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### Utopia and gospel

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# UTOPIA AND GOSPEL

*Unearthing the Good News in Precautionary Culture*  
Jaap C. Hanekamp

Born in Terneuzen in 1964, the author received his first PhD in chemistry in 1992 at the Utrecht University together with his father, who received his PhD in theology. In 1994 he left with his wife to the United States to join the University of California Riverside as a post-doc.

Back in the Netherlands, chemistry was traded in for a career with a focus on science and policymaking. Within the general theme of maintaining health, food chemistry and safety, low-level chemicals exposure, and general toxicology have his interest. Twice he functioned as an expert witness in court cases dealing with the low-level presence of banned antibiotics in foods, both of which were settled in favour of the presented science.

He published numerous scientific articles, and he also intermittently adds to public debates in newspapers such as the *Financieele Dagblad*, *Nederlands Dagblad*, *Wall Street Journal*, and specialised newsprints such as the *Global Aquaculture Advocate*, *Agrarisch Dagblad* and the *Boerderij*. Recently, he returned to the debate on ammonia emissions from animal husbandry by a blog on *foodlog.nl*.

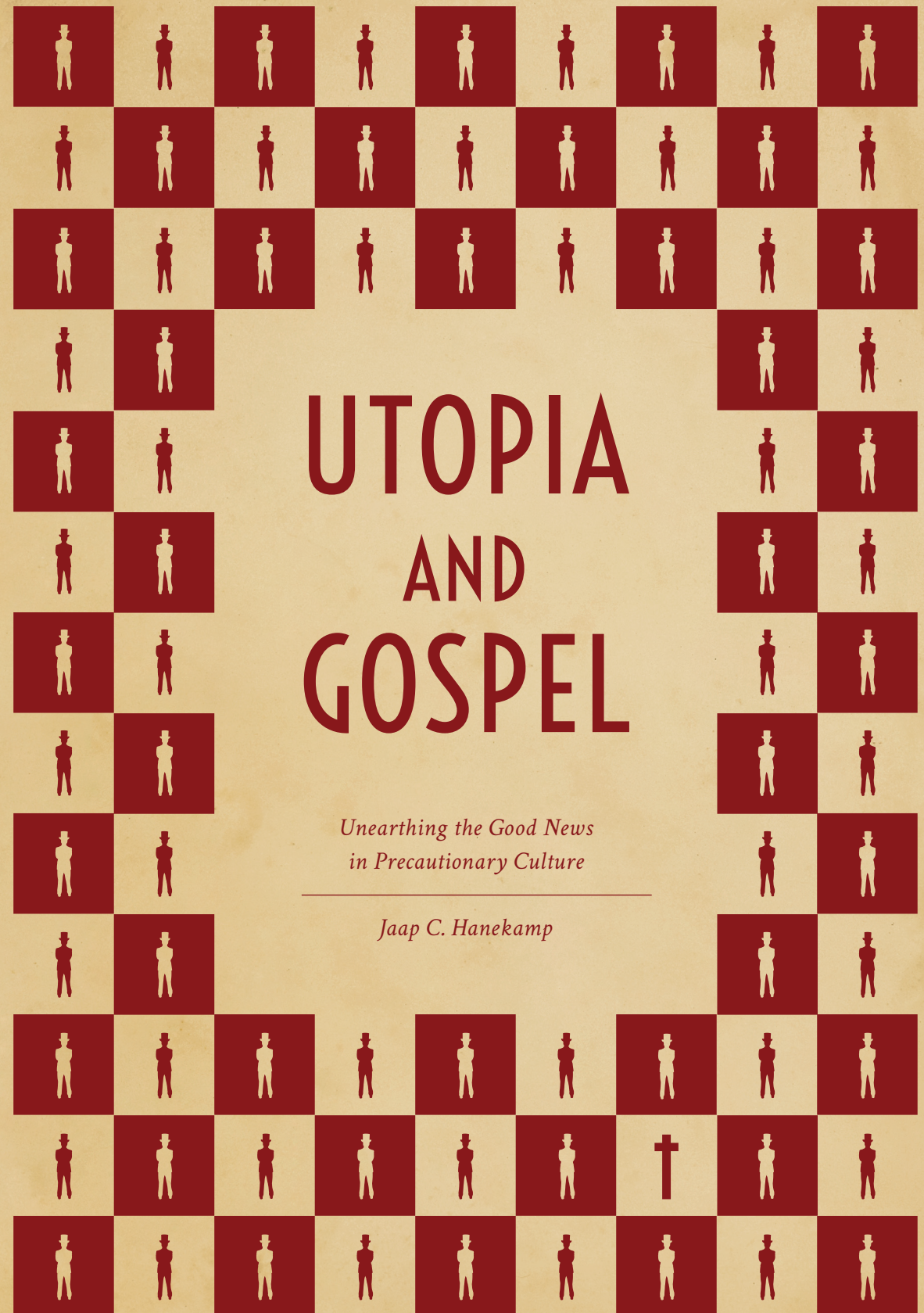
Apart from his work at the University College Roosevelt Middelburg, where he teaches chemistry and the history and philosophy of science, he has his own (small) company *HAN-Research* in which independent scientific research for third party contractors is carried out. Since 2011 he is an adjunct faculty member of the University of Massachusetts Amherst School of Public Health and Health Sciences, department of Public Health, Environmental Health Sciences.

Precautionary culture proved to be a recurrent theme in his work. This book is the result of an attempt to unearth the substructures of the present day risk-averse culture and certain aspects that drive that culture. Theology delivered a fitting empirical and theoretical framework for the analysis presented.

Between 1996 and 2000 he and his wife Winie, together with their three children, foster-parented in total nine teenagers.

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UTOPIA AND GOSPEL - Unearthing the Good News in Precautionary Culture





**UTOPIA  
AND GOSPEL**  
UNEARTHING THE  
GOOD NEWS IN  
PRECAUTIONARY  
CULTURE

# UTOPIA AND GOSPEL UNEARTHING THE GOOD NEWS IN PRECAUTIONARY CULTURE

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Jaap C. Hanekamp  
Zoetermeer 2015

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## UTOPIA AND GOSPEL: UNEARTHING THE GOOD NEWS IN PRECAUTIONARY CULTURE

Proefschrift ter verkrijging van de graad van doctor aan Tilburg University op gezag van de rector magnificus, prof. dr. Ph. Eijlander, in het openbaar te verdedigen ten overstaan van een door het college voor promoties aange-  
wezen commissie in de aula van de Universiteit op woensdag 11 februari 2015 om 16.15 uur door Jaap Cornelis Hanekamp, geboren op 28 juli 1964 te Terneuzen.

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prof. dr. A. Bast

Overige leden:

prof. dr. em. A. van Harskamp

prof. dr. I. Helsloot

dr. R. Pieterman

prof. dr. M. Sarot

*'COOPER: You're a scientist, Brand -*

*BRAND: I am. So listen to me when I tell you that love isn't something we invented - it's observable, powerful. Why shouldn't it mean something?*

*COOPER: It means social utility - child rearing, social bonding -*

*BRAND: We love people who've died ... where's the social utility in that?*

*Maybe it means **more** - something we can't understand, yet. Maybe it's some evidence, some artifact of higher dimensions that we can't consciously perceive. I'm drawn across the universe to someone I haven't seen for a decade, who I know is probably dead. Love is the one thing we're capable of perceiving that transcends dimensions of time and space.*

*Maybe we should trust that, even if we can't yet understand it.'*

*(Interstellar)*

*'... You'll hunt me. You'll condemn me, set the dogs on me ...*

*because it's what needs to happen.'*

*(The Dark Knight)*

*'If I never meet you in this life, let me feel the lack.*

*A glance from your eyes, and my life will be yours.'*

*(The Thin Red Line)*



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*To Martine Evita Sipman (22<sup>nd</sup> of May 1994 – 26<sup>th</sup> of December 2011)*

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# FOREWORD

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*'And everything changes and nothing can last*

*I'm sure you've been here*

*Sometimes I can't help but worry*

*And sometimes I can just let it go*

*I'm sure you've been here*

*The days may have names you can call, but they never come back to you*

*The days are like children, they change into years as they grow*

*They can't find their way and there's no one to show where they're going to*

*They play with us here for a while and so swiftly - they go' (Kari Bremnes)*

---

The words of Kari Bremnes say it all, I guess. While I was working on this book, days indeed quietly slipped into years. Fortunately for me, and those close to my heart, those years were limited. And during that time, slowly but surely this book came into being. Therein, I tried to answer some questions that seemed pertinent at the time, some 7 years ago. My experiences of the last few months of this year, sadly, underline my analyses found in especially the first four chapters of this enquiry. Fear and uncertainty and the attempts to counter both by utopian design are pivotal in our society. The last chapters try to show a hopeful counterpoint thereto. That counterpoint is not found in the abstract of alleged clever argument, but in the person of Jesus.

Now, in the course of studying and writing, relative solitude gradually changed into a singular kind of togetherness with a few

people I want to name here specifically, knowing that I cannot do justice to their input. Obviously, the possibility to actually do PhD research is always at the mercy of a professor willing and able to help a struggling fellow traveller of lesser academic distinction. In my case, two professors tagged me along.

Prof Borgman, dear Erik, I sincerely thank you for taking the time to read through my stuff and identify those aspects of my arguments that required further attention and effort. I truly admire your depth of vision and clarity of argument in our discussions we had in your office. I thank you for the time you have taken to get me to the 'finished product', and I sincerely hope we can find fruitful grounds for more cooperative work. Prof Bast, dear Aalt, we go back a while. And we have worked and published together on quite a few subjects. But the key element here is friendship of a kind rarely found. I sincerely thank you for that and, of course, your critical eye on material you are so familiar with.

Dear Winie, we share many things in life and all in love. Some of the former and all of the latter have found their way into this book. Kari Bremnes' Norwegian lyrics adorning the final chapter you translated so eloquently best encapsulates your loving presence in my life. Yannic, Siard, and Yleana, you have contributed in your own ways to this work. The defining element here is film. The utopian/dystopian kind especially has our attention. *The Road* (2009), *Watchmen* (2009), *Spaceballs* (1987), *The Hunger Games* (2012), *Snowpiercer* (2013), and *Interstellar* (2014) are just a few of the films we have watched and discussed together. The ability of you all three to quote scripts at length is absolutely hilarious and contagious. Yannic, your cover design is spot on; I am so proud that it graces my book.

Mum and dad, you both have been a steady and loving factor in my life and, since February 2007, have courteously hosted me at your 'bed and breakfast' in Zeeland. Your life's histories have influenced me in untold ways. Mum, your entrepreneurial heritage has given me the courage to try to work on my own terms, and I can't thank you enough for that. Dad, your critical and academic eye on this work, as a theologian, pastor, and



friend, has been invaluable and humbling. I will remain forever an indebted amateur in theology.

John, good friend and companion in faith, your insightful observations on this subject and on many other issues crossing our associative minds, your enthusiasm and boundless energy and love are truly infectious. Ron, you are a friend of vision and depth I can't match. My sincere thanks to you for keeping me on track and pointing me towards the right theological habitat in which I indeed thrived. I am honoured that you both accepted to aid me in my public defence as paranymph. That our life's paths may cross frequently and intimately.

Roel, you truly have been a friend not shy, where I failed in thought and word, to speak your mind. And you have, and I have become the better man for it. I can't thank you enough for all your efforts and patience. Winie and I hope to enjoy your company at the dinner table many times over.

Finally, this book is dedicated to Martine Sipman for reasons I cannot express in full, and I thank my friends Annemarie en Geert, her parents, for graciously allowing me this dedication. In Martine's final months, in which my family and myself drew close to her and her family, I was unexpectedly embraced by an abounding nearness. That experience had a myriad of consequences, for one cementing the relationship between the professional and the personal in this book, the love needed to do research as Michael Polanyi so insistently emphasised. The prayer she received at the end of her life voices the immersive and anticipatory hope submitted in the last chapter. The closing part of her prayer reads: '... don't be afraid as our Lord has conquered death in this world, in us, in you, forever.'

Jaap C. Hanekamp  
Zoetermeer, December 2014

# 01. RESEARCH TOPICS

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*I worry, I weigh three times my body  
I worry, I throw my fear around  
But this morning, there's a calm I can't explain  
The rock candy's melted, only diamonds now remain' (John Mayer)\**

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## THESIS STRUCTURE AND SCOPE - PREMISES

---

*'Sure some hazardry  
For the light before  
and after most  
indefinitely'  
(Bon Iver)*

---

In this admittedly eclectic study, a number of topics come together that focus on the so-called precautionary culture, very concisely the ideal of a harm-free society. The precautionary outlook, which is usually portrayed with the aid of the precautionary principle that states that where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation, is regarded as the lodestar to a safe, secure and sustainable future. Sustainability typically is characterised as the ability of humanity to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs. The central tenet that will be developed in this enquiry is that:

In recognising Jesus as the resurrected God Incarnate, the general utopian character of precautionary culture specifically can both be exposed and critiqued. Furthermore, this understanding of Jesus will provide an anticipatory perspective on life that is transcending both suffering and death, the very borderlines the precautionary/sustainable perspective cannot surpass, merely postpone. In the New Testament, this anticipation takes the form of hope.

This tenet will be expounded in a number of ways. Firstly, we will show that precautionary culture at heart is utopian in character, that is the material hope for harmony of demonstrably true ends for all humans, at all times and places in the past, present and future. Secondly, the documented failures of utopian projects in human history entail that precaution, if it is the newest expression of utopian endeavouring, is likely to fail as well. Through exemplar and reasoning we will examine this potential for failure. Thirdly, we will investigate the source of Utopia in human history, that is the life, words and works of Jesus. Consequently, the failure of Utopia, and its potential implications for precaution, implies, it is argued, a non-utopian reading of the New Testament. That reading takes Incarnation and resurrection as genuine aspects of the reality of God's work in our world: the hope embodied in Jesus' life, death and resurrection. Overall, the actuality and failure of the utopian projects requires Jesus to be genuinely in touch with us here and now, not just linguistically or nostalgically. The position then attained gives leeway to an understanding of human life that is transcendent and hopeful in this world, generating perspectives on human action that will foster genuine stewardship of creation that is fully reliant on God.

## INTRODUCING PRECAUTIONARY CULTURE

---

*'What about the  
age of reason?'*  
(John Farnham)

---

“THOSE WHO SEEK SPECIFIC DESCRIPTIONS OF THE “GOOD SOCIETY” WILL NOT FIND THEM HERE. A listing of my own private preferences would be both unproductive and uninteresting. I claim no rights to impose these preferences on others, even within the limits of persuasion. In these introductory sentences, I have by implication expressed my disagreement with those who retain a Platonic faith that there is “truth” in politics, remaining only to be discovered and, once discovered, capable of being explained to reasonable men. We live together because social organization provides the efficient means of achieving our individual objectives and not because society offers us a means of arriving at some transcendental common bliss. Politics is a process of compromising our differences, and we differ as to desired collective objectives just as we do over baskets of ordinary consumption goods. In a truth-judgment conception of politics, there might be some merit in an attempt to lay down precepts for the good society. Some professional search for quasi-objective standards might be legitimate. In sharp contrast, when we view politics as process, as means through which group differences are reconciled, any attempt to lay down standards becomes effort largely wasted at best and pernicious at worst, even for the man who qualifies himself as expert.”<sup>1</sup>

James McGill Buchanan, an American economist and the 1986 Nobel Prize laureate in economics, minces no words in his *The Limits of Liberty*: finding truth in politics that will hold for everyone, everywhere and for all times, is a futile endeavour not without its dangers. Moreover, in an almost tongue-in-cheek manner, he exposes expertise, when considering the standards for the good society, as simply non-existent. We will follow his thread with respect to cultural and societal developments that have dominated especially the Western world from roughly the 1950s onwards. Specifically, precautionary culture and its sustainable tenets will be the focus of the underlying enquiry.

In policies, regulations, and international conventions of all sorts, the precautionary outlook, usually portrayed with the aid of the *precautionary principle*, which states that where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation,<sup>2</sup> is regarded as the lodestar to a safe, secure and sustainable future.<sup>3</sup> *Sustainability* usually is characterised as the ability of humanity to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs.<sup>4</sup>

Succinctly, this enquiry will address the culture of precaution in which we want to live a risk-free, long and healthy life postponing ultimate death as long as possible; it addresses the understanding and use of science in such a culture; it observes the loss of any transcending religious perspective therein and feelings of anxiety and fear; it proposes a rejoinder to this developing culture of precaution for its utopianism that reverts back to such old notions as grace, Incarnation and resurrection. All these apparently loose aspects obviously require explanation, context, and a research framework. For instance, although the term precaution is mundane enough, precautionary culture points at certain specifics of present-day societies very few people seem to be aware of or have indeed heard of at all.

## THREADS – CENTRAL ASPECTS EXPLICATED

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*'Some might  
say they don't  
believe in heaven  
Go tell it to the man  
who lives in hell'*  
(Oasis)

---

### Preliminary notions

As said, precautionary culture and its sustainable tenets will be the focus of the underlying enquiry. Both terms have a closely intertwined history that roughly emerges some 50 to 60 years ago. From that time onwards, the Western world was and is increasingly confronted with facts and stories about anthropogenic-induced degradation of nature, environmental pollution, and threats to human health.<sup>5</sup> Roughly from the

middle of the 20<sup>th</sup> century, the race for a sustainable world that will, at long last, be able to overcome anthropogenic environmental degradation, war, poverty, disease, hunger, climate change is on.<sup>6</sup> Taken as a whole, a ‘... vision of unity –which is not a vision only but a hard and inescapable scientific fact– ... part of the common insight of all the inhabitants of planet Earth, ... to build a human world’ is forcefully put forward in the current debate. ‘In such a world, the practices and institutions with which we are familiar inside our domestic societies would become, suitably modified, the basis of planetary order.’<sup>7</sup>

These visions of a sustainable world future were not developed in poverty-stricken intellectual communities, far from it. They mostly stem from individuals and institutions that are part of the modern Western societies, not hampered by communal diseases, lack of food, or health-threatening environmental ills.<sup>8</sup> In point of fact, members of the societies where these visions spawned *are* privileged to enjoy and value their health, wealth, safety, security, and longevity.

As material needs were met for most people in Western societies, the logic of wealth distribution that has shaped the Western world (and is still shaping the developing world) lost its immediate relevance, assenting to the logic of risk distribution, specifically moulded in terms of precaution and sustainability.<sup>9</sup> Despite this ostensible rational shift of focus, a society in which its members, as said, are fortunate to enjoy and value their health, wealth, safety, security, and longevity, subsequently and paradoxically is gripped by the hazards and potential threats unleashed by the exponentially growing wealth-producing industrial forces that mark the later stages of modernisation. Some have remarked that the increase of wealth and health is paralleled by the rise of uncertainty and fear amongst wealthy Western world citizens.<sup>10</sup>

Previously, during the early stages of modernity, the hazards of science and technology were, unsurprisingly, not prioritised because the overriding societal concerns were how to cope with poverty, hunger, and disease. As Ulrich Beck famously précised: ‘The driving force in the class society can be summarized in the phrase: *I am hungry!* The movement set in motion by the risk society, on the other hand, is expressed in the statement:

*I am afraid! The commonality of anxiety* takes the place of the commonality of need.”<sup>11</sup> On the whole, the secularised industrial western world has developed into a *risk society* characterised by a precautionary culture.<sup>12</sup>

*Damage*, as the crucial function of the precautionary equation, is regarded as something that has to be foreseen and forestalled, indeed eliminated.<sup>13</sup> Being mistaken about outcomes of human activities, products, and interventions that could be detrimental to humans and/or the environment now or in the future, even accidents, should be minimised up to the point of eradication. A *British Medical Journal* editorial for instance states that ‘... most injuries and their precipitating events are predictable and preventable. That is why the *BMJ* has decided to ban the word accident.’<sup>14</sup> In a similar vein, it is noted elsewhere that ‘[t]he goal for replacing the term *accident* must be that the event be understood as the consequence of a causal chain of facts and circumstances in which the subject always can intervene to avoid its occurrence or to mitigate its consequences. That is, as a *preventable fact*.’<sup>15</sup> Incurred damage, as a preventable instance, is, consequently, a *disgrace*.

Precautionary culture brings together damage and disgrace in a new way.<sup>16</sup> Being mistaken is nowadays a theme that is deeply embedded with the moral connotation of a disgrace of the societal system as a whole, even though, undeniably, ‘[n]ature has established patterns originating in the return of events, *but only for the most part*.’<sup>17</sup> This is a key statement in the discussion about our future. Without the italicised qualification, the world would be predictable, and there would be no *uncertainty* and thereby no *risk*.<sup>18</sup> The whole issue of precaution would vanish into thin air.<sup>19</sup> But it is quite the reverse; precaution is the central theme on our way to tomorrow.

This signifies that despite the oft-heard cliché that ‘nothing is certain’, certainty and security have become societies’ holy grail of which science and technology paradoxically are the guides *par excellence*, as is our collective experience from industrial society and its risk culture. The uncertainty of time and future rise to the surface here (see below).

### Three lines of enquiry

Three lines of inquiry are embedded in a theoretical framework that centres on the purported utopianism of precautionary culture.

- (I) Precaution is seen as the guiding societal principle with respect to uncertainty, hazard, and risk that accompany the fear and anxiety that are part and parcel of our culture. The rise of precautionary culture, the application of the precautionary principle exemplified in four contemporary usages, and a critique, are addressed in chapter two and three. We here centre on 'time-uncertainty', that is the ambiguous future of humankind in an uncertain world;
- (II) Precautionary culture imbues science with scientific requirements, which will be examined in chapter four in some detail;
- (III) A theological critique centred on the life, works, and words of Jesus, capable of challenging the utopian-dystopian outlook of which precaution seems the newest modification, is considered in chapter five and six. Chapter seven rounds up the arguments put forward in this enquiry.

(I) The utopian prospects of precautionary culture – 'a toxic-free society',<sup>20</sup> 'guaranteeing safe foods', 'eradicating poverty and terrorism', 'no more hunger', and the like – imposes a dystopia of the present as is the structure of the utopian dialectic.<sup>21</sup> The hazards and risks of modernity, the plights of the present world and its precarious future, *need* to be portrayed and experienced on an all-encompassing dystopic level so as to capture the hearts and minds of contemporary world citizens to let the societal systems managers strive for this better world, which is christened sustainable.<sup>22</sup> Here, time-uncertainty plays out specifically, as the uncertain future needs to be attenuated in precautionary and sustainable terms.

James Scott identifies four historical elements of state-initiated utopian social engineering that could be useful here:

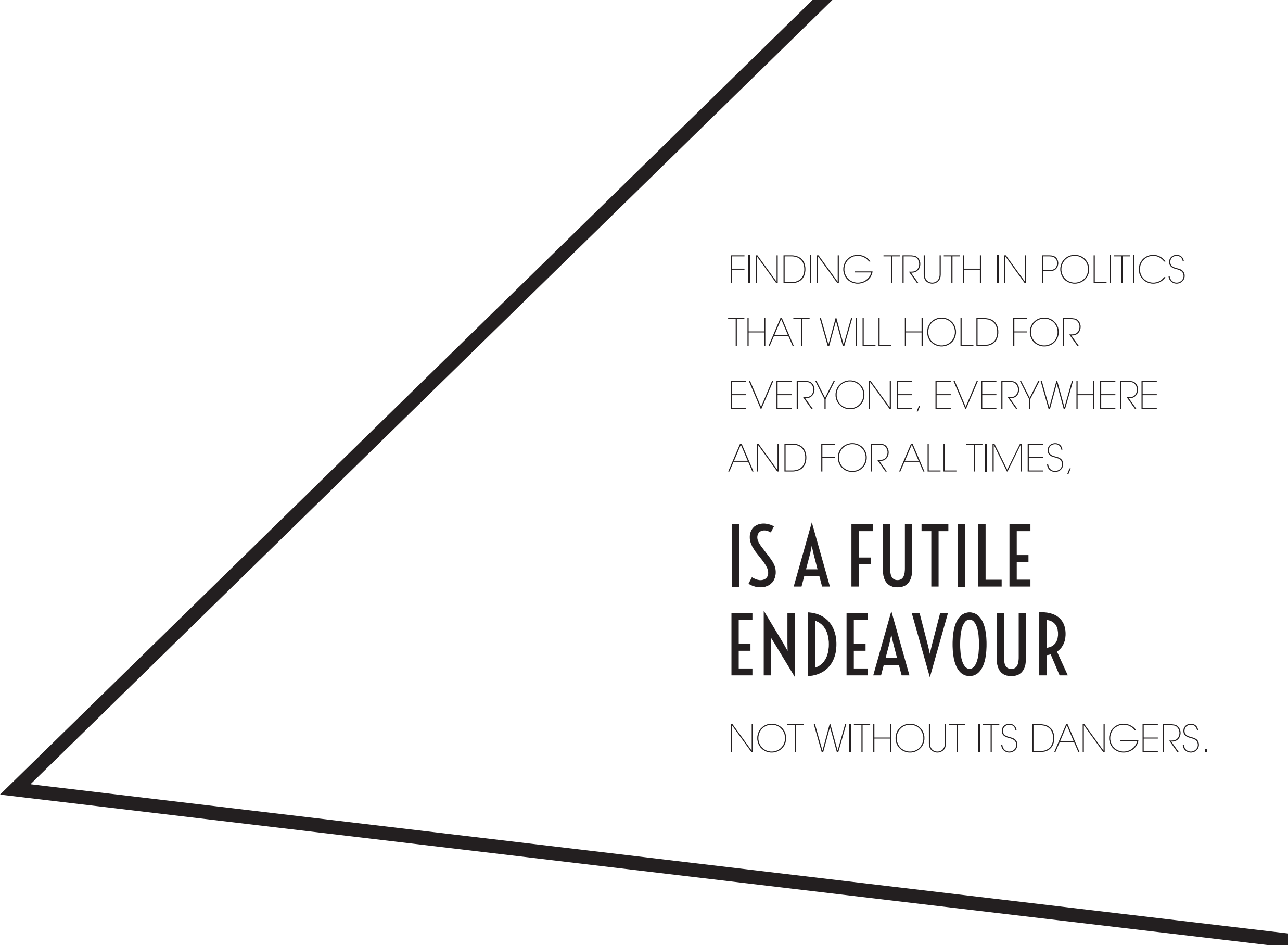
(I) the simplified 'administrative ordering of nature and society'; (II) the 'high-modernist ideology', that is the 'self-confidence about scientific and technological progress', a 'faith that borrowed the legitimacy of science and technology', whereby it became 'uncritical, unskeptical, and thus unscientifically optimistic about the possibilities for the comprehensive planning of human settlement and production'; (III) the rise of an 'authoritarian state that is willing and able to use the full weight of its coercive power to bring these high-modernist designs into being'; (IV) the rise of a 'prostrate civil society that lacks the capacity to resist these plans.'<sup>23</sup> Although the revolutionary fervour with its social engineering of the 1950s and 1960s all but petered out, usually seen as a result of the dissolution of Christianity, in precautionary culture the discourse of social engineering is again introduced, albeit in all-embracing contours. The Christian eschatological perspective is traded in for the utopian precautionary perspective of sustainability, despite the fact that the latter is no more than the pitiable orphan of the former. Nevertheless, the former continues to be the crucial facet of the latter regardless. As a result, precautionary culture instigates a type of dualism that to some extent equals, for lack of a better term, Gnosticism. The romanticism of the pastoral ideal thus is infused into our culture. The latter is another aspect of the precautionary discourse we will interrogate.

(II) Another part of the precautionary discourse is related to science and its ostensible cultural privileged status as the primary source of authority in relation to decision-making, which warps science into scientism.<sup>24</sup> The scientific attribute of precautionary culture should bear out under close inspection.

Overall, our era could well be called the age of assessment.<sup>25</sup> With the help of varied scientific fields, the paths towards precautionary requirements mentioned above are charted. This development within the sciences carries scientific traits, that is the idea that science alone is deemed to be capable of elucidating and resolving genuine human problems (poverty, social inequity, global warming, pollution, food safety, and etcetera) whereby all human affairs are reducible to science.<sup>26</sup>

Despite its inherent provisional nature, outcomes of scientific





FINDING TRUTH IN POLITICS  
THAT WILL HOLD FOR  
EVERYONE, EVERYWHERE  
AND FOR ALL TIMES,

**IS A FUTILE  
ENDEAVOUR**

NOT WITHOUT ITS DANGERS.

research are to be understood as a belief (as in trust) that provides an unquestionable and full account of the truth of reality as is. Thus scientism has found fertile soil in precautionary culture. Simultaneously, science has become increasingly acquiescent to the culture it helped spawn. Contemporary culture is committed to what science delivers,<sup>27</sup> notwithstanding its inherent and well-documented fallibility.<sup>28</sup>

Another aspect of the scientism feeding off of precautionary culture is related to the predominant naturalism found in the sciences. This layer of scientism will have our attention as to formally bridge the purported gap between ‘theology and the world’.

(III) Lastly, we will look at a viable route of critique. Two tacks of this critique need to suffice here; in the final paragraph this point will be developed further. On the one hand, it is clear that the human ability to be precautionary in an overarching manner has its real-world risk- and uncertainty-inducing tradeoffs. As Scott observes: ‘The great high-modernist episodes ... qualify as tragedies in at least two respects. First, the visionary intellectuals and planners behind them were guilty of hubris, of forgetting that they were mortals and acting as if they were gods. Second, their actions, far from being cynical grabs for power and wealth, were animated by a genuine desire to improve the human condition – a desire with a fatal flaw.’<sup>29</sup> We will substantiate this by a few precautionary examples.

Conversely, as Zygmunt Bauman observes, there is a connection between existential fears most Westerners experience with substitute-fears that allow some form of control: ‘Unable to slow the mind-boggling pace of change, let alone to predict and control its direction, we focus on things we can, or believe we can influence .... We are engrossed I spying out ‘the seven signs of cancer’ or ‘the five symptoms of depression’, or in exorcising the spectre of high blood pressure, a high cholesterol level, stress or obesity. In other words, we seek to *substitute* targets on which to unload the surplus existential fear .... Each next revision of the diet in response to a successive ‘food panic’ makes the world look *more* treacherous and fearsome, and prompts *more* defensive actions – that will, alas, add more vigour to the self-propagating capacity of

fear.’<sup>30</sup> These aspects of the critique are embedded in a larger framework centered on anticipation and hope elaborated on in the closing paragraph of this chapter.

## LIFE AS ANTICIPATION – CHALLENGING FEAR AND THE UTOPIAN RESPONSE THROUGH HOPE

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*I should have  
seen the signs  
They were right  
before my eyes  
He could have  
saved my soul’  
(Aim feat. Kate Rogers  
-Rae & Christian  
Remix)*

---

The lines of enquiry stated above engender a perspective that unearths firstly the upsurge in fear and anxiety witnessed in contemporary societies and secondly the rationality of risk distribution and the utopian aids in the form of precaution and sustainability as the purported workable answers. The central tenet we have stated above clarifies the second aspect as well as counters the first.

Concomitantly, the widely accepted scientific assertion that ‘nature is enough’ –that is that this life and all that it contains is all there is whereby life’s transcendence is denied- feels for not a few like a prison-sentence,<sup>31</sup> and has its injurious consequences for the life-politics people embrace. Ironically, the attempt to bring utopian order to ultimate cosmic disorder (according to the followers of scientism),<sup>32</sup> is nothing other than postponing the chaos that at last will engulf us all in death.

Notwithstanding the overwhelming presence of the materialistic outlook on life in contemporary culture, the *anticipation* of life’s fullness above and beyond the material, cultural, and societal tenets we now live by is possible.<sup>33</sup> More than just an attempt to explain, we will thus propose a viable route out of the utopian-dystopian impasse. If we allow for the notion that the human spirit has already transcended, in principle, the limits of nature, then life can be understood as anticipatory.

In the New Testament, anticipation of this fullness of being, transcending suffering and eventually death, takes the form of hope.<sup>34</sup> The culmination of this enquiry, as defined in the basic tenet above, will focus on the life, death, and resurrection of Jesus as found in the Gospels, as he is to be understood, I contend, as the embodiment of that hope. This is probably

best expressed by the frequently uttered command in the Bible to 'not be afraid';<sup>35</sup> or on a more individual level, Jesus is said to '... free those who all their lives were held in slavery by their fear of death.'<sup>36</sup> Simultaneously, the history of Utopia is profoundly informed by the New Testament utterings about Jesus that are left unfulfilled in his death on the cross, and thereby in the final analysis up to human implementation. By considering the history of Utopia as potentially epitomised in precautionary culture, Jesus as coming to us through the Gospels is best understood as God Incarnate, that is that Jesus embodies in his own actions, his own journey to Jerusalem and what he would do there, and supremely in his own death, God himself.<sup>37</sup> Thus, it is proposed that a Christological understanding of Jesus<sup>38</sup> emerges from the history of Utopia. This route also requires some remarks on the characteristics of being human, especially with respect to the philosophy of mind. Insights on that level will bolster the viability of the anticipatory character of life we mentioned above. Overall, the following strata will emerge in this enquiry:

- (I) The Christologically informed anticipatory mind-set is a viable alternative to Utopia;
- (II) Paradoxically, Utopia is moulded by New Testament utterings concerning Jesus, his life and works;
- (III) Considering the history of Utopia, however, little justice is done to Jesus' life and works, his death and resurrection, as especially the latter gives actual and primary substance to the anticipatory character of (human) life that simultaneously stands as a critique against Utopia.

We will thus submit an argument that is focussed on the life, death, and resurrection of Jesus that is able to challenge Utopia, now potentially exemplified in precautionary culture, to the full, *if* Jesus is to be understood at all. Utopia thus appears to be the forlorn mirror image of Jesus.

At the close of this chapter, a caveat is called for with respect to what an argument such as developed in this enquiry, or a set of arguments –philosophical, theological or otherwise– can accomplish. What at the maximum one can hope for in general is that arguments will

be decisive in favour of one's conclusions. Specifically, a decisive argument is an argument so strong that, with respect to all inquirers, the argument is such that they ought to embrace the conclusion. However, the difficulty is that by this standard, very few philosophical arguments can succeed at all. Generally, this is because in assessing complex arguments, numerous considerations are relevant. Since we can only assess so much, 'tunnel vision' might ensue when considering only the evidence that the argument (or set of arguments) expresses. Ideally, the total evidence is called for. That, of course, is out of anybody's reach. What is aimed for in this enquiry is that the arguments found in the following pages carry sufficient support.<sup>39</sup>

## References

- \* Adding lines of pop song lyrics to each paragraph is a miniature reference, based on my own (limited) understanding of the songs, to the real-life issues presented here in a technical manner. The Manchester Passion, which is a contemporary retelling of the last few hours of Jesus' life using popular music from the pick of the bunch of Manchester bands, was a pointer. The event was broadcasted live from Albert Square, Manchester at 9 pm on Good Friday, the 14th of April 2006.
- <sup>1</sup> Buchanan, J.M. 1975. *The Limits of Liberty: Between Anarchy and Leviathan*. The University of Chicago Press, Chicago, p. 1.
- <sup>2</sup> See <http://www.unep.org/Documents/multilingual/Default.asp?DocumentID=78&ArticleID=1163&l=en> (last accessed on the 15<sup>th</sup> of November 2014).
- <sup>3</sup> Commission of the European Communities. 2000. *Communication from the Commission on the Precautionary Principle*. Brussels. The precautionary principle has been incorporated in more than 50 multilateral agreements. Trouwborst, A. 2002. *Evolution and Status of the Precautionary Principle in International Law*. Kluwer Law International, The Hague.
- <sup>4</sup> The here used definition for sustainability is best known and is to be found in World Commission on Environment and Development (WCED). 1987. *Our Common Future*. Oxford University Press, Oxford.
- <sup>5</sup> See e.g. Hanekamp, J.C., Frapporti, G., Olieman, K. 2003. Chloramphenicol, food safety and precautionary thinking in Europe. *Environmental Liability* 6: 209 – 221. See further Grübler, A. 1998. *Technology and Global Change*. Cambridge University Press, Cambridge.
- <sup>6</sup> See e.g. the UN Millennium Development Goals. See for an illustrative and entertaining website on a collection of end-of-world scenarios [www.exitmundi.nl](http://www.exitmundi.nl) (last accessed on the 15<sup>th</sup> of November 2014).
- <sup>7</sup> Ward, B., Jackson, L., Dubos, R., Strong, M.F. 1972. *Only one Earth: the Care and Maintenance of a Small Planet. An Unofficial Report Commissioned by the Secretary-General of the United Nations Conference on the Human Environment*. W.W. Norton & Company, New York, London, p. 219 – 220.
- <sup>8</sup> See e.g. Wackernagel, M., Yount, J. D. 2000. Footprints for sustainability: the next steps. *Environment, Development and Sustainability* 2: 21 – 42. Wackernagel, the author behind the well-known idea of the ecological footprint (Wackernagel, M., Rees W. 1996. *Our Ecological Footprint. Reducing Human Impact on the Earth*. New Society Publishers, Canada), idealises poverty in his 2000-contribution. He found what he called a 'model society' in Kerala, in the south-west India. Here people have a life expectancy of about 70 years, a high level of literacy and an income of (sic!) one dollar a day. According to Wackernagel, three ideals of sustainability have been accomplished here: almost Western levels of health, literacy and 'low consumption levels'. He did not mention, check or observe that his model-society in reality is full of dire social ills: alcoholism, poverty, foeticide, gender selection and unemployment.
- See Wadhwa, S. 2004. ...And He Can Keep It. *Outlook India* 12<sup>th</sup> July. See also the famous report to the *Club of Rome*: Meadows, D.H., Meadows, D.L., Jorgen Randers, J. and Behrens III, W.W. 1972. *The Limits to Growth; A Report for the Club of Rome's Project on the Predicament of Humankind*. Potomac Associates, New York.
- See further Versteegen, S.W., Hanekamp, J.C. 2005. The Sustainability Debate: Idealism versus Conformism – the Controversy over Economic Growth. *Globalizations* 2(3): 349 – 362.
- <sup>9</sup> Hanekamp, J.C., Versteegen, S.W., Vera-Navas, G. 2005. The historical roots of precautionary thinking: the cultural ecological critique and 'The Limits to Growth'. *Journal of Risk Research* 8(4): 295 – 310.
- <sup>10</sup> See e.g. Mol, A.P.J., Spaargaren, G. 1993. Environment, Modernity, and the Risk-society: The Apocalyptic Horizon of Environmental Reform. *International Sociology* 8(4): 431 – 459.
- <sup>11</sup> Beck, U. 1992. *Risk Society: Towards a New Modernity*. Sage Publications, London, p 37.
- <sup>12</sup> Beck, U. 1986. *Risikogesellschaft. Auf dem Weg in eine andere Moderne*. Suhrkamp, Frankfurt. In 1992 this book was published in the English translation, note 11.
- <sup>13</sup> Raffensperger, C., Tickner, J. 1999. (eds.) *Protecting Public Health and the Environment: Implementing the Precautionary Principle*. Island Press, Washington DC.
- <sup>14</sup> Davis, R.M., Pless, B. 2001. BMJ bans "accidents". *British Medical Journal* 322: 1320 – 1321. See also Evans, L. 1993. Medical Accidents: No Such Thing? *British Medical Journal* 307: 1438 – 1439.
- <sup>15</sup> Neira, J. 2004. The Word "Accident": No Chance, No Error, No Destiny. *Prehospital and Disaster Medicine* 19(3): 188 – 189. Italics in original.
- <sup>16</sup> Pieterman, R. 2001. Culture in the Risk Society. An Essay on the Rise of a

Precautionary Culture. *Zeitschrift für Rechtssoziologie* 22(Heft 2): S.145 – 168.

