identical set of chromosomes. The Pope reiterates these arguments here. We lack "an awareness of our common origin, of our mutual belonging, and of a future to be shared with everyone" (202). And he recalls that "[a] good part of our genetic code is shared by many living beings" (138).

In the encyclical, the environment becomes the co-world (or shared world): The relationship between nature and society prevents us seeing that: "nature cannot be regarded as something separate from ourselves or as a mere setting in which we live. We are part of nature, included in it and thus in constant interaction with it" (139).

On this basis, the *paradigm of the dominion of humans* over nature is replaced by the new *paradigm of "universal fraternity*" (228) with the shared world. Here there is no longer a fear that humans who descend from animals only deserve to be treated like animals. Quite the contrary. Because of this relationship, it is the shared ecological world that deserves to be treated with a great deal more respect. "Nothing and no-one" (92) should be excluded from this fraternity. Cruelty towards any creature is contrary to "the dignity of the human person"[150]. This very bold statement has been directly criticised. "What about the anopheles mosquitoes and the polio virus? Should we also welcome these with Franciscan love?"[151], asks Theodor Ickler. But elsewhere in the encyclical the Pope states unequivocally that: "It is contrary to human dignity to cause animals to suffer or die needlessly"[152] (130).

The strong wording is likely to make people aware of the increasing loss of species diversity, which is often tolerated without question. This frequently has a relevance for the ecosystem of which we are unaware. He writes: "For example, many birds and insects which disappear due to synthetic agro toxins are helpful for agriculture: their disappearance will have to be compensated for by yet other techniques which may well prove harmful" (34). And it is precisely these living organisms that are often overlooked, "fungi, algae, worms, insects, reptiles and an innumerable variety of microorganisms" (ibid.) that often play a crucial role "in maintaining the equilibrium of a particular place" (ibid.). In contrast to the technocratic paradigm, he refuses "to think of different species merely as potential 'resources'" (33). Again and again he comes back to the fact that all living organisms and ecosystems as a whole "have value in themselves" (33).

The Pope, who urges people to become aware of their common origin with their ecological surrounding world, "also opens the view for an *evolutionary* description of the universe, without using

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Kreiner of anchoring human dignity in the metaphysical assertion of a soul is interesting. Such metaphysical assumptions are "divorced from reality, inaccessible, impossible to prove and, above all, chronically contentious. Anyone who bases human dignity on metaphysical assumptions such as the existence of a Platonic, Aristotelian, Cartesian or any other soul, will sooner or later find themselves on shaky ground. The dignity of the human person is too serious and important a matter for it to be dependent on metaphysical constructions" (ibid., p. 25).

[148] ibid.

[149] Weizsäcker, C. F. von, 1978, p. 160.

[150] Katechismus der Katholischen Kirche, 2418.

[151] Ickler, Theodor, 20/6/2015, www.sprachforschung.org/ickler/index.php?show=news&id=1103#29210

[152] Emphasis by Christoph Bals.

the word 'evolution' in this context. But he describes a universe "shaped by open and intercommunicating systems" (79).[153] [154]

It could in the long term be seen as *one* of the great strengths of the encyclical that it incorporates findings from natural science dating from the last one and half centuries. Although important parts of this knowledge which revolucioniesd science have thus far not received much attention in everyday discourse, or politics, economics and technology. Who knew that the mobile phone cannot be explained in terms of Newtonian physics and that this technology for connecting people – with all its advantages and disadvantages – could only be developed as a result of the findings of quantum theory? Most people benefit from these findings – in keeping with the technocratic paradigm – if they are useful, without knowing what they are or even their significance for questioning the old paradigm.

4.2.2 Theological justification of the new paradigm

In accordance with the *principle of double coding*, the new paradigm of "universal fraternity" also has *a theological justification*. At the beginning of the encyclical, drawing on the "symbolic and narrative language" (66) of the two creation myths in the Book of Genesis, the Pope urges the faithful not to forget that "we ourselves are dust of the earth (see *Gen 2:7*[155])" (2). According to this biblical image, human beings – like all creatures – were made by God from the dust of the ground – and will return to the ground. The Pope confirms this interpretation of the creation myth by referring amongst other things to two biblical texts: "'The earth is the Lord's' (*Ps* 24:1), and to Him belong ultimately 'the earth and everything in it'" (*Deut.* 10:14).

To underpin this position, universal fraternity also derives from the story of creation. The Pope introduces two further theological arguments. Firstly, "as part of the universe, called into being by one Father, all of us are linked by unseen bonds and together form a kind of universal family, a sublime communion which fills us with a sacred, affectionate and humble respect" (89).

Secondly, Pope Francis changes in a highly way the emphasis in the interpretation of human beings as the likeness of God. The biblical image of the image and likeness of God has a significant and ambivalent historical influence. On the one hand, in terms of human dignity and human rights, and on the other, for understanding human beings as rulers of the world. The Pope therefore attempts to reinforce the first of these traditions, but at the same time to undermine the other tradition that supports the technocratic paradigm, which he rejects as being a major cause of our problems. The encyclical stresses, that not only human beings but *the world* is "created according to the divine model, is a web of relationships" (240). Here, not any longer only human beings are seen as the image and likeness of God, it's not any longer "only" the dignity and fraternity of all human beings that the Pope speaks about. Thus he refers to the "sublime fraternity with all creation" (221), or, the "*universal fraternity*" (228) with all fellow creatures, even with the wind, the sun and the clouds.

He speaks of an "awareness that each creature reflects something of God" (221). The Catholic theologian Kreiner says: "Why should people lose face when they can no longer claim an exclusive right to the image and likeness of God but instead learn to perceive a different manifestation of

[153] Boff, Leonardo, 05/07/2015.

[154] For believers, theological speculation may be attractive, "to think of the whole as open to God's transcendence, within which it develops" (79). This statement goes beyond the methodological boundaries of what science can state.

[155] "The Lord God formed man of dust from the ground, and breathed into his nostrils the breath of life. So man became a living being" (Standard translation, www.uibk.ac.at/theol/leseraum/bibel/gen2.html)

divine reason in the whole of creation?"[156] On this basis, the Pope's emphasis of the intrinsic value of every creature is a key theme in the encyclical.

The Pope sees these two statements as compatible not only in the Christian religions but all religions that regard God as a creator: the *fraternity* of creatures of the same Father, and that every creature reflects something of God.[157]

The Pope expands this creation-theological discourse, which he sees as relevant for all monotheistic religions, with statements wich he sees only as convincing for the faithful of the *Christian* religion. But even in this context he does not present abstract truths which he interprets authoritatively. Instead, he presents experience developed in the biblical texts that "[throws] light on the crisis situation; which is not a defining, but an interpreting function. According to LAUDATO SI', the biblical narratives do not provide a conclusive interpretation of the world, which can, for example, be converted into ontology or a compelling image of mankind. Instead, in a completely unpretentious way, they offer useful wisdom that invites one to respect people and nature."[158]

Thus, when Pope Francis states as certainty that "Christ [...] risen, is intimately present to each being" (221) and sees in this further theological grounds for "that sublime fraternity with all creation" (ibid.). Or when he interprets the Eucharist in this context as an "act of cosmic love" (236).

He also interprets the Trinity – the trinity of the one God as the Father, Son and Holy Spirit through the lens of universal fraternity. The historic occasion of the development of Trinitarian theology was the attempt to express the historical experience of Christ "in the categories of late Greek metaphysics, [in order to] give the historicity of the experience of God linked to the Christ event a didactic, timeless character."[159] Pope Francis now focuses on the interpretation that "the divine Persons are subsistent relations" (240), that are ultimately love relationships.