<sup>17</sup> Bernstein, P.L. 1996. *Against the Gods. The Remarkable Story of Risk*. John Wiley & Sons, Inc. New York, p. 329. Italics added.

<sup>18</sup> The origin of the word risk is disputed. Some believe it to be derived from either the Arabic word *risq* meaning ‘anything that has been given to you [by God] and from which you draw profit’ or the Latin word *risicum* that refers to the challenge posed by a barrier reef to a sailor. The *Oxford English Dictionary* suggests risk dates as a word from the 17<sup>th</sup> century, with the origin thought to be from the Italian *risco, riscare, rischiare*. Others link the emergence of the word and concept with early maritime ventures in the pre-modern period (whereby Spanish and Portuguese words spilled over to the English language) referring to sailing into uncharted waters. For instance, the Spanish word *risco* refers to ‘a rock’, or one root of the term risk in the original Portuguese means ‘to dare’.

Taken from: Althaus, C.E. 2005. A Disciplinary Perspective on the Epistemological Status of Risk. *Risk Analysis* 25(3): 567 – 588.

<sup>19</sup> I will not delve into the issues of determinism, free will and the like. Although highly interesting, this is beyond the scope of this enquiry. See e.g. Kane R. (ed.) 2002. *The Oxford Handbook of Free Will*. Oxford University Press, Oxford.

<sup>20</sup> With this remark I refer to the Swedish environmental goals that impacted European legislation up to a point. Since 1968, Sweden has realised that most of the country’s environmental problems originate from outside its borders (Sweden is not a major player within the chemical industrial field), and hence to ostensibly improve the country’s environment it has to be internationally active. Domestic environmental policies ‘are increasingly designed with a deliberative view to the possible impact on EU policymaking.’ (Lieverink, D., Andersen, M.S. 1998. Strategies of the “green” member states in EU environmental policy making. *Journal of European Public Policy* 5(2): 254 – 270).

In 2000, the Swedish environmental objectives were defined as follows (Summary of Gov. Bill 2000/01:130):

‘The outcomes within a generation for the environmental quality objective *A Non-Toxic Environment* should include the following:

The concentrations of substances that naturally occur in the environment are close to the background concentrations.

The levels of foreign substances in the environment are close to zero. Overall exposure in the work environment, the external environment and the indoor environment to particularly dangerous substances is close to zero and, as regards other chemical substances, to levels that are not harmful to human health.

Polluted areas have been investigated and cleaned up where necessary.’

Löfstedt sees Sweden’s environmental ambition reflected in EU’s regulation (Löfstedt, RE. 2003. Swedish Chemical Regulation: An Overview and Analysis. *Risk Analysis* 23(2): 411 – 421):

‘In the work building up to the 1992 Rio Conference on sustainable development, Sweden was one of the most active participants. Because of a Swedish initiative, chemicals received a separate chapter, largely based on Swedish chemical control policy (the substitution and precautionary principles). In 1994, the Swedish government organized a conference on chemicals, which in turn led to the establishment of an Intergovernmental Forum for Chemical Safety. When Sweden was negotiating its membership in the EU in 1994, Sweden was granted a four-year transition period during which the EU pledged to review its own legislation .... In fact, ever since Sweden joined the European Union it has been highly active in pushing for an international review of chemical policy. Following a Commission meeting in Chester in 1998 and an informal meeting of the Environmental Ministers in Weimar in May 1999, this objective became a reality.

In the development of the European Commission’s White Paper “Strategy for a Future Chemicals Policy” (CWP) Swedish regulators took a lead role, promoting, among other things, the reversed burden of proof requirement (European Commission. 2001. White paper: strategy for a future chemicals policy. European Commission, Brussels). As such, the differences between this White Paper and the recent Swedish document *Non Hazardous Products: Proposals for Implementation of New Guidelines on Chemicals Policy* are hardly discernable. One of the most important elements of the CWP is that future regulation of chemicals should be based on *hazard, not risk*—a prominent feature of Swedish chemical control policy that argues that chemicals are persistent, bioaccumulative, and should be phased out regardless of what actual risk they may pose ....’



See further Wallström, M. 2008. *Chemicals – The Achilles heel of our society*. Gothenburg Award for Sustainable Development. Gothenburg, Sweden 12 November 2008.

<sup>21</sup> See e.g. Achterhuis, H. 1998. *De erfenis van de Utopie*. Ambo, Amsterdam. [*The Legacy of Utopia*.]

<sup>22</sup> Marx, L. 1964. *The Machine in the Garden. Technology and the Pastoral Ideal in America*. Oxford University Press, Oxford.

This is explicitly not a denial *per se* of problems related to scientific and technological expansion, on the contrary.

<sup>23</sup> Scott, J.C. 1998. *Seeing Like a State. How Certain Schemes to Improve the Human Condition Have Failed*. Yale University Press, New Haven, p. 4 – 5.

<sup>24</sup> Rayner, S. 2006. What drives environmental policy? *Global Environmental Change* **16**: 4 – 6. Italics added.

<sup>25</sup> Rayner, S. 2003. Democracy in the age of assessment: reflections on the roles of expertise and democracy in public-sector decision making. *Science and Public Policy* **30**(3): 163 – 170.

<sup>26</sup> Stenmark, M. 2001. *Scientism. Science, Ethics and Religion*. Ashgate Publishing Limited, Aldershot, England.

<sup>27</sup> Jones, W.E. 2003. Is Scientific Theory-Commitment Doxastic or Practical. *Synthese* **137**: 325 – 344.

<sup>28</sup> We need to make, perhaps superfluously, a distinction between a scientific hypothesis and a metaphysical substantiation. It is quite clear that the latter cannot be considered as if it is the former. Ruling out metaphysics from the outset, as is habitually proposed by adherents of scientism (apart perhaps from mathematics and scientific reasoning itself), begs the question without a proper defence. But, once a defence is mustered against metaphysics, one engages in metaphysics, thereby refuting the position from the outset. Edwin Burtt is on track when he remarks that ‘the attempt to escape metaphysics is no sooner put in place in the form of a proposition than it is seen to involve highly significant metaphysical postulates. ... If you cannot avoid metaphysics, what kind of metaphysics are you likely to cherish when you sturdily suppose yourself to be free from the abomination? ...’

Burtt, E.A. 1932. *The metaphysical foundations of modern physical science*. Dover Publications Inc., N.Y., p. 228 – 229.

See further Feser, E. 2008. *The Last Superstition. A Refutation of the New Atheism*. St. Augustine Press, Indiana.

<sup>29</sup> Scott, note 23, p. 342.

<sup>30</sup> Bauman, Z. 2007. *Liquid Times. Living in an Age of Uncertainty*. Polity Press, Cambridge, 11 – 12.

<sup>31</sup> Haught, J.F. 2006. *Is Nature Enough? Meaning and Truth in the Age of Science*. Cambridge University Press, Cambridge, p. 23.

<sup>32</sup> In a tongue-in-cheek ‘What Do You Call A Believer In Scientism Contest’ entry of Matt Briggs’ blog, the winner came up with the term ‘Scidolator’. Briggs commented:

‘This portmanteau was the truest and most evocative entry. It tells you what it is without having to explain it; it is memorable, it is short and easy to say. It can be spelled. It captures beautifully the spirit of over-dependence on science. It cannot be improved upon.

Why does 1 + 1 = 2? Science doesn’t know. Why is murder wrong? Science can’t tell us. Why are the fundamental laws of the universe what they are? Science is silent. Why is there something rather than nothing? Science is of no help. Why is killing an unborn child immoral? Science has nothing to say. Why is it that if All F are G and x is an F that x is G? Science is dumbfounded. What is good and what bad? Science says, “You talkin’ to me?” How can free will exist in a deterministic universe? Science hasn’t a clue.

It is not only that Science cannot answer these questions now, but that it never can. All these and many more are forever beyond the reach of empiricism. There is no observation in the universe, nor can there be, nor will there ever be, which proves  $e^{i\pi} = -1$ . It is impossible to peer at the Unmoved Mover, yet He must be there or, quite literally, nothing would happen.’

See <http://wmbriggs.com/blog/?p=10145> (last accessed on the 15<sup>th</sup> of November 2014).

<sup>33</sup> Haught, note 31, p. 92.

<sup>34</sup> Haught, note 31, p. 23.

<sup>35</sup> See e.g. Mark 5: 21 – 43.

<sup>36</sup> Hebrews 2: 15.

<sup>37</sup> Wright, N.T. 2002. *Jesus’ Self-Understanding*. In: Davis, S., Kendall S.J., O’Collins S.J., G. (eds.) *The Incarnation*. Oxford University Press, p. 47 – 61.

<sup>38</sup> Here, I take the approach of a Christology ‘from below’ –roughly any method in Christology that starts with historical data directly or indirectly

referring to Jesus— more than a Christology 'from above' —roughly any method in Christology that starts with purported data of divine revelation contained in or generated by Scripture. In this enquiry I regard the history of Utopia as a datum to be used in the exploration of the person and life of Jesus. To be sure, as Oliver Crisp points out, 'it is folly to think one can have a method in modern theology that pays no attention to one or other of these two ways of approaching Christology.' (p. 29.)

Crisp, O.D. 2009. *God Incarnate. Explorations in Christology*. T & T Clark, London.

<sup>39</sup> Reppert, V. 2009. *The Argument from Reason*. In: Craig, W.L., Moreland, J.P. *The Blackwell Companion to Natural Theology*. Wiley-Blackwell, Oxford, p. 344 – 390.

# 02.

# PRECAUTION

## OPENING MOVES

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*'I heard a battle raging on the other side of the wall  
I buried my head in a pillow and tried to ignore it all' (Fish)*

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### CHAPTER'S STRUCTURE AND SCOPE

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*'Exposure  
out in the open  
exposure'  
(Peter Gabriel/  
Robert Fripp)*

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THROUGH ALL AGES PEOPLE HAVE TRIED TO DRAW THE CURTAIN BETWEEN PRESENT AND FUTURE. It is an attempt to enter a territory hidden from common mortals. However, an unsurpassable barrier between the now and the future, time and eternity, prevents our getting in and, perhaps, even words fail us to describe this inaccessible world. The uncertainty of future time is the subject of many a speculation, projections or predictions.

In this chapter we will exanimate the latest attempt to smooth this barrier between present and the uncertain future. This attempt, precaution, has emerged with the modern conception of risk. Precaution signifies an action taken beforehand to

protect against *possible* danger, failure, or injury. Precaution, as is understood nowadays, essentially takes prevention a critical step further, by deciding not to postpone physical, legal or political intervention to prevent potential damage on the grounds that scientific evidence of a potential causal hazard chain is limited or even absent.

Here we will delve into that conception and render precaution in its legal framework and its real-world expression through the portrayal of a number of examples wherein precaution plays a crucial role. Furthermore we will examine precaution's link to sustainability, that term made famous by the Brundtland-commission in the 1980s.

We will show by example that despite the laudable outlook precaution tries to create, it in fact instigates the opposite, that is it amplifies uncertainty and cumulatively demands regulatory interventions on an increasing scale, whereby regulatory technology is put in place with its own hazards and uncertainties. We begin however with a miniature excursion to ancient Egypt and from there we go to Mesopotamia, Israel, and on to the modern concept of risk.

### INTRODUCTION<sup>1</sup>

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*'See the heart of man  
in a pagan place'  
(The Waterboys)*

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Of God(s) and men, ...

In prehistoric times the sungod Amon-Re was king on earth till the day the Pharaoh succeeded him on the throne. The sungod, so the canon goes, had put him on his throne to reign as exalted king. The Pharaoh was the incarnated god and, according to the official royal dogma, as omniscient as the sungod Amon-Re. He was the personification of the divine insight whose eyes search the hearts of every living soul. Of course the Egyptians knew quite well that the Pharaoh was a mortal man with physical and psychical limitations. He himself experienced his imperfections. After the unmasking of a plot against his life, Amenemhet I (12th Dynasty 2000 – 1970) remarked: 'I was not prepared for it. I had not foreseen it.'<sup>2</sup>

In the battle of Kadesj (1299 BC), Ramses II (19th Dynasty 1304 – 1237) is surrounded by enemies and he invokes Amon: ‘Behold, we are alone in the midst of the enemy, for the archers and chariots have left us. Let us return, that our lives may be saved. Save us, O my lord, Rameses Miamun!’<sup>3</sup>

Centuries later and far off in the east, king Nebuchadnezzar II (605 – 562 BC) ruled over Babylonia. Once he was haunted by dreams he could neither retrace nor explicate. He summoned the magicians, enchanters, sorcerers and astrologers to tell him his dream and its interpretation. Their response was quite recognisable: ... ‘There is not a man on earth who can do what the king asks! No king, however great and mighty, has ever asked such a thing of any magician or enchanter or astrologer. What the king asks is too difficult. No one can reveal it to the king except the gods, and they do not live among men.’<sup>4</sup>

In Israel the king is Jahweh’s servant: ‘I have found David my servant; with my sacred oil I have anointed him.’, sings psalm 89, and ‘He will call out to me, ‘You are my Father, my God, the Rock my Savior.’ But the psalm gives no assurance that the king thereby has gained knowledge of future events. David did not foresee that his love affair with Bathsheba and the death of Uriah, Bathsheba’s husband, displeased the Lord so much that it had far-reaching consequences. God sent the prophet Nathan to announce the king that ‘the sword will never depart from your house, because you despised me and took the wife of Uriah the Hittite to be your own.’<sup>5</sup> Besides pharaohs and kings, prophets play a prominent part in ancient daily life. They are a group of people who have the gift to foretell the future. The prophet belongs entirely to his god and it is his task to obey him.<sup>6</sup> He is respected and feared, for the message he has to bring encroaches on one’s life, sometimes on a whole nation. When Samuel entered Bethlehem ‘the elders of the town trembled when they met him’ and asked ‘Do you come in peace?’<sup>7</sup> But even prophets were sometimes ignorant of the facts. When the Shunammite boy died, Elisha the prophet complained that Yahweh had hidden it from him.<sup>8</sup>

As shown above the future is not, and can never be, *ours* in the direct sense. In ancient times the gods were invoked to spell the

future, which in modern times is at best a futile attempt and at worst a ludicrous and irrational exercise. Although we will see that the boundary between modern times and the (ancient) past lies with the mastery of risk, and thereby ‘knowledge of the future’, the lines are not drawn as straight as one might think.

In the New Testament, Luke (chapter 14) gives two statements of Jesus, which are clear examples of a form of risk analyses: <sup>28</sup>‘Suppose one of you wants to build a tower. Will he not first sit down and estimate the cost to see if he has enough money to complete it? <sup>29</sup> For if he lays the foundation and is not able to finish it, everyone who sees it will ridicule him, <sup>30</sup> saying, ‘This fellow began to build and was not able to finish.’ <sup>31</sup>‘Or suppose a king is about to go to war against another king. Will he not first sit down and consider whether he is able with ten thousand men to oppose the one coming against him with twenty thousand? <sup>32</sup> If he is not able, he will send a delegation while the other is still a long way off and will ask for terms of peace.’ Beforehand both the builder and the king, mindful of the proverb ‘Look before you leap’, calculate the risks they may run in their projected endeavours.

For millennia, risk remained in the domain of trial and error, but in the course of time, mathematicians showed interest in this subject. Blaise Pascal and Pierre de Fermat laid the foundation for the probability theory that was needed to develop the modern concept of risk. Since then that modern concept of risk and thereby the knowledge of future events has become an integral part of our daily life. The future is no longer disguised under a complete veil of ignorance or the playground of the gods. According to Peter Bernstein this new conceptual device created a historical watershed:<sup>9</sup>

‘What is it that distinguishes the thousands of years of history from what we think of as modern times. The answer goes way beyond the progress of science, technology, capitalism and democracy. ...

The revolutionary idea that defines the boundary between modern times and the past is the mastery of risk: the notion that the future is more than a whim of the gods and that men and women are not passive before nature. Until human beings

discovered a way across that boundary, the future was a mirror of the past or the murky domain of oracles and soothsayers who held a monopoly over knowledge of anticipated events. ...

The ability to define what may happen in the future and to choose among alternatives lies at the heart of contemporary societies. Risk management guides us over a vast range of decision-making, from allocating wealth to safeguarding public health, from waging war to planning a family, from paying insurance premiums to wearing a seatbelt, from planning corn to marketing cornflakes. ...'

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### ... and precaution

The revolutionary idea that defines the boundary between the past and modern times, Bernstein proposes, is the mastery of risk. It is the notion that the future is more than a whim of the gods and that men and women are not passive before nature, as if they are merely pawns on the chessboard of life and its gods. Human beings discovered a way across that boundary via the tool of probability calculus.<sup>10</sup> The future was not a mere reflection of the past or the murky domain of oracles and soothsayers who held a monopoly over 'knowledge' of anticipated or feared events. Probability calculus was the device that the kings of the *Ancien Régime* used to calculate their future populations with regard to their military and financial needs. But probability also and quite significantly led to the development of insurance schemes, first of all with regard to shipping, life insurance and fire insurance.<sup>11</sup>

Now, before we continue, some clarification of terms is required, which overall represent the incertitude of life and human actions. Apart from the historical background of the term *risk*,<sup>12</sup> one formal definition is that it is a condition under which it is possible both to define a comprehensive set of all possible outcomes *and* to resolve a discrete set of probabilities across the array of outcomes. Here, the related term is *hazard* (and also *danger*), that is the *potential* for creating damage to

humans, the environment, economic values, and the like.<sup>13</sup>

By contrast, the term *uncertainty* applies to a condition under which there might be confidence in the completeness of the defined set of outcomes of a certain activity, but where there is no valid basis, theoretical or empirical, for the allocation of probabilities to these outcomes. Lastly, there is the condition of *ignorance*. This applies to circumstances where it is both problematical to assign probabilities (as under uncertainty) and to delineate a complete set of outcomes. Here, it is not only impossible to rank the options, but even their full characterisation is problematic. Under a state of ignorance, it is always possible that there are effects (outcomes) that have been totally excluded from consideration.<sup>14</sup> In the discussions that follow, these three terms will be used, at some level, interchangeably as the boundaries between these terms are somewhat fluid when considering real-life issues. The following (simplified) story is illustrative of some of the terms:<sup>15</sup>

'Three people crossing the Atlantic in a rowboat face a hazard of drowning. The maximum societal hazard in this case is three deaths. Three hundred people crossing the Atlantic in an ocean liner face the same hazard of drowning, but the maximum societal hazard is 300 deaths. The risk to each individual per crossing is given by the probability of the occurrence of an accident in which he or she drowns. The risk to society is given by the size of the societal hazard multiplied by the probability of the hazard. Clearly the hazard is the same for each individual, but the risk is greater for the individuals in the rowboat than in the ocean liner.'

The ability to define what may happen in the future, to choose among alternatives, and to insure against damage and disease, lies at the heart of contemporary societies. In the 20<sup>th</sup> century we have seen a development of industrial society in which *risk culture* increasingly dominated our outlook on life. Risk culture, on the whole, shows great trust in scientific knowledge as a reliable tool to predict and control the future, especially through insurance schemes, either privately or publicly, and the development, implementation and

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'Well, maybe there's  
a god above  
But all I've ever  
learned from love  
Was how to shoot  
somebody who  
outdrew you'  
(Jeff Buckley)

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diffusion of technology. Insurance is best viewed as an overarching social, economic and also political technology in part based on scientific knowledge and used to increase our control over the future. Science, technology, and insurance, subsequently, have dominated the twentieth century and together they, roughly, shaped the Welfare State.<sup>16</sup>

Apart from the rise and diffusion of science and technology in society, as to make risk culture a reality, damage required quite a different appraisal than the time-honoured conception thereof. Overall, we could denote the culture that preceded risk culture as *guilt* culture. In such a culture, damage is seen as the consequence of a lack of prevention exerted *by the victim*. Normally therefore, victims are expected to bear their own losses and learn from the experience. To suffer damage is thus seen as *a moral lesson at the individual level*, and is not in a few instances described as the consequence of 'sin'. Moreover, the misfortune of the one serves as a moral lesson for the many.

Straightforward compensation for this deficit in the quality of prevention and its, in this particular case, disastrous consequences would only lead to further moral decay as it takes away the responsibility of the victim; such is the attitude in guilt culture. Therefore the law, before the 20<sup>th</sup> century, erected high barriers for those who seek compensation from others. Only when the victim is not to blame whatsoever and the damage is entirely the result of the morally wrong actions of some guilty other, is that guilty party held liable for the incurred damage.<sup>17</sup> Part of the story in the 9<sup>th</sup> chapter in the Gospel of John gives ample illustration of this perspective on damage: "As he went along, he saw a man blind from birth. His disciples asked him, "Rabbi, who sinned, this man or his parents, that he was born blind?"

Risk culture, as opposed to guilt culture, no longer subscribes to the idea that damage is the result of some morally wrong action attributable to a guilty (sinful) individual. Damage is seen as the unavoidable side-effect of some *useful* activity. This way of thinking clearly developed pertaining to accidents in the industrial workplace during the last decades of the 19<sup>th</sup> century.<sup>18</sup> *Damage* and *disgrace*, therefore, are separated in risk culture. Risk culture expounds

modern optimism as it shows great trust in scientific knowledge as a reliable tool to predict and control the future. The development of industrial technology, which undeniably creates specific risks in the working place and beyond, is valued in risk culture as long as the price paid for produced goods exceeds the costs of prevention and of compensation.

Risk assessment and management of industrial society ostensibly guides us over a vast range of decision-making: from allocating wealth to safeguarding public health, from waging war to planning a family, from paying insurance premiums to wearing a seatbelt, from planning corn to marketing cornflakes. Indeed, we take it for granted to secure our life-chances and to make arrangements for the future. What's more, legislation guarantees all the more certainty in the fields of employment, social welfare and health care. To insure oneself through many a public and private system has become a standardised and routine part of our modern way of life, which is of crucial importance to us to plan ahead, even, if at all possible, many decades. However, the kind of security here depends for the greater part on economical developments, which in its turn affects our outlook upon life.

Superficially, it seems that all can be known and calculated from past and present experiences. We may consider them as the real building blocks for a wide range of future purposes and projections. Yet lest we forget, precautionary culture expresses a strong desire for a predictable world.<sup>19</sup>

The idea that modern Western world citizens perceive the world as predictable and controllable can be illustrated with the aid of the work of John Searle,<sup>20</sup> although he himself did not focus on the issues discussed here. He makes the informative division between (I) purely natural phenomena (e.g. a stone, a mountain), (II) artefacts (e.g. a knife, a house), and (III) social institutions (e.g. marriage, property). The historical trend in the development of human society is that artefacts and institutions have become increasingly influential for the fate of humans whereas natural phenomena have diminished in importance. Increasingly, it is social reality that dominates human existence, not natural reality.

This social reality is constantly (re)constructed and in this (re)

construction *knowledge* –moral, religious, political, legal or scientific– is the central feature. Conversely, in this framework, the artefacts and institutions created *by* humans in the interests *of* humans present the greatest risks *to* humans. Hence, risks have to be understood as being a creation of human activities. These risks customarily involve an amalgamation of natural phenomena (e.g. snow), artefacts (e.g. ski slopes) and institutions (e.g. ‘avalanche watchers’). Therefore, even the most natural of perilous occasions like storms, earthquakes, volcano eruptions, and tsunamis are no longer seen as merely natural phenomena threatening human life and property. They are considered to fall under human scrutiny and prediction. The human environment, and thereby its risks, is almost entirely perceived to be social, and thereby predictable and controllable.

An interesting example of the consequences thereof is that six Italian seismologists and one government official have been tried for manslaughter of those who died in the earthquake that struck the city of L’Aquila, Italy, on 6 April 2009. The seven were on a committee that had been tasked with assessing the risk associated with recent increases in seismic activity in the area. Following a committee meeting just a week before the quake, some members of the group assured the public that they were in no danger.<sup>21</sup> As of the 22<sup>nd</sup> of October 2012, the Italian scientists and an ex-government official have been sentenced to six years in prison over the 2009 earthquake on the charge of multiple manslaughter. However, the seismologists were cleared of manslaughter on the 10<sup>th</sup> November 2014. An appeals court overturned their six-year prison sentences and reduced to two years the sentence for a government official who had been convicted with them.<sup>22</sup>

As this example at least hints at is that being mistaken nowadays is a theme that is embedded within the moral connotation of *disgrace*. Prevention no longer is enough. The distinction between prevention and the main focus of this enquiry will be discussed below.

## PRECAUTION VERSUS PREVENTION

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*‘The can things with  
the sharp little edges  
That can cut your  
fingers when you’re  
not looking  
The soft little things  
on the floor that you  
step on  
They can all be  
DANGEROUS’  
(Frank Zappa)*

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As the lyrics of *The Dangerous Kitchen* by Zappa show, one can never be too careful. The song has an absurd quality that is not easily missed when you actually hear it. The music intensifies the text, till it saturates your mind. *The Dangerous Kitchen* features on the album *The Man from Utopia*, which was published in 1983, and poetically summarises a perspective now dominant in our Western World culture: precaution.

Precaution seems a harmless, even prudent word of common usage and is ostensibly synonymous with the term prevention. However, they should be distinguished for the purpose of understanding precautionary culture in general and the establishment and implementation of the precautionary principle in particular. We will concern ourselves with the latter below first, after which we will address precautionary culture.

*Prevention* usually means avoiding damage rather than remedying it after the damaging event. The damage to be avoided is clearly defined as resulting from a specific process or product in a causal chain of events: cutting one’s finger in a food processor; injury caused by a car crash; food poisoning as a result of consuming food-borne pathogens such as *Salmonella enteritidis*, and so forth. Thus, prevention entails putting in place measures to ensure, up to a certain degree, that an already identified danger cannot materialise, or to reduce its likelihood.<sup>23</sup> When the Allies liberated Europe, the local population was often warned not to enter meadows, woods, or go along the verge of the roads, because of possible enemy mines. The warning written on many a message board in Europe in those days tells a bitter story: ‘If you pass this point, you’ve had it’.<sup>24</sup> Nowadays industrial designers, being aware of possible dangers of their products, try to reduce or avoid accidents. Food processors will not function if fingers can touch the blades; national and local officials prohibit to travel at more than a specified speed; industrial procedures (e.g. *HACCP – Hazard Analysis and Critical Control Points*) are implemented preventing canned meats being infected with pathogenic micro-organisms.

*Precaution* on the other hand means an action taken in advance to protect against *possible* danger, failure, or injury. Precaution, as is understood nowadays,<sup>25</sup> essentially takes prevention a critical step further, by deciding not to postpone physical, legal or political intervention to prevent potential damage merely on the grounds that scientific evidence of a potential causal hazard chain is limited or even absent. Thus, taking precautionary measures means that regulation of some sort will be introduced at an earlier stage, or that more stringent regulation will be introduced, or that an existing regulation will be applied to ban a product or process even before it is certain that a potential danger *will*, or indeed *can*, materialise.<sup>26</sup>

Precaution can best be explained through the so-called precautionary principle, which has materialised, more or less, in the past five decades, that is from the 1960s onwards. The inherent uncertainties with which human activities are imbued with are the focus of this principle. The precautionary principle is not so much a means to simply reduce uncertainty as is common within preventive strategies and principles. The fulcrum of precaution concerns (scientific) uncertainty about harm as a result of human action: 'Modern-day problems that cover vast expanses of time and space are difficult to assess with existing scientific tools. Accordingly we can never know with certainty whether a particular activity will cause harm. But we can rely on observation and good sense to foresee and forestall damage.'<sup>27</sup> In other words, precaution ostensibly grants us the possibility to preclude damage, or at least err on the side of precaution of human (in)action.

## PRINCIPLES OF PRECAUTION

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'A connecting principle  
Linked to the invisible Almost

The precautionary principle roughly became an explicit tenet of environmental policy in West Germany during the early 1970s. At the core of the German concept of the so-called 'Vorsorgeprinzip' (which literally means 'forecaring-principle') was the belief that society should seek to avoid environmental

*imperceptible*  
*Something*  
*inexpressible*  
*Science insusceptible*  
*Logic so inflexible*  
*Causally connectible*  
*Yet nothing is*  
*invincible'*  
*(The Police)*

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and health damage by careful forward planning, deterring the course of potentially harmful activities. Critically, the Germans viewed 'Vorsorge' as a means of stimulating innovation and social planning for sustainability, rather than simply a tool to block potentially dangerous activities.<sup>28</sup>

On an international level, the principle was first introduced in 1984 at the *First International Convention on Protection of the North Sea* held in Bremen, Germany: 'Precautionary measures for air quality control by reduction of emissions at source should also be determined for the protection of the North Sea, based on the best available technology.'<sup>29</sup> It subsequently emerged as a doctrine cognisable by international policy-making (if not international law) at the *Rio Summit* in 1992. At the end of the *UNCED* conference, the precautionary principle was inserted in the *Declaration on Environment and Development* issued at the end of the conference, and it can be found in numerous national and international legislation and treaties.<sup>30</sup> It enjoys wide international support. The precautionary principle is largely shaped around health and environmental (ecological) themes related to human activities. Historically, precaution and environmental protection are closely intertwined as well (see below). The *Rio*-definition reads as follows: 'Principle 15. In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.'<sup>31</sup>

It is this formulation that is considered the most authoritative among the many formulations of the precautionary principle that can be found nowadays.<sup>32</sup> It is also known as the triple-negative definition: *not* having scientific certainty is *not* a justification for *not* regulating.<sup>33</sup>

Irrespective of definitions of precaution and the appreciations thereof, we will further look into below, there are a number of constitutive elements of precaution that underlie

procedure of implementation.<sup>34</sup> These core elements are usually formulated as follows:

- (I) the triggering circumstances for the application of the principle;
- (II) the timing of regulation subsequent to the triggering of the principle;
- (III) establishing the burden-of-proof-distribution between the regulator and the operator with regard to the potential hazardous product/process;
- (IV) choice of the type of regulation, taking into consideration cost-benefits analysis (CBA) and cost-effectiveness analysis (CEA), whereby the questions of how to weigh the consequences of false negatives and false positives, the role of expert knowledge and the content of regulation should be addressed.<sup>35</sup>

These procedural elements of precaution vary in content and weight with regards to the chosen definition, or modality, of the principle. Indeed, we can conceive of a continuum of *appreciations* of precaution. *The precautionary principle*, therefore, is a misnomer. At one end of the spectrum we find weak versions of the principle (comparable to preventive strategies) to which no reasonable person could object; at the other end of the spectrum we find strong versions of the principle that would appear to call for a fundamental rethinking of how society is presently organised. As Richard Stewart recognises:<sup>36</sup>

- *Non-preclusion Precautionary Principle (PP<sub>1</sub>)*: Regulation should not be precluded by the absence of scientific certainty about activities that might pose a risk of substantial harm.
- *Margin of Safety Precautionary Principle (PP<sub>2</sub>)*: Regulation should include a margin of safety, limiting activities below the level at which adverse effects have not been found *or* projected.
- *Best Available Technology Precautionary Principle (PP<sub>3</sub>)*: Best available technology requirements should be imposed on activities that pose an uncertain potential to create substantial harm, unless those in favour of those activities can demonstrate that they present no (appreciable) risk.

- *Prohibitory Precautionary Principle (PP<sub>4</sub>)*: Prohibitions should be imposed on activities that have an uncertain potential to impose substantial harm, unless those in favour of those activities can show that they present no (appreciable) risk.

PP<sub>1</sub> and PP<sub>2</sub> are weak versions of precaution. Unlike the strong versions (that is PP<sub>3</sub> and PP<sub>4</sub>), they do not mandate regulatory action and do not make uncertainty regarding risks a default affirmative justification for such regulation. The non-preclusion variant of the principle (PP<sub>1</sub>) in essence rejects the common law position of the unwillingness to take protective regulatory measures when absolutely proof of harm for a certain product or process is lacking. It furthermore rejects the common business stance that significant uncertainty about risks should bar the obligation of preventive regulatory controls. *The Bergen Ministerial Declaration*, for example, states that (*italics added*):<sup>37</sup>

'In order to achieve sustainable development, policies must be based on the precautionary principle. Environmental measures must anticipate, prevent and attack the causes of environmental degradation. Where there are threats of serious or irreversible damage, lack of full scientific certainty *should* not be used as a reason for postponing measures to prevent environmental degradation.'

PP<sub>1</sub>, however, does not provide confirmatory guidance as to when regulatory controls should be adopted or what form they should take. PP<sub>2</sub>, unlike PP<sub>1</sub>, is in fact operative only after regulators have made the choice to regulate. Once this decision is made, regulators must first determine the maximum 'safe' level of an activity, and only then authorise the activity at some degree lower than that pre-determined level (the 'margin of safety'). Considering PP<sub>3</sub>, when regulators agree on a serious, albeit tentative, risk (whatever that may mean exactly), they subsequently *must* impose best-available-technique measures. Regulators only have flexibility in terms of the strictness of regulation. For example, the *Second International Conference on the Protection of the North Sea*, considers that:<sup>38</sup>

‘... in order to protect the North Sea from possibly damaging effects of the most dangerous substances, a precautionary approach is necessary which may require action to control inputs of such substances even before a causal link has been established by absolutely clear scientific evidence; ... the principle of safeguarding the marine ecosystem of the North Sea by reducing polluting emissions of substances that are persistent, toxic and liable to bioaccumulate at source by the use of the best available technology and other appropriate measures. This applies especially when there is reason to assume that certain damage or harmful effects on the living resources of the sea are likely to be caused by such substances, even where there is no scientific evidence to prove a causal link between emissions and effects (‘the principle of precautionary action’) ...’

PP<sub>4</sub> is the most rigid variant on the scale of definitions. If there is an uncertain but serious potential of risk of harm (again, whatever that may mean exactly), the activity in question should not be undertaken at all unless it is proven to be safe by the proponent of the activity. PP<sub>4</sub> is illustrated most poignantly in *The Final Declaration of the First European ‘Seas at Risk’ Conference Annex I*:<sup>39</sup>

‘The principle of precautionary action requires that:

1. the lack of scientific certainty regarding cause and effect is not used as a reason for deferring measures to prevent harm to the environment. Science, while important in providing evidence of effect, is no longer required to provide proof of a causal link between pollutant/disturbing activity and effect, and where no clear evidence is available one way or the other the environment must be given ‘the benefit of the doubt’;
2. the environmental implications of each and every planned activity are considered first – the use of the ‘economic availability’ reservation in the application of precautionary measures, e.g., when considering the adoption of clean or cleaner technology/production processes, is inconsistent with this, and must be abandoned;

3. the ‘burden of proof’ is shifted from the regulator to the person or persons responsible for the potentially harmful activity, who will now have to demonstrate that their actions are not/will not cause harm to the environment;
4. if the ‘worst case scenario’ for a certain activity is serious enough then even a small amount of doubt as to the safety of that activity is sufficient to stop it taking place;
5. potentially harmful activities are avoided where, either public debate has not concluded the activity to be a social necessity, or less harmful alternatives exist ...’

Unlike the weak versions of precautionary principle and the in general preventive approaches to regulation, the strong versions make the possible existence of uncertain risks of significant harm both a sufficient and mandatory basis for imposing regulatory controls. The economic weighing factor incorporated in the *Rio*-definition (precautionary measures need to be cost-effective; that is CEA is required)<sup>40</sup> –as the most authoritative of PP<sub>3</sub>-type definitions not entailing excessive costs<sup>41</sup> is rejected in the PP<sub>4</sub>-type definition.

Moreover, in the reversal of the burden of proof, worst-case scenarios should be taken as a departure point. These worst-cases require some sort of threshold of (scientific) plausibility. However, this threshold burden is minimal, and once it is met (in terms of possibility), there is something like a presumption in favour of stringent regulatory controls. As Wybe Douma remarks: ‘... The default rule applied in both the EC and the WTO that the burden of proof rests with the regulating authorities, obliging them to demonstrate the existence of a risk, should be applied in a precautionary manner. The threshold of producing such proof should not be set too high. ...’<sup>42</sup>

Conversely, the reversal of the burden of proof within the context of PP<sub>4</sub> shifts the explanatory obligation of the regulator to the person or persons responsible for the potentially harmful activity, who will now have to demonstrate that their actions are not causing or will not cause harm to the environment. If the worst-case scenario for a certain activity is serious enough, then even a small



amount of doubt as to safety of that activity is sufficient to stop it taking place. Although Douma envisions a minimal threshold of proof for regulating authorities, this threshold is set quite high for the parties (economic or otherwise) involved, which need to present substantial proofs of safety.

It seems that this understanding of the precautionary principle fits with the understandings of its most fervent proponents, and that with relatively modest variations, this understanding fits with many of the legal formulations as well.<sup>43</sup> As Chris Backes and Jonathan Verschuuren, when referring to the precautionary principle in *The Final Declaration of the First European 'Seas at Risk' Conference Annex I* as the most stringent definition of precaution (PP<sub>4</sub>), remark:<sup>44</sup>

'The declaration reflects the opinion of the international environmental movement about the precautionary principle and thus contributes to a better definition of the principle to its gradual integration into the legal culture. This helps principles to acquire significance.'

A somewhat different approach to the appreciation of precaution makes use of a triple-distinction.<sup>45</sup> The initial version of precaution denotes that uncertainty does not justify inaction (PP<sub>1</sub>). It allows for regulation despite the lack of (scientific) evidence regarding a particular hazard. The successive, and stricter, version of precaution justifies taking action in the face of uncertainty (PP<sub>2</sub>). Both versions, however, do not contain any guidance on *what* precautionary actions should be taken. This brings us to the strictest rendering of precaution in which the burden of proof is shifted to the operator combined with the 'no, unless ...' maxim that only lifts a ban on a process/product after proof of harmlessness is provided by the operator. This third rendering of precaution (PP<sub>4</sub> in Stewart's scheme) is usually criticised for its zero-risk content, which most recognise as unreasonable.<sup>46</sup>

All in all, the precautionary tenet does not prescribe the degree of acceptable risk and the height of the threshold of (scientific) evidence that will trigger a precautionary response as such. The precautionary principle can be defined qualitatively as 'thoughtful

action in advance of scientific proof[;] ... leaving ecological space[;] ... care in management[;]... shifting the burden of proof[; and] ... balancing the basis of proportionality.'<sup>47</sup> This brings us back to the procedural character of precaution we mentioned previously in this paragraph and goes above and beyond the diverse substantive appreciations we have briefly touched upon here.

Whether or not precaution holds, either substantively or procedurally, we will delve into later. First, we need to tackle the 'other side' of precaution, referred to earlier as 'ecological space'. As we will see, sustainability, the subject of the next paragraph, is intimately connected to precaution, and requires scrutiny in order to understand precaution as a whole.

## THE SUSTAINABLE PERSPECTIVE OF PRECAUTION - THE 'END OF UNCERTAINTY'

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*'Are we the last ones left alive? Are we the only human beings to survive?'*  
(Rush)

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Those invoking the precautionary principle in essence seek to advance the timing and tighten the stringency of *ex ante* regulation. *The uncertainty of future time needs to be coped with.* On these sliding scale dimensions, regulation is 'more precautionary' when it intercedes earlier and/or more rigorously to bar uncertain future adverse consequences of particular human activities.<sup>48</sup> The axiom put forward in the precautionary principle is that implementation regarding risks to human health and/or the environment singularly results in the reduction or elimination of those risks. Otherwise stated, for a given human *activity* that may have a(n) (un) specified *effect* on the environment and/or human health, the precautionary principle is supposed to designate a (or should we say *the*) *remedy*.<sup>49</sup>

Holmes Rolston III refers to a set of limits on permissible actions that capture precaution without specifically mentioning it, arguing that corporations act ethically only if they assume that their actions are potentially harmful, and then strive to demonstrate otherwise before implementing that action:

‘Chemicals, unlike persons, are not innocent until proven guilty but suspect until proven innocent. So the burden of proof shifts, and it is now up to the industrialists to dispatch it. This puts them again on the frontier, technologically and morally. ...’<sup>50</sup> The position by Rolston mirrors the outlook as developed by Talbot Page:<sup>51</sup>

‘When a regulator makes a decision under uncertainty, there are two possible types of error. The regulator can overregulate a risk [*false positive, author*] that turns out to be insignificant or the regulator can underregulate a risk [*false negative, author*] that turns out to be significant. If the regulator erroneously underregulates, the burden of this mistake falls on those individuals who are injured or killed, and their families. If a regulator erroneously overregulates, the burden of this mistake falls on the regulated industry, which will pay for regulation that is not needed. This result, however, is fairer than setting the burden of uncertainty about a risk on potential victims.’

Steffen Foss Hansen states that the costs of just one false negative –e.g. asbestos- substantially outweigh the sum of health costs in all of the identified false positives. He subsequently concludes that the ‘risk that an original precaution based decision later turns out to have been unnecessary is a risk that decision-makers have to be willing to take. The reason is that the potential consequences of being wrong about something harmful can be far more severe than the consequences of being wrong about something being harmless.’<sup>52</sup> In this perspective, the precautionary principle can be viewed as the core principle for achieving a sustainable (global) society where the risks, which ill-considered scientific and technological developments might present for contemporary and especially future generations, are curbed in various precautionary ways. The hopes are that the precautionary principle will generate a new (environmental) law system with universal breadth that will protect the present and future generations against the uncertain environmental and health risks associated with the highly and technologically evolved production methods and consumption patterns. Precaution therefore is regarded as the lodestar on the road to sustainability.

Perhaps the most notable contemporary regulatory example of sustainable development is the worldwide attempt, governed mainly by the Kyoto Protocol, to limit damage to the environment by cutting greenhouse gas emissions, mainly carbon dioxide.<sup>53</sup> The signatories are convinced that prudence is required to prevent damage to the world’s climate systems, in order to ensure that the environment indeed has a good future and that it should not be further shaken by recourse to technologies whose effects were controversial or uncertain. A technology that might be inimical to sustainable development should perhaps not be used at all, or used only moderately, or subject to certain safeguards.

Now, sustainability is not an easy goal to define or indeed comprehend. Many societies have been sustainable only by regular adaptation. Refraining from technical or political reform because of doubts about its sustainability could be a prescription for ‘never trying anything new’. In this context, the environmental historian John McNeill notes that history offers many examples of apparently unsustainable societies that nevertheless endured for long periods of time.<sup>54</sup>

The *World Commission on Environment and Development*, named after its chairperson the then prime minister of Norway Gro Harlem Brundtland, defined sustainability most famously as ‘the ability of humanity to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs. Sustainable development is not a fixed state of harmony, but rather a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development and institutional changes are made consistent with future as well as present needs.’<sup>55</sup> However, many more definitions are in existence –over 60 have been tallied–<sup>56</sup> adding to the complexity of the issue.

In the past, as is the common perspective, the impact of human societies on the physical world is regarded as relatively limited. The unprecedented scientific and technological developments of the last two centuries have made it possible for man to damage not only (large) sections of the globe we inhabit, but the globe itself.<sup>57</sup> However, the negative effects of these developments on human

health or the environment are not always apparent at once. Few would have predicted a century ago what the motorcar has done to change the world, or that asbestos might have fatal effects on factory workers.

When King James the Sixth of Scotland (and First of England) published his 'Counterblaste to Tobacco', his was probably a minority opinion. Nowadays, the medical profession worldwide would echo his condemnation of smoking as 'a custome lothsome to the eye, hatefull to the Nose, harmefull to the braine, dangerous to the Lungs, and in the blacke stinking fume thereof, neere resembling the horrible Stigian smoke of the pit that is bottomelesse.'<sup>58</sup> Conversely, those who foresee dire consequences from innovation may be mistaken. It was asserted during the 1920s that frozen food could be harmful to health, but that genuine controversy had a far less significant impact than the debate over, say, mobile telephones today.

Precaution and sustainability are closely related to each other (see e.g. *The Bergen Ministerial Declaration* above). As such, the precautionary principle impresses upon us a moral obligation to take care of the environment, of humankind, our children, and our children's children. Indeed, as stated by the *European Commission*: 'The dimension of the precautionary principle goes beyond the problems associated with a short or medium-term approach to risks. It also concerns the well-being of future generations.'<sup>59</sup>

The precautionary principle carries a profound intergenerational perspective on anthropogenic activities and its potential future catastrophic consequences, especially with global scale. Therefore, precautionary regulation has also found its way into areas other than environmental issues, such as food safety (see below),<sup>60</sup> energy conservation, but also in international armed conflict. Pre-emptive military activities such as in Afghanistan and Iraq distinctly bear precautionary characteristics as well.<sup>61</sup> Another example that lies in the military sphere is US National Security Agency's broad surveillance of Americans' phone records as a means to prevent future terrorist attacks on American soil. We will, however, have our focus on public and environmental health issues with respect to the functioning of precaution.

Nevertheless, the military/security themes mentioned here underline even further the pervasive nature of precaution, and the ostensible importance of the interconnectedness in time and space of human actions. This is clearly exemplified in the closing sentences of Kerry Whiteside's *Precautionary politics*:<sup>62</sup>

'Most important, the precautionary principle reflects the realization that the whole community now embraces not only fellow citizens in one's own nation-state but also people across the globe and their successor generations. Precautionary politics means that we must take responsibility for maintaining the robustness of the intricately interconnected ecological systems that sustain life on this planet – even when we are far from understanding all the conditions that make them thrive. Never before has so much wisdom been required of humanity's slowly advancing capacity for political association.'

The issues of sustainability and precaution are defined in an intergenerational anthropocentric manner when considering influential documents such as *Our Common Future* and the *Rio Declaration*. Intergenerational anthropocentrism is the view that people's behaviour toward nature should be evaluated on the basis of how they affect both present and future human generations. However, there are other perspectives possible that are not just anthropocentric,<sup>63</sup> and it is clear that different perspectives generate different policies. We will however not explicate the differences and evaluate the consequences thereof, as it is outside the scope of this enquiry. Therefore, reflections on precautionary culture and its principle that are developed in this study will refer to policies that carry implicitly or explicitly the intergenerational anthropocentric perspective. As stated in the 1<sup>st</sup> and 3<sup>rd</sup> Principle of the *Rio Declaration*: 'Principle 1. Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature. ... Principle 3. The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations.' The *World Commission's* report states that 'hope for the future is

conditional on decisive political action now to begin managing environmental resources to ensure both sustainable human progress and human survival.<sup>64</sup>

The goal of an intergenerational anthropocentric policy on sustainability is to ensure that the natural resources are used in a proficient and farsighted manner so that the needs of present and future human generations can be satisfied and even expanded. The focus is to create an ecologically sustainable development in which the human population can thrive. Indeed, the latter required, according to the *World Commission*, a certain minimum economic growth as to alleviate ‘pressure on the environment’ because of absolute poverty: ‘Given current population growth rates, this would require overall national income growth of around 5 per cent a year in the developing economies of Asia, 5.5 per cent in Latin America, and 6 per cent in Africa and West Asia.’<sup>65</sup>

In a sense, sustainable development, through the expansion of precautionary culture, inadvertently and ironically tries to bring to a close future uncertainty of the fate of humanity and its global habitat. Some cases will illuminate this quixotic perspective.

## PRECAUTION AND SUSTAINABILITY – A PROLEGOMENON

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*There’s gotta be  
a record of you  
someplace  
You gotta be on  
somebody’s books’  
(Dire Straits)*

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### Cases

Below, four cases will be discussed that express, in varied ways, the precautionary outlook. The cases are on the one hand descriptive, and on the other provided with criticism that pragmatically introduce the more fully developed analysis presented in the next chapter. The critical reflections, for ease of reference, are thus kept close to the four cases presented. The *first* case on chemical food safety unravels the precautionary drive to eliminate certain chemical compounds, such as antibiotics, from foods. The *second* case scrutinises the so-called linear non-threshold model that undergirds the approach found in the first case. When dealing with genotoxic

carcinogens, the LNT’s ‘no-dose no-disease’ approach in toxicology is regarded as the safest (i.e. precautionary) regulatory route towards chemical food safety. We will show that the LNT-model is at least an amalgamation of precautionary scientific deliberations and cautious regulatory predilections. The *third* case takes a look at the way the European Union regulates micronutrient supplementation, and in what way precaution is interlaced in the relevant policies. The two main regulations discussed are characterised by a precautionary focus on risk whereby the potential benefits of micronutrient intake, in light of prevalent malnutrition, is ignored. Moreover, knowledge on the potential benefits of micronutrient is scientifically monopolised by the competent authorities, expressing the precautionary empowerment of bureaucracy. The *final* case discusses the Illegal, Unreported and Unregistered (IUU) Fisheries regulation. Here, precaution and sustainability are closely intertwined as a means to, *laudably* I must stress, stall IUU. Even so, the IUU effort generates tradeoffs that impede the set goals, such as rising administrative burdens more effectively handled by already well-organised countries to the detriment of the less developed countries, and, inadvertently, fraud.

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*You can look  
at the menu  
but you just can’t eat  
...  
No one, no one,  
no one ever is  
to blame’  
(Howard Jones)*

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Chemical *food safety* – chloramphenicol (CAP)<sup>66</sup> and semicarbazide (SEM)

During a lifetime, an individual consumes, on average, 30 tons of food, in endless dietary varieties. However, digestion splits all the foods found in all these different diets into the same basic nutrients: nutrients, non-nutritive naturally occurring components (including anti-nutritives<sup>67</sup> and natural toxins), man-made contaminants and additives.<sup>68</sup> Food, thus, is chemistry.

Interestingly, the focus of regulatory policy throughout the world is on synthetic (man-made) chemicals potentially present in food, whereas 99.9% of the chemicals humans ingest are in fact natural. The amounts of synthetic pesticide residues in plant foods, for example, are low compared to the amounts

of natural pesticides produced by plants themselves. Of all dietary pesticides that humans eat, roughly 99.99% are natural. These are chemicals produced by plants to defend themselves against fungi, insects, and other animal predators.<sup>69</sup>

A field in which precaution is deemed to be essential is food safety. With the installation of the *European Food Safety Authority (EFSA)*, the precautionary principle was specifically referred to, and hence it takes prime position in the development of European regulation within the area of food production and consumption.<sup>70</sup>

One issue that has caught the public and regulators attention is related to the use and presence of antibiotics in food-producing animals and its potential detrimental health effects. Protecting the general public,<sup>71</sup> e.g. from toxic chemicals, particularly carcinogens, has been a principal goal of public policy. Indeed, the *European Commission* has consistently endeavoured to achieve a *high level of protection*, among others in environment and human, animal or plant health.<sup>72</sup> Outlining the overarching role of precaution in food law, article 7 (p. 9) of EC Regulation No 178/2002, the precautionary principle is presented in the following terms: 'In specific circumstances where, following an assessment of available information, the possibility of harmful effects on health is identified but scientific uncertainty persists, provisional risk management measures necessary to ensure the high level of health protection chosen in the Community may be adopted, pending further scientific information for a more comprehensive risk assessment.'<sup>73</sup>

Because of blatant misuses, precautionary zero-tolerance had been deemed an opportune approach to ban the use of certain veterinary products, which may show up in foods as residues. Here, we will focus on toxicological issues.

With the discovery of penicillin in 1928 by Alexander Fleming, the human potential to tackle bacterial infections in both humans and animals grew immeasurably, with the downside –bacterial resistance in both humans and animals- already recognised many decades ago.<sup>74</sup>

Penicillin is made by the fungus *Penicillium notatum*. Yet most antibiotics we now know today are derived from *Actinomycetes*, nature's topmost *bacterial* antibiotic producers, of which

*Streptomycetes* account for well over half of these commercially and therapeutically significant antibiotics.<sup>75</sup> The antibiotics industry is valued at roughly \$ 25 billion per year.<sup>76</sup>

CAP (initially chloromycetin) was first isolated for therapeutic purposes by Ehrlich *et al.* in 1947.<sup>77</sup> A year after its isolation it proved to be quite effective against typhoid fever.<sup>78</sup> Apart from being used as human medication, CAP also has an extensive track record in animal food production. CAP is an efficacious therapeutic agent that has been widely used in fish farms.<sup>79</sup>

Despite its successful medical and veterinary history, CAP fell out of favour in the medical field because of the side-effect aplastic anaemia, a form of anaemia in which the bone marrow ceases to produce sufficient red and white blood cells. Its incidence is extremely rare but quite often fatal.<sup>80</sup> Nevertheless, CAP is still very widely used in low-income countries because it is exceptionally cheap. In the West, CAP is also still used, albeit mostly in topical preparations (ointments and eye drops).

The minimum dose of CAP associated with the development of aplastic anaemia is unknown. The aplastic anaemia incidence estimated by the *JECFA (Joint FAO/WHO Expert Committee on Food Additives)* is in the order of 1.5 cases per million people per year.<sup>81</sup> Only about 15 per cent of the total number of cases was associated with drug treatment, and among those CAP was not a major contributor. These data roughly give an overall incidence of therapeutic CAP-associated aplastic anaemia in humans of less than one case per 10 million per year. Epidemiological data relating to the ophthalmic use of CAP in humans suggest that this form of administration is unlikely to be connected with aplastic anaemia.<sup>82</sup> Because of the limited data available, however, it is unfeasible to determine a proper dose-response model for aplastic anaemia.<sup>83</sup> Apart from this serious medical side effect, CAP is regarded as genotoxic and carcinogenic,<sup>84</sup> thereby receiving an unfavourable appraisal in the veterinary field. Even so, the available data on the genotoxicity show mainly negative results in bacterial systems and mixed results in mammalian systems. It was concluded that CAP must be considered genotoxic, but only at concentrations about 25 times higher than those occurring in patients treated with the



highest therapeutic dosages.<sup>85</sup> CAP is categorised by the IARC (the *International Agency for Research on Cancer*) as probably carcinogenic in humans; group 2A.<sup>86</sup>

A tolerable daily intake (TDI) could not be established for CAP due to the lack of scientific information to assess its carcinogenicity, effects on reproduction, and genotoxic activity.<sup>87</sup> As a result, no maximum residue level (MRL) could be established for CAP. For that reason it is not allowed in food-producing animals, including animals produced via aquaculture.

In Europe, zero-tolerance levels were in force for compounds without a MRL as found in the (now out of use) Annex IV of Council Regulation EEC No 2377/90,<sup>88</sup> meaning that banned chemicals should not be detected in food products at all, regardless of concentrations. This is to all intents and purposes the regulatory application of the so-called toxicological linear no-threshold model (LNT): when dealing with genotoxic carcinogens the 'no-dose no-disease' approach is regarded as the safest regulatory route.<sup>89</sup> This, despite the fact that such a model depicts a non-existing physico-chemical reality barred by the Second Law of Thermodynamics; entropy (the progression towards thermodynamic equilibrium) drives the inexorable diffusion (spread) of chemicals throughout the world. Concisely, the explicit goal of zero-tolerance is not risk-based but precaution-based, on the molecular level no less, as the absence of a MRL is from a regulatory point of view translated as 'dangerous at any dose' other than zero: 'When in doubt, leave it out'.<sup>90</sup>


As a result of increasing analytical capabilities of detection, zero-tolerance as an expression of the envisioned high level of protection has created problems. Technological advances in analytical equipment resulted in lower limits of detection whereby dwindling amounts of compounds (parts per billion and even parts per trillion) can be detected. Toxicological relevance, and thereby food safety, essentially lost its significance in this development, the epitome of which was the trade-dispute between the European Union and some Asian countries over the parts-per-billion-presence of CAP in shrimp during the first half of the 2000s.<sup>91</sup> The European response was the closing down of the European borders for fish products from the subsequent countries and making laboratories working

overtime to analyse numerous batches of imported goods on the presence of this antibiotic. Some European countries went so far as to have food-products containing the antibiotic destroyed for precautionary reasons.

The failure of the zero-tolerance policy was to some extent corrected in 2009 by designating MRPLs (Minimum Required Performance Limit) as targets for regulatory action levels of concern for banned antibiotics (Regulation (EC) No 470/2009).<sup>92</sup> However, issues that are *not* resolved in this MRPL-approach on the one hand revolves around the misconceived notion that an unambiguous causal link can be made between the detection of some banned compound and illegality in food production, whereas on the other hand it is thought that some risk is incurred when exposed to low-level concentrations of chemicals such as CAP. Concerning the former, and in line with our own findings,<sup>93</sup> CAP has been found as a *natural* component in plant material, which is used as animal feed through which it is transferred to animal tissue.<sup>94</sup>

A problem similar to CAP emerged in the 2000s. In 2009 there was an increased incidence in Belgium in the detection of semi-carbazide (SEM), a marker molecule for the banned antibiotic nitrofurazone (belonging to the same, now defunct, Annex IV of Council Regulation EEC No 2377/90), in the freshwater prawns *Macrobrachium rosenbergii*. This was in contrast with all other European countries where no significant increase in SEM positive samples was reported. A possible explanation for this phenomenon was that at request of the *Belgian Federal Agency for the Safety of the Food Chain (FAVV – AFSCA)* all approved laboratories were asked to analyse complete prawns (meat and shell) for the presence of tissue bound metabolites of nitrofurans from December 17<sup>th</sup> 2004 onwards. This procedure is not common in other countries. *DG SANCO* (the *European Health and Consumer Protection Directorate*) regards the presence of SEM as solely indicative for the illegal administration of nitrofurazone to live animals when it is found as a bound residue in unaltered/unprocessed food.<sup>95</sup> Nitrofurazone belongs to the nitrofurans group of antibiotics that, because of their potentially carcinogenic and mutagenic effects on human health, are prohibited within the European Union (EU) as therapeutic or





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prophylactic medicines in food-producing animals.<sup>96</sup>

Now, it has been pointed out earlier that SEM is a poor marker for nitrofurazone in light of the discovery that under certain conditions SEM in food arises from sources other than this illegal antibiotic. These sources, until now, have been found to be man-made.<sup>97</sup> Suggestions for a natural source were reported as well.<sup>98</sup> *Macrobrachium rosenbergii*, cultivated under controlled lab conditions in the absence of nitrofurazone, was shown to have SEM present in the shell.<sup>99</sup> *Penaeus monodon*, cultivated under controlled lab conditions, also showed the presence of SEM in its shell, albeit at lower concentrations, signifying that crustaceans might produce SEM at varying concentrations. Indeed, other wild-caught crustacean species that were tested by the research group (such as *Scylla serrata*, *Portunus pelagicus*, and *Nephrops norvegicus*) were shown to have bound SEM in the shell at varying concentrations up to 12.6 µg/kg. The source of SEM, now positively identified as a natural metabolite, is unknown as of yet.

Clearly, SEM cannot be used as a marker molecule for the illegal use of nitrofurazone. The causal legal link between the presence of SEM and the prohibited use of nitrofurazone is broken, and the corollary that if SEM is found in reported wild-caught produce, then this produce must have been cultured in the presence of nitrofurazone is untenable. The fact that SEM is likely to be a natural metabolite in crustaceans rules out the possibility to track illegal nitrofurazone-use through the use of SEM as a marker.<sup>100</sup>

All this should have been anticipated as most, if not all, man-made chemicals have their natural counterparts.<sup>101</sup> A famous example is the group of chemicals known as halogenated hydrocarbons, of which the chlorinated chemical compounds are the most notorious. Chlorine is one of the most abundant elements on the surface of the earth. It was widely believed that all chlorinated organic molecules are xenobiotic (that is man-made chemicals) pollutants, that chlorine does not participate in biological processes at all and that it is present in the environment only as the relatively benign chloride anion Cl<sup>-</sup> (the anion of table salt NaCl).

However, it has become increasingly clear that organohalogens are ubiquitously produced in nature. Some of these compounds are

produced in amounts that dwarf human production. The sum total of different organohalogens is staggering –more than 5000 different natural organic halogen compounds have been identified so far, from the very simple to the very complex– and come from widely diverging sources: marine, terrestrial biogenic, terrestrial abiotic, biomass combustion (natural and anthropogenic), and volcanoes.<sup>102</sup> The past EU-practice of wholesale destruction of food considered to be contaminated by trace amounts of molecules that may well have a natural background is not only problematical for a scientific point of view, but also detrimental to human health from the perspective of food security. Precaution has exacerbated this problem by singularly focussing on the risks of low-level exposures, not taking into account the potential natural background of detected chemicals, and ignoring the issue of food-security of especially the poorer countries within and outside the Eurozone.<sup>103</sup> Food safety, superseding food security, is now one of the dominant public values, and the precautionary regulatory context creates a substantial and growing scientific market for safety research.

The issue of food security has been recognised in a *DG SANCO* -requested but subsequently ignored report on the future of scientific advice on food and public health. It is striking that in this report nutrition, health, and economic status are addressed jointly:<sup>104</sup>

‘To have scientific analysis on a European basis is important because currently many policy makers simply consider that the answer to tobacco problems is to ‘educate’ the individual consumer not to start smoking. This naïve approach is evident in many other dimensions of public health, e.g. those relating to inappropriate diets in pregnancy; the substantial problems of low birth weight babies; the continuing challenge of iodine deficiency within the EU; the widespread anaemia in children and adult woman; the major issues relating to the health of Asians and other immigrant communities within the EU; the challenge of coping with escalating rates of adult chronic diseases and the huge and growing impact of the poor health of Europe’s elderly. In societal terms the health impact of societal deprivation, social exclusion and poverty is now becoming a

major European issue which requires much more objective scientific analyses than are currently available...'

The *European Food and Public Health Authority* was never to be. It is now called the *European Food Safety Authority*, which was established in 2002. Precaution has rendered the question of food-security moot.

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'We're on a road  
to nowhere, come  
on inside'  
(Talking Heads)

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### Chemical food safety – the Linear Non-Threshold (LNT) model

Paradigmatically, the regulatory zero-tolerance approach (now translated in a regulatory level of concern) has its basis in toxicology (more specifically, carcinogenicity) modelling. In order to fully appreciate both CAP- and SEM-cases, understanding the linear non-threshold (LNT) model A is essential (see Figure 1).<sup>105</sup>

The LNT-model holds that for genotoxic carcinogenic substances and ionising radiation, *any level* of exposure –except for zero- implies a health risk (see Figure 1 below).<sup>106</sup> Simply put, the risks of exposure to CAP through the food chain are regarded as *dose-dependent*, meaning that any dose other than zero might give rise to disease, primarily cancer. Put differently, this model, also referred to as the 'one hit'-model, holds that exposure to even one molecule or ionising photon may result, in the long run, in irreversible health damage.<sup>107</sup> This is why we spoke of a zero-tolerance approach: only zero exposure is ultimately deemed to be safe. The potential effects of genotoxic carcinogenic substances and ionising radiation at very low-level exposures are derived from this model as, of course, actually observing those effects in human populations would be out of the question, as these effects are simply too small. B –the linear threshold (LT) curve- is reserved for non-carcinogenic compounds, which have a threshold for toxicity. We will not elaborate on the LT-model.

The calculation of cancer risks requires some causal model of dose-response, data on exposure (or dose), and probability of

response. The subsequent numerals are developed on the assumption of proportionality between very low dose and probability of response (the risk): any non-zero exposure has a non-zero probability of causing cancer. This model, obviously, becomes non-linear at higher doses because it cannot exceed one: it is a cumulative probability function of lifetime cancer deaths. Each model used in regulatory analysis generally is a cumulative distribution function (hence monotonic and linear at very low doses) such that  $R = d * SF$ , where  $R$  = individual excess lifetime risk;  $d$  = exposure or intake level for the chemical likely to cause cancer;  $SF$  = route and chemical specific cancer slope factor in units of lifetime probability of cancer. This is the classical LNT hypothesis.<sup>108</sup>

Regulating certain chemicals in food not only requires whether an unambiguous causal link between chemical-presence and illegal conduct can be established. More importantly, it is about understanding low-level exposure toxicity. The efforts to lower the levels of detection of sought-after compounds in food increase uncertainty with regards to sources. Low levels of ecological background concentrations are present in food; CAP and SEM are examples in which we have crossed this ecological threshold analytically. As a result, the LNT-model has reached the limits of its precautionary usefulness, apart from the scientific question whether the LNT-model has ever been empirically and adequately validated. This question strikes at the heart of the precautionary notion that zero exposure denotes zero risk.

Figure 1. Toxicological models.

Already in the 1970s the US FDA acknowledged the need to validate linearity at low dose predictions for carcinogens. However, this effort revealed that the analysis of risks *lower* than only one individual in one hundred was not practically achievable for carcinogens within chronic animal bioassays. Thus, they referred to this study, performed with 24,000 mice(!), as the Effective Dose (ED01) study, also known as the 'mega-mouse study'.<sup>109</sup> This study was unsuccessful in validating linearity. Actually, a detailed re-analysis by an expert panel revealed an unequivocal *non-linear* dose-response for

bladder cancer with risks *decreasing* below the non-exposed control group at low exposure doses.<sup>110</sup>

A recent 40 000+ animal-study (rainbow trout) also pointed to non-linearity of the dose-response. In their words: “The data presented here demonstrate that hepatic tumor response was not in direct proportion to DBP [*dibenzo[a,l]pyrene*] dose but fell increasingly below direct proportionality ... with decreasing DBP dose. The shapes of two of the fitted curves for liver ... and one of the fitted curves for stomach ... display increasingly steep slopes with decreasing dose and thus may be taken to suggest that a finite dose may be reached in which there would be no observable increase above background tumor rate (slope of infinity), that is, a threshold. Although these data are consistent with a threshold interpretation, even the use of over 30 000 animals did not provide proof that a threshold was reached, or would exist, ...”<sup>111</sup>

In practice, therefore, the application of the default LNT-model rests on the technical ability to detect trace amounts of illegal substances of anthropogenic origin. This ability has greatly increased over the past decades. Whereas one part per million (1 ppm; 1 mg/kg;  $10^{-6}$ ) was state-of-art once, we can now detect one part per billion (1 ppb; 1  $\mu$ g/kg;  $10^{-9}$ ) and sometimes even smaller amounts on a routine basis. Indeed, we have entered the realm of atto- (part per quintillion;  $10^{-18}$ ) and zeptomoles (part per sextillion;  $10^{-21}$ ) of detectable analytes.<sup>112</sup> Basically, this means that the zero-tolerance level derived from the LNT is shifting to ever lower exposure levels. Advances in ‘cleaner’ food production are thus offset by increased detection capacities. The unspoken rationality of the LNT model implies that a ‘clean bill of health’ can never be truly issued. Thus, LNT develops into *ad absurdum* logic as we noted in a 2012-contribution to this debate:<sup>113</sup>

The logical extension of the linearity at low dose modeling is that biological response is directly proportional to dose, regardless of how low that dose may be. The irony of similarity notwithstanding, the asserted biological responses at vanishingly low doses in homeopathy are dismissed with intellectual disdain by essentially the entire biomedical

community, whereas the U.S. EPA and the Food and Drug Administration assert with great institutional and legal authority that even a single molecule of a chemical or one photon of ionizing radiation ultimately can cause cancer. In 1996, Goldman<sup>11</sup> noted the absurdity thereof when he linearly calculated the increased risk of cancer, because of increased cosmic radiation, if the entire world population would add a 1-inch lift to their shoes ....

This is the basic scientific and regulatory assumption, even when people are actually exposed, under normal conditions, to doses several thousand fold or even several hundred thousand fold *lower* than the tested animals say, for example, through food. Additionally, a dose of various carcinogens to humans associated with a *de minimis* risk of cancer (for example the well known 1 cancer case/million/lifetime exposure) would commonly deliver many trillions ( $10^{12}$ ) of carcinogenic molecules each day for a 70-year lifespan, a value approaching and at times exceeding some 18 orders of magnitude greater than the so-called proverbial single molecule.<sup>114</sup> Currently, however, the most fundamental shape of the dose-response is neither threshold nor linear, but seems –for cancer- J-shaped (model C in Figure 1),<sup>115</sup> and hence the LNT provides incorrect estimates of low-dose risk as in the case of CAP and other banned antibiotics.<sup>116</sup> This J-shape (for cancer) is usually referred to as hormetic or biphasic and denotes some adaptive response of the exposed organism.<sup>117</sup> Hormesis is in many ways the physiological equivalent of the philosophical notion that ‘what won’t kill you, will make you strong’.

Hormesis is best described as an adaptive response to low levels of stress or damage (from for example chemicals or radiation), resulting in enhanced robustness of some physiological systems for a finite period. More specifically, hormesis is defined as a moderate overcompensation to a perturbation in the homeostasis of an organism. The fundamental conceptual facets of hormesis are respectively: (1) the disruption of homeostasis; (2) the moderate

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1 Goldman, M. 1996. Cancer Risk of Low-Level Exposure. *Science* 271: 1821-1822.

overcompensation, (3) the re-establishment of homeostasis; (4) the adaptive nature of the overall process.<sup>118</sup>

Low doses could be stimulatory or inhibitory, in either case prompting living organisms to be dissociated from the homeostatic equilibrium that in turn leads to (over)compensation. For example, heavy metals such as mercury prompt synthesis of enzymes called metallothioneins that remove toxic metals from circulation and probably also protect cells against potentially DNA-damaging free radicals produced through normal metabolism.<sup>119</sup> Conversely, low doses of anti-tumour agents commonly enhance the proliferation of the human tumour cells, in a manner that is fully consistent with the hormetic dose–response relationship.<sup>120</sup>

High doses push the organism beyond the limits of kinetic (distribution, biotransformation, or excretion) or dynamic (adaptation, repair, or reversibility) recovery. This is the classical toxicological object of research usually required as a result of public and regulatory concerns, whereby hormetic responses are by default regarded as irrelevant, or even contrary to policy interests, and therefore unlooked for. Public concern about synthetic chemicals exposure inculcates public reluctance to view hormesis as a viable description of toxicological reality. Policymakers, similarly, are eager to address this concern and see no room for exploring hormesis and the possibilities of regulatory implementation.<sup>121</sup>

Therefore, precautionary-driven hazard assessments incorrectly focus their primary, if not exclusive attention, on the higher end of the experimental dose-response curve in order to estimate the No-Observed Adverse Effect Level (NOAEL) and/or Lowest-Observed Adverse Effect Level (LOAEL), subsequently modelled with faulty linear assumptions whereby risks at low-dose exposures are grossly overestimated. The conjectural reduction of risk associated with the LNT –when it is the incorrect choice– does not reduce risk, relative to the alternative J-shaped dose-response model: it actually increases risk. This is the asymmetry of precaution that is implemented under the condition of default reasoning.

Therefore, policy choices *not* based on rigorous methods can neither resolve ambiguity nor increase protection. Less protection may be likely despite the large sums spent to reduce what turns out to be a

phantom hazard, created by conservative (purportedly erring on the side of precaution) assumptions.

In the US, as a case in point, for cancer risk assessments, regulatory agencies (e.g., US EPA, 2004)<sup>122</sup> default to linearity at low doses unless ‘... extrapolation is based on extension of a biologically based model if supported by substantial data. Otherwise, default approaches can be applied that are consistent with current understanding of mode(s) of action of the agent, including approaches that assume linearity or nonlinearity of the dose-response relationship, or both. A default approach for linearity extends a straight line from the POD to zero dose/zero response. The linear approach is used when: (1) there is an absence of sufficient information on modes of action or (2) the mode of action information indicates that the dose-response curve at low dose is or is expected to be linear. Where alternative approaches have significant biological support, and no scientific consensus favours a single approach, an assessment may present results using alternative approaches.’

Again, the basis of our discussion here is Figure 1, which depicts the two alternatives at issue: the traditional linear-no-threshold (LNT) hypothesis and its biphasic/hormetic alternative C. The regulatory science-importance of the issue is that, as the depiction shows, the LNT excludes any benefit from any exposure; the hormetic model C allows such benefit, when it exists, to be quantified. From an analysis that uses either one or the other causal model, exposure is regulated to minimize cancer incidence or deaths. However, if the form of dose-response is conjectural –it is a guesstimate– while its alternative has both a fundamental empirical and theoretical basis –it is an inference– then it would be rational for those who are exposed and those who regulate exposure to have full knowledge of both alternatives.

When regulatory agencies focus exclusively on the harmful side of exposure at low doses, thus ignoring its beneficial effects, it negates the statutory mandate to adequately protect human health. Low probability of cancer, usually assumed by using the  $1:10^{-6}$  lifetime probability of cancer, demonstrably leads to distorted resource allocations and to regulatory constraints that increase health risk rather than reduce it.<sup>123</sup> The resulting concentrations in food are not

protective if the correct model is the J-shaped hormetic curve C. Thus, the very reason for being conservative, in the classical precautionary sense, utterly fails to protect.

Overall, hormesis redefines the concept of 'pollution' and 'contamination'.<sup>124</sup> It questions the premise that 'pollutants' are categorically bad. This is innovative because modern environmental and public health legislation is built in large part, due to the linear models, on the moral dichotomies of good versus evil, clean versus dirty, natural versus unnatural. Chemical substances are *not* either bad or good; they are both, depending on exposure levels and adaptive responses from the exposed organisms.<sup>125</sup> It seems wise to adhere to the words of Ortwin Renn here: 'With respect to hormesis it is ethically mandated that potential beneficial aspects of low exposure to potentially hazardous material are incorporated in the risk-benefit balancing procedure.'<sup>126</sup>

Precaution thus, as a means to forestall exposure to chemicals with a certain toxicological profile, is a flawed and unsustainable approach when considering chemical food safety in the light of the increasing capabilities of science and technology. It augments uncertainty with regards to the presence and sources of increasing numbers of detectable chemicals and proliferates public anxiety when a 'new' chemical is detected at ever-lower levels, whereby toxicological relevance is ignored. Clearly, more examples will come to the fore in the future when analytical capabilities have again raised the bar in detecting certain chemicals.<sup>127</sup>

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### Nutrition and health<sup>128</sup>

'Interest in micronutrient malnutrition has increased greatly over the last few years. One of the main reasons for the increased interest is the realization that micronutrient malnutrition contributes substantially to the global burden of disease. ... More than 2 billion people in the world today suffer from micronutrient deficiencies caused largely by a dietary deficiency of vitamins and minerals. The public health

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*I don't want  
knowledge  
I want certainty  
I don't want  
knowledge'  
(David Bowie)*

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importance of these deficiencies lies upon their magnitude and their health consequences, especially in pregnant women and young children, as they affect fetal and child growth, cognitive development and resistance to infection.' Thus are the opening statements of a substantive report of the World Health Organization on food fortification with micronutrients as a means to battle micronutrient malnutrition.<sup>129</sup>

Now, one would think that micronutrient malnutrition is something for developing countries. That is not so. Just focussing on Europe, 10% of the population lacks in iron; 57% of the European population has an insufficient iodine intake.<sup>130</sup> Partly, this is related to social stratification.

Dietary-habits of the lower social classes are known to be of a poorer standard than on average would be required for a diet-healthy life-style.<sup>131</sup> The diet is lower in essential nutrients such as calcium, iron, magnesium, folate, and vitamin C than that of the higher socioeconomic groups.<sup>132</sup> Food selection is constrained by economic considerations, whereby healthy eating patterns will be necessarily compromised resulting in nutritional inadequacies. For most micronutrients, amplification of the cost-constraint results in a progressive decrease in nutrient density of the diet.<sup>133</sup>

Dietary imbalance is a high-risk aspect of food consumption since repetitive and limited diets increase the risk of deficiencies, resulting in the well known acute illnesses (e.g. scurvy in the case of lack of vitamin C) but also lesser known chronic afflictions (see below). Focusing on micronutrients, research efforts have, among other things, culminated in RDAs (Recommended Dietary Allowance; nowadays known as DRIs – Dietary Reference Intake) for micronutrients, defined as the average daily dietary intake level that is sufficient to meet the nutrient requirement of nearly all (97 to 98 percent) healthy individuals in a particular life stage and gender group. The original concept of RDA was a 'goal' or 'floor' for intake below which risks of inadequacy begin to significantly increase. Research institutes and governments thus addressed the *primary* risks of undernourishment: starvation, disease, and infant mortality. RDAs, based on a specific criterion of adequacy, were designed to serve as dietary standards for the planning of food supplies for



population groups. They are estimates of the daily average amounts of essential nutrients that individuals in a population group should consume over time in order to ensure that the physiological needs of all can be met. They were originally formulated as reference standards for use by qualified individuals, who have the responsibility for assuring that food, distributed to large groups of people, would be nutritionally adequate.<sup>134</sup> RDAs are designed to meet the needs of healthy people and do *not* take into account special needs arising from infections, metabolic disorders, or chronic disease, and do *not* define an *optimal* level of any nutrient. The underlying intent of the RDAs is to prevent deficiency diseases and promote health through provision of an adequate diet.