From this point of view, he substantiates the image of the world and every creature as the image of God. The Pope understands it as a threefold image, each representing a different love relationship. Firstly, an image of the Father ("the loving and self-communicating foundation of all that exists" (238)), secondly, of the Son ("through whom all things were created, [and who] united himself to this earth" when he became a human being (ibid.), and thirdly, of the Spirit (as the infinite "bond of love" (ibid.). Here, the Pope recalls the statement by the13th century philosopher and theologian Bonaventure that man originally – before the Fall – had been able to discover how every creature "testifies that God is three" (239). And also Saint Francis, who taught that every creature bears a Trinitarian structure inside itself (see 239).

"Pope Francis, The Earth Is Not My Sister"[160], reads the headline in The Federalist, one of the more right-wing online magazines. The new paradigm of "universal fraternity" that "justifies, so to speak, a family community of responsibility of all creatures"[161] is provocative, both within and outside the Church.

Thus far it appears that the mainstream Catholic Church in Germany is still rubbing its eyes in amazement at the encyclical. Only a few actors – such as MISEREOR – have been courageously using the opportunities presented by the encyclical for driving forward the discussion within and

[156] Kreiner, A., 2015, p. 25.
[157] See also in this context the first of the two final prayers in the encyclical.
[158] Haring, Herrman, 22/6/2015.
[159] Altner, Günter: Die Überlebenskrise in der Gegenwart: Ansätze zum Dialog mit der Natur in Naturwissenschaft und Theologie, Darmstadt, 1988, p. 148.
[160] Fiene, Hans: Pope Francis, The Earth is Not My Sister, 23.6.2015, http://thefederalist.com/2015/06/23/pope-francis-the-earth-is-not-my-sister/
[161] Segbers, Franz: 8/7/2015.

outside of the Church. When was the last time the world responded with so much curiosity and sympathy to an initiative from the Church?

But perhaps, if it wants to open up serious debates to the outside, the Church must organise a parallel "process of digestion" within the Church. The Irish Catholic priest and theologian Seán McDonagh, who was involved in drafting the encyclical, says: "We are moving to a new theology". He proposes a three-year synod on the encyclical in order to digest its momentum – from ruler of the world (*Dominium terrae*) to universal fraternity and solidarity – within the Church and discuss it with Church members.[162] In recent months, there have been concrete signs that a synodal process is a serious option for anchoring the new paradigm more firmly within the Catholic Church itself.

The concept of integral ecology as a consequence of the new paradigm

The new paradigm of universal fraternity is the basis for the concept of *integral ecology*, which the Pope also sees as "key to our own fulfilment" (240).

Along these lines, according to the Pope – the human person will *grow, mature and sanctify itself, if it enters into a relationship and ventures outside of itself*, namely with the Trinitarian structure of the world: living "in communion with God," (which the faithful regard as the first dimension) –, "with others" human beings (second dimension) and "with all creatures" (third dimension, 240). In accordance with his proposed integral ecology, the Pope insists on "the various levels of ecological equilibrium, establishing harmony within ourselves, with others, with nature and other living creatures, and with God" (210). The connectedness with these three dimensions of people who develop beyond themselves invites us – so the Pope – into "a spirituality of that global solidarity which flows from the mystery of the Trinity" (240).

A comparison with the design of a critical theory of social acceleration with interesting parallels and differences to the concept of an integrated ecology

It is interesting to look here at the parallels and differences in the approach to a critical theory of social acceleration put forward by Hartmut Rosa[163] who – as it were – develops his own approach to integral ecology. This also includes criticism of the loss of internal balance, resonance with others, dealing with things in a disposable society, the lack of synchronization of our bustling world with the system times of the ecological systems.

The starting point for Rosa is a criticism of acceleration. The Pope also selects this phenomenon as one of the starting points for his integral ecology: "The continued acceleration of changes affecting humanity and the planet is coupled today with a more intensified pace of life and work which might be called 'rapidification'" (18).

In his *functionalist* criticism of this acceleration, Rosa points out that social acceleration "systematically [overloads] the time frame of surrounding nature"[164]. In his attempt to place a critique of alienation on a new footing, he starts by criticising the *alienation of space*, of the adult intimate relationships that allow us to experience a spatial environment as being "at home". Secondly, he criticizes the *alienation of things* in a disposable society with an ever-increasing replacement rate of things with which we are traditionally connected in a constitutive way. "A car that we have repaired ten times, or socks which we have darned ten times, become part of our everyday life expe-

[162] See Naomi Klein, 10/7/2015.
[163] Rosa, Hartmut: Beschleunigung und Entfremdung, Berlin, 2013.
[164] ibid., p. 100.

rience, identity and history."[165] If the throwaway mentality becomes the dominant or even the only mode we use to relate to the world of things, this will result in alienation. Thirdly, *alienation in relation to one's own actions*. Rosa points out that employees in almost all sectors complain that, "they can no longer get on with their core tasks: Teachers have too little time for their students, doctors for their patients and scientists can no longer get round to their research"[166]. And this despite the fact that research into feelings and satisfaction values during various activities shows that people really feel better and achieve higher levels of satisfaction when they are actually doing what they state they 'actually' want to do"[167]. Fourthly, Rosa criticizes the *alienation of time*. Here he is referring to Walter Benjamin's distinction "between *episodic experiences* and *existential experiences* (that mark us, that are connected to our identity and history, which touch us and alter who we are)"[168]. If we fail to "make the time experienced 'our' time", the result will be increased self-alienation[169]. Fifthly, Rosa sees that *self-alienation and social alienation* is occuring. When there is time pressure, there is a tendency to only cooperate in order to exchange information which is factually relevant, "but people prefer then not to learn anything about the life of the other person and their personal problems"[170]. Rosa sees self-alienation and alienation from the world "not [as] being two different pathologies, but two sides of the same coin"[171].

Like the encyclical, he also strongly criticizes those "liberal-conservative forces, who campaign for an acceleration of socio-economic processes and technological processes, while at the same time reducing political control"[172].

But it's also important to notice the differences of Rosa's integral ecology to that of the encyclical. Rosa does not employ essentialist concepts about the true nature of human beings. Herein lies a key difference to those religious or esoteric approaches, which want to guide human beings towards their true nature – as defined by them. According to his analysis, we are "not alienated from our true inner being, but by our ability to feel at home in the world"[173]. He also emphasizes that "some forms of alienation are an indispensable and even desirable part of every human life, which means that any theory or policy that aims to root out alienation, is really dangerous and potentially totalitarian"[174]. For that reason, he is not aiming towards the idea of a completely de-alienated life, "but moments of unalienated experience"[175].

Solidarity with the poor and excluded people and with misused creation

The new paradigm enables elegant ways to represent the relationship between social and environmental issues – a challenge that many actors have repeatedly failed to take up. Therefore not only the paradigm change to universal fraternity, but also the Pope's appeal for "universal solidarity" (14) refers mainly to those who are excluded and poor people, but not at all exclusively. The universal solidarity also refers to the sisters and brothers in the ecological co-world. In contrast to the commentary of Cardinal Reinhard Marx, the chairman of the German Conference of Bishops,

[165] ibid., p. 125.
[166] ibid. p. 132 ff.
[167] ibid., p. 133.
[168] ibid., p. 139.
[169] ibid., p. 140.
[170] ibid., p. 142.
[171] ibid., p. 143.
[172] ibid., p. 103.
[173] ibid., p. 144.
[174] ibid., p. 10.
[175] ibid.

who suggested[176] that this solidarity extends only to the family of mankind in the common home, the Pope is very clear that it also refers to the entire ecological co-world: "We require a new and universal solidarity" (14), writes the Pope at this point. And here he quotes the Bishops of South Africa, "everyone's talents and involvement [are] needed to redress the damage caused by human abuse of God's creation" (14).