Despite advancing knowledge concerning the role of food components in the prevention of more subtle metabolic damage resulting in degenerative diseases, current RDAs do not reflect this progress.<sup>135</sup> In the USA, this has led the *Food and Nutrition Board (FNB)* to invite a broad variety of stakeholders to participate in a discussion to arrive at new RDAs: 'The FNB believes that the science of nutrition has advanced significantly, and the next edition of the RDAs will need to reflect this progress. One consideration is expanding the RDA concept to include reducing the risk of chronic disease.'<sup>136</sup>

As an example of the progress of knowledge, diet is now regarded as a key factor in maintaining genomic integrity, i.e. protecting DNA from deleterious damage through cellular mechanisms such as prevention, repair or apoptosis.<sup>137</sup> Degenerative diseases such as cancer as well as the process of aging are partly caused by damage to DNA.<sup>138</sup> There is accumulating evidence that higher levels of some micronutrients are necessary for various DNA maintenance reactions, and that the current RDAs for some micronutrients appear to be inadequate to protect against genomic instability.<sup>139</sup> The need to set micronutrient requirements to minimize DNA damage is a way forward.<sup>140</sup> This also might result in the inclusion of other substances for which there is accumulating evidence that they add to a healthy lifespan, such as the polyphenolic antioxidants that have been suggested in scientific studies to contribute significantly to healthy ageing.<sup>141</sup>

In the light of the above, a 'metabolic tune-up through an improved

supply of micronutrients is likely to have great health benefits, particularly for those with inadequate diets, such as many of the poor, young, obese and elderly. The issues discussed here highlight the need to educate the public about the crucial importance of nutrition and the potential health benefits of a simple and affordable daily multivitamin/mineral supplement. Tuning up metabolism to maximize human health and lifespan will require scientists, clinicians and educators to abandon outdated models and explore more meaningful ways to prevent chronic disease and achieve optimum health. It is becoming clear that unbalanced diets will soon become the largest contributor to ill health, with smoking following close behind.<sup>142</sup>

Surprisingly, in Europe, an opposite regulatory response is underway i.e. in the form of the Food Supplements Directive 2002/46/EC (*FSD*)<sup>143</sup> and the Nutrition and Health Claims Regulation 1924/2006EC (*NHCR*) regarding commercial communications on foods and foodstuffs.<sup>144</sup> The former was implemented in order to ostensibly safeguard human health in view of the potential toxicity of excess intake of micronutrient food supplements. The latter applies to nutrition and health claims made in commercial communications, whether in the labelling, presentation or advertising of foods to be delivered to the final consumer.

### The Food Supplements Directive

Focussing on the *FSD* first, essentially it takes a regulatory excess-toxicity outlook directed at avoiding false-negatives (that is choosing not to underestimate risk from overexposure to certain products). Put differently, the *FSD* regulates 'the determination of doses of vitamins and minerals that potentially susceptible individuals could take daily on a life-long basis, without medical supervision in reasonable safety. The setting of these levels provides a framework within which the consumer can make an informed decision about intake, having confidence that harm should not ensue.'<sup>145</sup>

This position is asymmetric and typical for precautionary culture: it assumes what actually should be proven, namely, that the health effects of an assumptive regulatory approach at avoiding false-

negatives would be superior to the alternatives. The concomitant assumption is that there are no health detriments from proposed regulation. Something –health- is gained with nothing lost –no adverse health-effects from regulation.<sup>146</sup> The *FSD* clearly chooses not to underestimate risk through focussing on excess toxicity in order to protect public health.

Interestingly enough, in the context of the *FSD*, health-related data of micronutrients consumption are not considered.<sup>147</sup> This is in line with the view, unambiguously expressed in the *FSD*, that an ‘adequate and varied diet could, under normal circumstances, provide all necessary nutrients for normal development and maintenance of a healthy life in quantities which meet those established and recommended by generally acceptable scientific data. ...’<sup>148</sup>

The reference to an adequate and varied diet as a primary source of *all necessary nutrients* is intriguing. It suggests at least that food supplements are superfluous products, if only European consumers would ‘eat healthy’. The truism that we can obtain everything that we need from a balanced diet only holds if we in fact eat such a balanced diet consistently. The perspective here expounded by the EC is tautological: adequate, obviously, is by default adequate. How this adequacy can be achieved, and what that adequate diet would actually be like remains undiscussed. Moreover, factors impinging on the individual nutritional status are only partly related to the dietary intake on which the EC has its focus. Mal-absorption (genetic or otherwise) and increased nutritional requirements (e.g. during a disease period) also greatly affect the nutritional status of individuals. However, these aspects are not considered.

The *FSD* carries more than just distinct overtones of precaution with its focus on the risk of excess intake of micronutrient food supplements, whereby the Directive has a regulatory preoccupation with market failure.<sup>149</sup> The judgement in Cases C-154/04 and C-155/04 makes it clear that:<sup>150</sup>

‘68 In those circumstances and in view of the need for the Community legislature to take account of the precautionary principle when it adopts, in the context of the policy on the internal market, measures intended to protect human health ...,

the authors of Directive 2002/46 [*FSD*] could reasonably take the view that an appropriate way of reconciling the objective of the internal market, on the one hand, with that relating to the protection of human health, on the other, was for entitlement to free movement to be reserved for food supplements containing substances about which, at the time when the directive was adopted, the competent European scientific authorities had available adequate and appropriate scientific data capable of providing them with the basis for a favourable opinion, whilst giving scope, in Article 4(5) of the directive, for obtaining a modification of the positive lists by reference to scientific and technological developments.

69 It is also necessary to state in that regard that, by virtue of Article 7 of Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety (OJ 2002 L 31, p. 1), the Community legislature is entitled to adopt the provisional risk management measures necessary to ensure a high level of health protection and may do so whilst awaiting further scientific information for a more comprehensive risk assessment, as is stated in the 10th recital to Directive 2002/46.’

Supplement food-compounds, including those that have been legitimately marketed in one or more Member States in accordance with the relevant national regulations, will now only be marketable when an appropriate (in effect precautionary) scientific risk characterisation is performed and presented. Whether or not micronutrient supplement intake might add to the overall health of European citizens is, from a regulatory point of view, irrelevant. It hardly needs emphasising that adverse effects as a result of food supplements intake is a more ‘visible’ phenomenon (if they would materialise) keeping in mind the bias for negative information about possible health risks,<sup>151</sup> compared to deficiency diseases that are not (and cannot be) related to any regulatory activities other than advising the populace ‘to eat healthy’; a less than successful and naïve

strategy when considering the actual substandard micronutrients intake.<sup>152</sup> Moreover, societies' shift to a culture of precaution galvanises citizens' insistence on *advance* proof that activities and products pose no risk to human health whatsoever.<sup>153</sup> Research and regulation caters for this 'risk management of everything'.<sup>154</sup> That this risk management of everything has its downsides, specifically with respect to long-term health, again as a result of substandard micronutrients intake and the lack of focus thereon, is not on the view screen of regulators and citizens alike.

Overall, the 'risk management of everything' reflects the efforts of organisational and governmental agents, formerly engaged in the collectivisation and pooling of social and economic risks of a primary nature, to separate from *and* re-individualise their own personal risk of a secondary nature. Regulators and (scientific) experts are being made increasingly accountable for what they do and thereby become increasingly preoccupied with managing their own reputational risks. As it stands, secondary risks to reputation become as significant as the primary risks for which policies should in fact be devised. Precaution thus, in the end, empowers bureaucracy and promotes *safety in stasis*.<sup>155</sup>

### The Nutrition and Health Claims Regulation

That precaution empowers bureaucracy and promotes *safety in stasis*, is exemplified further within the same field by the other regulatory effort we have mentioned, namely the Nutrition and Health Claims Regulation 1924/ 2006EC (*NHCR*). In the *NHCR*, two types of health claims are defined: *claims* related to 'reduction of disease risk' (article 14), and *other claims* (article 13) concerning the (physiological) role of nutrients or other substances in growth, development and the functions of the body (13.1a), psychological and behavioural functions (13.1b), and any additions of claims to the list referred to in paragraph 3 based on newly developed scientific data (13.5). Two criteria, although requiring different types of evaluation, are considered to provide an equal amount of 'scientific certainty' regarding the validity and truthfulness of health claims with respect to certain foods and food components:

- Data should be qualified as 'generally accepted scientific evidence' (Regulation 353/2008/EC, pre-amble 2);<sup>156</sup>
- Data shall demonstrate a 'cause and effect relationship between consumption of the food and the claimed effect in humans (such as the strength, consistency, specificity, dose-response, and biological plausibility of the relationship)' (Regulation 353/2008/EC, general principles for the scientific substantiation 3b).

Recital 1 of the *NHCR* gives insight into the purported necessity of the above: 'An increasing number of foods labelled and advertised in the Community bear nutrition and health claims. In order to ensure a high level of protection for consumers and to facilitate their choice, products put on the market, including imported products, should be safe and adequately labelled. A varied and balanced diet is a prerequisite for good health and single products have a relative importance in the context of the total diet.'

This 'high level of protection for consumers', which is framed within the precautionary approach adopted in the EU in 2000,<sup>157</sup> is further defined en lieu with the European Food Labelling Directive,<sup>158</sup> as stated in recital 3: 'Directive 2000/13/EC generally prohibits the use of information that would mislead the purchaser or attribute medicinal properties to food.'

Overall, the *NHCR* tries to establish a Europe-wide market harmonisation regarding the use of health claims in commercial communications concerning food and food products. It envisions to honour the precautionary high level of protection for consumers through the scientific establishment of health claims whereby, so it is thought, misleading information on food products will, in all intents and purposes, be eliminated. Health claims as scientifically established by *EFSA's NDA Panel (Panel on Dietetic Products, Nutrition and Allergies)* purportedly would prevent misleading information that might be damaging to Europe's public health.<sup>159</sup>

To connect dietary patterns (including supplementation and fortification) with human health and thereby assess benefits and risks, methods such as observational epidemiologic studies, intervention trials (Randomised Controlled Trials – RCTs), models

and simulations, *in* and *ex vivo* animal and human studies, *in vitro* research, and the like, are used. Accordingly, methods might be mechanistic in nature –e.g. elucidating metabolic pathways in animal/human studies- or methods might be phenomenological in nature –e.g. an RCT giving some insight in the efficacy or effectiveness of a certain treatment. Specific endpoints might comprise of the number of healthy life years and life expectancy, motor-, cognitive-, neurologic- and metabolic function, wellbeing, satiety and hunger, and the like.<sup>160</sup>

From a political, regulatory and mainstream scientific point of view, the RCT is regarded as the ‘gold standard’ for connecting food and health.<sup>161</sup> Indeed, Regulation 353/2008 identifies in the ‘organisation of pertinent scientific data’ a ‘hierarchy of study design’ where RCT’s rank at the top of this ostensible scientific pyramid. RCTs thus are given legal sanction and preference with respect to the approval or rejection of certain health claims for certain foods or food products.<sup>162</sup> Accordingly, the European legislature has standardised the scientific inquiry into nutrition and health claims, with the *EFSA* as its monitoring body.

One of the main appeals of the RCT is that the *how*-question need not be answered and as such will not be clarified by the RCT.

In other words, *how* (and *why*) certain treatments or agents give certain results might not necessarily be known, other than the fact that a certain result is actually obtained. Clearly, RCTs in the field of nutrition science are undertaken in view of evidence already gathered in other research; one cannot do a RCT in the blind. Nonetheless, RCTs themselves are not in the business of elucidating the ‘how’ and the ‘why’ of the observed effect(s) of a certain agent under scrutiny in the trial.

Unsurprisingly then, there are problems.<sup>163</sup> The logic of RCTs is that the circumstances ‘there’, i.e. in the trial itself, are ideally constructed for ensuring that the treatment/agent caused the outcome in at least some members of the RCT-study. That is, the circumstances of the RCTs are specifically designed for buttressing ‘it-works-somewhere’-claims (in some members of the trial that is). But, they are by no means ideal for other purposes. Particularly, they provide no better basis for extrapolating or generalising –the very aspects

that have made RCTs the regulatory ‘gold standard’- than knowledge that the treatment caused the outcome in any other individuals under any other circumstances.

For policy and practice, however, we do not need to know that ‘it works somewhere’, that is within some RCT study-design, as that would be trivial knowledge. What we do need is evidence for ‘it-will-work-for-us’ claims: the treatment/agent will produce the desired outcome in *our* situation.<sup>164</sup> Thus, although RCTs clinch a causal role of some treatment/agent in some members of the designated study-population, they do little if anything to establish the fact that the agent under scrutiny can play the same causal role elsewhere (again, preferably ‘here’, in our situation). *That*, RCTs are not in the business of clinching. The deductive qualities the RCTs are allegedly famed for paradoxically do not hold outside the RCT. Therefore, the opposite is true as well: if ‘it-doesn’t-work-somewhere’ –the RCT failed to show some treatment/agent-caused effect whereby some health claim is denied- does not imply that ‘it-will-not-work-for-us’.<sup>165</sup> The latter, however, is not endorsed.

Ironically then, the possibilities to *know* whether the European regulation concerning health claims in fact works –harmonised markets, science-driven health claims, protecting consumers from misleading information- is undermined by its very structure; at its core it unhesitatingly proliferates ignorance of a certain kind. Executing a RCT as a primary *scientific* requirement is very much like trying to learn the laws of electricity by playing the radio, to paraphrase Edward Leamer.<sup>166</sup> In sum, concentrating on RCTs as the *NHCR* does, the regulatory message is that the question whether the policy intervention works, in all intents and purposes is made not to matter, other than banning certain societal and economic developments for precautionary reasons!

Worse, with the launch of the *EFSA* through Regulation (EC) No 178/2002,<sup>167</sup> a form of scientific authority was installed, although in science ‘authority’ as such is one of the basic fallacies.<sup>168</sup> We are not naïve with respect to the reality of authority in science, but authority as a rule is of a personal nature; in science there is no such thing as a ‘scientific high court’ that decides on issues of method and science. Such a form of legalism –the concept of

strict adherence to law or directive- implicitly generated by the instatement of *EFSA*, -fosters scientism –that is the view that all real knowledge is scientific knowledge (see below). Nevertheless, the *EFSA* opinionates, as a cautious means to protect public health and shield the consumer from misleading information, that ‘the manager frequently requires the evidence to be convincing’.<sup>169</sup> And that ‘convincing evidence’ can primarily be had via RCTs.

The notion of convincing evidence brings us to the precautionary character of the *NHCR*, despite the fact that precaution as such is not mentioned. Article 7 of the European Union’s General Food Law (Regulation 178/2002/EC)<sup>170</sup> defines precaution in terms of the uncertainty that a food or foodstuff may possibly cause harmful effects on human health. Pertaining to food components such as micronutrients, in the *NHCR* and in line with Regulation 178/2002/EC, health claims information is understood only as a risk factor, ignoring the potential benefits of that information to the consumer. The asymmetry of such an approach can hardly be valued as precautionary, while it certainly is understood in such terms.<sup>171</sup>

All in all, a number of remarkable and illogical corollaries surface with respect to the implementation of the *NHCR*: (I) it is simply assumed that in order to protect public health and eradicate misleading information, potential benefits from certain foods and food-components should be rated in terms of some kind of scientific absolutes, whereby; (II) the aptitude of science to be straightforwardly transparent in its fact-finding is vastly overestimated inevitably leading to scientism, whereby, inconvertibly; (III) all nutritional data, including coming from the *EFSA* itself, becomes contentious, whereby; (IV) *ad absurdum*, virtually all research results within nutritional science, or any other scientific field for that matter, becomes moot.

Robert Heaney already pointed at these problems. He remarks that a ‘general agreement to the effect that nutrition is important, despite the fact that the still growing number of failed trials of individual nutrients might suggest that no nutrient actually made much of a difference, a conclusion that is absurd on its face and ought to have alerted us to the possibility that there was something wrong with how we were investigating the matter. To provide the proof needed

to sustain revised intake recommendations, we shall have to find a design better suited to nutrients than the randomized controlled trial as currently implemented, and we need to develop a series of global indices, nutrient by nutrient, which better capture the polyvalent nature of most nutrients. ...’<sup>172</sup>

The irony is that the *NHCR* instates the very thing – misinformation- it tries to oust from the European market. In the face of ‘the continuing challenge of iodine deficiency within the EU; the widespread anaemia in children and adult women ... the challenge of coping with escalating rates of adult chronic diseases and the huge and growing impact of the poor health of Europe’s elderly’,<sup>173</sup> unravelling the connection between nutrition and health, and disseminating information on that growing knowledge base to the consumer, without the scientific prerequisites critiqued above, should have top-priority.

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*I'll keep a vigil in a  
wilderness of mirrors  
Where nothing is  
exactly how it seems  
You're reaching out,  
you're so close you  
can touch it  
But it all disappears  
when it's always so  
near'*  
(Fish)

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#### Food and the sustainability catch: an inside look at the Illegal, Unreported and Unregistered (IUU) Fisheries Regulation<sup>174</sup>

Sustainability has become a many-faceted goal comprising much more than the original idea of *Our Common Future*: ‘development that meets the needs of the present without compromising the ability of future generations to meet their own needs.’<sup>175</sup>

However, the abolishment of extreme poverty, the very first millennium goal, remains crucially important. In this context food security means making sure that our present and future generations have access to sufficient high-quality food.

Precaution is thought to be the tool of choice en route to a more sustainable society as for instance the *The Bergen Ministerial Declaration* makes clear.<sup>176</sup> Equally, the *European Commission* sees the dimension of the PP going ‘beyond the problems associated with a short or medium-term approach to risks. It also concerns the longer run and the well-being of future generations.’<sup>177</sup> We shall point out that the *IUU* – although quite a laudable policy with the essential objective to



ban unsustainable *IUU*-fisheries- generates negative side effects that incontrovertibly violate the prime objectives of sustainability and precaution.

One of the aims of the Common Fisheries Policy of the European Union is to regulate the access to and use of the waters of the European Community. In the Communications from the Commission the resolution of the Member States of November 1976, which transfers the responsibility of sustainable fisheries development to the Community, is reiterated.<sup>178</sup> At the *World Summit on Sustainable Development (WSSD)* in Johannesburg in 2002, the Community subscribed to the aim of global sustainable fisheries including the objective to maintain or restore stocks to levels that can produce the maximum sustainable yield with the aim of achieving these goals for depleted stocks on an urgent basis and where possible not later than 2015.

Inspired by the FAO, who have set up an international action plan in 2001 to prevent, deter and eliminate illegal fisheries (point 31d),<sup>179</sup> the *European Commission* started its own effort against *IUU* Fisheries in 2002.<sup>180</sup> The *Commission* has worked out a legal concept in relative silence and conducted several impact assessments until the first version of the *IUU* regulation was made public in 2007.<sup>181</sup> In the meantime a special task force of fishery inspectors was installed, guided by the *Community Fisheries Control Agency (CFCA)*.<sup>182</sup> The *CFCA* inspectors were given mandates to inspect any vessel fishing under European flag on illegal practices within the European fishing zone. The *IUU*-proposal would hypothetically ensure a fully traceable international catch certification scheme throughout the whole food chain for products introduced on the EU market. Third countries that export their wild caught fishery products to the EU were given the responsibility to create a system, which would ensure full traceability of the catch towards registered vessels or fishery management organizations.

On the 29<sup>th</sup> of September 2008, Council Regulation 1005/2008 was published,<sup>183</sup> which announced that the implementation of the regulation was to be effected before the first of January 2010. For all the stakeholders this time span proved to be too short to prepare for the implementation. In the time left, many applications for

postponement of the regulation were sent to the *Commission* by both third countries and EU member States, but all of them were declined as not to delay implementation.

The implementation-regulation 1010/2009/EC was published on the 22<sup>nd</sup> of October 2009<sup>184</sup> and immediately it became clear that not only the third country had to adapt their systems with respect to the issue of *IUU*, but the EU Member States as well. However, for Europe there was no regulation to deal with *internal IUU*, as was pointed out by third countries, despite the fact that Council Regulation 1005/2008/EC clearly indicated the notification obligation of both Member States and Third countries as stated in preamble 7: 'In line with the definition of *IUU* fishing, the scope of this Regulation should extend to fishing activities carried out on the high seas and in maritime waters under the jurisdiction or sovereignty of coastal countries, including maritime waters under the jurisdiction or sovereignty of the Member States.'

Within the EU, the so-called *Control Regulation* was developed alongside the *IUU* regulation but wasn't finished before the deadline. Nevertheless, it had to be put in place as to even the playing field between Europe and the rest of the world when dealing with *IUU*. This Regulation (1224/2009), which deals mainly with technical requirements of the European fleet and its control, had been announced in 2009 to regulate and control fisheries under the European flag (the third largest fisheries fleet in the world). It was published on the 20<sup>th</sup> of November 2009, and it considerably enhanced the regulatory clout of the European Fishery Inspectors.<sup>185</sup>

In order to create a level playing field, the *IUU* regulation demands from vessels sailing under EU flag that when their catches are processed outside the EU and return afterwards at the EU borders for re-import, it needs to be considered as a third country catch. This implies that this part of the import into the EU needs to be accompanied with catch certificates, validated by the EU member state under which flag the fish was caught. On the *IUU* information website of the *European Commission*,<sup>186</sup> a list of flag states was made available, which had a working certification system and in the first week of December 2009 there wasn't a single EU member state listed, indicating the lack of understanding of the *IUU*



implementation even at the level of the European Union. On the 31<sup>st</sup> of December 2009 the list of Member States was complete, yet Belgium and Italy were still absent.<sup>187</sup>

Considering the *IUU* certification problems within Europe itself, it came as no surprise that exporting third countries had great difficulties with *IUU*-regulation. In all exporting countries, especially where knowledge of European languages is limited, the authorities were struggling with this new set of rules. Apart from the Certificate of Origin (customs) and the Health Certificate (health), now a new set of certificates (sustainability) needed to be validated by an as of yet non-existing Customs department. It is not difficult to imagine the costs involved, which have to be paid by the exporters no matter how the certificates are issued, legal and illegal.

A country like Russia, responsible for the biggest import volume of fishery product in the EU, refused to fulfil the *IUU* restrictions and did not register on the flag state list even in January 2010.<sup>188</sup>

The Russian authorities threatened to refuse all exports from EU countries on the basis of doubts of illegal fisheries within the EU. Since the Russian whitefish catch had been one of the main points of concern in relation to global *IUU* fisheries, the exclusion of Russia from the system would mean a complete failure of all efforts. Diplomatic channels have been activated to solve this important dispute, and on the 13<sup>th</sup> of February 2010 both could come to an agreement. As a consequence all fish that was caught under the Russian flag from the first of January to the 13<sup>th</sup> of February 2010 was *not* considered legal and has been refused for import into the EU.<sup>189</sup> In other third countries it appeared that many vessels (sometimes up to 60%) were registered in a non-listed flag state for economic reasons, excluding them from export to the EU and devaluating their catch for the internal market. For all those operators, the regulation came as a severe setback.

All countries have had a 'non-intended' period of grace for frozen seafood imports, because catches from 2009 did not have to undergo the *IUU* formalities. With a written declaration from the authorities confirming the catch-date in 2009 or earlier, these goods were readily accepted by all EU ports in the first months

of 2010, giving the EU port-authorities some time to install the system. For fresh seafood catches the system appeared to crash completely in the first weeks of 2010, as expected, because the airports were not ready for all the formalities. Interim solutions and concessions have been put in place to keep the trade of imported fresh fish going, but for many consignments this failed. Again, like in the CAP and the SEM cases, food had to be destroyed thus increasing the risk to food security, the primary millennium goal. Overall, the future success of the *IUU* regulation will depend on the control system, because in the final analysis all imported produce needs to be certified. But if unregistered ships will be able to bring in their cargo without supervision, then fraudulent catch certificates are easily obtainable. There has been a considerable amount of European budget made available for controlling *European* catches by the *CFCA* and other governmental control systems, but in third countries public funds for the final vessel control will be very limited. The *IUU* regulation will have to come up with a 'black list' of unregistered vessels with catch certificates being invalid. This '*IUU*'-fish, once offered to the EU, will be rejected by the competent authorities and then destroyed, or sold to 'good cause'-institutes like zoos. This last point is worthwhile, because this might in effect create an unintended market for illegally caught fish. The *IUU* therefore does not only increase the risks of poverty and hunger but also threatens others important sustainability goals such as the reduction of bribery and fraud. Despite *IUU*'s laudable goals and the critical issues it addresses with respect to maintaining world fish stocks, the stakeholders foresaw a large administrative burden, which would create trade barriers for many third countries exporting to the EU. One impact assessment predicted considerable losses of exports from poorer third countries and the inevitable and detrimental emergence of a secondary market in fraudulent catch certificates.<sup>190</sup> A point of concern has been the exclusion of artisanal small-scale fisheries because of the technical difficulties involved in the certification procedures of the catches like illiteracy.

Economically and socially weak groups like small and unorganised Asian fishermen are effectively barred from exporting to the EU

under *IUU* regulation. Bigger and better organised fisheries organisations will be able to secure the necessary documents perhaps even by illegal means if that will facilitate export to the EU. This is a serious problem because fraud and bribery already are major problems in developing countries.<sup>191</sup> They corrupt political life and the administration of society and enhance or solidify the huge inequalities and the concomitant exploitation of the poor in those countries. Viewed from this perspective, the *IUU* is not sustainable at all, on the contrary. When third country governments fail to develop activities to rule out *IUU* activities, articles 31 to 38 of regulation 1005/2009/EC provide tools to ban these countries' wild caught products from the EU market.<sup>192</sup> Although safety measures are built in to keep these tools worst-case-scenario outcomes, we have learned from the EU chemical food safety measures that precautionary politics can suddenly promote regulations such as the *IUU* as powerful trade barriers.

## PROSPECTS

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*'There's always  
the sun  
There's always  
the sun  
Always, always,  
always the sun'  
(The Stranglers)*

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In this chapter we have set out to sketch the precautionary principle, exemplified in the four cases, from which a practical critique was teased out per case. That, of course, is not enough to formulate a durable appraisal of precaution, although more real-life cases could be produced. In the next chapter a fundamental critique will be developed that will further the aspects we have brought to the fore here.

## References

- <sup>1</sup> I courteously acknowledge Dr. J.C. Hanekamp sr., my father, for his significant involvement in and improvement of this chapter.
- <sup>2</sup> Zandee, J. 1970. *De Messias. Opvattingen aangaande het Koningschap in de Godsdiensten van het Oude Nabije Oosten*. Brill, Leiden. [*The Messiah. Perspectives on Kingship in Religions of the Ancient Near East.*]
- <sup>3</sup> Maspero, G.C.C. 1917. *Life in Ancient Egypt and Assyria*. D. Appleton and Company, New York, p. 178 – 190.
- <sup>4</sup> Daniël 2: 10 – 11.
- <sup>5</sup> 2 Samuel 12: 10.
- <sup>6</sup> See e.g. Lindblom, J. 1973. *Prophecy in Ancient Israel*. Blackwell Publishers, Oxford.
- <sup>7</sup> 1 Samuel 16: 4.
- <sup>8</sup> 2 Kings 4: 27.
- <sup>9</sup> Bernstein, P.L. 1996. *Against the Gods. The Remarkable Story of Risk*. John Wiley & Sons, Inc. New York, p. 1 – 2.  
Bernstein's focus is on the discoveries in mathematics, economics, and psychology that enabled risk to be understood, measured, and 'mastered'. His central argument is that the concept of risk has allowed humanity to *develop from a mindset of fate to one of choice*. Advancements in understanding and measuring risk and its conversion into serviceable use have been one of the prime catalysts that drive modern Western society. To be sure, Bernstein centres only on the quantitative aspect of the concept of risk, leaving other venues uncharted.
- <sup>10</sup> See for a classic exposé on probability Hacking, I. 1976. *The Emergence of Probability. A Philosophical Study of Early Ideas about Probability, Induction and Statistical Inference*. Cambridge University Press, London.
- <sup>11</sup> Bernstein, note 9, p. 89 – 92.
- <sup>12</sup> Althaus, C.E. 2005. A Disciplinary Perspective on the Epistemological Status of Risk. *Risk Analysis* 25(3): 567 – 588.
- <sup>13</sup> Seiler, H. 2002. Harmonised Risk Based Regulation – a legal viewpoint. *Safety Science* 40: 31 – 49.
- <sup>14</sup> Stirling, A. (ed.) 1999. *On Science and Precaution In the Management of Technological Risk. An ESTO Project Report*. Institute for Prospective Technological Studies, Seville, Spain.
- <sup>15</sup> Okrent, D. 1980. Comment on Societal Risk. *Science* 208: 372 – 375.
- <sup>16</sup> Pieterman, R. 2001. Culture in the Risk Society. An Essay on the Rise of a Precautionary Culture. *Zeitschrift für Rechtssoziologie* 22(Heft 2): S.145 – 168.
- <sup>17</sup> Pieterman, note 16.
- <sup>18</sup> For developments on this theme in the Netherlands see Schwitters, R.J.S. 1991. *De risico's van de arbeid. Het ontstaan van de Ongevallenwet 1901 in sociologisch perspectief*. Wolters-Noordhoff, Groningen. [*The risks of labour. The development of the Industrial Accidents Law of 1901.*]
- <sup>19</sup> See for a sobering analysis on forecasting and projecting qualities (especially the almost complete lack thereof) of experts Tetlock, P.E. 2005. *Expert Political Judgment. How Good Is It? How Can We Know?* Princeton University Press, Princeton.
- <sup>20</sup> Searle, J.R. 1995. *The Construction of Social Reality*. The Free Press, New York.
- <sup>21</sup> Nosengo, N. 2011. Scientists face trial over earthquake deaths. *Nature* doi:10.1038/news.2011.325.
- <sup>22</sup> Nosengo, N. 2012. Italian court finds seismologists guilty of manslaughter. *Nature* doi:10.1038/nature.2012.11640.  
Abbott, A., Nosengo, N. 2014. Italian seismologists cleared of manslaughter. *Nature* doi:10.1038/515171a.
- <sup>23</sup> Forrester, I., Hanekamp, J.C. 2006. Precaution, Science and Jurisprudence: a Test Case. *Journal of Risk Research* 9(4): 297 – 311.
- <sup>24</sup> Personal communication dr. Johan C. Hanekamp sr.
- <sup>25</sup> Raffensperger, C., Tickner, J. 1999. (eds.) *Protecting Public Health and the Environment: Implementing the Precautionary Principle*. Island Press, Washington DC.
- <sup>26</sup> Wiener, J.B. 2001. *Precaution in a Multi-Risk World*. Duke Law School Public Law and Legal Theory Working Paper Series Working Paper No. 23.
- <sup>27</sup> Raffensperger and Tickner, note 25, p. 1.
- <sup>28</sup> Boehmer-Christiansen, S. 1994. *The Precautionary Principle in Germany – Enabling Government*. In: O'Riordan, T., Cameron, J. (eds.) *Interpreting the Precautionary Principle*. Earthscan, London, p. 31 – 60.
- <sup>29</sup> *Declaration of the International Conference on the Protection of the North Sea*. 1984. Bremen, Germany. Available at [http://www.ospar.org/html\\_documents/ospar/html/1nsc-1984-bremen\\_declaration.pdf](http://www.ospar.org/html_documents/ospar/html/1nsc-1984-bremen_declaration.pdf) (last accessed on the 15th of November 2014).
- <sup>30</sup> The precautionary principle has been incorporated in more than 50 multilateral agreements. Trouwborst, A. 2002. *Evolution and Status of the Precautionary*

*Principle in International Law*. Kluwer Law International, The Hague.

For a review of Trouwborst see Atapattu, S. 2002. *American Journal of International Law* 96(4): 1016 – 1018.

The *Convention on Biological Diversity* also incorporates a similar definition of the precautionary principle, when is mentioned in the preamble that ‘where there is a threat of significant reduction or loss of biological diversity, lack of full scientific certainty should not be used as a reason for postponing measures to avoid or minimize such a threat, ...’

Available at [www.biodiv.org/convention/articles.asp?lg=0&a=cbd-00](http://www.biodiv.org/convention/articles.asp?lg=0&a=cbd-00) (last accessed on the 15th of November 2014). The references made here (and other places in this study) to legal texts and the like in which the precautionary principle is specifically mentioned (and discussed), adds to the empirical record of this enquiry.

<sup>31</sup> See [www.unep.org/Documents.multilingual/Default.asp?DocumentID=78&ArticleID=1163&l=en](http://www.unep.org/Documents.multilingual/Default.asp?DocumentID=78&ArticleID=1163&l=en) (last accessed on the 15th of November 2014).

<sup>32</sup> Graham, J.D. 2001. Decision-analytic refinements of the precautionary principle. *Journal of Risk Research* 4(2): 127 – 141.

<sup>33</sup> Stone, C.D. 2001. Is there a precautionary principle? *Environmental Law Reporter* 10789 – 10799.

<sup>34</sup> Arcuri, A. 2006. *The Case for a Procedural Version of the Precautionary Principle Erring on the Side of Environmental Preservation*. In: Boyer, M., Hiriart, Y., Martimort, D. (eds.) *Frontiers in the Economics of Environmental Regulation And Liability*. Ashgate Publishing, p. 17 – 64.

<sup>35</sup> Haritz, M. 2010. *An Inconvenient Deliberation. The precautionary principle's contribution to the uncertainties surrounding climate change liability*. Thesis. Maastricht University, BOX Press Publishers, Oisterwijk, The Netherlands.

<sup>36</sup> Stewart, R.B. 2002. *Environmental Regulatory Decision Making Under Uncertainty*. In: Swanson, T. (ed.) *An Introduction to the Law and Economics of Environmental Policy: Issues in Institutional Design (Research in Law and Economics, Volume 20)*, p. 71 – 126.

<sup>37</sup> Peel, J. 2005. *The Precautionary Principle in Practice: Environmental Decision-Making and Scientific Uncertainty*. The Federation Press, Annandale, Australia.

<sup>38</sup> Peel, note 37.

<sup>39</sup> Backes, C.W., Verschuuren, J.M. 1998. The Precautionary Principle in International, European, and Dutch Wildlife Law. *Colorado Journal of International Environmental Law & Policy* 9(1): 43 – 70.

*The Wingspread Declaration*, drafted and finalised at a conference at the

Wingspread Conference Center, Racine, Wisconsin, which took place 23 – 25 January 1998, carries a similar approach to precaution: ‘When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically. In this context the proponent of an activity, rather than the public, should bear the burden of proof.’ See [www.gdrc.org/u-gov/precaution-3.html](http://www.gdrc.org/u-gov/precaution-3.html) (last accessed on the 15th of November 2014).

<sup>40</sup> The fact that the *Rio* definition does contain a reference to cost-effectiveness is misleading. The lack of ‘scientific certainty’ deprives us of the possibility to calculate the costs and benefits of precautionary measures. If we cannot obtain an inkling of the benefits of precautionary regulation for lack of knowledge of the detrimental effects of a certain activity, cost-effectiveness cannot be defined.

For additional commentary on cost-effective precautionary measures see e.g. Bodansky, D. 1993. The United Nations Framework Convention on Climate Change: A Commentary. *Yale Journal of International Law* 18: 451 – 558.

<sup>41</sup> Graham, note 32.

<sup>42</sup> Douma, W.T. 2003. *The Precautionary Principle. Its Application in International, European and Dutch Law*. PhD thesis, University of Groningen, The Netherlands.

<sup>43</sup> Sunstein, C.R. 2003. *Beyond the Precautionary Principle*. Public Law and Legal Theory Working Paper No. 38. Available at [http://ssrn.com/abstract\\_id=307098](http://ssrn.com/abstract_id=307098) (last accessed on the 15th of November 2014). See also Backes and Verschuuren, note 39.

<sup>44</sup> Backes and Verschuuren, note 39.

<sup>45</sup> Rogers, M., Wiener, J. 2002. Comparing Precaution in the United States and Europe. *Journal of Risk Research* 5(4): 317 – 349.

<sup>46</sup> Haritz, note 35.

<sup>47</sup> O’Riordan, T., Cameron, J., Jordan, A. (eds.). 2000. *Reinterpreting the Precautionary Principle*. Cameron May, London, p. 19 – 20.

<sup>48</sup> Wiener, note 26.

<sup>49</sup> Manson, N.A. 2002. Formulating the Precautionary Principle. *Environmental Ethics* 24: 263 – 274.

<sup>50</sup> Rolston III, H. 1988. *Environmental Ethics. Duties to and Ethics in the Natural World*. Temple University Press, Philadelphia, p. 319.

<sup>51</sup> Page, T. 1978. A generic view of toxic chemicals and similar risks. *Ecology*

*Law Quarterly* 7: 207 – 244.

<sup>52</sup> Hansen, S.F. 2004. *The Precautionary Principle and Unnecessary Precautionary Action*. Masters Thesis, Roskilde University, Denmark, p. 116.

<sup>53</sup> Haritz, note 35.

<sup>54</sup> McNeill, J. 2001. *Something new under the sun. An environmental history of the twentieth century*. W.W. Norton & Company, New York, p. 358.

<sup>55</sup> World Commission on Environment and Development (WCED). 1987. *Our Common Future*. Oxford University Press, Oxford. Available at [www.un-documents.net/wced-ocf.htm](http://www.un-documents.net/wced-ocf.htm) (last accessed on the 15th of November 2014). Named after the chair of the commission, this report is also known as the Brundtland report.

Despite the popularity of the 'Brundtland definition' of sustainability, already in the 18<sup>th</sup> century Hans Carl von Carlowitz coined the term 'nachhaltige Entwicklung' (sustainable development) in relation to forestry (1713). A shortage of wood was becoming problematic in Germany and the rest of Europe because of increasing population and declining stocks of wood for heating and industrial energy production. Moreover, wood was a major construction material for houses, buildings and ships. Von Carlowitz therefore proposed that in the exploitation of forests, an equilibrium between production and consumption should be maintained as to the benefit of present and future generations(!). 'Nachhaltende Nutzung' – continuous exploitation – of forests could thereby be achieved.