4.3 Consequences of the new paradigm

The potentially far-reaching consequences of the new paradigm can be represented by two examples: the undermining of the purely utilitarian justification structure (4.3.1) and the establishment of the environment and climate as common property (4.3.2)

4.3.1 The priority of being over that of being useful

As a consequence of the new paradigm of universal fraternity in the common home, the Pope anchors the "priority of being over that of being useful" (69)[177] more clearly than ever in the social teaching of the Catholic Church. As Ott and Sachs point out, the Pope conceives of "the relationship of man and nature as strictly anti-utilitarian"[178]. In contrast, he highlights as a central theme of the encyclical "the value proper to each creature" (16, see also 33, 69, 118, 208), regardless of the directly recognizable benefits for us. This applies on the one hand side to humans. In relation to humans, he names two groups which, if it is only relevant how useful they are, can all too easily slip through the cracks: First those, "who remain excluded from development" (162), and second "to future generations" (160). He insists, also in relation to the ecological co-world – living organisms and ecosystems – that we should not base our considerations on usefulness alone. It is – so the Pope – not sufficient to think of the different animal and plant species only as potentially usable "resources" and forget that they have an intrinsic value (see 33). The Pope fights resolutely against a disposable culture, against discarding everything that is not (or no longer) considered useful; against a "throwaway culture which affects the excluded just as it quickly reduces things to rubbish"[179] (22).

The application of the new paradigm is presented by the Pope as a way out. If the heart is sincerely open "to universal communion" (92) then "this sense of fraternity excludes nothing and no-one" (92), neither humans nor any other living beings. This allows one "to hear *both the cry of the earth and the cry of the poor*" (49). He insists on drawing the consequences of our previously "[...] irresponsible use and abuse of the goods (2). Hearing the twofold cry should change our attitude. In this spirit, the Pope addresses a "summons to solidarity" (158) to humanity. He challenges our comfort zone in an encouraging way. As a consequence of rejecting the strictly utilitarian attitude, he insists on "recognizing the implications of the universal destination of the world's goods" (158).

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[176] dpa-Pressemeldung, Kardinal Reinhard Marx würdigt die Enzyklika Laudato Si' von Papst Franziskus, 18/06/2015, www.dbk.de/presse/details/?presseid=2833&cHash=a9e442212ee740934ea9c97086b838cc

[177] Here he cites the German conference of bishops, Secretariat of the German Bishops Conference (HG): Zukunft der Schöpfung – Zukunft der Menschheit. Statement by the German Bishops' Conference on issues relating to the environment and energy supplies. Die deutschen Bischöfe Nr. 28 (Bonn 1980), II, 2.

[178] Ott, H. E., Sachs, W., 2015, p.125

[179] The serious question of conscience of many women or parents who decide on an abortion is certainly not justified when the encyclical speaks of "'discarding' children" (123), and places this within the "logic of 'disposable use' that produces so much waste, only because of the unbridled desire to consume more than we actually need" (ibid.). On the other hand, one might ask whether an important new demarcation is emerging for the Catholic Church that differentiates between acceptable and unacceptable reasons for abortion.

4.3.2 Common Property

The Pope insists on concrete political steps towards this common classification of the world's goods, which he consequently links to all natural resources (93–95). And he urges "an agreement on systems of governance for the whole range of so-called 'global commons'" (174). This is based on the unambiguous assessment that: "The natural environment is a collective good, the patrimony of all humanity and the responsibility of everyone. If we make something our own, it is only to administer it for the good of all" (95).

However, Pope Francis goes a step beyond what is already well enshrined in the social teaching of the Catholic Church: "For the first time in the history of the Social Doctrine of the Church [the Pope relates this statement] also to a reduction in global carbon dioxide emissions and the Earth's atmosphere[180]". He explains: "The climate is a common good, belonging to all and meant for all" (23). "And even more, Pope Francis asks the world's community to establish an effective governance regime"[181]. This step would mean that not only raw materials, but "also global carbon dioxide emissions sinks, like the atmosphere or the oceans, are a common good that everyone is entitled to use [...] In the encyclical, the Pope [...] has had the courage to make the status of the atmosphere as global common property a normative guiding principle for climate policy."[182]

The fact that the Pope is stirring up a hornet's nest with this request becomes clear when one looks at the recent negotiations of the *Summary for Policymakers* (SPM) of Working Group III of the IPCC World Climate Council. Scientists from around the world, in a very similar fashion to the Pope – a "striking resemblance"[183] – recommended recognising the climate as a public good in their report. However, in addition to the filter of science, the SPM has to pass through yet another filter, that of the consent of the world's governments. Ottmar Edenhofer, then chairman of Working Group III, reports: "Similarly striking was the reaction of government delegates to this concept during the final approval session of the IPCC Working Group III report in 2014, where the Summary for Policymakers (SPM) was negotiated between governments and scientists. Several governments strongly opposed any language defining climate change as a global commons problem."[184] Although the report of the scientists stayed unchanged, in the SPM it was only mentioned in a footnote. And an addendum in the footnote illustrates very clearly the concerns of some of the most relevant governments in the world in terms of the possible legal consequences of the common good of the climate: This footnote "[…] has no specific implications for legal arrangements or for particular criteria regarding effort sharing"[185]. They want to make it clear that they do not see themselves as being bound by this foonote to regulate politically and legally the common good climate. Such a regulation would entail massive reduction and financing commitments, particularly for countries with high current and historical emissions.

The far-reaching legal and political implications of the proposal mean it is necessary to examine in greater detail its basis in the encyclical and its ramifications.

[180] Wallacher, Johannes: Laudato Si' – Kompass für eine menschen- und umweltgerechte Entwicklungsagenda, Hochschule für Philosophie, Munich, 17 June 2015; https://www.hfph.de/nachrichten/thesen-zur-enzyklika-laudato-si
[181] Edenhofer, O., Flachsland, C., Knopf, B., October 2015, pp. 907–909, Corrected after print, 24. September 2015.
[182] Wallacher, Johannes, 17 June 2015; https://www.hfph.de/nachrichten/thesen-zur-enzyklika-laudato-si
[183] Edenhofer, O., Flachsland, C., Knopf, B., October 2015, pp. 907–909, Corrected after print, 24. September 2015.
[184] ibid.
[185] ibid.

Double-coded justification for the environment and climate as a "common good"

In its usual style, when presenting arguments to justify the assessment of the environment and climate as common resources, the encyclical presents on the one hand those that are accessible also to non-believers and on the other, those that require a Christian or at least a relgious attitude.

The Pope considers the argument that the Earth is "essentially a shared inheritance, whose fruits are meant to benefit everyone" to be a convincing one for everyone – atheist, agnostic or relgious (93). If everything is connected and nature is understood as a "shared world", a co-world – a central theme of the encyclical – there can be no private or national natural property "because this would be counter to their systemic character"[186].

For believers, there is also the additional argument of loyalty toward the Creator, "since God created the world for everyone" (ibid.). "For they are yours, O Lord, who loves the living"[187] (89) the Pope quotes the Old Testament wisdom literature and "the earth is the Lord's" (67) from Psalm 24. To him ultimately belong "the earth with all that is within it" (Deut. 10:14) (see 67). Therefore God rejects every claim to absolute property of nature. "The land shall not be sold in perpetuity, for the land is mine; for you are strangers and sojourners with me" (Lev. 25:23) (see 67). He wants Christians (and other religions that believe in a Creator) "to speak once more of the figure of a Father who creates and who alone owns the world" (75) The goods of the Earth are first and foremost God's property and must be equally available to all people as a universal family.

By emphasising the environment and climate as a "common good", Pope Francis is linking to an "early enshrined topos"[188] of the Catholic tradition. Already Thomas Aquinas argued that the goods of creation are for all people. From this starting point, "Christian social ethics developed the postulate of the social responsibility of ownership. In the 2004 Compendium of the Social Doctrine of the Church, this tradition is linked to ethical reflection about the issue of collective goods and already there with the climate issue."[189]

On the basis of the double-coded arguments used to justify the common good of the environment and climate, the Pope then also argues that "every ecological approach needs to incorporate a social perspective which takes into account the fundamental rights of the poor and the underprivileged" (93).

What might protect the climate as a common good mean?

In order to protect the poor and vulnerable against the severe and potentially unmanageable consequences of climate change, the Pope advocates: "The establishment of a legal framework which can set clear boundaries and ensure the protection of ecosystems has become indispensable, otherwise the new power structures based on the techno-economic paradigm may overwhelm not only our politics but also freedom and justice" (53).

The Pope does not go into detail as to where exactly the legal system should place these insurmountable boundaries. But based on the scientific studies and scenarios, a number of years back, the international community agreed in the face of the growing threat to limit the rise in global temperature at least to below 2°C as compared to the pre-industrial period. New scientific results

[186] Ott, H. E., Sachs, W., 2015, p.125
[187] See Weish 11, 26.
[188] Vogt, Markus, 16/6/2015, p. 3.
[189] Vogt, Markus, 16/6/2015, p. 3.

of the last years show that the risk to cross some important tipping points increases already heavily at 1,5°C. At the negotiations in Paris, after lengthy discussions, also the Vatican Delegation clearly came out in support of the 1.5°C limit and next to a less than 2°C limit it was also agreed as an ambitional target to stay below 1,5°C.

It is also clear how much CO_2 emissions could be produced globally if the 2°C limit is likely to be met. It limits the possible cumulative emissions of CO_2 to approximately 1000 Gt[190], or even 900 Gt. A 1,5°C limit sets even a far striter target. However, thus far, most states have been somewhat lax about implementing the target. "Access to the global atmospheric sink for depositing CO_2 has historically been open to all, however, and in most regions today this is still the case."[191] What would recognition of the climate as a common good mean for the future of the fossil fuels?

Phasing out the use of coal, oil and gas as a consequence of the climate common good

If the global climate change – as internationally agreed – is contained, 900 gigatonnes of CO_2 may still be emitted. "The atmosphere is a global good because of its limited disposal space for greenhouse gas emissions. Presently, the upper-middle classes worldwide are rapidly depleting this scarce resource by emitting greenhouse gases in vast amounts"[192], argued Hans Joachim Schellnhuber, Director of the Potsdam Institute for Climate Impact Research at the presentation of the encyclical in Rome. Estimates show that the available resources – coal, tar sand, oil and gas – release approximately 15,000 Gt of CO_2 when burned. If the two degree (or even 1.5 degree) limit is adhered to, so as to protect the climate common good, only a small fraction of the fossil reserves should be burned. Even if the CCS technology for CO_2 capture and geological storage were to be used in some areas, this necessary quick exit of fossil fuels would have important economic consequences. "Even with the use of carbon capture and storage (CCS) technology, achieving the 2°C objective would require the majority of fossil resources to remain unutilized. This would devalue the assets of fossil fuel resource owners"[193]. Using international law to protect the climate common good would therefore compel the owners of fossil fuels to leave most of the fossil fuels in the ground. Protecting the poor and vulnerable from the worst consequences of climate change is only possible if this succeeds, even if their mining would basically still be profitable. "Keep the oil in the soil, keep the coal in the hole", is a slogan of the environmental and development movement, which adresses this concern. And "in this conflict between the interests of the poor and those of fossil fuel resource owners, the Pope weighs in for the former".[194] The states that prevented the item being recorded in the SPM of IPCC Working Group III represent the interests of some interest groups and companies.

But the Pope notes that: "We know that technology based on the use of highly polluting fossil fuels – especially coal, but also oil and, to a lesser degree, gas – needs to be progressively replaced without delay" (165). The Pope therefore supports the divestment approach: Investment in coal, oil and gas should be withdrawn to the extent that it is necessary to observe the "clear boundaries" (53). He does not consider the need of compensation for countries or companies that have invested in coal, oil and gas. Hans Joachim Schellnhuber thus supports the Pope's stance on this: "It is understandable that there are claims for compensation for the devaluation of the assets in

[190] Edenhofer, O., Flachsland, C., Knopf, B., October 2015, pp. 907–909, Corrected after print, 24. September 2015, p. 908.
[191] ibid.
[192] Schellnhuber, H. J.: Common Ground, The Papal Encyclical, Science and the Protection of Earth, 18/6/2017, p. 6, https://www.pik-potsdam.de/images/common-ground
[193] Edenhofer, O., Flachsland, C., Knopf, B., October 2015, pp. 907–909, Corrected after print, 24. September 2015, p. 908.
[194] ibid.

the fossil fuel sector. However, the devaluation of these assets is by no means an illegitimate expropriation because it serves the common good – the avoidance of catastrophic climate risks. The encyclical draws attention to the principle of 'the social obligation of private property'."[195]

Financial support for the necessary transformation

The Pope also assigns to richer states the task of supporting poorer countries and communities in the process of developing the necessary low carbon economy so that they do not – in view of their social development needs – need to fall back – as a lesser evil – on fossil energy sources or transitional solutions. He criticizes – before the Paris Agreement – the fact that the "international community has still not reached adequate agreements about the responsibility for paying the costs of this energy transition" (165). He therefore also exerts pressure on the arrangements of the Paris Agreement on Climate Change Financing. In fact, a sufficiently rapid switch from coal, oil and gas in particular to renewable energy sources and energy efficiency at the international level will only be possible if we can succeed in initiating a whole new tier of transformation partnerships. The Paris Agreement now provides the framework for those partnerships, but it needs to be underpinned by concrete steps for implementation. On the one hand, this calls for an upward spiral of ambitious transformational plans of developing and emerging countries to organise the energy turnaround by the middle of the century, while at the same time, for organising sufficiently robust financial and technical support from the rich countries. This support should make it possible to create research capacities and highly qualified jobs even in poor countries, so that they can also become winners of the energy turnaround. This cooperation should ensure that not only the elite but also ordinary people can have access to clean energy and job opportunities. This means also developing internal capacity in the poorer countries. This could be an interesting topic for dialogue between the Pope and the relevant stakeholders – those who are affected and those who can contribute to solutions – in order to come up with further proposals for developing this upward spiral. Simply apportioning blame and moral pressure will not be enough to ensure success.

The forthcoming replacement of fossil fuels can be considered as an act of "creative destruction", which will launch a new industrial revolution with enormous economic opportunities.[196] This statement, which is important and true, should not be used as a cheap excuse for failing to provide the necessary support to transform the poorer countries. Quite the contrary. It should encourage the transformation in such a way that large numbers of people who were previously excluded can participate. But it is also necessary to ensure that this cooperation is ultimately also in the long run in the interests of supporting states – even if this calculation should not be performed from a purely economic point of view. There are enough people in rich countries who see transformational partnerships with poorer countries, the joint prevention of unforeseeable climate risks, ensuring a future worth living for the next generations, reducing the health burden, creating stable neighbouring continents, and the elimination of important reasons for war if access to oil and nuclear energy is progressively curtailed, as sufficient reasons for this type of cooperation – in the sense of enlightened interest.

The encyclical – like IPCC Working Group III – emphasises polycentric approaches to climate governance – to initiate far-reaching collaborations. Nobel Prize Laureate Elinor Ostrom[197] has come up with a promising design for such proposals. Complementary international cooparative activities of at the level of the United Nations (Framework Convention on Climate Change, UNFCCC), national and subnational policy levels, private enterprise and civil society should create coopera-

[195] Schellnhuber, H. J., 18/6/2017, p. 6, https://www.pik-potsdam.de/images/common-ground
[196] ibid.
[197] Ostrom, E. Econ. Theory 49, pp. 353–369 (2012).

tive dynamism – but not mutually replace one another. A clear moral and legal compass that makes it possible to bring the activities of these various actors in resonance, could therefore interact with new business models, civil society activities and a more conscious behaviour by consumers could jointly enable the necessary participation in the transformation process by poorer countries and groups of people.