Zon, van, H. 2002. *Geschiedenis en Duurzame Ontwikkeling. Duurzame ontwikkeling in historisch perspectief: enkele verkenningen*. Netwerk Duurzaam Hoger Onderwijs, Rotterdam. [*History and Sustainable Development. Sustainable development in an historical perspective: selected studies.*]

<sup>56</sup> Murcott, S. 1997. *Appendix A: Definitions of Sustainable Development*. AAAS Annual Conference, IIASA 'Sustainability Indicators' Symposium, Seattle 16 February. Massachusetts Institute of Technology.

<sup>57</sup> The point has been made, however, that changing the face of the earth has been systematic and widespread throughout human history, not just in the past 200 years. For example, Some 50 000 years ago hunter-gatherers arrived in Australia and fundamentally transformed its ecosystem with the use of fire. Some 11 000 years ago, hunter-gatherers' technology played an important, perhaps decisive, part in the extinction of most of the megafauna in the Americas. Moreover, 1 200 years ago the Maori landed in New Zealand and promptly killed off all the giant Moa and turned the eastern

plain of the South Island from a forest into grassland. Were these hunters-gatherers 'systematic' in their effect on nature? Decidedly so! They seasonally burned fields and forests when dry but not too dry, and harvested animals in accordance with their predictable behaviours and migrations.

See further MacPhee, R.D.E. (ed.) 1999. *Extinctions in Near Time: Causes, Contexts, and Consequences*. Kluwer Academic/Plenum Publishers, New York.

<sup>58</sup> See [www.laits.utexas.edu/poltheory/james/blaste/](http://www.laits.utexas.edu/poltheory/james/blaste/) (last accessed on the 15th of November 2014).

<sup>59</sup> Commission of the European Communities. 2000. *Communication from the Commission on the Precautionary Principle*. Brussels.

<sup>60</sup> See for instance Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety. 2002. *Official Journal of the European Communities* L31: 1 – 24.

See further Marchant, G. E. 2001. The precautionary principle: an 'unprincipled' approach to biotechnology regulation. *Journal of Risk Research* 4(2): 143 – 57.

Tait, J. 2001. More Faust than Frankenstein: the European debate about the precautionary principle and risk regulation for genetically modified crops. *Journal of Risk Research* 4 (2): 175 – 89.

<sup>61</sup> Stern, J., Wiener, J.B. 2006. *Precaution Against Terrorism*. Harvard University Faculty Research Working Papers. Available at <http://ssrn.com/abstract=902373> (last accessed on the 15th of November 2014).

<sup>62</sup> Whiteside, K.H. 2006. *Precautionary politics: principle and practice in confronting environmental risk*. MIT Press, Cambridge, p. 153.

<sup>63</sup> Within the anthropocentric perspective roughly two versions can be recognised. *Traditional (intragenerational) anthropocentrism*, as opposed to the *intergenerational* perspective referred to above, is the position that people's behaviour toward nature should be evaluated solely on the basis of how they affect *now* living human beings.

Over and against anthropocentrism stands *non-anthropocentrism*, of which, again, two versions can be discerned: *biocentrism* and *ecocentrism*. *Biocentrism* is the view that people's behaviour toward nature should be evaluated on the basis of how they affect living beings, including humans. Hence, at least some living things in addition to humans have intrinsic value or moral standing, but since species or ecosystem are not, *per se*, living things

they lack such a value or standing. *Ecocentrism*, conversely, is the view that people's behaviour toward nature *should also* be evaluated on the basis of how they affect species and ecosystems and not merely living beings. Ecocentrists, by and large, accord a higher moral worth to biological wholes (e.g. ecosystems) than biocentrists do, who tend to emphasise biological individuals. Obviously, when considering both non-anthropocentrist perspectives, we can conceive a continuum of appreciations thereof, varying from strong to weak versions.

Stenmark, S. 2002. The Relevance of Environmental Ethical Theories for Policy Making. *Environmental Ethics* 24: 135 – 148.

See further Stenmark, S. 2002. *Environmental Ethics and Policy-Making*. Ashgate Publishing Limited, Aldershot, England.

<sup>64</sup> World Commission on Environment and Development, note 55, p. 18.

<sup>65</sup> World Commission on Environment and Development, note 55, p. 60.

<sup>66</sup> See e.g. Hanekamp, J.C. 2010. Antibiotics Use in Food-Producing Animals. *Encyclopedia of Biotechnology in Agriculture and Food* 1: 39 – 42.

Hanekamp, J.C., Bast, A. 2014. Antibiotics exposure and health risks: Chloramphenicol. *Environmental Toxicology and Pharmacology* 39: 213-220.

<sup>67</sup> Anti-nutritives are food component that induce toxic effects by causing nutritional deficiencies of by interference with the functioning and utilization of nutrients. Examples are lectins, phytic acid, and oxalic acid.

<sup>68</sup> De Vries, J. (ed.) 1997. *Food Safety and Toxicity*. CRC Press, New York.

<sup>69</sup> Ames, B.N., Profet, M., and Gold, L.S. 1990a. Dietary pesticides (99.99% all natural). *PNAS USA* 87: 7777 – 7781.

Ames, B.N., Profet, M., and Gold, L.S. 1990b. Nature's chemicals and synthetic chemicals: Comparative toxicology. *PNAS USA* 87: 7782 – 7786.

<sup>70</sup> Regulation (EC) No 178/2002, note 60.

See also Commission of the European Communities. 2000. *White Paper on Food Safety*. Brussels.

<sup>71</sup> See e.g. Sapolsky, H. 1990. The Politics of Risk. *Daedalus* 119-4: 83 – 96.

Power, M. 2004. *The Risk Management of Everything. Rethinking the Politics of Uncertainty*. Demos, UK.

<sup>72</sup> Commission of the European Communities, note 59.

<sup>73</sup> Regulation (EC) No 178/2002, note 60.

<sup>74</sup> See e.g. *UK Joint Committee on the use of antibiotics in animal husbandry and veterinary medicine ('Swann Report')*. 1969. Her Majesty's Stationery Office, London.

<sup>75</sup> Walsh, C. 2003. *Antibiotics. Actions, Origins, Resistance*. ASM Press,

Washington D.C.

<sup>76</sup> Hopwood, D.A. 2007. *Streptomyces in Nature and Medicine. The Antibiotic Makers*. Oxford University Press, Oxford.

<sup>77</sup> Ehrlich, J., Bartz, Q.R., Smith, R.M., Joslyn, D.A. 1947. Chloromycetin, a New Antibiotic from a Soil Actinomycete. *Science* 106: 417.  
See further Smadel, J.E., Jackson, E.B. 1947. Chloromycetin, an Antibiotic with Chemotherapeutic Activity in Experimental Rickettsial and Viral Infections. *Science* 106: 418 – 419.

<sup>78</sup> Patel, J.C., Banker, D.D., Modi, C.J. 1949. Chloramphenicol in Typhoid Fever. *British Medical Journal* 4633: 908 – 909.

<sup>79</sup> Baticados, M.C.L., Lavilla-Pitogo, C.R., Cruz-Lacierda, E.R., De la Peña, L.D., Suñaz, N.A. 1990. Studies on the chemical control of luminous bacteria *Vibrio harveyi* and *V. splendidus* isolated from diseased *Penaeus monodon* larvae and rearing water. *Diseases of Aquatic Organisms* 9: 133 – 139.  
Morii, H., Hayashi, N., Uramoto, K. 2003. Cloning and nucleotide sequence analysis of the chloramphenicol resistance gene on conjugative R plasmids from the fish pathogen *Photobacterium damsela* subsp. *piscicida*. *Diseases of Aquatic Organisms* 53: 107 – 113.

<sup>80</sup> Benestad, H.B. 1979. *Drug mechanism in marrow aplasia*. In: Geary, CG. (ed.) *Aplastic Anaemia*. Balliere Tindall, London, p. 26 – 42.

<sup>81</sup> IPCS-INCHEM (Chemical Safety Information from Intergovernmental Organisations). Chloramphenicol. 1994. Available at [www.inchem.org/documents/jecfa/jecmono/v33je03.htm](http://www.inchem.org/documents/jecfa/jecmono/v33je03.htm) (last accessed on the 15th of November 2014).

<sup>82</sup> IPCS-INCHEM (Chemical Safety Information from Intergovernmental Organizations). Chloramphenicol. 2005. Available at [www.inchem.org/documents/jecfa/jecmono/v53je03.htm](http://www.inchem.org/documents/jecfa/jecmono/v53je03.htm) (last accessed on the 15th of November 2014).

<sup>83</sup> IPCS-INCHEM (Chemical Safety Information from Intergovernmental Organizations). Chloramphenicol. 1988. Available at [www.inchem.org/documents/jecfa/jecmono/v23je02.htm](http://www.inchem.org/documents/jecfa/jecmono/v23je02.htm) (last accessed on the 15th of November 2014).

<sup>84</sup> Shu X.O., Gao Y.T., Linet M.S., Brinton L.A., Gao R.N., Jin F. Fraumeni J.F. 1987. Chloramphenicol use and childhood leukaemia in Shanghai. *Lancet* 8565: 934 – 937.

<sup>85</sup> Martelli, A., Mattioli, F., Pastorino, G., Robbiano, L., Allavena, A., Brambilla, G. 1991. Genotoxicity testing of chloramphenicol in rodent and



- human cells. *Mutation Research* **260**: 65 – 72.
- <sup>86</sup> IARC (International Agency for Research on Cancer). 1997. *Pharmaceutical Drugs. Summary of Data Reported and Evaluated*. Volume 50.
- <sup>87</sup> IPCS-INCHEM, note 81.
- <sup>88</sup> Council Regulation (EEC) No. 2377/90 of 26 June 1990 laying down a Community procedure to set up maximum residue limits of veterinary medicinal products in foodstuffs of animal origin. 1990. *Official Journal of the European Communities* **L224**: 1 – 8.
- <sup>89</sup> Calabrese, E.J., Baldwin, L.A. 2003. Toxicology Rethinks its Central Belief. Hormesis Demands a Reappraisal of the Way Risks are Assessed. *Nature* **421**: 691 – 692.
- <sup>90</sup> Hanekamp, J.C., Bast, A. 2007. Hormesis in a precautionary regulatory culture: models preferences and the advancement of science. *Human & Experimental Toxicology* **26**: 855 – 873.
- <sup>91</sup> Hanekamp, J.C., Frapporti, G., Olieman, K. 2003. Chloramphenicol, food safety and precautionary thinking in Europe. *Environmental Liability* **6**: 209 – 221.
- Hanekamp, J.C., Kwakman, J. 2004. Beyond Zero-tolerance: A Novel and Global Outlook on Food-safety and Residues of Pharmacological Active Substances in Foodstuffs of Animal Origin. *Environmental Liability* **1**: 33 – 39.
- Hanekamp, J.C., Calabrese, E.J. 2007. Chloramphenicol, European Legislation and Hormesis. *Dose-Response* **5**: 91 – 93.
- <sup>92</sup> Regulation (EC) No 470/2009 of the European Parliament and of the Council of 6 May 2009 laying down Community procedures for the establishment of residue limits of pharmacologically active substances in foodstuffs of animal origin, repealing Council Regulation (EEC) No 2377/90 and amending Directive 2001/82/EC of the European Parliament and of the Council and Regulation (EC) No 726/2004 of the European Parliament and of the Council. 2009. *Official Journal of the European Commission* **L152**: 11 – 22.
- <sup>93</sup> Hanekamp *et al.*, 2003, note 91.
- <sup>94</sup> Berendsen, B., Stolker, L., de Jong, J., Nielen, M., Tserendorj, E., Sodnomdarjaa, R., Cannavan, A., Elliott, C. 2010. Evidence of natural occurrence of the banned antibiotic chloramphenicol in herbs and grass. *Analytical and Bioanalytical Chemistry* **397**: 1955 – 1963.
- See for a response Hanekamp, J.C., Kwakman, J., Olieman, K. 2011. Crossing the ecological threshold – of scientific analysis, natural chemicals and global trade. *Analytical and Bioanalytical Chemistry* **399**: 2223 – 2224.
- See further Berendsen, B., Pikkemaat, M., Römken, P., Wegh, R., van Sisseren, M., Stolker, L., Nielen, M. 2013. Occurrence of Chloramphenicol in Crops through Natural Production by Bacteria in Soil. *Journal of Agricultural and Food Chemistry* **61**: 4004 – 4010.
- Berendsen, B. J. A. 2013. *LC-MS Residue Analysis of Antibiotics. What Selectivity is Adequate?* PhD Thesis University of Wageningen, Wageningen, The Netherlands.
- In 2013, Health Canada informed the Canadian public that two nutritional shakes from Sequel Naturals Ltd were found to be contaminated with chloramphenicol. In an unspecified and ill-considered manner, Health Canada stated that '[c]hloramphenicol is associated with a rare risk of aplastic anemia, a serious blood disorder that can be fatal. This reaction is unpredictable and not related to a specific dose of chloramphenicol. Other side effects that can be associated with chloramphenicol include allergic reactions in people who have sensitivity to the medication, and effects on the bone marrow leading to decreased blood cells. In addition, it should not be used by pregnant or lactating women.'
- See <http://healthycanadians.gc.ca/recall-alert-rappel-avis/hc-sc/2013/36585a-eng.php> (last accessed on the 15<sup>th</sup> of November 2014).
- <sup>95</sup> European Commission, Health and Consumer Protection Directorate-General (DG SANCO). 2013. *Note to all chief veterinary officers. Subject: Semicarbazide in various foods.*
- <sup>96</sup> Cooper, K.M., Samsonova, J.V., Plumpton, L., Elliott, C.T., Kennedy, D.G. 2007. Enzyme immunoassay for semicarbazide—The nitrofurans metabolite and food contaminant. *Analytica Chimica Acta* **592**: 64 – 71.
- <sup>97</sup> Pereira, A.S., Donato, J.L., De Nucci, G. 2004. Implications of the use of semicarbazide as a metabolic target of nitrofurazone contamination in coated products. *Food Additives and Contaminants* **21**: 63 – 69.
- Hoenicke, K., Gatermann, R., Hartig, L., Mandix, M., Otte, S. 2004. Formation of semicarbazide (SEM) in food by hypochlorite treatment — is SEM a specific marker for nitrofurazone abuse? *Food Additives and Contaminants* **21**: 526 – 537.
- <sup>98</sup> Saari, L., Peltonen, K. 2004. Novel source of semicarbazide: levels of semicarbazide in cooked crayfish samples determined by LC/MS/MS. *Food Additives and Contaminants* **21**: 825 – 832.
- <sup>99</sup> Van Poucke, C., Detaverniert, C., Wille, M., Kwakman, J., Sorgeloos, P., Van Peteghem, C. 2011. Investigation into the Possible Natural Occurrence

of Semicarbazide in *Macrobrachium rosenbergii* Prawns. *Journal of Agricultural and Food Chemistry* **59**: 2107 – 2112.

<sup>100</sup> See further De Brabander, H.F., Vanden Bussche, J., Wille, K., Bekaert, K., Vanhaecke, L. 2010. The state of the art of residue analysis: the 6<sup>th</sup> VDRA symposium 2010. *Drug Testing and Analysis* **2**: 421 – 423.

Vanden Bussche, J. 2011. *Analytical Approaches To Unravel The Semi-Endogenous Status Of Thiouracil*. PhD thesis, University of Gent.

<sup>101</sup> An argument against this proposition has been made based on the notion that chemicals specifically designed for a human pharmacological/physiological purpose cannot be found in nature, that is as compounds produced by non-human organisms or as a result of geochemical processes. Nevertheless this argument is flawed, which can be shown as follows:

- (A) Humans make particular chemicals with a sole human pharmacological/physiological purpose;
- (B) (A) suggests that those rationally designed chemicals will never be found as part of a certain biochemical process that differs essentially from human physiology;
- (C) (B) suggests that science is capable of completely elucidating the functionalities of rationally designed chemicals whereby it is not possible that such chemicals can be part of other non-human processes in the biogeosphere;
- (D) (C) implies that scientific knowledge is complete, or can be so, and will not be prone to revision or extension. This is a scientific, not a scientific, perspective.
- (E) Therefore, it cannot be maintained that those rationally designed chemicals will never be found as part of certain biogeochemical processes that differ essentially from human physiology; they can be part of a biogeochemical process unrelated to human physiology although discovery thereof might never be found.

<sup>102</sup> Öberg, G. 2002. The natural chlorine cycle – fitting the scattered pieces. *Applied Microbiology and Biotechnology* **58**: 565 – 581.

Gribble, G.W. 2010 *Naturally Occurring Organohalogen Compounds – A Comprehensive Update*. Springer-Verlag, Vienna.

<sup>103</sup> Hanekamp, J.C. Kwakman, J.H.J.M. 2009. *Towards Intended Normal Use (Part I): A European Appraisal of the Chloramphenicol Case and some Thoughts on*

*the Potential of Global Harmonization of Antibiotics Regulation*. In: Boisrobert, C., Stjepanovic, A., Oh, S., Lelieveld, H. (eds.) *Ensuring Global Food Safety: Exploring Global Harmonization*. Academic Press, Oxford, p. 193 – 208.

Hanekamp, J.C. Schwitters, B. 2009. *New RDAs and Intended Normal Use (Part II) – Efficient Tools in the Universal Management of Risks and Benefits of Micronutrients*. In: Boisrobert, C., Stjepanovic, A., Oh, S., Lelieveld, H. (eds.) *Ensuring Global Food Safety: Exploring Global Harmonization*. Academic Press, Oxford, p. 311 – 331.

<sup>104</sup> James, P., Kemper, F., Pascal, G. 1999. *A European Food and Public Health Authority. The future of scientific advice in the EU*. p. 42.

<sup>105</sup> In Figure 1, tumours per animal are depicted on the y-axis (response), with the related dose on the x-axis. The animal control group (not exposed to the carcinogen) is depicted by the top black horizontal broken line. The hormetic model predicts a lower amount of tumours than the control group when exposure levels of the carcinogen are below the **Experimental Control Response**.

<sup>106</sup> See e.g. Kathren, R.L. 2003. Historical Development of the Linear Nonthreshold Dose-Response Model as Applied to Radiation. *Pierce Law Review* **1**: 5 – 30.

<sup>107</sup> Gezondheidsraad. 2010. *Leidraad classificatie carcinogene stoffen*. Publikatienr. A10/07. Den Haag [Guideline classification of carcinogenic compounds.]

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<sup>149</sup> Market failure, in economic theory, refers to the failure, in freely functioning markets, to deliver an efficient allocation of resources. The result is a loss of economic and social welfare. A number of reasons for market failure to arise are e.g. monopoly power (price is higher and output is lower under a monopoly than in a competitive market), and merit goods (goods and services that the government feels that people left to themselves will underconsume, and therefore needs to be subsidised at the point of use, examples being inoculations, public libraries, education and the like). In this particular case market failure is understood as the inadequate capability of a freely functioning market to generate a safe consumer environment for the production, marketing and consumption of food supplements.

<sup>150</sup> See <http://curia.europa.eu/juris/liste.jsf?language=en&num=C-154/04> (last accessed on the 15<sup>th</sup> of November 2014).

<sup>151</sup> Siegrist, M., Cvetkovich, G. 2001. Better Negative than Positive? Evidence of a Bias for Negative Information about Possible Health Dangers. *Risk Analysis* **21**(1): 199 – 206.

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<sup>152</sup> Ames, note 135.

<sup>153</sup> Burgess, A. 2001. Flattering Consumption. Creating a Europe of the Consumer. *Journal of Consumer Culture* **1**(1): 93 – 117.

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<sup>155</sup> Hanekamp, J.C., Bast, A. 2008. Why RDA's and UL's are incompatible standards in the U-Shape Micronutrient Model. A philosophically orientated analysis of micronutrients standardisations. *Risk Analysis* **28**(6): 1639 – 1652.

<sup>156</sup> Commission Regulation (EC) 353/2008 of April 2008 establishing implementing rules for applications for authorisation of health claims as provided for in Article 15 of Regulation (EC) No 1924/2006 of the European Parliament and of the Council. *Official Journal of the European Union* **L109**: 11 – 20.

<sup>157</sup> Commission of the European Communities, note 59.

<sup>158</sup> Directive 2000/13/EC of the European Parliament and of the Council of 20 March 2000 on the approximation of the laws of the Member States relating to the labelling, presentation and advertising of foodstuffs. *Official Journal of the European Communities* **L109**: 29 – 42.

<sup>159</sup> See Bast, A., Briggs, W.M., Calabrese, E.J., Fenech, M.F., Hanekamp, J.C.,

Heaney, R., Rijkers, G., Schwitters, B., Verhoeven, P. 2013. Scientism, Legalism and Precaution – Contending with Regulating Nutrition and Health Claims in Europe. *European Food and Feed Law Review* 6: 401 – 409.

<sup>160</sup> Asp, N.G., Cummings, J.H., Mensink, R.P., Prentice, A., Richardson, D.P., Saris, W.H.M. (eds.) 2005. Passclaim - Process for the assessment of scientific support for claims on foods. Phase one: preparing the way. *European Journal of Nutrition* 44 **Suppl 1**: 1 – 30.

<sup>161</sup> Cummings, J.H., Pannemans, D., Persin, C. (2003) Passclaim – Report of the First Plenary Meeting including a set of interim criteria to scientifically substantiate claims on foods. *European Journal of Nutrition* 42 **Suppl 1**: 112 – 119.

<sup>162</sup> The basic structure for current RCT study-designs relates back to John Stuart Mill's method-of-difference for making causal inferences (Mill, 1859): 'If an instance in which the phenomenon under investigation occurs, and an instance in which it does not occur, have every circumstance save one in common, that one occurring only in the former; the circumstance in which alone the two instances differ, is the effect, or cause, or a necessary part of the cause, of the phenomenon.'

Overall, 'RCTs have two wings – a treatment group of which every member is given the cause under test and a control group, where any occurrences of the cause arise 'naturally' and which may receive a placebo.' (Cartwright, 2010) Comparing both groups, in a properly designed and executed trial, gives insight in the efficacy –can the intervention work?- or effectiveness –does the intervention work when used in normal practice?- of the treatment under scrutiny.

More precisely, an ideal RCT clinches the result that the treatment/agent works somewhere. That is, if all requirements for an ideal study are met, a difference in outcome-probability between the treatment and control groups entails that the treatment caused the outcome, at least in some individuals in the population under scrutiny. Comparing both groups, in a properly designed and executed trial, gives insight in the efficacy –can the intervention work?- or effectiveness –does the intervention work when used in normal practice?- of the treatment under scrutiny.

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<sup>163</sup> See Cartwright, N. 2011. The Art of Medicine. A philosopher's view of the long road from RCTs to effectiveness. *The Lancet* 377: 1400 – 1401.

<sup>164</sup> Cartwright, note 163.

<sup>165</sup> The so-called supporting (or confounding) factors determine to an undefined extent the outcome of any RCT. 'With interactive confounders explicitly included, the overall treatment ... is not a number but a variable that depends on the confounding effects. Absent observation of the interactive compounding effects ..., what is estimated is some kind of average treatment effect which is ... a "Local Average Treatment Effect," which is a little like the lawyer who explained that when he was a young man he lost many cases he should have won but as he grew older he won many that he should have lost, so that on the average justice was done.', as Edward Leamer acerbically observes.

Leamer, E.E. 2010. Tantalus on the Road to Asymptopia. *Journal of Economic Perspectives* 24(2): 31 – 46.

<sup>166</sup> Leamer, E.E. 1983. Let's Take the Con out of Econometrics. *The American Economic Review* 73(1): 31 – 43.

<sup>167</sup> Regulation (EC) No 178/2002, note 60.

<sup>168</sup> See further Schwitters, B. 2012. *Health Claims "Censored". The Case against the European Health Claims Regulation*. De Facto Publications, Vreeland, The Netherlands.

<sup>169</sup> Scientific Opinion. 2010. Guidance on human health risk-benefit assessment of foods. *EFSA Journal* 8(7): 1673.

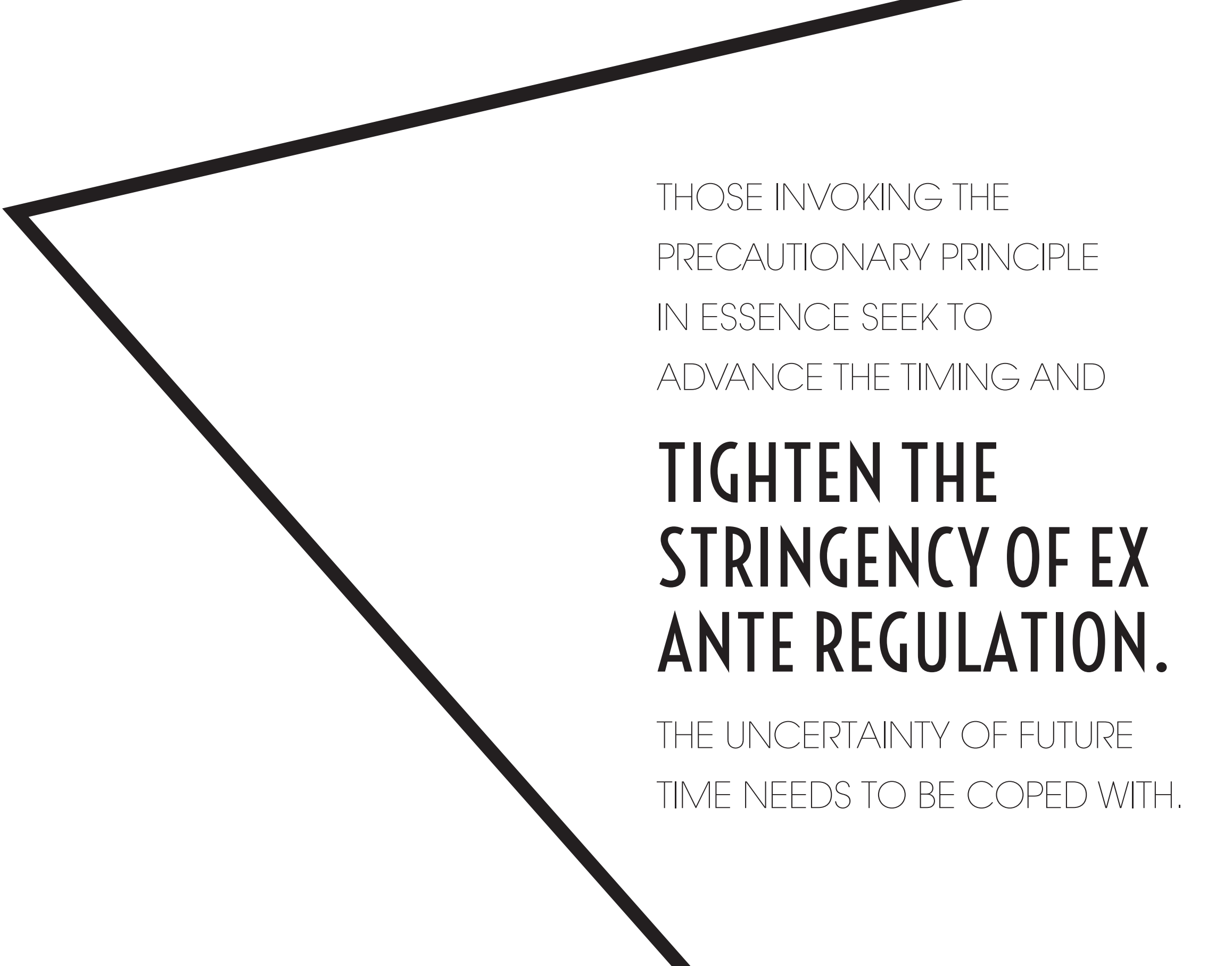
<sup>170</sup> Regulation (EC) No 178/2002, note 60.

<sup>171</sup> Hanekamp, J.C., Bast, A., Calabrese, E.J. 2013. Nutrition and health – transforming research traditions. *Critical Reviews in Food Science and Nutrition* DOI:10.1080/10408398.2012.680525.

<sup>172</sup> Heaney, R. 2008. Nutrients, Endpoints, and the Problem of Proof. *Journal of*

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- <sup>173</sup> James *et al.*, note 104.
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- <sup>175</sup> World Commission on Environment and Development (WCED), note 55.
- <sup>176</sup> Peel, note 37.
- <sup>177</sup> Commission of the European Communities, note 59.
- <sup>178</sup> Communication from the Commission. 2002. *On an Integrated Framework for Fisheries Partnership Agreements with Third Countries*. Brussels. Available at [http://ec.europa.eu/development/icenter/repository/fisheries\\_Communication\\_FPAs\\_en.pdf](http://ec.europa.eu/development/icenter/repository/fisheries_Communication_FPAs_en.pdf) (last accessed on the 15<sup>th</sup> of November 2014).
- <sup>179</sup> *Plan of Implementation of the World Summit on Sustainable Development*. Available at [www.un.org/esa/sustdev/documents/WSSD\\_POL\\_PD/English/WSSD\\_PlanImpl.pdf](http://www.un.org/esa/sustdev/documents/WSSD_POL_PD/English/WSSD_PlanImpl.pdf) (last accessed on the 15<sup>th</sup> of November 2014).
- <sup>180</sup> Communication from the Commission. 2002. *Community action plan for the eradication of illegal, unreported and unregulated fishing*. Brussels.
- <sup>181</sup> Commission of the European Communities. 2007. *Proposal for a Council Regulation Establishing a Community system to prevent, deter and eliminate illegal, unreported and unregulated fishing*. Brussels.
- <sup>182</sup> Communication from the Commission to the European Parliament, The Council, The European Economic and Social Committee and the Committee of the Regions. 2007. *On a new strategy for the Community to prevent, deter and eliminate Illegal, Unreported and Unregulated fishing*. Brussels. Available at <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52007DC0601&from=EN> (last accessed on the 15<sup>th</sup> of November 2014).
- <sup>183</sup> Council Regulation (EC) No 1005/2008 of 29 September 2008 establishing a Community system to prevent, deter and eliminate illegal, unreported and unregulated fishing, amending Regulations (EEC) No 2847/93, (EC) No 1936/2001 and (EC) No 601/2004 and repealing Regulations (EC) No 1093/94 and (EC) No 1447/1999. 2008. *Official Journal of the European Union* **L286**: 1 – 32.
- <sup>184</sup> Commission Regulation (EC) No 1010/2009 of 22 October 2009 laying down detailed rules for the implementation of Council Regulation (EC) No 1005/2008 establishing a Community system to prevent, deter and eliminate illegal, unreported and unregulated fishing. 2009. *Official Journal of the European Union* **L280**: 5 – 41.
- <sup>185</sup> Council Regulation (EC) No 1224/2009 of 20 November 2009 establishing a Community control system for ensuring compliance with the rules of the common fisheries policy, amending Regulations (EC) No 847/96, (EC) No 2371/2002, (EC) No 811/2004, (EC) No 768/2005, (EC) No 2115/2005, (EC) No 2166/2005, (EC) No 388/2006, (EC) No 509/2007, (EC) No 676/2007, (EC) No 1098/2007, (EC) No 1300/2008, (EC) No 1342/2008 and repealing Regulations (EEC) No 2847/93, (EC) No 1627/94 and (EC) No 1966/2006. 2009. *Official Journal of the European Union* **L343**: 1 – 50.
- <sup>186</sup> See [http://ec.europa.eu/fisheries/cfp/illegal\\_fishing/index\\_en.htm](http://ec.europa.eu/fisheries/cfp/illegal_fishing/index_en.htm) (last accessed on the 15<sup>th</sup> of November 2014).
- <sup>187</sup> List of Member States and their competent authorities concerning Articles 15(2), 17(8) and 21(3) of Council Regulation (EC) No 1005/2008. 2009. *Official Journal of the European Union* **C320**: 17.
- <sup>188</sup> Seafish. 2010. *IUU – New developments 29 September 2009 to 4 February 2010. Current position and timeline*. Available at [www.seafish.org/media/393960/iuunewdevelopments\\_201007.pdf](http://www.seafish.org/media/393960/iuunewdevelopments_201007.pdf) (last accessed on the 15<sup>th</sup> of November 2014).
- <sup>189</sup> EC Directorate-General for Maritime Affairs and Fisheries. 2010. *Change of the date for the import of fishery products from Russia*. Mare-A-4/BK D(2010)339473, Ref. Ares(2010)309934 – 07/06/2010.
- <sup>190</sup> Oceanic Développement Megapesca Lda. 2009. *Analysis of Expected Consequences for Developing Countries of the IUU Fishing Proposed Regulation and Identification of Measures Needed to Implement the Regulation – Phase 2 Final Report*. France, Portugal.
- <sup>191</sup> See e.g. Lomborg, B. 2007. *Solutions for the world's biggest problems: cost and benefits*. Cambridge University Press, Cambridge.
- <sup>192</sup> Council Regulation (EC) No 1005/2008, note 183.





THOSE INVOKING THE  
PRECAUTIONARY PRINCIPLE  
IN ESSENCE SEEK TO  
ADVANCE THE TIMING AND

**TIGHTEN THE  
STRINGENCY OF EX  
ANTE REGULATION.**

THE UNCERTAINTY OF FUTURE  
TIME NEEDS TO BE COPED WITH.

# 03.

# THE RISE OF PRECAUTIONARY CULTURE

## DYSTOPIAN INKLINGS

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*'Oh, brother I can't believe it's true  
I'm so scared about the future and I want to talk to you  
Oh I want to talk to you' (Coldplay)*

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### CHAPTER'S STRUCTURE AND SCOPE

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*'Exposure  
out in the open  
exposure'  
(Peter Gabriel/  
Robert Fripp)*

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THE *DUTCH SCIENTIFIC COUNCIL FOR GOVERNMENT POLICY* (WRR) PROPOSED IN THEIR REPORT ON PRECAUTION<sup>1</sup> THAT THE PRECAUTIONARY 'PARADIGM' SHOULD BE COMPULSORY WHENEVER THERE IS A POTENTIAL OF RISK TO HEALTH, SAFETY, OR THE ENVIRONMENT.<sup>2</sup>

It is put forward by the WRR that precaution expresses a timely response vis-à-vis uncertainty in view of the vulnerability of people, society and the natural environment. If precaution is fundamentally embraced as normative, faint signals or early warnings regarding particular hazards should become discernible. Subsequent precautionary policies could then cap these hazards. In this chapter we will further look into precaution, specifically with respect to the time-uncertainty aspect. The consequences this analysis has for the solidity of the concept of sustainability will be scrutinised as well. This analysis brings us to the *historical* roots of precaution and sustainability.

When considering these historical roots, the so-called pastoral ideal as green romanticism is brought to the fore. This romantic ideal, it is argued, can be regarded as the primal mainstay of both concepts. In the remainder of the chapter, the concept of this ideal will be developed with the terms 'gnosis' and 'wisdom' we will define at the end of this chapter.

### REFLECTIONS ON THE PRINCIPLE OF PRECAUTION

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*'Theorien verblassen  
Die Propaganda  
ist platt  
Nichts gilt mehr  
Die Kirche  
schachmatt...'  
(Herbert Grönemeyer)*

---

#### Reiteration

Concisely, precaution is required to generate policies that tackle uncertainty, which might be the foreboding of certain future risks. The axiom put forward by the precautionary principle is that under conditions of uncertainty, implementation of precautionary policies adds to human health and/or the environment by reducing or eliminating potential risks. Some precautionary policies might include a ban of the activity, a moratorium, alternatives, reduction of the

uncertainty through research, mitigating policies, and the like. The justifiable rationale of precaution was to counter-balance the reluctance to take protective environmental and/or public health measures if absolute proof of harm of some product or process could not be presented. Taken to its logical extreme, such an attitude will result in the indefinite continuation of the *status quo*, because it is always possible to identify some remaining uncertainties. Even if more and more evidence of harm comes to the fore and consensus on a cause-effect relation exists, any remaining uncertainty can, in principle, still be used as a reason for not intervening.

Conversely, precaution, as Rolston argues is ‘... to err on the safe side and ... business has the responsibility to argue that the risks are minimal, not to presume so and chance the damage. Our grandparents when in doubt could risk a new pesticide, but we as conscientious grandchildren must increasingly refuse to act until we *prove the limits of our effects*’. This applies to effects not only on life’s necessities but also on the natural amenities, which have never before been so threatened.<sup>3</sup>

The precautionary principle should provide guidance as regards to cases in which scientific research and knowledge (paradoxically the most important probes in matters of risk, uncertainty and precaution) of the harmful effects of a proposed activity or product are significantly incomplete. The central idea is that even if the normal scientific standards for establishing causal connections are not met in the case of the relationship between an industrial/technological activity and a given potential harm to the environment or human health, precaution warrants the regulation of that activity. This idea is supposed to run counter to standard decision-making procedures, in which possible but unproven or even unknown causal connections are *not* taken into account. Overall, the precautionary principle carries two distinct issues: a logical and an epistemological, and both shall be addressed below.<sup>4</sup>

The question we need to address is whether the precautionary principle will yield tenable and consistent policies en lieu with the sustainable perspective bringing forth a safer world not just for ourselves and the unborn but also for the earth’s ecosystems.

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*‘Oh crystal ball,  
crystal ball  
Save us all, tell me  
life is beautiful  
Mirror, mirror  
on the wall’  
(Keane)*

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## A critique on the logic of precaution – costs for the sustainable perspective

Innumerable appraisals of the precautionary principle, fluctuating between sycophantic and derogatory, have been published. The justifications advanced by proponents of the precautionary principle for adopting its prescriptions revolve around the inevitable limitations in our ability to predict which activities will cause severe, irreversible harms.<sup>5</sup>

There are two primary reasons put forward why we should be precautionary under conditions of uncertainty. This is what Miriam Haritz refers to when she observes that ‘the principle itself resides in the tension between Type I (false positive; *author*) and Type II (false negative; *author*) errors’, although she regards this not as an argument against precaution.<sup>6</sup> Thus, we have to acknowledge, according to precautionary proponents, that, *first*, unforeseen consequences always follow from our actions and *second*, we need to acknowledge the vulnerability of the global ecosystems and human society. New technologies need to be treated as a potential threat and can only be approved after extensive research and careful deliberation. As the study *Late Lessons from Early Warnings: the Precautionary Principle 1896-2000 (Late Lessons)* from the *European Environment Agency (EEA)* states about new technology: ‘their very novelty might be taken as a warning sign’.<sup>7</sup>

The problem is, however, that no matter how much research or careful deliberation is done, we shall always and inexorably be left with uncertainty. In this context, ironically, we must acknowledge that all regulation as a means to curb or deal with uncertainties and risks is technology as well. Law making is aptly named social or legal engineering since Roscoe Pound first coined these terms early in the 20<sup>th</sup> century.<sup>8</sup> As the *Dutch Health Council* recognises,<sup>9</sup> precautionary policies will themselves also have unforeseen, uncertain and potentially catastrophic consequences, raising the precautionary paradox: precautionary reasoning can be used to generate a demand for a contradictory course of action demanded by precaution, as risks surround all sides of the precautionary equation.<sup>10</sup>

This paradox is one aspect in which precaution produces uncertainty regarding future events, the opposite that it seeks to forestall.

Another way in which it generates uncertainty is the precautionary avoidance of future untoward outcomes of human actions as such. Precautionary politics in principle are never satisfied with research showing that no adverse effects have been reported. As 'absence of evidence' is not considered to be 'evidence of absence', proponents of precaution stress with reference to this truism that adverse effects in spite of all the available evidence may yet arise in the future. Precautionary politics subsequently might accept any kind of 'smoking gun' that would necessitate precautionary action against the perceived correlated hazard.

This would suggest that the precautionary principle as such is circumvented. Incidents are used as (quasi-) 'proof beyond reasonable doubt' that will satisfy public opinion and politicians who, often in an oversimplified manner, think in terms of the authority of 'scientific proof'. The latter should be understood quite flexibly, as precautionary thinking fails to prohibit any catastrophic possibilities from its realm of application.<sup>11</sup>

Framed differently, the 'emergence of a speculative approach towards risk is paralleled by the growing influence of *possibilistic* thinking, which invites speculation about what can possibly go wrong. In our culture of fear, frequently what can possibly go wrong is equated with what is likely to happen. The shift towards possibilistic thinking is driven by a powerful sense of cultural pessimism about knowing and an intense feeling of apprehension about the unknown. The cumulative outcome of this sensibility is the routinisation of the expectation of worst possible outcomes. The principal question posed by possibilistic thinking, 'what can possibly go wrong', continually invites the answer 'everything'. The connection between possibilistic and worse-case thinking is self-consciously promoted by the advocates of this approach. ...'<sup>12</sup>

One such instance of incongruous possibilistic thinking is exemplified in the Advocate-General's opinion in Case C-343/09 of *Afton Chemical Limited vs. Secretary of State for Transport* on the risks of methylcyclopentadienyl-manganese-tricarbonyl (MMT), a organometallic compound added to fuel for motor vehicles:<sup>13</sup>

'52 Where it proves impossible to determine with certainty the existence or extent of the risk envisaged because of the insufficiency, inconclusiveness or imprecision of the results of the studies conducted, but the likelihood of real harm to human or animal health or to the environment persists should the risk materialise, the precautionary principle justifies the adoption of restrictive measures. ...

93 ..., there is no compelling evidence that the assessment of the risks by the Parliament and the Council was manifestly incorrect. Although it is true that there is to date relatively little scientific evidence of the assumed risks, Afton accepts that, according to the studies available, the risks cannot be ruled out with certainty either.

94 It is in precisely this situation that the precautionary principle applies. According to that principle, health and the environment are not protected on the basis of a principle of protection from damage which is bound to occur. Rather, preventive measures may be taken against risks whose extent is disputed. In this way, the legislature can give priority to the objective of protection of health or the environment over restriction of other interests.

95 It is for the legislature and not for the courts to weigh these considerations against one another. In particular, it can decide to minimise the risks or exclude them altogether through restrictive measures. Otherwise it would have to accept that the risks might materialise and the anticipated damage actually occur. Particularly in the case of precautions against risks to human health, the legislature can generally hardly be accused of taking manifestly disproportionate measures. ...'

The logical difficulty of precaution, which is ignored in the precautionary principle, is the fact that any true node in a decision tree must at the very least have two branches:<sup>14</sup> we may either undertake the action or we may refrain from it. Each of these choices entails consequences, both foreseen and unforeseen. However, it is crucial to remember that a decision *not* to undertake an action is every bit of an action as is undertaking it. As such,

not acting opens us to the risks of sins of omission. As William McKinney and Hammer Hill illustrate: 'A legal parallel may be instructive here. In the context of sales transactions, a seller who fails to disclose to the buyer certain known and relevant information, but who has otherwise been truthful, harms the buyer. The seller has not misrepresented a material fact, there is no fraud in this transaction. Rather, the failure to disclose the information itself is the harm. The harm comes from an inaction on the part of the seller, not from a bad action. Inaction no less than action carries with it the potential for harm.'<sup>15</sup>

Rolston remarks that '[w]ith ever higher technology, it seems that our power to produce changes overshoots increasingly our power to foresee all the consequences. ... In a way our ignorance outpaces our knowledge; thus, we are asking for trouble unless we slow down the introduction of potentially more potent novel changes *with adequate pretesting*. The unforeseen consequences outnumber the foreseen consequences, and the bad unforeseen consequences greatly outnumber the good unforeseen consequences. Serendipity is rare in high technology.'<sup>16</sup>

In this, we are confronted with a catch-22. To which choice of the simple two-option node in the decision tree should we apply precaution? Each branch carries with it certain foreseen risks along with certain unforeseen risks. But as the unforeseen risks for each branch may well be devastating, how can we decide which branch to take?<sup>17</sup> The precautionary principle therefore does not provide any guidance whatsoever. As Cass Sunstein explains:<sup>18</sup>

'The real problem with the Precautionary Principle ... is that it is incoherent; *it purports to give guidance, but it fails to do so, because it condemns the very steps that it requires*. The regulation that the principle requires always gives rise to risks of its own – and hence the principle bans what it simultaneously mandates. I therefore aim to challenge the Precautionary Principle not because it leads in bad directions, but because read for all it is worth, it leads in no direction at all. The principle threatens to be paralyzing, forbidding regulation, inaction, and every step in between. It provides help only if we blind ourselves to many

aspects of risk-related situations and focus on a narrow subset of what is at stake. That kind of self-blinding is what makes the principle seem to give guidance; ...'

The precautionary principle therefore engenders an impossible arrangement, as risks are on *all* sides of the societal and regulatory equation, as we observed earlier. To decide on a safe course, in this case precautionary inaction, results in a new course with the formation of other and new (and most probably unforeseen) risks, which, by definition, evokes a secondary precautionary response, *ad infinitum*.

In other words, even if an effect of human activity is possibly catastrophic, that fact alone cannot rationally compel us to impose a precautionary remedy unless we *know* that the remedy itself does not lead to catastrophic results. Obviously, we don't know the outcome of the precautionary remedy as we do not know the effect against which precautionary regulation is targeted. It is one thing to be aware of a certain detrimental or destructive *phenomenon*, say cancer; it is quite another thing to *know* this phenomenon to be an *effect* of, say, exposure to certain man-made chemicals.<sup>19</sup>

Even if we grant that the phenomenon of low-level exposures to certain chemicals potentially could result in, for instance, the prospect of human extinction, it does not follow that we must impose a precautionary remedy, much less that we should disregard the *probability* that the dreaded *effect* actually could materialise at all, that is the principal question of fundamental causation (type III error). Why? Because it could be that the remedy will bring about an outcome that also leads to human extinction. Neil Manson proposes the following outrageous story:<sup>20</sup>

'The Kyoto Treaty is ratified by the U.S. Senate and signed into law by President Bush. All signatories to the treaty abide strictly to its demands. A global economic depression results. Massive social unrest ensues. Totalitarian dictatorships arise in Russia and the United States. War starts and nuclear weapons are launched by both sides. The predictions of the nuclear winter model prove to be perfectly accurate. Within five years,

cockroaches rule the planet. The moral? We had better not do anything about greenhouse gas emissions.’

The above line of reasoning and the subsequent conclusion are obviously absurd. As it stands, however, such a scenario cannot be excluded from precautionary thought, *as it fails to prohibit any catastrophic possibilities from the realm of application of the principle*, and since mere possibilities are easy to construct and limited only by the imagination, any application of the precautionary principle will be confronted with a same fatal problem. The reasoning it employs can be used to generate a demand for a contradictory course of action. The precautionary principle, in its application, seems an exogenous panacea for environmental and social ills. But precautionary regulation is not an exogenous solution; it is itself an endogenous (i.e. societal embedded) and fallible human pursuit. It is a form of technology and as such it can create risks; risks that are as real as the risks it is targeted against. This is for instance the essential problem of iatrogenic injury and of risk-risk tradeoffs. Regulatory interventions, like medical interventions, affect multiple risk variables and generate a cascade of consequences. As Joachim Radkau observes: ‘The lesson of environmental history indicates that environmental politics must not only fight against the undesirable consequences of industrialization to date, but that it must also pay attention to potential unintended consequences of its own making. ... As soon as ecological taxes make up a substantial part of a government budget, an especially insidious problem arises: namely that the state profits from transgressions against the environment, indeed, lives from them, much like early modern foresters lived off the fines of those who violated forest law. ...’<sup>21</sup>

The general problem is flawed human institutions (whether economic, bureaucratic, political, or otherwise), referring to the fundamental Biblical notion that humans are sinful creatures incapable of truly overseeing (or wanting to see) all consequences of their actions.<sup>22</sup> According to the burden of proof approach, advocates of precautionary regulation would be required to demonstrate the absence of counterproductive catastrophic effects resulting from the precautionary regulation itself. The practical consequences

of regulation are quite uncertain and could well be catastrophic as Manson’s highly improbable yet not impossible example shows. Advocates of precaution typically could not meet this burden. This is the snag of possibilistic reasoning.<sup>23</sup>

The uncertainty of harm requires a precautionary curtailment or ban upon a certain activity, which in future might be resolved by scientific research. But the possibility of scientific certainty is precisely the thing that is under dispute here: what level of certainty is required to satisfy the precautionary requirements? As the *European Commission* states in its communication on precaution: ‘Hence, ... measures adopted in application of a precautionary principle when the scientific data are inadequate, are provisional and imply that efforts be undertaken to elicit or generate the necessary scientific data. It is important to stress that the provisional nature is *not bound up with a time limit but with the development of scientific knowledge*.<sup>24</sup> So, a precautionary ruling will most likely have ‘an enduring temporality’.

Overall, the precautionary principle is self-defeating. With precaution we enter a vicious circle of (scientific) uncertainty and possibilistic reasoning, in which proportionality is related, as the Advocate-General’s opinion in Case C-343/09, to human health protection. Mary Douglas and Aaron Wildavsky have pointed out the consequences thereof in their *Risk and Culture*: ‘To the innocent-sounding question, “How much safety is enough?” [the] answer is that there can never be enough. Risk, like worldliness, is an ideal target for criticism. It is immeasurable and its unacceptability is unlimited. ... There can never be sufficient holiness or safety.’<sup>25</sup> In all this lies the fundamental epistemological problem facing those proposing to utilise the precautionary principle: it appears to *commit* us to taking the branch of inaction (‘When in doubt, don’t.’), despite the obvious problems associated therewith. The precautionary principle’s remedy for quietism actually ends up committing us to a nonrational, and perhaps irrational, acceptance of unforeseen risks. Surely this cannot be right.<sup>26</sup> Nevertheless, proponents of precautionary action do not infrequently choose this route.<sup>27</sup> The epistemologically compelling and ultimately essential ethical question still remains to be resolved: ‘How are we to act in the face



of uncertainty?’ It is crucial to emphasise that predictions about the magnitude, probability, and context of certain risks are never made *in vacuo*. Science and technology cannot be concerned with testing every possible consequences of a given action. Science can only deal with plausible consequences; it ‘localizes its predictions by conjoining the generalization with a set of auxiliary assumptions (A).’<sup>28</sup>

One of the proposed solutions to complexity (‘the lack of vision in framing the set A’) is to assume the worst case and subsequently seek to avoid it. Unfortunately, this takes us no closer to safe and accurate decision-making than does assuming the best case. If policy makers are to prescribe action, and as we have seen sustainable development policies require the precautionary principle in order to prescribe sustainable actions, then the precautionary principle renders policymakers helpless, bearing in mind the infinite space of unforeseen detrimental outcomes. To ‘err on the side of safety’, in view of this epistemological conundrum, is impossible. So can we know which type of action entails minimal risk, as is the goal of precautionary action?

Rolston would suggest that the prior probability of a minimal-risk activity is low: ‘Chemicals, unlike persons, are not innocent until proven guilty but suspect until proven innocent. So the burden of proof shifts, and it is now up to the industrialists to dispatch it. ...’<sup>29</sup> We must presume *a priori* that it is unlikely that those actions entail minimal risk. The study *Late Lessons* proposes on the precautionary principle, despite the objections raised, to extend the worst-case approach: ‘... the precautionary principle applies as much to uncertainties over agents as to those over effects.’<sup>30</sup>

However, no prior distribution of probabilities reflects factual data alone;<sup>31</sup> it will in part reflect non-epistemic (not indicative of the truth of a given proposition) determinants corresponding to a given socio-economic and ideological context we will discuss below.<sup>32</sup>

Just how low the probability of minimal risk is set therefore is contingent upon more than just scientific evidence. Thus, whether proceeding from the assumption of guilt (the precautionary reversal of the burden of proof) or the presumption of innocence, the proposed inferences are fraught with identical inductive difficulties. In this sense, action and inaction are logically and epistemologically

identical, for both carry the risk of unforeseen harm.

Practically, inaction (prohibition), as is shown in many a discussion of technological risks,<sup>33</sup> often is seen as the best precautionary option. The commitment to precaution therefore surpasses a mere pragmatic adherence. This simultaneously means that ‘belief in precaution’ is truth-conducive, that is to say related to the professed factual beneficial workings thereof.<sup>34</sup> Consequently, precaution can only be justified epistemically, signifying that the endorsement of precaution must be related exclusively to factual knowledge of reality and not to e.g. a preferred worldview.<sup>35</sup> Practical arguments –e.g. worldviews, power, wealth– cannot leave any traces in belief-formation and they must lead to belief (if at all) without the believer being aware thereof. Consequently, practical arguments cannot form an overt part of the commitment to precaution, and therefore do so in a *hidden* manner.

The hidden non-epistemic value underneath the debate on risk and precaution seems to be ‘*preferring inaction*’ through, say, a Principle of Preferring Inaction (PPI).<sup>36</sup> With precaution, *safety in stasis* is accentuated.<sup>37</sup> The PPI is an additional assumption not necessarily entailed by precaution itself and may actually result in violations thereof should inaction turn out to be more damaging than action. Proponents of the value of precaution have yet to adopt clearly or defend at all the PPI. In view of its hidden character, this is unlikely to happen. Adherence to the so-called ‘cultural ecological critique’ of green thinking underscores the PPI. As Mckinney and Hammer Hill note:<sup>38</sup>

‘... Assuming a smoothly functioning and balanced ecosystem, preferring inaction to action may make sense. At that first node on a decision tree, standing in the Garden, we may well counsel Adam and Eve not to eat. However, the significant environmental problems which tend to be the focus of current sustainability debates are problems of highly industrialized or newly industrializing societies. In fact, it is precisely the industrialization of a society that tends to generate these problems. We have a long, and often less than sterling, history of environmental actions, and we cannot

reasonably act as if we faced an environmental *tabula rasa*. Using the notion of environmental equilibrium to support the application of the PPI to current issues in environmental ethics commits, from a phenomenological point of view, a fundamental error—it ignores the facticity of *Dasein*. One of Heidegger's (1962) fundamental insights into the nature of human being is that people find themselves in situations that often are not of their own making, but which serve as inescapable frameworks for their actions. This is the facticity, or the thrownness, of *Dasein* into the world. The situations into which *Dasein* is thrown, whether or not *Dasein* bears any responsibility for the creation of them, both open and foreclose certain courses of action as realistic possibilities for *Dasein's* being in the world. And each situation has its own history, its own background, against which the horizon of possibilities opens up. But for a full appreciation of possibilities that are present to hand in a situation, *Dasein* must recognize and understand the historical basis of the situation. In the context of environmental actions, we cannot ignore the historical roots of the decision tree between whose branches we today must choose. ...'

In conclusion, the precautionary principle, as the core tenet of sustainable development must have a solid and intelligible logical and epistemic foundation upon which to build. This foundation is absent, and leaves any who want to implement precautionary actions in the dark. A way of specifying the 'damage condition, knowledge condition, and suggested remedy so as to reduce the vagueness of the principle without thereby reducing its plausibility'<sup>39</sup> is out of reach. Vagueness is a prerequisite as to make it workable in any practical sense.

With precaution as a flawed notion, the concept of sustainable development has become problematic. If the moral obligation to avoid the potential harm of acting now and in the future leads us into inaction, there will also be those situations where the obligation to avoid harm from inaction must lead to action. In both cases, the means by which we assess the consequences of our 'actions' (broadly

construed as action and inaction) are the same. Are we to act in order to avoid the harmful consequences of inaction? Are we to refrain from action in order to avoid the harmful consequences of action?

Methodologically speaking, the decisions are equally problematic. As a result, sustainable development and its carrying principle of precaution, become highly problematic and quite possibly unfeasible in the face of these logical, epistemological and historical difficulties. Such problematic and impractical principles are hardly reasonable foundations for either our ethical thinking or national and international law and policy.<sup>40</sup> Therefore, other concerns drive the sustainable perspective. These concerns will be addressed anon.

## A (VERY) CONCISE HISTORY OF (ENVIRONMENTAL) CAUTION

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*'Die Natur nimmt  
das Heft in die Hand  
Schlägt beinhart  
zurück  
Schickt die Geldgier  
in Katastrophen  
Zwingt uns zu  
unserem Glück'  
(Herbert Grönemeyer)*

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Green romanticism and the pastoral ideal  
As we have seen, the decisional possibilities of the precautionary principle are severely hampered, perhaps even non-existent, by the absence of any guidance and its self-defeating characteristics. So one is compelled to look at this principle in quite a different manner. Precautionary thinking should perhaps mainly be seen as a reaction: a response to the self-confidence mainstream society had in the progress of post-war civilisation. It is an antithesis, which materialised when especially Western civilisation was stirred by stories and facts about pollution and the degradation of nature and part of the Western societal elite was disquieted by the reality of the sovereign Nation State which –in their view– was powerless to deal with the 'world problematique'.<sup>41</sup> From a historical perspective, the precautionary principle is part and parcel of the cultural ecological critique, a green romantic perspective, which was brought centre-stage in the early 1970s by among others *The Limits to Growth*, the first report to *The Club of Rome*.<sup>42</sup> Anna Bramwell, in her study on the ecological movement in the twentieth century, probes the development of green

thinking and its impact on the Western society.<sup>43</sup> She firmly positions the rise of green thinking to political power in the early seventies of the twentieth century when the cultural ecological critique merged with the scientific economic concept of non-renewable resources. The conservative moral and cultural ecological critique combined with a recognisable scientific basis has rendered green thinking a powerful political force. Joanna Bourke observes, on a similar note, a rise of a public and scientific interest in environmental issues in relation to public and private fears. She remarks that the ‘fear of crime was not the most potent dogging late-twentieth-century societies. There was another category of danger that frightened many Britons and Americans as the century staggered to its conclusion: ecological degradation.’<sup>44</sup>

Here, ‘ecology’ and ‘ecological’ is used in the political (normative) sense. It encompasses the belief that a man-induced drastic change within the environment is wrong and should be amended. Ecology is therefore associated with conservation, sustainability and precaution.<sup>45</sup> Green thinking on the one hand postulates ‘wrongness’ about Western industrialised society in for instance its use of non-renewable resources and its pollution potential and on the other hand sees part of the solution in a radically reorganised society in which these resources could be used more efficiently whereby environmental contamination could be curbed.

David Pepper sees environmentalism as a rejection of modernism: ‘... a ‘postmodern’ mistrust of the high science and technology which Enlightenment ... thinkers championed is central to green ideology. The Enlightenment promise to control and manipulate nature to improve everyone’s lot seems now to have produced mass war, violence and repression, nuclear and environmental threats, and technologies that ordinary feel they cannot explain or control. ...’<sup>46</sup> Lynn White, in his famous 1967 *Science* article, not only impugned the West’s ecological crisis on Judaeo-Christianity and thereby influencing the debate profoundly, but axiomatically assumed that there *is* a crisis and that this crisis was the result of humankind’s distorted relationship with nature.<sup>47</sup> White proposed that with the loss of paganism, nature was stripped off indwelling spirits and could be treated as an object, thereby opening the door to the

investigative and utilitarian attitude of man with all the ostensible destructive consequences we are now familiar with.

Green thinking combines pessimism about human nature with a misanthropic view on human society inflicting great harm on nature next to the incompetence of people to choose the ‘right’ government. This explicit double pessimistic perspective on humans and human society contrasts with the fact that this perspective spawned numerous non-governmental organisations by which a ‘green society’ was to be accomplished. Sanguinity about human possibilities to reshape society, albeit in a radically different political context, came forth from the then prevailing notion of utopian social engineering.<sup>48</sup>

Meredith Veldman points out that the vision of the reshaping of society –as part of green thought– holds a ‘romantic’ component.<sup>49</sup> By that she neither refers to a historical period nor an artistic stand, but rather to a world-view. By and large this ‘romantic’ outlook on life, history and society is centred on the *in essence correct* conviction that modern science with all its statistical, explicatory and reductionist potential cannot depict or grasp the whole of reality, which is experienced beyond the reach of the physical senses. Arne Naess, the originator of so-called deep ecology –the notion that rejects ‘the (human)-in-environment image in favour of the relational, total-field image’ where organisms are viewed as ‘knots in the biospherical net or field of intrinsic relations’<sup>50</sup> is perhaps the most famous advocate of the concept of holism, which he expounds in his book *Ecology, community and lifestyle*: ‘A living cell can only be considered superficially to be a thing with qualities, as more thorough descriptions lead to field thinking in which the attempt to delimit the cell ‘itself’ in time, space, or other dimensions is dropped. The entire cell unit’s dynamics extend far beyond its observable boundary. ... The cell walls are not independent of either surroundings – they are not walls in a commonsense way. We are dealing with an ‘all-pervasive network’ of forces and interactions. As presented here, it is clear that the whole/fraction distinction is not appropriate for the living cell. The fractions cannot be isolated. Nothing can be causally isolated. Hence the slogan ‘The whole is more than the sum of its parts’.<sup>51</sup>

Within this vision, a rejection of the materialistic technological and scientific character of modern-day society is supplanted by a focus on some kind of past, which is regarded as a guide to the future. The 'right relations' between individuals and the community, humanity and nature, humanity and technology and so on, overcoming the deep felt fragmentation of modern society, are projected on this envisioned past that is in a similar fashion the *pastoral ideal*. Raymond Williams describes the pastoral ideal as 'a structure of feeling' that arose with the modern Nation State in the 18<sup>th</sup> and 19<sup>th</sup> century.<sup>52</sup> It contains a utopian element in the vision of a golden past of rural harmony, honesty, and simplicity in the face of rising industrialisation. The pastoral Arcadia is thus a 'dreamscape', a state of wish fulfilment in dramatic contrast to everyday life.

By means of the romantic concept, Veldman is able to join together such distinct cultural products as the *Campaign for Nuclear Disarmament*, E.F. Schumacher's *Small is Beautiful*<sup>53</sup> and the literary works of Clive Staples Lewis and John R.R. Tolkien. The mind-set of green thinking is never better portrayed than in Tolkien's *The Lord of the Rings*. Gandalf the Grey, one of the key characters in the novel, spells out Tolkien's vision of a 'green' pastoral society in the following passage, which is a peculiar mix of sustainability as outlined by the *World Commission on Environment and Development* and the precautionary principle: '... Yet it is not our part to master all the tides of the world, but to do what is in us for the succour of those years wherein we are set, uprooting the evil in the fields that we know, so that those who live after may have clean earth to till. ...'<sup>54</sup>

The industrial progress witnessed and abhorred by Tolkien he countered with an image of a pastoral idyll of the Shire, the land of the Hobbits. With this representation of the Shire with its small scale technology like blacksmiths, wind- and watermills (entirely in line with the ideals of Schumacher), Tolkien clearly referred to a past he constructed to his liking, in which he on the surface ignored the harsh historic reality of feudal repression, selfish farmers, pestilence, famine and extreme poverty of the rural community in large areas of the countryside of pre-industrial Europe.

The opposite of this moral spectrum is to be found in Mordor, the land of the malevolent Lord Sauron who uses science and

technology for its own purposes, destroying nature in the process. Mordor, naturally, is the mirror image of the Western society.

The evil magician Saruman mirrors the modern scientist, and his technology refers to the 'Dark satanic mills' of the romantic and mystic writer William Blake (1757 – 1827).<sup>55</sup>

The paradox that (possibly) eluded Tolkien was that his pastoral idyll of the Shire was born out from the industrialisation process he disliked, leaving the countryside devoid of the massive small-scale rural industrial activities with their unhealthy working conditions and extremely long working hours of past centuries. A countryside, which was promptly filled with people rich enough to create a landscape teeming with the pastoral pleasantries Tolkien so much favoured and idealised in his work.

Rachel Carson depicts a similar unhistorical landscape of a world-past in the opening chapter of *Silent Spring*.<sup>56</sup> The pastoral ideal, apart for its dreamscape, also reflects the notion that the farther man strays from his natural home, the farther will his spirit be debased and corrupted. A relatively stable Arcadian ecological framework – a state of environmental equilibrium – within which human actions will take place and against which they will be judged is here assumed.<sup>57</sup> As is understood within the green context, natural processes predominantly can shape this dynamic state in which environmental change does take place. This notion of environmental equilibrium rests, in part, on the belief that human actions that have major environmental consequences are somehow 'not natural'. Equally, the idea of an environmental equilibrium is consonant with many of our ideas about living in a state of nature or in harmony with our environment; that is living in Arcadia.

As a case in point of this conglomerate of ideas, the so-called 'ecologically noble savage',<sup>58</sup> of whom the 'ecological Indian' is the most evocative, might exemplify this point, although we can touch on this example only briefly here. It is inferred that there was, firmly placed in human history, a time when native man lived in harmony with its natural environment.<sup>59</sup> The romantic component of green thought, with the aid of the 'ecologically noble savage', is thereby historicised. Roughly since the 1960s, the idea that Native Americans (Indians) were the earliest ecologists and conservationists holds sway of the

general public in Western societies, either explicitly or implicitly. As a stereotype it is employed to highlight problems faced by modern Europeans and points to a way of life in which these problems are thought to be absent.<sup>60</sup> Everything suggests that the first Americans were indeed the first ecologists, because they evolved belief systems that by and large ensured they would be, and did so in turn (like a great many other primal peoples the world over) because they understood that their survival, and happiness –and as they would see it, the survival and happiness of all other species– depended upon it. ...’, as Kirkpatrick Sale suggests.<sup>61</sup> Equally, Wilbur Jacobs notes that ‘After having studied a mass of evidence in the biological, physical, and social sciences, I am convinced that Indians were indeed conservators. They were America’s first ecologists. ...’<sup>62</sup> He noted some years earlier that the ‘beliefs and institutions of native people encouraged them to live in balance with the natural resources. ... there are few instances of native peoples killing off animals that were a part of their food supply.’<sup>63</sup>

The Europeans and their descendants, in turn, ruined this pristine North American nature, which frequently was referred to as the ‘Garden of Eden’ by the first settlers arriving from Europe.<sup>64</sup> Vine Deloria underscores this paradisiacal perspective: ‘The Indian lived with his land. He feared to destroy it by changing its natural shape because he realized that it was more than a useful tool for exploitation. It sustained all life, and without other forms of life, man himself could not survive. ... They well understood that without all life respecting itself and each other no society could indefinitely maintain itself. ... the white man must drop his dollar-chasing civilization and return to the simple, tribal, game-hunting, berry-picking life if he is to survive. He must quickly adopt not just the contemporary Indian world view but the ancient Indian world view to survive. ...’<sup>65</sup>

Equally, ‘If the whites and all minorities except the Indians were suddenly to disappear and the erstwhile native people were to possess the state [of California] once again, how would they fare? Acorn mush might become once more a standard food; the salmon would again run the rivers ...; the deer would multiply enormously without predators such as the Grizzly Bear and the mountain lion;

and there would be amply bearing orchards of introduced food ready for the picking. All of this would require a period of relearning for the Indians, not only to forget the habits and devices of “civilization” but also to master once more the ancient knowledge, skills and artefacts of the ancestral people, which have ... been quite lost or forgotten. If the Indians were regranted their patrimony, they might make out rather well.’<sup>66</sup> The potency of the similes of the Native-American as the ‘true ecological man’<sup>67</sup> cannot be overstated and encapsulates the longing for a different and better past and a simpler life: ‘The Indian lived with his land. *The white destroyed his land. He destroyed the planet earth.*’<sup>68</sup>

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#### *Only one Earth and ...*

Two influential international reports gave the cultural ecological critique of green thinking intellectual, scientific, and political repute. First, in 1972 Barbara Ward and René Dubos presented a report to the *United Nations World Conference on the Human Environment*. It argued that man had to replace family or national loyalties with an allegiance to planet Earth in order to save it from destruction. It preached imminent doom through man’s scientific and technological capacity and progress. The Nation State was regarded as an outdated concept that blocked the road to a sustainable world. Therefore, it advocated the abandonment of the idea of national sovereignty and the development of international organisational structures with global political clout:<sup>69</sup>

‘Where pretensions to national sovereignty have no relevance to perceived problems, nations have no choice but to follow the course of common policy and coordinated action. In three vital, related areas this is now the undeniable case – the global atmosphere, the global oceans, and the global weather system. All require the adoption of a planetary approach by the leaders of nations, .... It is no small undertaking, but quite possibly

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*I kissed your  
lips and broke  
your heart  
You...you were  
acting like it was  
The end of the  
world’  
(U2)*

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the very minimum required in defense of the future of the human race.’ (p. 217)

‘If this vision of unity –which is not a vision only but a hard and inescapable scientific fact– can become part of the common insight of all the inhabitants of planet Earth, then we may find that ... we can achieve just enough unity of purpose to build a human world. In such a world, the practices and institutions with which we are familiar inside our domestic societies would become, suitably modified, the basis of planetary order.’ (p. 219 – 220)

‘Our new knowledge of our planetary interdependence demands that the functions are now seen to be world-wide and supported with as rational a concept of self-interest. Governments have already paid lip service to such a view of the world by setting up a whole variety of United Nations agencies whose duty it is to elaborate world-wide strategies. But the idea of authority and energy and resources to support their policies seems strange, visionary, and utopian at present, simply because world institutions are not backed by any sense of planetary community and commitment. ... The planet is not yet a center of rational loyalty for all mankind.

But possibly it is precisely this shift of loyalty that a profound and deepening sense of our shared and interdependent biosphere can stir to life in us. That men can experience such transformations is not in doubt. From family to clan, from clan to nation, from nation to federation – such enlargements of allegiance have occurred without wiping out the earlier loves.

Today, in human society, we can perhaps hope to survive in all our prized diversity provided we can achieve an ultimate loyalty to our single, beautiful, and vulnerable planet Earth.’ (p. 220)

Second, and more known to the general public, *The Club of Rome*, in their first 1972-report *The Limits to Growth*, also projected imminent global devastation, unless use of resources was drastically curbed and shared.<sup>70</sup> Twelve million copies of the report were sold worldwide and it was published in 37 different languages. It still is regarded as the benchmark report on the status of the global environment and

the human impact thereon. Although its statistics are obsolete, its basic message still stands, and has become worldwide mental furniture.<sup>71</sup> These two reports coincided in time with the oil crisis of the early 1970s, which gave them economic credence and social support.

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*The world weighs  
on my shoulders  
But what am I to do?*  
(Rush)

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... *The Limits to Growth*<sup>72</sup>

*The Limits to Growth* highlighted the impact of human behaviour on the earth’s natural resources and tried to establish a link between the level of world economic growth and the extent to which our environmental resources are being depleted and polluted. Although *The Club of Rome* aimed to denounce the harmful effects of a productivity-oriented development policy, it wanted above all to demonstrate that, by pursuing growth, humankind could most likely be heading towards global catastrophe. The main focus was exponential growth in a complex and closed world-system. Their main preoccupation was the survival of humankind –bogged down by a political structure not deemed acceptable and capable to handle the ‘world problematique’– on a planet with obvious limited resources.

*The Club of Rome’s* principal objectives were to analyse and understand the basic interdependencies that link all the problems facing humankind across the globe, whatever the nature. The perception that they all interconnect was coined with the term ‘world problematique’. It covers a vast sphere of innumerable difficulties confronting humankind, such as social injustice, malnutrition, poverty, illiteracy, unemployment, population growth, the obsession with economic growth, inflation, the energy crisis, monetary problems, the degeneration of cities, damage to the environment, the rise of the nuclear threat and political corruption.<sup>73</sup>

The term ‘world problematique’ pointed to the general feeling of anxiety felt by modern man in the face of uncertainty and complexity that came to be known as the ‘predicament of mankind’. So, it was no coincidence that *The Limits to Growth*



opened with a statement by Oe Thant, the then secretary-general of the United Nations, who warned that there was little time left, (ten years to be more precise) to solve the world problems like pollution, hunger, the arms race and armed conflicts. From the outset, the UN embraced *The Limits to Growth*.

As is clear, the environmental issue is but one aspect of the areas investigated by *The Club of Rome*. And yet ecologists have, to a large extent, taken on board the results of *The Limits to Growth* making it an unlikely spokesman for and a booster of the cultural ecological critique. The message of the distinctly unromantic, if not to say technocratic, approach of *The Limits to Growth* bore well with the ecological cultural critique.

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### Perspectives of *The Limits to Growth*

Four aspects connecting to the cultural ecological critique can be discerned in *The Limits to Growth*. Those aspects are strongly related to what we nowadays call precautionary thinking.

Guillaume Vera-Navas reviews three of them:<sup>74</sup> (I) fear for the future; (II) the acceleration of history; (III) analysing of and dealing with the world problem. To these three items, (IV) the ideal of stabilising and controlling the future is added. These four elements express the time-uncertainty typical for precaution.

(I) In the sixties and early seventies of the twentieth century it became clear that modern technology not only solved, but also created problems.<sup>75</sup> This is by no means a new phenomenon. Technology always creates nuisances. When these nuisances surfaced, they were dealt with locally and within the political concept of communities, provinces and nations, according to *The Club of Rome*. And if people failed in dealing with it, the ensuing disasters were temporarily and/or localised. Today's problems, however, are no longer viewed as temporal, local or regional, but worldwide, long lasting and irreversible, such as global warming, radioactive waste and pesticides on crops and in the environment. Lennart Sjöberg and Anders af Wåhlberg point to the fact that worldviews are a dominant factor in the perspective

on technology, in which tampering with nature is the most clear indication thereof.<sup>76</sup> So, modern times generate fear for the future. This negative conceptualisation of technology has become *bon ton* in the literature on the history of technology specifically, and modern-day culture in general. Technology is no longer viewed as the solution but as the creator of social and environmental inequalities and problems.<sup>77</sup> We can see this phenomenon clearly in *The Limits to Growth*: 'Historically mankind's long record of new inventions has resulted in crowding, deterioration of the environment and greater social inequality. ...'<sup>78</sup>

From a sociological point of view, Beck –among others– argued that the distribution of scarce material goods no longer is the primary social problem in the Western society.<sup>79</sup> The main problem, Beck claims, is the distribution of the technological risks that are the product of the industrial system of production and the commercial exploitation of scientific knowledge. It is this predicament that the fundamental social struggles are fought about in modern-day society. Fear for the future is therefore a combination of a shifting locus from material goods towards technological risks and the globalisation of the pollution capacity of the science-driven international economic market.

(II) Worries about the abuse of modern technology, in for instance the use of chemical weapons in modern warfare, are looming large in Mumford's *Technics and civilisation*, written in the 1930s.<sup>80</sup> In his opinion, however, technology itself stands beyond criticism. Real and encompassing technological pessimism and fear starts after the Second World War. William Vogt's largely forgotten *Road to Survival*, published first in 1948, precedes most 20<sup>th</sup> century environmental writings and exemplifies the green pessimistic perspective on humans and the developing modern society with a patent stroke of Malthusianism (see below).<sup>81</sup>

Of India he remarks that before the 'imposition of the *Pax Britannica*, India had an estimated population of less than 100 million people. It was held in check by disease, famine, and fighting. Within a remarkably short period the British checked the fighting and contributed considerably to making famines ineffectual, by building irrigation works, providing means of food storage, and importing

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'An ill wind  
comes arising  
Across the cities  
of the plain  
There's no swimming  
in the heavy water ...'  
(Rush)

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food during periods of starvation. Some industrialization and improved medicine did the rest. While economic and sanitary conditions were being “improved”, the Indians went their accustomed way, breeding with the irresponsibility of codfish ...<sup>82</sup> An example that did stick in most peoples mind is *Silent Spring*, published in 1962, in which the unexpected environmental damage, caused especially by pesticides, is the central issue.<sup>83</sup> The element in the analyses of *The Club of Rome* that lastingly struck a sensitive chord is that technological pessimism and fear is explicitly linked to the phenomenon of exponential growth. This is, according to *The Limits to Growth*, the central driving force behind human history since the Stone Age. As a result of the global diffusion and social incorporation of technology, growth accelerated immensely in the modern age.<sup>84</sup> The time it took for the world population or the world GDP to double, took centuries in the past but only decades in modern history. The same holds for pollution, deforestation, and release of greenhouse gases and could well hold for extinction rates.<sup>85</sup> The theme of exponential growth surpassing certain envisioned resource and environmental limits is not a new discussion, far from it. By the end of the eighteenth century Thomas Robert Malthus feared that population growth in Great Britain would outpace agricultural productivity and trigger mass starvation.<sup>86</sup> *The population bomb* by Paul Ehrlich is a modern version of this theory that borrows greatly from Vogt’s work.<sup>87</sup> Indeed, Vogt remarked in 1948 that ‘man rapidly increased his command of nature’ and ‘spawned a vast school of new limiting factors’. Even Malthus did not foresee that in the ‘core of increasing “production” there was hidden the worm Ouroboros, the worm that would consume the earth.’<sup>88</sup> In the economic sciences, exponential growth also has a central place. It is considered a desirable and necessary process to lift the masses from poverty and ignorance, prevent depression and mass-unemployment and stimulate technological progress in the service of humankind. However, *The Club of Rome* stood these ideas on their head by declaring that technology and economic growth –the *deus ex machina* of past eras– generated even greater problems in relation to the envisioned environmental and resource limits. As technology augmented the global economy-capacity manifold, resource and

environmental limits were reached even sooner. *The Club of Rome* therefore, with great force, put the argument forward that history is dangerously ‘speeding up’. We live on a ‘shrinking planet’ and science, technology and economic growth are, or should be, in the dock. In the philosophy of *The Club of Rome* the process of exponential growth means that in the future it will be impossible to react. It is therefore no surprise that *The Limits to Growth* exudes precaution:<sup>89</sup>

‘This ignorance about the limits of the earth’s ability to absorb pollutants should be reason enough for caution in the release of polluting substances. The danger of reaching those limits is especially great because there is typically a long delay between release of a pollutant into the environment and the appearance of its negative effects on the ecosystem. ...’ (p.89)

‘Pollution generated in exponentially increasing amounts can rise past the danger point, because the danger point is first perceived years after the offending pollution was released.’ (p.151)

Before a proper assessment is feasible, the problem has presented itself on a global scale. Irreversible damage will be the result of unexpected side effects of some new technology. Future generations as a result will suffer the consequences if science, technology and economic growth remain unchecked. Therefore, we must act now. (III) The phenomenon of exponential growth implies, *The Club of Rome* insists, that we cannot wait until the problems of science and technology actually materialise. If we do, we are too late. We must not see, but foresee; we must not react, but act: ‘Under conditions of rapid growth, however, the system is forced into new policies and actions long before the result of old policies and actions can be properly assessed.’<sup>90</sup> The last statements in the report reverberate the perceived risks of science, technology and economic growth and the necessity to act, out of precaution:<sup>91</sup>

‘Every day of continued exponential growth brings the world system closer to the ultimate limits to that growth. A decision to do nothing is a decision to increase the risk of collapse. We cannot say with certainty how much longer mankind can

postpone initiating deliberate control of his growth before he will have lost the chance for control. We suspect on the basis of present knowledge of the physical constraints of the planet that the growth phase cannot continue for another one hundred years. Again, because of the delays in the system, if the global society waits until those constraints are unmistakably apparent, it will have waited too long.'