A good example of the successful interplay between these levels and actors are the massive cost reductions in renewable energies in recent years. At the national level: the demand for wind and solar technologies, in particular through the *German* and (occasionally also Spanish) Renewable Energies Act (EEG, previously the fee in law), together with cost-effective mass production from photovoltaic and (sometimes also) wind farms *in China* were the two main factors why solar (and wind) energy are now internationally competitive. At the international level: the agreed international climate policy goals were a strong driving force for fending off all attempts to overturn the EEC and for using this instrument in more and more countries. For business and civil society: new business models with investment security and in particular, an alert and active civil society, were the driving forces for development. Everyone now benefits from the massive drop in the cost of renewable energies, but in particular the world's poor, for whom, under the heading of "Energy for all", cost-effective access to clean energy is now within reach. This means confidence in a post-fossil model of prosperity has been created for the first time. This strategy also minimises the risks of climate change. And the situation also has more pros than cons for Germany and China.

How can similar forms of cooperation be implemented on a large scale over the next few years – and enable the poorest countries to participate in the necessary transformation towards a low carbon socienty, towards a resilient society? Bilateral agreements between India and Germany for a solar energy partnership, support by G7 for ambitious expansion plans for renewable energies in the African Union, or German-Moroccan cooperation, offer interesting starting points for such cooperation.

Call for international vanguards ("leaderships")

It will be interesting to find out more about the encyclical's proposal of *international leaderships* for concrete measures to implement the new paradigm. This should indicate ways of "meeting the needs of the present with concern for all and without prejudice towards coming generations" (53). Such leaderships could be pioneers for a "legal framework which can set clear boundaries and ensure the protection of ecosystems" (ibid.). "Yet the same ingenuity which has brought about enormous technological progress has so far proved incapable of finding effective ways of dealing with grave environmental and social problems worldwide" (164).

One of the results of inter-religious dialogue or a *process for peace, justice and the integrity of creation* could be to support or even initiate such leaderships and international vanguard roles within civil society. Following the minimum consensus achieved by the Paris Climate Agreement, which still does not go far enough, governments (and other actors) that are prepared to work together with ambition and in the framework of international vanguard groups, mutually support each other to fill part of dismal gap of the two or even 1.5 degree limit.

New concepts for people forced to flee as a result of damage to the environment and climate common good

Recognition of the climate as a public good would have further consequences, "for state and social obligations regarding climate protection", mentioned by the Catholic social ethicist, Markus Vogt. "A specific request of the encyclical in this context is to recognise as refugees with the corre-

sponding legal status people who are forced to flee their natural environment because of environmental degradation"[198].

The Pope sees as tragic the "rise in the number of migrants seeking to flee from the growing poverty caused by environmental degradation. They are not recognized by international conventions as refugees" (25).

It certainly has to be examined how best to support the growing number of people for whom escaping the climate change multiplies risk. It is also necessary to investigate whether, in the current global political climate, attempting to obtain formal recognition will lead to a greater risk of worsening the legal situation for all refugees, rather than improving conditions for those who are displaced by the impact of climate change. In any case, this problem should not keep being swept under the table. Social human rights-oriented security should be the focus of relevant regulations. The 2012 Nansen initiative set up by Norway and Switzerland dealt specifically with this issue. In October 2015, it published a "protection agenda", which sets out the principles and approaches for dealing with those affected. Based on consultations carried out worldwide, it covers the different forms of impact (e.g. droughts, rising sea levels ...) and also makes a crucial contribution to understanding the phenomenon of climate-related migration. The activities of the Nansen Initiative should be an important basis for preparing further solutions. The Paris Agreement has now also created a framework for this.

[198] Vogt, Markus, 16/6/2015, p. 3.

5 Additional motivation for action?

"Is the potential of this great and, I hope, inalienable enlightenment culture sufficient", asks Habermas, "to create the necessary motivation in crisis situations for acts of *social solidarity* under the conditions imposed by complex societies?[199] Or, as this appears doubtful, could religions strengthen *motivations for action* beyond the existing secular arguments and motives, which help to convert the distressing insights of the day into action?

There is no question that – looking at the record of religions to create problems – it is especially critical to examine potential impulses which can emerge from religions in the face of an unending cascade of crises. We are currently experiencing – as often happened in previous millennia – a situation in which certain types of Islam, Christian, Jewisch or Hinduist religion provide motives for creating crises, justifying hatred and destruction, overthrowing established cultural standards, or supporting a readiness to launch suicide attacks. Merely affirming that the *right* religion sees things quite differently is not enough to appease a pluralistic society. Because we have no generally valid criterion for deciding what the right religion might be.

So why does Habermas raise nevertheless this question? Why he, who has wrestled for decades with the most intelligent way of arguing the validity of our egalitarian and universal moral obligations in the tradition of Kant? He now wonders whether a – clearlyl necessary – morality, which is, in principle, extended for reasons of *justice* to all people who are recognized as equal, is not overlooking one essential aspect. Although a morality based on Kant already goes beyond the purely utilitarian framework[200], in which the self and the opposite are confined within a tight corset of mutual economic rationality and bound by rational selfishness. Nevertheless: Even the Kantian brittle deontological concept "mirrors the structure of a justificatory process which is controlled by *mutual* taking of perspectives and the autonomous 'Yes' or 'No' of *equal* participants in a discussion"[201]. And Habermas asks: isn't there an additional aspect missing? An aspect that he sees as expressed in religious language in the second half of the following sentence: "The gaze of God is addressed to all equally *and at the same time to each individual in unlimited concern for his soul*".

Habermas argues that the morality related to justice, which is so important, "that extends to everything, that one person owes to the other because of a balanced reciprocal relationship of mutual recognition [...] does not fully take in the theological content of this kind of idea. It is lacking Ego's recourse to a *primary* concern for the well-being of Alter *in its uniqueness*. Because this devotion presupposes a type and a degree of empathy, which cannot be made into a universally established obligation"[202].

As we have seen, the Pope attempts in *theological terms* to derive both the uniqueness of human beings and also the uniqueness of fellow creatures in the co-world from the image and likeness of God, which in the new paradigm relates not only to human beings, but to the whole world. Every living being reflects something of God. This leads to his appeal for universal solidarity, which has in mind the uniqueness of excluded people ("option for the poor"), and also of endagnered species in the threatened ecological co-world. The validity of this approach *for a pluralistic society* can then be measured in terms of whether the argumentative force of such an appeal draws on experience that can be universalized with good reason. Regarding the new paradigm this means: Can the

[199] Habermas, Jürgen, 2012, p. 131.
[200] For example, in contractualism, the "Law of the Social Contract" – a thought experiment, for justifying state laws morally and institutionally.
[201] Habermas, J., 153f.
[202] ibid.

scientifically and religiously reasoned paradigm of universal brotherhood provide a basis not only for justice, but also for demanding respect for the uniqueness of human beings, living organisms and ecosystems?

It is interesting that the Dalai Lama has recently proposed a different approach than the Pope to address the same challenge. In contrast to him and his new and now also religiously reasoned paradigm of universal fraternity – the Dalai Lama codes the necessary ethics only in secular terms, rather than using double coding also with religious terms. Unlike Habermas, he believes that this is sufficient to create the necessary empathy and valuation of uniqueness.

The Dalai Lama proposes this approach in view of the fact that "for thousands of years, violence has been committed and justified in the name of religion. Religions have often been intolerant and still are in many cases. Religion is often abused or exploited – even by religious leaders – in order to further political or economic interests. For that reason, I say that in the twenty-first century, we need a new form of ethics beyond religion. That is why I am speaking of a secular ethics that can be helpful and useful for over a billion atheists and an increasing number of agnostics."[203]

The Dalai Lama selects a strong image to substantiate his thesis: "The difference between ethics and religion is like the difference between water and tea. Religion-based ethics and inner values are more like tea. The tea that we drink is made mostly of water, but it contains other ingredients as well – tea leaves, spices, perhaps a little sugar, and, at least in Tibet, a pinch of salt – and that makes it more substantial, more lasting, something we want to drink every day. Yet no matter how tea is prepared, its main ingredient is always water. We can live without tea, but not without water Likewise we are born without religion, but not without the basic need for compassion – and not without the fundamental need for water"[204]. The Pope and then again Habermas would doubtless use the image of the water and the tea differently. May the Pope ask: Can the water as well as the tea motivate for drinking, motivate to the necessary action? And both, Francis and Habermas: Can the water of ethical reasoning enable us to respect the uniqueness of the individual person and of the endangered species?

It is interesting to see that these questions might miss the point of the Dalai Lama's statement. Because he may wish to renounce religion, but not a spirituality beyond religion. He argues that, "we all have a fundamental and profoundly human wellspring of ethics within ourselves"[205]. He sees "with ever greater clarity that our spiritual well-being depends not on religion, but on our innate human nature, our natural affinity for goodness, compassion, and caring for others. Regardless of whether or not we belong to a religion, we all have a fundamental and profoundly human wellspring of ethics within ourselves. We need to nurture that shared ethical basis. Ethics, as opposed to religion, are grounded in human nature"[206].

He therefore promotes as a *driving force* for real action a *spirituality* that is free from religious ingredients and which nurtures a *potential* human disposition for love, benevolence, and affection. In terms of content, he arrives at a similar conclusion to Pope Francis in the encyclical. This driving force enables us to act to preserve creation. And it makes it possible for us to discover that humanity is one big family. We are all brothers and sisters: physically, mentally, and emotionally But we are still too focused on our differences, rather than what binds us together. After all, each of us is born the same way and dies in the same way."[207] The family likeness of this idea to Pope Francis'

[203] ibid.
[204] Dalai Lama: Der Appell des Dalai Lama an die Welt, Ethik ist wichtiger als Religion, Wals bei Salzburg, 2015, 9f.
[205] ibid., p. 10.
[206] ibid.
[207] ibid.

universal fraternity with its double-coded justification is obvious. The Pope wants to overcome the threat of divisions – especially religious divisions – arising from his argument of universal fraternity which regards all people and all creation as being in the image and likeness of God. He fears that the transition from tea to water would get mouldy. The Dalai Lama sees that the approach from actors like the Pope carries the risk that, in cases of doubt, the established religions will only look after their flock, instead of regarding all human beings and the ecological world around them as "siblings". However, a religion that only regards the faithful as siblings, misses the twofold nature of universal fraternity, which sees in its uniqueness every human and living being as brothers, sisters or at least family members.

Habermas, Pope Francis, and the Dalai Lama – an exciting debate is opening up here. How can driving forces that have thus far been associated with religion be used in a pluralist society that is confronted by ever more crises? How can one minimise the risk of these driving forces being used for hatred and destruction? How to prevent these driving forces to loose their strenght in a time when they might be needed to divert people from the suicidal course?

5.1 Motivation that cannot be prescribed: Love

Against this background, it is interesting to look more closely at how in Section 2.IV, Pope Francis prepares the new paradigm in theological terms. In this context he appears "to find his own language, the personal core of his religious message[208]. He writes: "The entire material universe speaks of God's love, his boundless affection for us. Soil, water, mountains: everything is, as it were, a caress of God" (84). Places can become places of "friendship with God", where we can rediscover our identity (see 84). He refers to a thought of the Bishops of Japan as "delightful": "To sense each creature singing the hymn of its existence is to live joyfully in God's love and hope" (85).

The Pope's "intimate connection" with the poor is part of this very personal language. Here his passionate appeal for peace, justice and the preservation of creation finds its spiritual centre, reflected in Jesus' moving "tenderness", according to which God does not forget a single sparrow (see 96)[209]. It is precisely here that this moment of the uniqueness of each human being emerges, even of every sparrow, which Habermas sees as not yet having been adequately translated into a secular moral motivation.

In the final chapter of the encyclical, which deals with ecological education and spirituality, the Pope takes up this thread again with the same internal warmth. The philosopher and theologian Hermann Häring notes that it is clear here "what the specific contribution of religions, especially Christianity might be – the fact that it does not provide a purely rational analysis, however passionate it may be. It offers 'another lifestyle', an unconditional alliance with humanity and the environment, an ecologically-oriented 'conversion' with all its inherent virtues of gratitude, contentment and a willingness to stand up for others; one might speak of an ethos that transcends all ethical conscientiousness. Anyone seeking to understand the inner religious motivation of LAUDATO SI' should start by reading this chapter."[210]

The Pope believes it is imperative to talk about the motivations to promote a passion for environmental protection that result from spirituality. Here, the discourse with the Dalai Lama could be a starting point for examining whether this is has to be necessarily a religious spirituality. Because –

[208] Häring, Hermann, 22/6/2015, p. 3.
[209] Häring, Hermann, 22/6/2015, p. 3f.
[210] Häring, Hermann, 22/6/2015, p.3f.

so the Pope – it will not be possible to commit to great things by using teachings alone, without a "mysticism", that animates us, without an "interior impulse which encourages, motivates, nourishes and gives meaning to our individual and communal activity"[211] (216).

Does religion fill a gap left by moral obligations? Or does the water of spirituality not necessarily need the tea of religion?

The renowned British environmental journalist George Monbiot in any case sees the strength of the cited argument, which thus far has had no place in the prevailing secular discourse. "Pope Francis, a man with whom I disagree profoundly on matters such as equal marriage and contraceptives, reminds us that the living world provides not only material goods and tangible services, but is also essential to other aspects of our well-being. And you don't have to believe in God to endorse that view"[212]. Monbiot refers among other things to the new book[213] *The Moth Snowstorm* by Michael McCarthy. McCarthy has worked out that the ability to love the natural world and not just to exist in it is a uniquely human trait. Citing him, Monbiot writes: "When we are close to nature, we sometimes find ourselves, as Christians put it, surprised by joy: a happiness with an overtone of something more, which we might term an elevated or, indeed, a spiritual quality."[214]

Monbiot argues that the defenders of the environment may sometimes be so ineffective because they refuse to be emotionally honest. When in meetings with ecologically oriented people he asks if they are committed to protecting nature or the climate because they are concerned about their bank account, no one ever raises their hand. "Yet I see the same people base their appeal to others on the argument that they will lose money if we don't protect the natural world. Such claims are factual, but they are also dishonest: we pretend that this is what animates us, when in most cases it does not. The reality is that we care because we love. [...] I believe it's a better grounding for action than pretending that what really matters to us is the state of the economy. By being honest about our motivation we can inspire in others the passions that inspired us."[215] Ott and Sachs at the Wuppertal Institute also consider it to be "the most basic and most revolutionary message"[216] of the encyclical when the Pope points out that protecting living people and organisms is fundamentally based on than love – and they argue that it was high time to say so.

Is this answer to the question about a right life in the wrong one convincing in view of the prevailing systemic constraints?

It is clear to Monbiot that more honesty in relation to the love towards nature and cultures as a motivating force will not resolve the entire problem. He aks: "If the acknowledgement of love becomes the means by which we inspire environmentalism in others, how do we translate it into political change?"[217] Personal motivation alone does not lead to meaningful results – not at all in the face of the internal logic of "hard" systems of world society, politics, the economy and technology. The Pope is aware of the systemic nature of the problem. But does he have a satisfactory answer to how a right life in the wrong one (Adorno) might succeed and how personal motivation might influence the dominant sub-systems of global society?