Because modern environmental problems do not stop at borders, international political co-operation by governments is necessary. New ways have to be created to abate future technologically generated predicaments. This means that major environmental problems should be taken care of, not by national governments but by new international organisations that are not founded in the sovereignty of nations. The Nation State is introvert and hypocritical.<sup>92</sup> Even the UN would be powerless to act upon the 'world problematique', as it is likewise based on the consensus between national governments. So international non-governmental organisations must be in the frontline when dealing with new risks and drag the obsolete Nation States and its international pendants along on the road to a new international and sustainable order. In that sense *The Limits to Growth* implicitly brings forward a utopian perspective on the future societal order created by global political institutions in order to save the planet from a inevitable dystopian future.

(IV) Technological pessimism has led, among other things, to a loss of awareness that the future could transcend the present, as Russell Jacoby laments: '... I am referring to the notion that the future texture of life, work and even love might little resemble that is now familiar to us. I am alluding to the idea that history contains possibilities of freedom and pleasures hardly tapped. This belief is stone dead. Few envision the future as anything but a replica of today –sometimes better, but usually worse. ... A new consensus has emerged: There are no alternatives. This is the wisdom of our times, an age of political exhaustion and retreat.'<sup>93</sup>

This idea that the future is no more than a continuation of today is rather clear in the static view *The Club of Rome* held on resources. In

the 'past' –i.e. around 1900– resources are set on a 100%, so that by definition the only sustainable future is one in which resource-use is slowed down as much as possible. Human ingenuity and scientific or technological advances, in this static worldview, are only helpful if they are merged with methodical checks on growth.<sup>94</sup>

Our society is deemed to be in need of stringent regulatory constraints in order to stabilise the future and make it safe for generations to come. This wish for control and stabilisation is strongly recommended in the last chapter of *The Limits to Growth*, which deals with the 'equilibrium state'. Low-level pollution and resource-use, a non-growing population, and stable production per capita are envisioned in the perfectly straight and mostly horizontal lines of the 'stabilized world model'.<sup>95</sup>

Moreover, this 'equilibrium state' would be the result of technological policies to reduce pollution added to growth-regulating policies brought about by 'concerted international measures'.<sup>96</sup> As Ehrlich, in 1972, noted in an American newspaper on birth control as a means to avert global ecological disaster: 'In 1969, he said that if voluntary birth reduction methods did not work a nation might resort to "addition of a temporary sterilant to staple food or the water supply".'<sup>97</sup> His 2013-paper in the *Proceedings of the Royal Society* contains essentially the same message (formulated in more acceptable terms): 'Developing a more comprehensive system of international governance with institutions planning to ameliorate the impacts of such catastrophes would be a major way to reduce the odds of collapse.'<sup>98</sup>

The 21<sup>st</sup>-century-incarnation of this debate is the 'planetary boundaries' discourse. Rockström *et al.* for instance outline the debate as follows: 'To meet the challenge of maintaining the Holocene state, we propose a framework based on 'planetary boundaries'. These boundaries define the safe operating space for humanity with respect to the Earth system and are associated with the planet's biophysical subsystems or processes. Although Earth's complex systems sometimes respond smoothly to changing pressures, it seems that this will prove to be the exception rather than the rule. Many subsystems of Earth react in a nonlinear, often abrupt, way, and are particularly sensitive around threshold levels

of certain key variables. If these thresholds are crossed, then important subsystems, such as a monsoon system, could shift into a new state, often with deleterious or potentially even disastrous consequences for humans. ...<sup>99</sup>

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‘... No singing  
in the acid rain  
Red alert Red alert’  
(Rush)

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### The cautions of *The Limits to Growth*

In 1972, the inherent logic of precautionary thinking was already formulated in *The Limits to Growth*. The reason why the suspicion towards technology and the Nation State –the doubly pessimistic perception of humanity– went hand in hand with a naïve optimistic approach of the possibilities and blessings of international political control can be traced to the background of the members of *The Club of Rome* and the political affiliations of its founder. The premises put forward by *The Club of Rome* is that the Nation State is a failing institution in the face of the ‘world problematique’ and needs to be replaced with globally overarching political institutions. Consequently not only does *The Club of Rome* examine the limits to physical growth but also brings the supposed limits of the sovereign Nation State centre-stage. For the Western hemisphere this criticism encompasses the role of representative democracy as well. The fundamental thesis of exponential growth in a complex and closed world-system resulted in the projection that no matter how the future would unfold, collapse is imminent unless humankind curbs its growth drastically, both economically and demographically. Vogt, as a forerunner of *The Club of Rome*, did not mince words when he remarked in relation to Chile that one of the ‘greater national assets of Chile, perhaps the greatest asset, is its high death rate. This is a shocking statement. Nevertheless, if one does not believe there is a virtue in having more people live ever more miserably, destroying their country with increasing rapidity, the conclusion is inevitable.’<sup>100</sup>

*The Club of Rome*, at that time, explicitly linked the risks of science and technology to the inevitability of centralised assessment and abatement strategies. The goal of these

assessment strategies was to gauge new technology in relation to the premeditated checks on growth: ‘We have felt it necessary to dwell so long on an analysis of technology because we have found that technological optimism is the most common and the *most dangerous* reaction to our findings from the world model. Technology can relieve the symptoms of a problem without affecting the underlying causes.’<sup>101</sup>

In the view of *The Club of Rome*, science and technology needs to be assessed on a continuous basis in order to keep a firm grip on its development. This understanding of science and technology and the role of governmental policy-making come together in the precautionary principle, as we know it today. Notwithstanding the fact that *The Club of Rome* was viewed as technocratic in its approach and despite the fact that environmental issues were but one of the many topics discussed in *The Limits to Growth*, it struck a chord with those who criticised the Western world for its perceived abuse of nature and the environment. It fuelled the intolerance for logical, philosophical, historical, economic, social, and theological arguments critical of the sustainable perspective and its precautionary tool. Despite the epistemic and moral failure of the precautionary principle,<sup>102</sup> the appeal of the principle remains as strong as ever.

Its success, at least in part, we localised in green romanticism. Centred on the *in essence correct ascertainment* that modern science with all its statistical and explicatory power cannot depict, grasp, or indeed control and contain *all* of reality, an implicit reference to the scientific tendencies in science and society we will discuss and criticise further on in this inquiry, the materialistic technological and scientific character of modern-day society is rejected and supplanted by a focus on the past, which is regarded as a guide to the future. The ‘right relations’ between individuals and the community, humanity and nature, humanity and technology and so on, overcoming the deep felt fragmentation of modern society, are projected on this envisioned past. In *this* sense, green romanticism correctly criticised the scientific traits in modern precautionary culture of which she, ironically, has become a part.

## BEYOND KNOWLEDGE AND DYSTOPIA: ‘GNOSIS’ IN A SCIENTIFIC WORLD

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‘Came upon an  
ancient forest  
A guiding power  
had led me there  
Walking through  
the mystic forest  
The legend, tale  
of times gone by’  
(Clannad)

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### Indigenous wisdom

Considering the critical perspective precautionary culture has on science and technology, it is not surprising that not a few studies about environmental issues bemoan the optimistic and scientific ‘hubris’ that has been dominating Western society from, say, the 18<sup>th</sup> century onwards.<sup>103</sup> Precautionary thinking, therefore, is urgently looking for an alternative way to direct the future. A recurring word in this respect is ‘wisdom’, which should replace ‘mere knowledge’. In *Limits to Growth*, for instance, quotations from ‘wise men’ such as Han Fei-Tzu (550 B.C.), Heraclitus, Aristotle are used to convince the reader of its perspectives. Even the evangelist St. Luke (14: 28) is called upon to offer Jesus’ words of wisdom.<sup>104</sup>

In the tradition of *The Limits to Growth*, the European study *Late Lessons* equally refers to ancient wisdom lost.<sup>105</sup> The authors of *Late Lessons* put Albert Schweitzer upon the stage who once said that ‘man has lost the capacity to foresee and forestall ... he will end up destroying the earth’.<sup>106</sup> Aristotle, in the same report, is introduced as an authority to persuade the reader to change the held worldview(s) in accordance with the worldview proposed in *Late Lessons*, and Socrates is presented as a precautionary thinker *avant la lettre* ‘when he acknowledged ignorance as a source of wisdom. Our report shows that this is a lesson from history that many people have forgotten’.<sup>107</sup> The *EEA* adds in their report that ‘A phenomenon that Socrates probably did not know about, but may have suspected, is that ‘everything’ connects’ ....<sup>108</sup> The lack of wisdom portrayed here deals with, at least in part, a holistic, and thereby ant-reductionist, perspective.

Indeed, in *This Endangered Planet*, the author states that his ‘book seeks to generate feelings, thoughts, and acts appropriate to ‘these last days’. Such an undertaking, working toward self-discovery as much as education, expresses my hope that there may yet be time to build an ark of renewal. ...’<sup>109</sup> In

*Sharing the Planet* ‘the contours of an alternative ethics ... become visible. It can be called ethics of connectedness, of ‘being with’, or of partnership with fellow-creatures – all characteristics that stand in diametrical opposition to the dominant trends in modern society. ... An ethics of connectedness puts human beings back into the greater family of forms of being. It makes them once again experience and conduct themselves as participants in the great web of nature, quick with life, and with meaning not our making. ...’<sup>110</sup>

Claiming that the world lacks (ancient) wisdom and therefore is in crisis in part underlines the romanticism we are confronted with in precautionary thinking. This we need to take on more thoroughly here. The so-called ‘ecological Indian’ we came across earlier is a paradigmatic example of pastoral romanticism, notwithstanding its persistent historical connotations.<sup>111</sup> Frequent reference is made to native man’s wise dealings with nature. Humankind of pre-Christian religions,<sup>112</sup> with their social organisation, food gathering practices (hunting, agriculture) and the like, are capable of a harmonious relationship with the inhabited land<sup>113</sup> altering nothing, in contrast to contemporary ecological subjugation.<sup>114</sup>

A popular 20<sup>th</sup> century reference thereto, for instance, can be found in the landmark 1971 *Keep America Beautiful* – ‘People start pollution, people can stop it’ – television campaign add, also known as the ‘Crying Indian’ commercial. In it, Italian-born Iron Eyes Cody pondered the profligacy of Westerners: ‘Some people have a deep abiding respect for the natural beauty that was once this country. And some people don’t. People start pollution, people can stop it.’ He sheds a tear for land and resources, which, by implication the Indians treated benevolently and cautiously, and appreciated ecologically.<sup>115</sup> The best-known expression of the ecological Indian, however, is found in a ‘speech’ attributed to the Suquamish/Duwamish chief Seathl (Seattle) supposedly spoken in the mid 19<sup>th</sup> century on being threatened by land annexation by the United States government:



'How can you buy or sell the sky, the warmth of the land? The idea is strange to us. If we do not own the freshness of the air and the sparkle of the water, how can you buy them? ... The rivers of our brothers they quench our thirst. The rivers carry our canoes and feed our children. If we sell you our land, you must remember to teach your children that the rivers are our brothers, and yours, and you must henceforth give the rivers the kindness that you would give my brother. We know that the white man does not understand our ways. One portion of land is the same to him as the next, for he is a stranger who comes in the night and takes from the land whatever he needs. The Earth is not his brother, but his enemy and when he has conquered it, he moves on. He leaves his father's graves behind, and he does not care. He kidnaps the Earth from his children, and he does not care. ...'

Although this speech has been reprinted many times over,<sup>116</sup> it truly became famous by Jeffers, who published an emotive children's version accompanied with illustrations she made herself.<sup>117</sup> Notwithstanding the deep ecological sentiments expounded in this speech attributed to a well-known historic figure from Native-American descent, the speech is a forgery with a complex history.<sup>118</sup> The fictitious ecological version of Seattle's speech has been deeply engrained in Western consciousness, and is still being referred to as authentic, despite historical research establishing the opposite. Al Gore for instance refers to it in his book *Earth in the Balance* as a genuine expression of ecologically inspiring native religion.<sup>119</sup> The interdisciplinary amalgamation of theology and ecology by the same token affords fertile soil for Seattle's ecological empathy.<sup>120</sup> Roger Gottlieb, in his *A Greener Faith*, quite explicitly reverts to the 'ecological Indian' when he states that:<sup>121</sup>

'Before she could walk, Lori Goodman was taught that all parts of the world are connected, and that as a matter of course, you are to show respect for all your elders, human and nonhuman alike. A religious environmentalist virtually all her life, the connection between spirituality and caring for the

earth was not something she had to realize or develop. ... It is not surprising that Goodman is a Native American, a Navajo, for proper relations with the earth are central to most native religious traditions. ...

Thus for most native traditions, "religious environmentalism" is redundant. Their traditions simply are environmentally oriented. Unlike the dominant themes of Western religions, which stress heavenly salvation and purely interpersonal morality, or the Hindu and Buddhist pursuit of liberation from the sufferings of embodied existence, native traditions believe that the well-being of people and nature are inextricably linked ...'

It seems that the ecologically noble savage, and its ecological Indian offshoot, is an attempt to resolutely locate the pastoral ideal in human history. Even so, we are dealing here with a fantasy that arose with the increasing ecological concern at the end of the 1960s.<sup>122</sup> Although the concept of the 'noble savage', in the sense of morally superior man uncorrupted by civilisation, was strong throughout the 16<sup>th</sup> to the 19<sup>th</sup> centuries and was used to anathematise especially European civilisation, the 20<sup>th</sup> century saw the rise of a strong streak of romantic distaste for human company and human machinations in various environmental movements.<sup>123</sup> Nonetheless, native man, as encapsulating the 21<sup>st</sup> century longing for a different and better past and a simpler life as a guide for the future, has been thoroughly stripped of its historicity: 'Empirical studies suggest that people take as much as they need (or sometimes as much as they can); there is typically no reason to consider potential impacts of maximum use if technology changes .... This, I suspect, is the source of the pattern in the cross-cultural data here that degradation frequently follows technological change. In the Romantic view, this is an evil of society; the data suggest that maximal extraction is simply a characteristic of humans as well as other living things. ... Consistent with the data presented here, I argue that there is no evidence that human nature has somehow changed, as we have become estranged from our ecological "roots"; ...';<sup>124</sup> 'North America was not a "wilderness" waiting to be "discovered" but



instead was home to tens of millions of aboriginal peoples before European-introduced diseases decimated their numbers. Prior to European arrival, most of this continent was owned, used, and modified by native peoples .... The idea that North America was a “wilderness” untouched by the hand of man prior to 1492 is a myth, .... Instead of being “noble savages” who were too wise to overexploit their resources, Native Americans acted in ways that maximized their individual fitness regardless of their impacts on the environment. Native Americans were the ultimate keystone species that once structured entire ecosystems.’<sup>125</sup> ‘The myth persists that in 1492 the Americas were a sparsely populated wilderness, “a world of barely perceptible human disturbance.” There is substantial evidence, however, that the Native American landscape of the early sixteenth century was a humanized landscape almost everywhere. Populations were large. Forest composition had been modified, wildlife disturbed, and erosion was severe in places. ... With Indian depopulation in the wake of Old World disease, the environment recovered in many areas. A good argument can be made that the human presence was less visible in 1750 than it was in 1492.’<sup>126</sup>

We are left empty-handed historically with respect to an ecological pristine age. Despite widespread popular notions of pre-colonial, pre-industrial, non-Western people as hands-on environmental stewards, pre-Hispanic Americans and pre-Hispanic Mesoamericans were quite capable of initiating large-scale environmental change. The romantic notion of lush, forested New World sceneries on the eve of Columbus’s first voyage was largely a myth, the ‘Pristine Myth’.<sup>127</sup>

### The pastoral ideal in precautionary culture

The fact that the existence of a pristine age of native humanity is doubtful necessitates a re-evaluation of the pastoral ideal that infuses green thought and thereby precautionary culture.

All this is emphatically not meant to ‘demythologise’ humanity towards some reductionist form of Herbert Spencer’s survival

of the fittest, as if unselfishness, generosity, and moderation in human history are just figments of our imagination. On the contrary, as Marilynne Robinson puts it: ‘There is something in the nature of most of us that takes pleasure in the thought of a humane and benign social order. The tendency of Malthus, and of Darwin in *The Descent of Man*, to counter the humane and also the religious objections to warfare and gross poverty puts compassion or conscience out of play – two of the most potent and engrossing individual experiences, both factors in anyone’s sense of right and wrong. This is a suppression of, and an assault on of the legitimacy of, an aspect of mind without which the world is indeed impoverished. It is done in the course of proposing an objective, amoral force to which every choice and act is subject. In light of this fact our own sense of things is shown to be delusional, insofar as it might persuade us that our behavior is not essentially self-interested in a narrow sense of that term. ...’<sup>128</sup>

All this does not protect us from overestimating our capabilities to really and fully act on this humanness: the pastoral ideal as the purported epitome of a compassionate society to the benefit of all now living (man, animal and plant) has not been realised. Leo Marx, in his virtuoso *The Machine in the Garden*, reflects incisively thereon.<sup>129</sup> He delves into the underlying assumption that somehow man and nature are indissolubly linked, that nature is beneficent and offers man a moral fount that will refresh his spirit yet, through, among others, the eyes of American writers such as Mark Twain and Henry David Thoreau.

Clearly, the pastoral American Garden was not viewed as wilderness, a primitive paradise. Cultivated fields and grazing flocks, much like Tolkien’s Shire, mark the Garden of the pastoral ideal. Marx calls this the ‘middle landscape’, located somewhere between, yet in a transcendent relation to, the opposing forces of civilisation and nature.<sup>130</sup> If America offered a new hope for the pastoral ideal as a critique of industrial society, the prime menace to this ideal obviously comes from the complex sophistication of the urbanised world: with its

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*‘Nostalgia and science fiction have become the same thing’*  
(T Bone Burnett)

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shrill whistle, the steam engine (the machine put on the cover of the first edition) disturbs the peace in the Garden.

Figure 2 Charles Sheeler *American Landscape* (1930; see [http://www.moma.org/collection/object.php?object\\_id=79032](http://www.moma.org/collection/object.php?object_id=79032)).

Evidently, the machine could not be kept out of the Garden. America did industrialise, and at a quicker pace than most countries in the world. Even those who appreciate and accept the reality of the changing world induced by the science and technology and understand the stories, even now cling to the pastoral hope.

Charles Sheeler, in his *American Landscape*, portrays an almost photographic image of our world as it is, or, rather, as we imagine it will be if we proceed without change of direction.<sup>131</sup> Sheeler depicts nothing reminiscent of nature. More than that, what is left of nature, the water and the air, is now under human control. Yet, despite its total industrial outlook, *American Landscape* conveys an eerie stillness. The only activity we become aware of is the smoking chimney and a solitary man on foot. Sheeler eliminated all evidence of frenzied industrial activity. The steam engine stands lifeless on the tracks; no ship is taking cargo. The silence of the landscape is overpowering. The faintness of the suggestion of activity enhances the eerie, static, surrealist quality of the painting. “This “American Landscape” is the industrial landscape *pastoralised*. By superimposing order, peace, and harmony upon our modern chaos, Sheeler represents the anomalous blend of illusion and reality in the American consciousness.’, as Marx observes.<sup>132</sup> However, and here we can be more explicit than Marx,<sup>133</sup> *American Landscape* clearly betrays an insuperability by means of the ladder allowing the accidental passer-by the opportunity to *only* take a peek at the landscape unfolding before him. The red and yellow colours (symbols of passion and hope) of the railway wagons are not mirrored in the tranquil waters of the canal. We are dealing with an image that indeed is an illusion and thereby some kind of irrevocable dualism is imposed on the viewer: the reality and factuality of industrial society is counterpointed with the pastoral

ideal. Despite the elimination of nature from the landscape, the pastoral ideal is maintained, and forcefully at that.

The pastoral ideal industrialised (or perhaps the industrial landscape pastoralized) never left the Western world. Actually, while the revolutionary fervour of the 1950s and 1960s with its science-based social engineering has all but petered out, in precautionary culture social engineering is again introduced, albeit in an all-embracing outlook on the future that could well be typified as eschatological, obviously devoid of any overarching religious perspective, and with science at its centre. Precautionary scepticism of ‘progress’ does not diminish the striving for an obdurate progress towards a (global) sustainable society, quite the reverse. The wish for de- and reconstruction flows from disenchantment with the present, which is experienced as dystopic. (Perhaps, in retrospect, Jacques Monod was on track that without the ‘animist tradition’, man requires a dream that reconstructs society from its foundations up.)<sup>134</sup> The sustainable world seems to contain crucial qualities of a secularised eschatology to be brought about, among other things, via ‘precautionary wisdom’ as is illustrated in the following examples:<sup>135</sup>

- (I) ‘If this vision of unity –which is not a vision only but a hard and inescapable scientific fact– can become part of the common insight of all the inhabitants of planet Earth, then we may find that ... we can achieve just enough unity of purpose to build a human world. In such a world, the practices and institutions with which we are familiar inside our domestic societies would become, suitably modified, the basis of planetary order.’<sup>136</sup>
- (II) ‘a harmonious state of global economic, social and ecological equilibrium’;<sup>137</sup>
- (III) The World Commission does *not* believe that a *dismal* scenario of mounting destruction of national global potential for development –indeed, of earth’s capacity to support life– is an *inescapable destiny*. The problems are *planetary* – but they are not insoluble. I believe that history will record that in this crisis the two greatest resources, land and people, will redeem the promise of development. *If we take care of nature, nature will take care of us*. Conservation has truly

become of age when it acknowledges that if we want to save *part* of the system, we have to save the *system itself*. This is the essence of what we call *sustainable development*. There are many dimensions to sustainability. First it requires the elimination of poverty and deprivation. Second, it requires the conservation and enhancement of the resources base, which alone can ensure that the elimination of poverty is permanent. Third, it requires a broadening of the concept of development so that it covers not only economic growth, but also social and cultural development. Fourth, and most important, it requires unification of economics and ecology in decision-making at all levels’;<sup>138</sup>

- (IV) ‘a process of deep and profound change in the political, social, economic, institutional, and technological order, including redefinition of relations between developing and more developed countries’;<sup>139</sup>
- (V) ‘A sustainable society is one that can persist over generations, one that is far-seeing enough, flexible enough, and wise enough not to undermine either its physical or its social systems of support.’<sup>140</sup>
- (VI) ‘... Great Transition envisions a values-led change in the guiding paradigm of global development. The transformation is catalyzed by the “push” of deepening crises and the “pull” of desire for a just, sustainable, and planetary civilization. A pluralistic transnational world order coalesces as a growing cultural and political movement of global citizens spurs the establishment of effective governance institutions. The new paradigm is rooted in a triad of ascendant values: human solidarity, ecological resilience, and quality of life. Less consumerist lifestyles moderate the growth thrust of Conventional Worlds scenarios, as notions of the “good life” turn toward qualitative dimensions of well-being: creativity, leisure, relationships, and community engagement. Population stabilizes more rapidly than in other scenarios as more equal gender roles and universal access to education and health care services lower birth rates in developing countries. The world approaches a steady-state economy with

incomes reaching about \$30,000 per person by 2100, three times the current average. Although this figure is well below the \$50,000 of Conventional Worlds, the egalitarian income distributions of Great Transition leave most people far better off, while the improved social cohesion reduces conflict. In this deeply sustainable vision, crises still linger, but the world is able to confront them with enhanced institutions for reconciliation and cooperation.’<sup>141</sup>

- (VII) ‘... most of the solutions to today’s global problems exist, and the only reason they’re not implemented is that we don’t have strong government. Or to be exact, we don’t have *support* for strong government. Thus civilised, solution-oriented citizens ought to be in favour of collective action. I think we will see 40 years down the line that it was the Chinese who did, in the end, solve the climate problem for us – through collective action. They will produce the electric cars and the technologies we will need, and they will implement them in China through centralised decisions. Meanwhile, we will be fiddling around with half-baked quota systems that provide insufficient incentives – which might modify development somewhat, but doesn’t solve the problem.’<sup>142</sup>

With precautionary culture, the romantic ideal that modern technology spoils or pollutes an otherwise ‘clean earth’, once dealt with by ecologically wise native man, is put forward. This comes down to the not so innocent demand that humankind must leave as little traces of its existence as possible. It is a way of denying, by concealing the dilemmas the sustainable perspective advances, factual history and the abiding influence history has on the present and the future, humanity included.<sup>143</sup> Banning certain purported far-reaching technologies is a way of banning history by trying to create a world in which coming generations will be set free of what we are doing now, to give them ‘clean earth to till’. It is human history nullified.



THE SUSTAINABLE WORLD  
SEEMS TO CONTAIN

**CRUCIAL QUALITIES  
OF A SECULARISED  
ESCHATOLOGY**

TO BE BROUGHT ABOUT,  
AMONG OTHER THINGS, VIA  
'PRECAUTIONARY WISDOM'.

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‘Where does the  
answer lie?  
Living from  
day to day  
If it’s something  
we can’t buy  
There must be  
another way  
We are spirits in  
the material world’  
(Police)

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## Dualism of sustainability – rekindling gnosticism(?)

Human history nullified sets us before a major conundrum. If the nature of humankind in his dealings with the environment (including himself) is characterised by continuity as opposed to discontinuity, than the pastoral ideal so invigorating precautionary culture instigates a *dualism* in history and society.

The concept of sustainability, in this enquiry situated within romanticism, divides human history very much like a biblical triptych of paradise-fall-salvation. The chasm generated in the ‘fall’ needs to be bridged in order to coalesce human history towards the envisioned sustainable future.<sup>144</sup> Precaution is thought to represent that bridge.<sup>145</sup>

Marx notes that in the end man is forced to turn *within* for salvation, as history will not give him the required answer: ‘In *Walden* Thoreau is clear, ..., about the location of meaning and value. He is saying that it does not reside in the natural facts or in social institutions or in anything “out there”, but in consciousness. ... For Thoreau the realization of the golden age is, finally, a matter of private and, in fact, literary experience. ... In the end Thoreau restores the pastoral hope to its traditional location. He removes from history, where it is manifestly unrealizable, and relocates it in literature, which is to say, in his own consciousness, in his craft, in *Walden*.’<sup>146</sup>

It is tempting to suggest that the move inward to overcome the felt dualism in the world is in some ways reminiscent of, for lack of a better word, Gnosticism. Yet, the longing for unifying wisdom in a dualist world, in which we are thrown but also have (de)constructed through science and technology, does bear some resemblance to Gnosticism, a movement that roughly two millennia ago spread like wildfire in the Middle East.

Gnosticism refers to a group of religious doctrines, arising even before the advent of Christianity in many places, forms and languages, that either explicitly identified themselves by the term *gnosis* (knowledge) or implied it as a point of reference.<sup>147</sup>

This by itself does not say much, and we should refrain from overly-generalising expositions.<sup>148</sup> Perhaps, if generalisation is

allowed, then a *separation* between the creator(s) and controllers of the material world *and* the wholly transcendent divine being seems to best encapsulate the ‘gnostic world’.<sup>149</sup> Gnosis stands for knowledge of the origin and destiny of mankind.

The feeling of man not belonging to this world is explicated in gnostic doctrine. Theologically, the divine has no part of and has no concern in the physical universe; the true God is strictly trans-mundane and is not revealed in or indicated by this world. The cosmos therefore is not of God’s origin, but the result of a lesser and inferior principal. Anthropologically, man’s inner self –the divine spark– is not part of this world either, and is as trans-mundane as the gnostic god.<sup>150</sup>

Gnosticism thus portrays a discontinuity in the world, between the cosmos and the divine beyond. Dualism between this world and the world of the absolute divine can be maintained as a defining characteristic of Gnosticism. The meaning of the alienated human condition and the process by which this condition could be transcended are revealed through *gnosis*.

Disorientating as the revelation of gnostic truth most likely would be, it also would give a new assurance and bearing. Gnosis and (some kind of) alienation are inextricably coupled in a soteriology (religious doctrines of salvation), which insists on the existence of absolute truth and the possibility of knowing it. The very act of coming to know that truth effects an ontological transformation in the individual from a state of ignorance to one of *saving* knowledge.

This all is very unrecognisable to us. Nevertheless, there is ample substantiation that the gnostic attitude has entrenched itself in Western culture, and has survived, if not sharpened, well beyond the ancient world.<sup>151</sup> If one is to understand certain currents within contemporary culture as gnostic, it must be understood in a wider context related to certain human attitudes and predispositions, which seem to be exceedingly prevalent:

- (I) a preoccupation with the problem of evil of the existing order;
- (II) a sense of alienation and retreat from man’s milieu;
- (III) an aspiration for special and intimate knowledge and wisdom notably of the past;
- (IV) an elitist notions of recovery.<sup>152</sup>

In short, the ‘nostalgia of the gnostic for paradise lost, for a felicitous and unperturbed state of human existence in which man had the chance for “perfect knowledge” but unfortunately let it slip beyond him, underscored his unease with the world as it has developed in the present.’<sup>153</sup>

The idea of gnosis rubs shoulders with the concept of wisdom as propounded in the precautionary literature, as both consider the world as dualist, obviously of a radically different nature. As gnosis is an expression of a divine world entirely beyond this material world, so precautionary wisdom is an expression of and a pointer to the pastoral ideal, both suggesting a dualistic discontinuity of a transcendent and immanent nature, respectively.

Hans Jonas, despite the fact that most of his work on Gnosticism was published before the general availability of the Nag Hammadi library, is on track when he stated that: ‘There is past and future, where we come from and where we speed to, and the present is only the moment of *gnosis* itself, the peripety from the one to the other in a supreme crisis of the eschatological *now*. There is this to remark, however, in distinction to all modern parallels: the context makes it clear that, though thrown into temporality, we had an origin in eternity, and so also have an aim in eternity. This constitutes a metaphysical background to innercosmic nihilism which is entirely absent from its modern counterpart. ... No present remains for genuine existence to repose in. Leaping off, as it were, from its past, existence projects itself into its future; faces its ultimate limit, death; returns from this eschatological glimpse of nothingness to its sheer factness, the unalterable datum of its already having become this, there and then; and carries this forward with its death-begotten resolve, into which the past has now been gathered up. I repeat, there is no present to dwell in, *only the crisis between past and future*, the pointed moment between, balanced on the razor’s edge of decision which thrusts ahead.’<sup>154</sup>

In the modern variant of Gnosticism found in precautionary culture, the *tabula rasa* of Utopia, that is the nullification of human history in order to assert a new dominion led by ‘wisdom’, is emerging.

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‘Sign says  
honeymoon to rent  
Cloudland into  
dreamland turns  
The sun comes up  
and we all learn  
Those wheels  
must turn’  
(Midnight Oil)

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### Immanentism – the gnostic potential

*Late Lessons* extols the crisis between past and future: a past pre-scientific wisdom, the abhorrent technocratic and atomised present, and a technological eco-efficient ‘third’ industrial revolution holding ‘immense challenges and opportunities in understanding’, like a biblical triptych of paradise-fall-salvation we already mentioned above.<sup>155</sup> This triptych is archetypal for the utopian perspective, which can be made viable only when contemporary society is sketched in dark colours of crisis on a background of a paradisiac past, the latter being a guide to a bright future.<sup>156</sup> Subsequently, this future can be inaugurated only by the ‘precautious wise’ who, somehow, have risen above mundane scientific knowledge and have a true grasp of what society needs: a sustainable future.

As argued above, the lack of wisdom in our age seems to have a gnostic connotation. Therein we could extent Jonas’ observation of similarity. The parallel between two wholly different timeframes and different cultural, religious and philosophical moods makes modern man in his godless world liable to embrace Gnosticism again. However, this embracement is devoid of a transcendent eschatology, which, in our view, is transposed with immanent utopianism. Immanentism, a term Eric Voegelin became famous by, seems fitting in relation to the sustainable Utopia.<sup>157</sup>

‘Gnostic speculation overcame the uncertainty of faith by receding from transcendence and endowing man and his intramundane range of action with the meaning of eschatological fulfillment. In the measure in which this immanentization progressed experientially, civilizational activity became a mystical work of self-salvation. The spiritual strength of the soul that in Christianity was devoted to sanctification of life could now be diverted into the more appealing, more tangible, and above all, so much easier creation of the terrestrial paradise. Civilizational action became a *divertissement* ... that demonically absorbed into itself



the eternal destiny of man and substituted for the life of the spirit. Nietzsche most tersely expressed the nature of this demonic diversion when he raised the question why anyone should live in the embarrassing condition of a being in need of the love and grace of God. ... Gnosticism ... most effectively released human forces for the building of a civilization because on their fervent application to intramundane activity was put the premium of salvation. ...'

The question whether or not Voegelin takes his views on Gnosticism and its influence on history too far we cannot debate here. It is clear, however, that he is on target in relation to the immanentisation of the eschaton, which he regards as a fallacy.<sup>158</sup> Despite on-going secularisation, Western World society has become deeply religious when considering, ironically, the scientific faith put into the all-encompassing potential of science, which is elemental to inaugurate the eschaton of a sustainable future.

## THE CONDITIONED FUTURE

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*I'm standing alone  
I'm watching you all  
I'm seeing  
you sinking  
I'm standing alone  
You're weighing  
the gold  
I'm watching  
you sinking  
Fools gold'  
(Stone Roses)*

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Jonas insightful comments brought us to the biblical triptych and its modern counterpart. If sustainable man needs to reduce his impact on this planet and leave as little trace of his existence as possible to the benefit of those who come after him, then there is nothing to revert to in this present world (or the next for that matter, as there is none) other than the unhistorical pastoral ideal. The present reality has become, in a sense, unrecognisable and hostile, as is essential within the context of the dystopia-Utopia dichotomy. To the benefit of future others we are, in a sense, denied existence, or at least human existence is taxed as to control procreation:<sup>159</sup>

'Far from showering financial booty on new mothers and thereby rewarding greenhouse-unfriendly behaviour, a

'Baby Levy' in the form of a carbon tax should apply, in line with the 'polluter pays' principle. Every family choosing to have more than a defined number of children (Sustainable Population Australia suggests a maximum of two) should be charged a carbon tax that would fund the planting of enough trees to offset the carbon cost generated by a new human being. The average annual CO<sub>2</sub> emission by an Australian individual is about 17 metric tons, including energy usage. As the biomass of trees in a mature forest sequesters about 6 metric tons of CO<sub>2</sub> per hectare (10<sup>4</sup> m<sup>2</sup>) per year, each child born should be offset by planting 4 hectares of trees, to allow for the time they take to reach maturity, and attrition through crop losses, bushfires, dieback and so on. This infers a levy per child of at least \$ 5000 at birth (to purchase the land needed and plant trees) and an annual tax of \$ 400 – \$ 800 thereafter for the life of the child (for maintenance of the afforestation project) ...'

It seems then that the sustainable perspective –thriving on the unfolding dystopia of climate change, chemical pollution, and fundamentalist terrorism– requires, as it were, the abolition of man by, for instance, comparing human culture as a carcinogenic process destroying the surrounding tissue (ecosystems in this case) through uncontrolled growth and metastasis (in this case urbanisation and colonisation).<sup>160</sup>

Bob Holmes, in a *New Scientist* article, imagined an Earth without people: 'Imagine that all the people on Earth –all 6.5 billion of us and counting– could be spirited away tomorrow, transported to a re-education camp in a far-off galaxy. (Let's not invoke the mother of all plagues to wipe us out, if only to avoid complications from all the corpses). Left once more to its own devices, Nature would begin to reclaim the planet, as fields and pastures reverted to prairies and forest, the air and water cleansed themselves of pollutants, and roads and cities crumbled back to dust.'<sup>161</sup> Or, as Alan Weisman in his *The World Without Us* sees it:<sup>162</sup>

'One day, perhaps, we will learn to control our appetites, or our duplication rates. But suppose that before we do, something

implausible swoops in to do that for us. In just decades, with no new chlorine and bromine leaking skyward, the ozone layer would replenish and ultraviolet levels subside. Within a few centuries, as most of our excess industrial CO<sub>2</sub> dissipated, the atmosphere and shallows would cool. Heavy metals and toxins would dilute and gradually flush from the system. After PCBs and plastic fibers recycled a few thousand or million times, anything truly intractable would end up buried, to one day be metamorphosed or subsumed into the planet's mantle. Long before that—in far less time than it took us to run out of codfish and passenger pigeons—every dam on Earth would silt up and spill over. Rivers would again carry nutrients to the sea, where most life would still be, as it was long before we vertebrates first crawled onto these shores. Eventually, we'd try that again. Our world would start over.'