[211] Here the Pope is citing his Apostolic Letter *Evangelii gaudium* (24 November 2013), 261: AAS 105 (2013), p. 1124.
[212] Monibiot, George: Channelling the Joy, 17. 6. 2015, www.monbiot.com/2015/06/17/channelling-the-joy/
[213] McCarthy, Michael: The Moth Snowstorm, 2015.
[214] Monbiot; George., 17. 6. 2015.
[215] ibid.
[216] Ott, H. E., Sachs, W., 2015, p.126.
[217] Monibiot, George, 17. 6. 2015.

In this contect one of the internal tensions between the various sections of the document, which were prepared by different teams of writers, becomes visible. On the one hand, the encyclical provides a summary of the systemic nature of the universal crisis, but is confident that people have the human capacity to bring about ecological conversion. "Human beings, while capable of the worst, are also capable of rising above themselves, choosing again what is good, and making a new start, despite their mental and social conditioning"(205). In these passages of the text – especially Section 6.I.-II. and again in Section 6.V., a human appears as a being that has not yet overcome the challenges presented, but "is free to set an entirely new course"[218]. Another tone dominates Section 3.III. (115-123) of the paper. The emphasis here is no longer on the systems afflicting on humans or the person who is able steer an entirely new course. "Now people stubbornly fail to meet their obligations. They agree with the pernicious 'relativism', which the document interprets as opportunism. In these passages there are frequent references to Pope Benedict XVI and Pope John Paul II. Imperceptibly, the thought process contains an almost ideological note."[219]

Pope Francis has attempted to embed the arguments of his predecessors in such a way that the encyclical is sustained overall by the *confidence* that a right life in the wrong one and a corresponding "cultural revolution" could succeed. A key word here is the "ecological conversion" (heading of Section 6.III).

How justified is the Pope's optimism that humans can overcome systemic constraints and change course? What are his arguments: that human freedom is able to free itself from the prevailing technocratic paradigm in order "to limit and direct technology; that we can put it at the service of another type of progress, one which is healthier, more human, more social, more integral." (112)? Are there impulses that point beyond the methodological pessimism of most sociologists?

As usually in the encyclical Pope Francis also here opts for the path from the concrete to the abstract: "Realities are more important than ideas" (110). The Pope provides some examples of how broadening the horizons and a right life in the wrong one can already today be achieved:

- On the one hand, he places emphasis on communities of small producers anywhere in the world who follow a different model of prosperity. "When cooperatives of small producers adopt less polluting means of production, and opt for a non-consumerist model of life, recreation and community" (112); The Pope provides the example of the "great variety of small-scale food production systems which feed the greater part of the world's peoples, using a modest amount of land and producing less waste, be it in small agricultural parcels, in orchards and gardens, hunting and wild harvesting or local fishing" (129). But he also sees that these forms of living and working are being systematically pushed into the background. "Economies of scale, especially in the agricultural sector, end up forcing smallholders to sell their land or to abandon their traditional crops. Their attempts to move to other, more diversified, means of production prove fruitless because of the difficulty of linkage with regional and global markets, or because the infrastructure for sales and transport is geared to larger businesses" (ibid.). Here, where the attempt to take ones social and environmental fate into one's own hands fails, or seems likely to fail, the Pope urges governments to act. "Civil authorities have the right and duty to adopt clear and firm measures in support of small producers and differentiated production" (ibid.). And he is also challenges the standard argument that such political interventions would endanger economic freedom. "To ensure economic freedom from which all can effectively benefit, restraints occasionally have to be imposed on those possessing greater resources and financial power. To claim economic freedom while real conditions bar many people from actual access

[218] Haring, Herrman, 22/06/2005.
[219] ibid.

to it, and while possibilities for employment continue to shrink, is to practise a doublespeak which brings politics into disrepute" (ibid.) Free competition with unequal starting conditions regularly leads to increased inequality and less freedom. It pushes those with the poorer starting conditions to the edge and then covers this injustice by throwing the ideological mantle of fair competition over it.

- Secondly, the Pope urges a different alignment and selection of the technology used. Part of the solution would be "when technology is directed primarily to resolving people's concrete problem, truly helping them live with more dignity and less suffering." (112). But this request is at odds with the analysis of the systemic nature of technology performed in the encyclical: "We have to accept that technological products are not neutral, for they create a framework which ends up conditioning lifestyles and shaping social possibilities along the lines dictated by the interests of certain powerful groups" (107). The Pope is very clear in the judgement that the use of technologies is not value-neutral but that certain technologies transport hidden value decisions. "Decisions which may seem purely instrumental are in reality decisions about the kind of society we want to build" (107). Against this background it would be wrong to simply regard technology as a tool, without taking into account the logic in which the technology subjects us: "The idea of promoting a different cultural paradigm and employing technology as a mere instrument is nowadays inconceivable. The technological paradigm has become so dominant that it would be difficult to do without its resources and even more difficult to utilize them without being dominated by their internal logic" (108). In effect, "technology tends to absorb everything into its ironclad logic". Yes, it may be almost "countercultural" (ibid.) to choose a lifestyle that sets goals that could, at least partially, be independent of technology, its cost and its globalising, standardising force. The Pope analyses the fact that here – often in the name of freedom – "our capacity for making decisions, a more genuine freedom and the space for each one's alternative creativity" (108) is thwarted. Thus far, this proposal of the Pope appears to be inconsistent: Despite lacking decision-making ability and being caught up in a hard systemic logic, he suggests one should select a different technology. It is interesting that the Pope does not dodge this tension. His answer: An environmental culture cannot be successfully implemented if it is reduced to the technical responses, to a "series of urgent and immediate partial responses to the problem of pollution, environmental decay and the depletion of natural resources" (111). Otherwise – warns the Pope "even the best ecological initiatives can find themselves caught up in the same globalized logic" (111) of a technocratic system which creates the problems. The Pope therefore wants to embed the choice of alternative technologies within his proposed paradigm shift. It's not alone the choice for or against a specific technology. "There needs to be a distinctive way of looking at things, a way of thinking, policies, an educational programme[220], a lifestyle and a spirituality which together generate resistance to the assault of the technocratic paradigm"(ibid.).

What is the counter strategy proposed by the Pope to make this happen? In terms of content, – as already mentioned – the Pope presents two answers to provide immunity against the tendency to turn other people and the ecological setting into objects to be degraded, and "to overcome reductionism" (112). On the one hand, the Pope points to the relevance of the ability to perceive beauty, aesthetics, poetry and other art, "the desire to create and contemplate beauty" (ibid.). As a second antidote, the Pope recommends not allowing ethical and moral issues to be put on hold because of technical and economic "constraints", which all too often turn out to be constraints on thought. He urges people to "refuse to resign [themselves] to this, and continue to wonder about the pur-

[220] It is is a question of education that enables actors to reflect on problems and then implement solutions themselves rather than a government-run education programme.

pose and meaning of everything" (113). "If we approach nature and the environment without this openness to awe and wonder, if we no longer speak the language of fraternity and beauty in our relationship with the world, our attitude will be that of masters, consumers, ruthless exploiters, unable to set limits on their immediate needs" (11).

The Pope hopes that in this way, authentic humanity, supported by concrete approaches, will be "like a mist seeping gently beneath a closed door" (112). The Pope's sincerity is evident when he pauses to ask whether this authentic humanity, despite the systemic constraints and their hard logic, will in fact turn out to be the promise that will last, in spite of everything, "with all that is authentic rising up in stubborn resistance?" (ibid.).

In anycase, the Pope argues that the aesthetic, ethical and moral actions of isolated individuals will not be able to achieve this. An ecological conversion and a new ecological culture cannot come from isolated individuals. Because on our own, we would lose our ability and freedom to overcome the logic of instrumental reason. "The task will make such tremendous demands of man that he could never achieve it by individual initiative or even by the united effort of men bred in an individualistic way. It calls for a union of skills and a unity of achievement"[221], he states, quoting Romano Guardino (see 219). We must address the social and environmental problems that confront us based on cooperation and community networks, not simply by the sum of individual good deeds: "The ecological conversion needed to bring about lasting change is also a community conversion" (219). This appeal for cooperation and dialogue in the light of the crises, an appeal to all people and all religions that runs as a central theme through the encyclical, represents an exciting challenge to standard morality. For a commitment to objectives that can only be achieved *cooperatively* cannot be justified either on the basis of Kant's *individualistic* moral concept or even one using utilitarian arguments.[222] What would a secular equivalent for this religious based request for cooperation look like? A moral concept formulated in secular terms that focusses on objectives that can only be achieved by cooperation? A moral concept that would provide pluralistic actors, such as the international Transition Town movement or the climate alliance in Germany, with moral justification for cooperative action, even though individual responsible action alone is unlikely to achieve the desired objective. And to inspire even cooperation with actors who do not follow our own, but a different ethical conception? A convincing moral concept that motivates a cooperative breakout from a repeating prisoner's dilemma?

For the Pope, the current environmental crisis represents a call to this kind of cooperative and profound internal conversion (see 217). "This conversion calls for a number of attitudes which together foster a spirit of generous care, full of tenderness" (220). Naomi Klein, as a secular Jew, is impressed and points out that understanding this ecological conversion could be the key to understanding the strength and the potential of *Laudato Si'*.[223].

Consequences for educational work

The new paradigm proposed by the Pope has interesting consequences for educational work: On the one hand, in terms of content, a feeling for ethical and moral issues, for beauty and creativity. "[T]he relationship between a good aesthetic education and the maintenance of a healthy environment cannot be overlooked" (215). Seeing and appreciating beauty helps us "to reject self-interested pragmatism" (ibid.). On the other hand, it also provides the motivation and skills to tackle issues cooperatively as well as for democratic participation. A political understanding of

[221] Guardini, Romano: Das Ende der Neuzeit (Würzburg 9 1965), p. 72.
[222] See in reference to Kant, Habermas, 2012, p. 197.
[223] See Klein, Naomi, New Yorker, 10/7/2015.

education will raise its voice in order to "generate resistance to the assault of the technocratic paradigm" (111). One can understand this as a call for the corresponding further development and political organization of the World Program of Action on Education for Sustainable Development. The reason for this is also set out in the Nagoya Declaration: "Education for Sustainable Development (ESD) empowers learners to transform themselves and the society they live in"[224]. Global learning means the ability to develop and shape. Like Bread for the World it asks us "to jointly develop freedom of scope and to develop the courage as well as the ability to intervene in political processes – on the different levels to which they have access or can gain access."[225]

In the educational work, it is important to move away from the simplistic belief that every problem has a technical solution: "Otherwise, even the best ecological initiatives can find themselves caught up in the same globalized logic. To seek only a technical remedy to each environmental problem which comes up is to separate what is in reality interconnected and to mask the true and deepest problems of the global system "(111). The encyclical definitely suggests technical solutions as part of the answer, but embeds them in the need for cooperative action that is morally, ethically and aesthetically motivated.

5.2 The power of celebration

See, judge, act – at first sight, the encyclical appears to be oriented towards this established triad of Catholic social doctrine. But it subsequently adds the tradition of liberation theology, creating a tetrachord: "see, judge, act and *celebrate*"[226]. This further development towards "celebration" accounts for part of the provocative nature of the encyclical for a pluralistic world that is struggling to find perspectives for a good life amid a cascade of crises. It is worthwhile examining this in greater detail:

"Let us sing as we go. May our struggles and our concern for this planet never take away the joy of our hope" (244), the Pope states towards the end of the encyclical: The Canadian activist Naomi Klein has carefully observed that: "many have been puzzled over how *Laudato Si'* can simultaneously be so sweepingly critical of the present and yet so hopeful about the future"[227]. The tone which proclaims good tidings rather than a threatening message, is what sets the encyclical apart from many environmental movement documents. Various elements in the text contribute to this joyful tone – as a stimulus to a struggle that does not convert the other into an object.

Firstly, *thankfulness*. From the title *Laudato Si'* through to the closing phrase: "May He be praised", the encyclical is pervaded by *thankfulness* to a gentle and loving Creator God. The social ethicist, Markus Vogt considers that it is this "creation and theology-oriented positive attitude that gives the encyclical its persuasive force"[228]. Similarly, the Pope also is thankful for the actions of civil society and everyone who is already committed to fairness and responsibility for creation (see e.g. 13). This commitment he considers to be part of active human dignity: "I appeal to everyone throughout the world not to forget this dignity which is ours" (205).

Secondly, the ability to rejoice. "This optimism is sustained by a Francis of Assisi-like *spirituality of deep joy* in the gifts of creation,"[229]according to Markus Vogt. The encyclical does not call for renun-

[224] UNESCO, Aichi-Nagoya Declaration on Education for Sustainable Development. www.unesco.org/new/fileadmin/MULTI MEDIA/HQ/ERI/pdf/Aichi-Nagoya_Declaration_EN.pdf
[225] Riek, Barbara, Brot für die Welt, in: http://newsletter.ewik.de/m/9620624/0-5a47e2bc8ee7f90846f33c96e9450b56
[226] Boff, Leonardo, 19/8/2015; emphasis by Christoph Bals.
[227] See Klein, Naomi, New Yorker, 10/7/2015.
[228] Vogt, Markus, 18/06/2015, p. 5.
[229] ibid.

ciation, but for developing an ability to "appreciate the small things" (222). The Pope says that a constant flood of consumer goods can baffle the heart and prevent us from "cherishing each thing and each moment" (ibid.). He sees the basis of joyfulness as mindfulness rather than a careless throwaway mentality. "With reference to the strong tradition, particularly in Latin America, of 'buen vivir', i.e. the good life, he considers that social and ecological responsibility and a new relationship with nature, the economy and power will result in an improved quality of life."[230]

He sees Christian spirituality – like the "different religious traditions" (222) – as paving the way to a different understanding of quality of life. It "encourages a prophetic and contemplative lifestyle, one capable of deep enjoyment free of the obsession with consumption [...] It is the conviction that 'less is more'"(222).

The provocative nature of this celebratory element, of joy in the face of an unvarnished description of the crises, is contained in the question of whether the pluralistic society or the secular environmental movement has a functional equivalent to this "celebratory" approach, which is based on a strong religious or spiritual motivation in the encyclical? The findings of learning theory have shown that threatening messages have limited potential for bringing about a change in behaviour.

[230] ibid.

6 Conclusion

With the encyclical *Laudato Si'*, Pope Francis has successfully issued a fascinating provocation relevant for a pluralistic global society. This carefully reasoned but readable provocation – in the service of the poor and the ecological co-world – is aimed at stimulating non-monopolising *dialogue* with all groups of society. This dialogue could unleash the potential for examining in a fresh light a number of perennial environmental and development issues. It offers the potential for urgently needed cooperation with other relidions and confessions as well as for dialogue on equal terms with 'religiously unmusical' people, with a pluralistic environmental and development movement. It goes beyond the scopeof much of the environmental and development discourse, which is often limited to economic and technocratic considerations, and opens up space for an ethical, moral and aesthetic criticism of the prevailing paradigm – with the prospect of cooperative action between very different actors.

The encyclical calls on political and economic decision-makers to engage in a systematic and serious manner with these issues. The encyclical suggests answers for religious actors which go beyond the possibilities for action by other actors – as long as a pluralist society hasn't found functional equivalents. This could represent a prophetic role for religion in modern times. The issues and approaches raised by the encyclical could have the potential to produce additional motivations for action.

The encyclical *Laudato Si'* merits a response in which the different civil society actors discuss their own – sometimes quite different – responses to the issues raised in it – and, in doing so, challenge not only politicians and the economy, but also the churches. It would make sense to take it seriously.

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