Here, the precautionary sustainable perspective comes to its dualistic maturity.<sup>163</sup> Those who disagree with the sweeping panoramas of a sustainable world future would seriously need to reconsider their humanity. The 'truth' of sustainability and precaution can hardly, if at all, be challenged or ignored, and thereby betrays a utopian and concomitant forceful paternalism entailing the negation of human freedom, freedom of thought at least.<sup>164</sup>

It is the belief in irresistible series of dystopic events that lead the precautionary proponents to want to impose definitive prohibitions. Such absolute prohibitions stifle, from the very beginning, freedom of choice, since this suppression of freedom is thought to be the only way to preclude future *wrong uses* of freedom.<sup>165</sup>

So with the aim to open up future possibilities for future generations, the opposite is achieved. Each generation exercises power over its successors and each, in so far as it modifies the environment handed down to it and rebels against tradition, resists and limits the power of its predecessors. We must refuse to act until we prove the boundaries of our effects.<sup>166</sup> If any one age really attains, through science, the power to make its descendants what it pleases, all men who live after it are the patients of that power. They are weaker, not stronger: for though we may have put wonderful technology and

legal structures in their hands, we have preordained how they are to use them.

And if the age, which had thus attained maximum power over posterity, were also the age most emancipated from tradition, it would be engaged in reducing the power of its successors almost as drastically as that of its predecessors. And we must also remember that, quite separately, the later a generation comes—the nearer it lives to that date at which the species becomes extinct—the less power it will have in the forward direction. The last men, far from being the heirs of power, will be of all men most subject to the dead hand of the great planners and conditioners and will themselves exercise least of all power upon the future.<sup>167</sup>

Utopia and dystopia, however disparate they may be superficially, are the different sides of the same coin. Phrased differently, from utopian aspirations, as found in the envisioned sustainable future, flows the dystopia not just of the present, but of the future as well.<sup>168</sup> This contradiction we will further explore, together with the eschatological perspective generated by the Gospel.<sup>169</sup>

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‘Let us think of jurisprudence for a moment as a science of social engineering, having to do with that part of the whole field which may be achieved by the ordering of human relations through the action of politically organized society. Engineering is thought of as a process, as an activity, not merely as a body of knowledge or as a fixed order of construction. It is a doing of things, not a serving as passive instruments through which mathematical formulas and mechanical laws realize themselves in the eternally appointed way. The engineer is judged by what he does. His work is judged by its adequacy to the purposes for which it is done, not by its conformity to some ideal form of a traditional plan .... We are coming to study the legal order instead of debating as to the nature of law. We are thinking of interests, claims, demands, not of rights; of what we have to secure or satisfy, not exclusively of the institutions by which we have sought to secure or to satisfy them, as if those institutions were ultimate things existing for themselves. We are thinking of how far we do what is before us to be done, not merely of how we do it; of how the system works, not merely of its systematic perfection. Thus more and more we have been coming to think in terms of the legal order-of the process-not in terms of the law-the body of formulated experience or system of ordering-to think of the activity of adjusting relations or harmonizing and reconciling claims and demands, not of the adjustment itself and of the harmonizing or reconciling itself as a system in which the facts of life mechanically arrange themselves of logical necessity.’

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<sup>14</sup> Mckinney and Hammer Hill, note 4.

<sup>15</sup> Mckinney and Hammer Hill, note 4.

<sup>16</sup> Rolston, note 3, p. 319. Italics added.

<sup>17</sup> Mckinney and Hammer Hill, note 4.

<sup>18</sup> Sunstein, C.R. 2005. *Laws of Fear: Beyond the Precautionary Principle*. Cambridge University Press, Cambridge, p. 14 – 15 (emphasis added).

<sup>19</sup> A *phenomenon* is an occurrence, circumstance, or fact that is perceptible by the senses. An *effect* is something brought about by a cause or agent. The term *phenomenon*, as a certain observed fact, is distinguished from the theories devised to *explain* them. In other words, the term effect contains the causal chain of events, while for the term phenomenon this is not the case.

<sup>20</sup> Manson, N.A. 2002. Formulating the Precautionary Principle. *Environmental Ethics* 24: 263 – 274.

<sup>21</sup> Radkau, J. 2008. *Nature and Power. A Global History of the Environment*. Cambridge University Press, Cambridge, p. 301.

<sup>22</sup> Westphal, M. *Taking St. Paul Seriously: Sin as an Epistemological Category*. In: Flint, T.P. (ed.) 1990. *Christian Philosophy*. University of Notre Dame Press, Notre Dame, Indiana, p. 200 – 226.

<sup>23</sup> Cross, note 10.

<sup>24</sup> Commission of the European Communities. 2000. *Communication from the Commission on the Precautionary Principle*. Brussels, p. 11. Italics added.

<sup>25</sup> Douglas, M., Wildavsky, A. 1982. *Risk and Culture. An Essay on the Selection of Technological and Environmental Dangers*. University of California Press, Berkeley, p. 183 – 184.

- <sup>26</sup> Mckinney and Hammer Hill, note 4.
- <sup>27</sup> See e.g. Hansen, S.F. 2004. *The Precautionary Principle and Unnecessary Precautionary Action*. Masters Thesis, Roskilde University, Denmark. Haritz, note 6; Raffensperger and Tickner, note 5.
- <sup>28</sup> Mckinney and Hammer Hill, note 4.
- <sup>29</sup> Rolston, note 3, p. 319.
- <sup>30</sup> Harremoës, P., *et al.*, note 7, p. 181.
- <sup>31</sup> Mckinney and Hammer Hill, note 4.
- <sup>32</sup> Jones, W.E. 2003. Is Scientific Theory-Commitment Doxastic or Practical. *Synthese* 137: 325 – 344.
- <sup>33</sup> See for instance the Dutch ban on drilling for gas beneath the Waddenzee, the European moratorium on GMO food, the global ban on DDT, the European ban on phthalates and antibiotic growth promoter in animal feed and etcetera.
- Hanekamp, J.C. 2006. Precaution and Cholera: A Response to Tickner and Gouveia-Vigeant. *Risk Analysis* 26(4): 1013 – 1019.
- <sup>34</sup> Wandall, B. 2004. Values in science and risk assessment. *Toxicology Letters* 152: 265 – 272.
- <sup>35</sup> See for a discussion on belief formation and commitment Jones, note 32.
- <sup>36</sup> Mckinney and Hammer Hill, note 4.
- <sup>37</sup> Bramwell, A. 1994. *The Fading of the Greens. The Decline of Environmental Politics in the West*. Yale University Press, New Haven, London, p. 86 and further.
- <sup>38</sup> Mckinney and Hammer Hill, note 4.
- <sup>39</sup> Turner, D., Hartzell, L. 2004. The Lack of Clarity in the Precautionary Principle. *Environmental Values* 13: 449 – 460.
- <sup>40</sup> Mckinney and Hammer Hill, note 4.
- <sup>41</sup> ‘World Problematique’ is a concept created by *The Club of Rome* to describe the set of the fundamental interlinking and global problems –political, social, economic, technological, environmental, psychological and cultural– that face humanity.
- <sup>42</sup> Meadows, D.H., Meadows, D.L., Jorgen Randers, J., Behrens III, W.W. 1972. *The Limits to Growth; A Report for the Club of Rome’s Project on the Predicament of Humankind*. Potomac Associates, New York.
- <sup>43</sup> Bramwell, A. 1989. *Ecology in the 20th Century. A History*. Yale University Press, New Haven, London.
- See also Bramwell, note 37.
- <sup>44</sup> Bourke, J. 2005. *Fear. A Cultural History*. Virago Press, UK, p. 337.

Clearly, Bourke shows that every age is haunted by its own fears.

- <sup>45</sup> Bramwell (note 43) remarks on this theme that the premises of political and biological ecology are similar. She even asserts that the political variant could not have arisen without the biological. Indeed, in a two-volume reference work on ecotoxicology, the definition of ecotoxicology alludes to the interrelatedness of the normative and the scientific in the ecological sciences (Calow, P. *General Principles and Overview*. In: Calow, P. (ed.) 1994. *Handbook of Ecotoxicology, Volume 1*. Blackwell Science, Oxford, p. 1):

‘Ecotoxicology is concerned with *protecting* ecological systems from adverse effects by synthetic chemicals. To do this it attempts to *anticipate* where these substances go in the environment [their *fate*] and what ecological effects they have when they get there.’

What the definition *should* have read is that ‘ecotoxicology studies the interaction between ecological systems and (synthetic) chemicals’.

- <sup>46</sup> Pepper, D. 1996. *Modern Environmentalism. An Introduction*. Routledge, London, p. 5.
- <sup>47</sup> White Jr., L. 1967. The Historical Roots of Our Ecological Crisis. *Science* 155: 1203 – 1207.
- <sup>48</sup> Popper, K.R. 1971. *The Open Society and Its Enemies. Volume I & II*. Princeton University Press, Princeton.
- Although Popper quite justifiably defined and used the term social engineering, it is nowadays put forward as a sweeping statement against all minds of social policies. There seem to be two characteristics of those policies that lead to the designation ‘social engineering’: simplistic theory application, and paternalism. However, neither of these is characteristic of engineering as such. Therefore, the term ‘social engineering’ is more or less a misnomer, based on misperceptions of engineering.
- Hanson, S.O. 2006. A note on social engineering and the public perception of technology. *Technology in Society* 28: 389 – 392.
- <sup>49</sup> Veldman, M. 1994. *Fantasy, the Bomb and the Greening of Britain. Romantic Protest, 1945 – 1980*. Cambridge University Press, Cambridge.
- <sup>50</sup> Naess, A. 1973. The shallow and the deep, long-range ecology movement. A summary. *Inquiry* 16: 95 – 100.
- <sup>51</sup> Naess, A. 1989. *Ecology, community and lifestyle*. Cambridge University Press, Cambridge, p. 79.

- <sup>52</sup> Williams, R. 1973. *The Country and the City*. Chatto & Windus, London.
- <sup>53</sup> Schumacher, E.F. 1975. *Small is Beautiful. Economics as if People Mattered*. Harper Collins, London.
- <sup>54</sup> Tolkien, J.R.R. 2001 (reprint). *Lord of the Rings*. HarperCollins Publishers, London, p. 861.
- <sup>55</sup> Bramwell, note 43, p. 132.
- <sup>56</sup> Carson, R. 1962. *Silent Spring*. Penguin, Harmondsworth.
- <sup>57</sup> Mckinney and Hammer Hill, note 4.
- <sup>58</sup> Redford K. 1991. The ecologically noble savage. *Orion* 9:24 – 29.
- <sup>59</sup> See for a recent overview Hames, R. 2007. The Ecologically Noble Savage Debate. *Annual Review of Anthropology* 36: 177 – 190.
- <sup>60</sup> See e.g. Buege D. 1996. The ecologically noble savage revisited. *Environmental Ethics* 18:71 – 88.
- Bunyard, P. 1989. Guardians of the Amazon. *New Scientist* 35: 38 – 41.
- <sup>61</sup> Sale, K. 1990. *Christopher Columbus and the Conquest of Paradise*. Tauris Parke Paperbacks, London, p. 323 – 324.
- <sup>62</sup> Jacobs, W.R. 1978. The Great Despoliation. *Environmental Themes in American Frontier History. Pacific Historical Review* 47: 1 – 26.
- <sup>63</sup> Jacobs, W.R. 1971. The Fatal Confrontation: Early Native-White Relations on the Frontiers of Australia, New Guinea, and America – A Comparative Study. *Pacific Historical Review* 40: 283 – 309.
- <sup>64</sup> Krech III, S. 1999. *The Ecological Indian. Myth and History*. W.W. Norton & Company, New York, p. 73 – 99.
- <sup>65</sup> Deloria jr., V. 1970. *We Talk, You Listen: New Tribes, New Turf*. Macmillan, New York, p. 186, p. 195.
- <sup>66</sup> Heizer, R., Elsasser, A. 1980. *The Natural World of California Indians*. University of California Press, Berkeley, p. 236.
- <sup>67</sup> Heizer and Elsasser, note 66, p. 220.
- <sup>68</sup> Deloria jr., note 65, p. 186. Italics in original.
- <sup>69</sup> Ward, B., Jackson, L., Dubos, R., Strong, M.F. 1972. *Only one Earth: the Care and Maintenance of a Small Planet. An Unofficial Report Commissioned by the Secretary-General of the United Nations Conference on the Human Environment*. W.W. Norton & Company, New York, London.
- <sup>70</sup> Meadows *et al.*, note 42.
- <sup>71</sup> See for a latest addition Turner, G. 2014. *Is Global Collapse Imminent? An Updated Comparison of The Limits to Growth with Historical Data*. MSSI Research Paper No. 4, Melbourne Sustainable Society Institute, University of Melbourne, Australia.
- <sup>72</sup> Hanekamp, J.C., Verstegen, S.W., Vera-Navas, G. 2005. The historical roots of precautionary thinking: The cultural ecological critique and ‘The Limits to Growth’. *Journal of Risk Research* 8(4): 295 – 310.
- <sup>73</sup> Peccei, A. 1977. *Human Quality*. Pergamom Press, New York.
- Aurelio Peccei (among others head of Fiat-Concord, the Latin American subsidiary company of Fiat), together with among others Alexander King (the then OECD’s Director-General for Scientific Affairs), founded *The Club of Rome* out of a failed meeting in Rome on the 6 – 7<sup>th</sup> April 1968.
- <sup>74</sup> Vera-Navas, G. 2001. *Le Club de Rome 1968 – 1978*. Unpublished thesis.
- <sup>75</sup> Grübler, A. 1998. *Technology and Global Change*. Cambridge University Press, Cambridge.
- <sup>76</sup> Sjöberg, L., Wählberg, A. 2002. Risk Perception and New Age Beliefs. *Risk Analysis* 22(4): 751 – 764.
- Sjöberg, L. 2000. Perceived risk and tampering with nature. *Journal of Risk Research* 3(4): 353 – 367.
- Sjöberg, L. 2003. Distal factors in risk perception. *Journal of Risk Research* 6(3): 187 – 211.
- <sup>77</sup> Pacey, A. 1975. *The Maze of Ingenuity. Ideas and Idealism in the Development of Technology*. Holmes & Meier Publishers Inc.
- Williams, T.I. 1978. *A History of Technology*. Oxford University Press, Oxford.
- Hughes, T.P. 1989. *American Genesis. A century of invention and technological enthusiasm 1870 – 1970*. Viking Press, New York.
- Marcus, A.I., Segal, H.P. 1998. *Technology in America. A brief history*. Wadsworth Publishing, San Diego.
- <sup>78</sup> Meadows *et al.*, note 42, p 182.
- <sup>79</sup> Beck, U. 1986. *Risikogesellschaft. Auf dem Weg in eine andere Moderne*. Suhrkamp, Frankfurt.
- Giddens, A. 1990. *Consequences of Modernity*. Stanford University Press, Stanford.
- <sup>80</sup> Mumford, L. 1990 (reprint). *Technics and civilization*. Harvest Books, New York.
- <sup>81</sup> Vogt, W. 1948. *Road to Survival*. William Sloane Associates Inc., New York.
- <sup>82</sup> Vogt, note 81, p. 226 – 227.
- <sup>83</sup> Carson, note 56.
- <sup>84</sup> McNeill, J. 2001. *Something new under the sun. An environmental history of the twentieth century*. W.W. Norton & Company, New York.
- <sup>85</sup> Heywood, V.H., Watson, R.T. (eds.) 1995. *Global Biodiversity Assessment*. Cambridge University Press, Cambridge.



- <sup>86</sup> Malthus, T. 1798 (reprint 1986). *An Essay on the Principle of Population*. Penguin London.
- <sup>87</sup> Ehrlich, P.R. 1968. *The Population Bomb*. Ballantine, New York.
- <sup>88</sup> Vogt, note 81, p. 32.
- <sup>89</sup> Meadows *et al.*, note 42.
- <sup>90</sup> Meadows *et al.*, note 42, p 151.
- <sup>91</sup> Meadows *et al.*, note 42, p 188.
- <sup>92</sup> Vera-Navas, note 74.
- <sup>93</sup> Jacoby, R. 1999. *The End of Utopia. Politics and Culture in an Age of Apathy*. Basic Books, New York.
- <sup>94</sup> Meadows *et al.*, note 42, p 160.
- <sup>95</sup> Meadows *et al.*, note 42, p 168.
- <sup>96</sup> Meadows *et al.*, note 42, p 197.
- <sup>97</sup> Cook, W.J. 1972. Expert on population pleased by response. *Boca Raton News* **June 16<sup>th</sup>**.
- <sup>98</sup> Ehrlich, P.R., Ehrlich, A.H. 2013. Can a collapse of global civilization be avoided? *Proceedings of the Royal Society B* **280**: doi: 10.1098/rspb.2012.2845.
- <sup>99</sup> Rockström, J., Steffen, W., Noone, K., Persson, Å., Chapin, III, F.S., Lambin, E.F., Lenton, T.M., Scheffer, M., Folke, C., Schellnhuber, H.J., Nykvist, B., De Wit, C.A., Hughes, T., Van der Leeuw, S., Rodhe, H., Sörlin, S., Snyder, P.K., Costanza, R., Svedin, U., Falkenmark, M., Karlberg, L., Corell, R.W., Fabry, V.J., Hansen, J., Walker, B., Liverman, D., Richardson, K., Crutzen, P., Foley, J.A. 2009. A safe operating space for humanity. *Nature* **461**: 472 – 475.
- <sup>100</sup> Vogt, note 81, p. 186.
- <sup>101</sup> Meadows *et al.*, note 42, p 159.
- <sup>102</sup> See also Peterson, M. 2006. The Precautionary Principle Is Incoherent. *Risk Analysis* **26(3)**: 595 – 601.
- <sup>103</sup> See for instance Wallace, A.R. 1898. *The Wonderful Century, its Successes and its Failures*. Swan Sonnenschein, London.
- Osborn, F. 1953. *The Limits of the Earth*. Little, Brown and Company, Boston.
- Wackernagel, M., Yount, J.D. 2000. Footprints for sustainability: the next steps. *Environment, Development and Sustainability* **2**: 21 – 42.
- Diamond, J. 2004. *Collapse. How Societies Choose to Fail or Succeed*. Viking, New York.
- <sup>104</sup> Meadows *et al.*, note 42, p. 53.
- <sup>105</sup> Meadows *et al.*, note 42, p 13.

Harremoës *et al.*, note 7.

As the EEA is the EU body ‘dedicated to providing sound, independent information on the environment’, its perspective is an expression of how the European Union understands precaution.

<sup>106</sup> Harremoës *et al.*, note 7, p 13.

<sup>107</sup> Harremoës *et al.*, note 7, p. ii.

<sup>108</sup> Harremoës *et al.*, note 7, p. ii.

<sup>109</sup> Falk, R.A. 1972. *This Endangered Planet*. Vintage Books, New York.

<sup>110</sup> Van der Zwaan, B., Petersen, A. (eds.) 2003. *Sharing the Planet: Population-Consumption-Species*. Eburon Academic Publishers, Delft, p. 184.

<sup>111</sup> See e.g. Smith, E.A., Wishnie, M. 2000. Conservation and Subsistence in Small-Scale Societies. *Annual Review of Anthropology* **29**: 493 – 524.

For a technical discussion on environmental policy referring to Native American perspectives on a ‘more secure, more prosperous, and more sustainable world both economically and environmentally’ see Holgate,

M. 1987. The Reality of Environmental Policy. *Royal Society for the Encouragement of Arts, Manufactures and Commerce Journal* **135**: 310 – 327.

<sup>112</sup> White, note 47.

See also Krech III, S. (ed.) 1987. *Indians, Animals and the Fur Trade. A Critique of Keepers of the Game*. The University of Georgia Press, Athens.

<sup>113</sup> Hunn, E.S., Johnson, D.R., Russell, P.N., Thornton, T.F. 2003. Huna Tlingit Traditional Environmental Knowledge, Conservation, and the Management of a “Wilderness” Park. *Current Anthropology* **44S**: S79 – S102.

<sup>114</sup> Oelschlaeger, M. 1991. *The Idea of Wilderness: From Prehistory to the Age of Ecology*. Yale University Press, New Haven, London, p. 34.

<sup>115</sup> See also Budiansky, S. 1995. *Nature’s Keepers. The New Science of Nature Management*. Orion House, London.

<sup>116</sup> In the Netherlands, Aktie Strohalm/Ekologische Uitgeverij published the speech in 1980.

<sup>117</sup> Jeffers, S. 2002. *Brother Eagle, Sister Sky*. Puffin Books, London.

See for a critique of Jeffers book Egan, T. 1992. Chief’s Speech of 1854 Given New Meaning (and Words). *The New York Times* **April 21<sup>st</sup>**.

<sup>118</sup> See for this intriguing history Furtwangler, A. 1997. *Answering Chief Seattle*. University of Washington Press, Washington.

No transcription or summary of the speech existed after it was delivered in the 1850s. A young European-American doctor Henry A. Smith, who witnessed the speech (as far as is known), published a version of the speech

some thirty odd years after its actual delivery. Smith's rendition of the speech proved to be the start of multiple editions in the 20<sup>th</sup> century. Rudolf Kaiser was able to trace four different loosely related versions of which the 1969 translation into modern English by William Arrowsmith and the film-script adaptation by Ted Perry are the most famous. With Perry as a veritable ghost-writer, Chief Seattle 'speech', of which only a small part is reproduced above, has made a lasting impression, and is infused with ecological understanding, albeit of a wholly anachronistic nature.

See further Wilson, P.S. 1992. What Chief Seattle Said. *Environmental Law* 22: 1451 – 1468. This article contains the speech as it was published by Dr. Smith. Kaiser, R. *Chief Seattle Speech(es): American Origins and European Reception*. In: Swann, B., Krupat, A. (eds.) 1987. *Recovering the Word: Essays on Native American Literature*. University of California Press, Los Angeles, p. 496 – 536.

<sup>119</sup> Gore, A. 1992. *Earth in the Balance: Ecology and the Human Spirit*. Houghton Mifflin Company, New York, p. 259.

See further Morris, R.H. 1996. The Whole Story: Nature, Healing, and Narrative in the Native American Wisdom Tradition. *Literature and Medicine* 15(1): 94 – 111.

<sup>120</sup> See e.g. Dalton, M.A. 1976. The Theology of Ecology: An Interdisciplinary Concept. *Religious Education* 71(1): 17 – 26.

<sup>121</sup> Gottlieb, R.S. 2006. *A Greener Faith. Religious Environmentalism and Our Planet's Future*. Oxford University Press, Oxford, p. 139, 142.

<sup>122</sup> Krech III, note 64.

<sup>123</sup> Low, B.S. 1996. Behavioral Ecology of Conservation in Traditional Societies. *Human Nature* 7(4): 353 – 379.

<sup>124</sup> Low, note 123.

<sup>125</sup> Kay, C.E. 1994. Aboriginal Overkill. The Role of Native Americans in Structuring Western Ecosystems. *Human Nature* 5(4): 359 – 398.

<sup>126</sup> Denevan, W.M. 1992. The Pristine Myth: The Landscape of the Americas in 1492. *Annals of the Association of American Geographers* 82(3): 369 – 385.

<sup>127</sup> Dull, R.A. 2007. Evidence for Forest Clearance, Agriculture, and Human-Induced Erosion in Precolumbian El Salvador. *Annals of the Association of American Geographers* 97(1): 127 – 141. See also the references cited in this article.

As a note of clarification, I am emphatically not *asserting* some kind of moral argument(s) for or against Native American or European dealings with nature and each other. I am merely *observing*, based on empirical

knowledge gathered in the last decades that '... Europeans occupied widowed –not virgin– lands, .... this paradise, this Eden, was mainly an artifact of demography and epidemiology.' (Krech III, note 64, p. 99.)

<sup>128</sup> Robinson, M. 2010. *Absence of Mind. The Dispelling of Inwardness from the Modern Myth of the Self*. Yale University Press, New Haven & London, p. 41 – 42.

<sup>129</sup> Marx, L. 1964. *The Machine in the Garden. Technology and the Pastoral Ideal in America*. Oxford University Press, Oxford.

<sup>130</sup> Marx, note 129, p. 23.

<sup>131</sup> Adapted from Marx, note 129, p. 355 – 356.

<sup>132</sup> Marx, note 129, p. 356.

<sup>133</sup> Dr. J.C. Hanekamp sr. is kindly acknowledged for sharing his insights into Sheeler's work with me.

<sup>134</sup> Monod, J. 1977. *Chance and Necessity. An Essay on the Natural Philosophy of Modern Biology*. Collins/Fount Paperbacks, Glasgow.

<sup>135</sup> Versteegen, S.W., Hanekamp, J.C. 2005. The Sustainability Debate: Idealism versus Conformism – the Controversy over Economic Growth. *Globalizations* 2(3): 349 – 362.

<sup>136</sup> Ward *et al.*, note 69, p. 219 – 220.

<sup>137</sup> Meadows *et al.*, note 42, p. 198.

<sup>138</sup> Brundtland, H.G., cited in: Murcott, S. 1997. *Appendix A: Definitions of Sustainable Development*. AAAS Annual Conference, IIASA 'Sustainability Indicators' Symposium, Seattle 16 February. Massachusetts Institute of Technology. Italics in original.

<sup>139</sup> Strong, M, cited in Murcott, note 138.

<sup>140</sup> Meadows, *et al.*, cited in Murcott, note 138.

<sup>141</sup> Raskin, P.D., Electris, C., Rosen, R.A. 2010. The Century Ahead: Searching for Sustainability. *Sustainability* 2: 2626 – 2651.

<sup>142</sup> Randers, J. 2012. *2052: A global forecast for the next forty years*. The Future in Practice: The State of Sustainability Leadership 2012, Cambridge University. Italics in original.

<sup>143</sup> Bramwell, note 43.

<sup>144</sup> Ward *et al.*, note 69.

<sup>145</sup> The scientific age subsequently seems to require the historicity of ecological native man as a model of that wisdom. However, this man seems to be elusive. It is therefore unsurprising that the opposition against the undoing of the fantasy of a pristine age of ecologically sane native humanity is so

hot-blooded. Kreck III, for instance, received numerous criticisms not dealing with his thesis in his *The Ecological Indian* as such, but trying to unravel his political and ideological affiliations and the consequences thereof. Sale for instance lambasted Kreck III as follows (Sale, K. 2000. Again, the Savage Indian. *Ecologist* 30(4): 52; italics added):

‘It’s hard to believe, but there seems to be an attempt to try to discredit the *now-familiar image of the American Indian as an ecological model*, thus eliminating in a single blow one of the fundamental inspirations for the modern environmental movement ....

The conspiracy ... is largely the project of academics, a nit-picking fraternity that manages to break forth only when it is called upon to serve the masters at whose tables they are allowed to nibble the crumbs. But the real forces behind it are the powers whose onward course of exploitation and despoliation is being challenged by environmental regulations rooted in *a regard for nature that was assumed to be the principal legacy of the natives of this continent*.

Their theory being that if you can discredit the history of those native peoples, and make them out to be just as ruthless and disrespectful of the natural world as you are, you can effectively disarm the environmental critics: *see, we all do it, have always done it, it’s human nature, it’s progress don’t you know, and there’s no stopping it*.

The Kreck argument eventually comes down to saying that the Indians do not have any moral standing as ecologists because European conquerors destroyed their cultures and forced them into the capitalist system ....

... the one thing that did endure in so many of the various Indian cultures was their earth-based spirituality and the ecological wisdom it spawned. The attempt to destroy that is a shoddy and soulless business indeed, the worst among many egregious examples of the American professoriate serving the systems that are so efficiently destroying the earth.

There is no doubt a special, and very hot, place for them in the hell that they are determined to reduce this world to.’

See further Harkin, M.E., Lewis, D.R. (eds.) 2007. *Native Americans and the Environment. Perspectives on the Ecological Indian*. University of Nebraska

Press, Lincoln, London.

<sup>146</sup> Marx, note 129, p. 264 – 265.

<sup>147</sup> Jonas, H. 2001. *The Gnostic Religion: The Message of the Alien God & the Beginnings of Christianity*. 3<sup>rd</sup> Edition. Beacon Press, Boston.

<sup>148</sup> See further King, K.L. 2003. *What Is Gnosticism?* The Belknap Press of Harvard University Press, Cambridge, Massachusetts, London, England. Rudolph, K. 1987. *Gnosis. The Nature & History of Gnosticism*. Harper Collins Publishers, San Francisco.

<sup>149</sup> Williams, M.A. 1996. *Rethinking “Gnosticism”. An Argument for Dismantling a Dubious Category*. Princeton University Press, Princeton.

<sup>150</sup> Jonas, H. 1952. Gnosticism and Modern Nihilism. *Social Research* 19(1/4): 430 – 452.

<sup>151</sup> Rascke, C.A. 1980. *The Interruption of Eternity. Modern Gnosticism and the Origins of the New Religious Consciousness*. Nelson-Hall, Chicago, p. 21.

<sup>152</sup> Derived from Nock, A.D. 1964. Gnosticism. *The Harvard Theological Review* 57: 255 – 279.

See further Rascke, note 151.

<sup>153</sup> Rascke, note 151, p. 36.

<sup>154</sup> Jonas, note 150. Italics added.

<sup>155</sup> Harremoës *et al.*, note 7, p. ii.

<sup>156</sup> Achterhuis, H. 1998. *De erfenis van de Utopie*, Ambo, Amsterdam. [*The Legacy of Utopia*.]

<sup>157</sup> Voegelin, E. 2000. *Modernity without Restraint. The Collected Works of Eric Voegelin. Volume 5*. Henningsen, M. (ed.), University of Missouri Press, Columbia, London, p. 193 – 194.

See for a commentary Galbreath, R. 1981. Problematic Gnosis: Hesse, Singer, Lessing, and the Limitations of Modern Gnosticism. *The Journal of Religion* 61(1): 20 – 36.

<sup>158</sup> Voegelin, note 157, p. 185.

<sup>159</sup> Walters, B.N.J. 2007. Personal carbon trading: a potential “stealth intervention” for obesity reduction? *The Medical Journal of Australia* 187(11/12): 668.

<sup>160</sup> Hern, W.M. 1993. Is human culture carcinogenic for uncontrolled population growth and ecological destruction? *BioScience* 43(11).

<sup>161</sup> See [www.newsscientist.com/article.ns?id=mg19225731.100&print=true](http://www.newsscientist.com/article.ns?id=mg19225731.100&print=true) (last accessed on the 15<sup>th</sup> of November 2014).

<sup>162</sup> Weisman, A. 2007. *The World Without Us*. St. Martin’s Press, New York, p. 267.

<sup>163</sup> Lewis takes this to its logic conclusion: ‘Yet the Conditioners will act. When I said just now that all motives fail them, I should have said all motives except one. All motives that claim any validity other than that of their felt emotional weight at a given moment have failed them. Everything except the sic volo, sic jubeo (‘This I will, this I command’; *author*) has been explained away. But what never claimed objectivity cannot be destroyed by subjectivism. The impulse to scratch when I itch or to pull to pieces when I am inquisitive is immune from the solvent which is fatal to my justice, or honour, or care for posterity. When all that says ‘It is good’ has been debunked, what says ‘I want’ remains. It cannot be exploded or ‘seen through’ because it never had any pretensions. The Conditioners, therefore, must come to be motivated simply by their own pleasure. I am not here speaking of the corrupting influence of power nor expressing the fear that under it our Conditioners will degenerate. The very words corrupt and degenerate imply a doctrine of value and are therefore meaningless in this context. My point is that those who stand outside all judgements of value cannot have any ground for preferring one of their own impulses to another except the emotional strength of that impulse.’

Lewis, C.S. 1943. *The Abolition of Man*. In: C.S. Lewis. 2002. *The Complete C.S. Lewis Signature Classics*. Harper San Francisco, San Francisco, p. 465 – 498.

<sup>164</sup> This is less far-fetched than it seems. See for instance Conly, S. 2012. *Against Autonomy: Justifying Coercive Paternalism*. Cambridge University Press. Sarah Conly’s thesis is summed up as follows (p. 3):

‘This book, thus, supports the use of coercion in what we normally think of as people’s personal lives. This is something. I argue, that we are familiar with and which we often accept. If the person next to me is about to swallow a gulp of anti-freeze in the belief that it is an anti-freeze-colored sports drink, I will intervene. If I tell him it is anti-freeze, and he refuses to believe me, I will still intervene. If I have to grab his arm and pull it away from his mouth I will do that, even though his first reaction is likely to be one of indignation. The thesis of this book is that situations abound which are, in essence, the same. We should save people from doing things that are gravely bad for them when they do that only as a result of an error in thinking. Rather than suggest that individuals roam the planet interfering with each other’s lives in a chaotic and inefficient fashion, however, I argue that

the government should intervene in cases of obvious harm and should prevent certain actions from being taken. I argue for paternalistic laws, and more specifically, paternalism of the sort that forces people to act, or refrain from acting, according to their best interests.’

<sup>165</sup> See Hottos, G. 2000. A Philosophical and Critical Analysis of the European Convention of Bioethics. *Journal of Medicine and Philosophy* 25(2): 133 – 146.

<sup>166</sup> Rolston, note 3, p. 320. Italics added.

<sup>167</sup> Modified from Lewis, note 163.

<sup>168</sup> Achterhuis, note 156.

See also Hollander, P. 1998. *Political Pilgrims: Western Intellectuals in Search of the Good Society*. Transaction Publishers, New Brunswick.

<sup>169</sup> The question of course is whether the critique presented here is justified, portraying a too a sombre outlook on our future and our humanity. To pose this issue in reverse manner: Are we not required to amend the ostensible damages done to the planet, and to the innumerable poor and hungry of this world, deliberately on a global scale? It goes without saying that humanity has changed the face of the earth extensively and irreversibly over the past millennia, and that need not be valued as solely undesirable. This is not contested here or anywhere else in this enquiry, on the contrary. Humans are very much capable of changing nature and the environment, for regions and the planet as a whole (e.g. agriculture as the best-known example), for people near and far, for better and for worse. Innumerable studies have made it clear that man has the capability to greatly alter its habitat. I will mention here four reviews that give reflective insight in these matters:

Cohen, J.E. 1995. *How Many People Can the Earth Support?* W.W. Norton & Company, New York.

Simmons, I.G. 1996. *Changing the Face of the Earth. Culture, Environment, History*. Blackwell Publishers, Cambridge.

Hollander, J.M. 2003. *The Real Environmental Crisis. Why Poverty, Not Affluence, Is the Environment’s Number One Enemy*. University of California Press, Berkeley, Los Angeles.

Crosby, A.W. 2004. *Ecological Imperialism. The Biological Expansion of Europe, 900 – 1900*. Cambridge University Press, Cambridge.

# 04. COMMITTING TO SCIENCE AND RELIGION

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*Don't tell me what I will do, 'cos I won't  
Don't tell me to believe in you, 'cos I don't*

*Be on your guard, better hostile and hard – don't risk affection*

*Like flesh to the bone in the no-go zone*

*You're still looking for the resurrection*

*Come up to me with your "What did you say?" and I'll tell you straight in the eye D.I.Y.'*

*(Peter Gabriel)*

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## CHAPTER'S STRUCTURE AND SCOPE

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*Exposure  
out in the open  
exposure'  
(Peter Gabriel/  
Robert Fripp)*

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'NOW I TAKE IT THAT WHEN WE UNDERSTAND A THING ANALYTICALLY, AND THEN DOMINATE AND USE IT FOR OUR OWN CONVENIENCE,' as C.S. Lewis explains in his *Abolition of Man*, 'we reduce it to the level of 'Nature' in the sense that we suspend our judgements of value about it, ignore its final cause (if any), and treat it in terms of quantity. This repression of elements in what would otherwise be our total reaction to it is sometimes very noticeable and even painful: something has to be overcome before we can cut up a dead man or a live animal in a dissecting room. These objects *resist* the movement of the mind whereby we thrust them into the world of mere Nature...'<sup>1</sup> Lewis addresses a few aspects of science we will scrutinise in this chapter. One element will have our special attention, a topic Lewis alludes to in the passage that will continue below. Lewis points at a perspective we would nowadays call scientific. This outlook has considerable implications regarding our understanding of the world and how to deal with the many hazards this world is beset with. Additionally, we will see that the scientific perspective our (precautionary) culture is imbued with occasions an overestimation of our understanding of the world. The latter has implications for the admissibility of a theological perspective that is introduced in the final pages of this chapter. In order to make the analysis transparent, we will try, despite close familial relationships, to distinguish between methodological scientism that derives from practical reductionism found everywhere in science and fundamental scientism that is based in the materialistic/mechanistic worldview that dominates the Western intellectual tradition since roughly the 17<sup>th</sup> century.

## 'THE ABOLITION OF MAN'

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*'It sucked you in, it  
dragged you down*

'... The stars lost their divinity as astronomy developed, and the Dying God has no place in chemical agriculture. To many, no doubt, this process is simply the gradual discovery that

*To where there is no  
hallowed ground  
Where holiness is  
never found'  
(Depeche Mode)*

---

the real world is different from what we expected, and the old opposition to Galileo or to 'body-snatchers' is simply obscurantism. But that is not the whole story. It is not the greatest of modern scientists who feel most sure that the object, stripped of its qualitative properties and reduced to mere quantity, is wholly real. Little scientists, and little unscientific followers of science, may think so. The great minds know very well that the object, so treated, is an artificial abstraction, that something of its reality has been lost.' These reflections of Lewis first require a short analysis in what manner humans in general and scientists in particular *commit* themselves. Imre Lakatos stated that '[b]elief may be a regrettably unavoidable biological weakness to be kept under control of criticism: but *commitment* is for Karl Popper an outright crime.'<sup>2</sup> Scientists thus, according to Lakatos, should stay away from committing themselves to theories and hypotheses.

Yet, it will hopefully become clear that the much-propounded differences between e.g. religion and science – religion, purportedly an evolutionary remnant of the brain's gullibility being the 'irrational' of the two– are far smaller than one would expect. In fact, the *a priori* belief (as in trust) that our world is intelligible and orderly and that our reasoning is adequate to fathom the hidden structure of reality are elementary prerequisites on which our entire enterprise of being and doing in this world, including doing science, is founded.

## SCIENCE

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*If I ever lose my  
faith in you  
There'd be nothing  
left for me to do'  
(Sting)*

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### Commitment ...

The life of Kurt Gödel, and his discovery of the famous incompleteness theorems, sheds some preliminary light on the matter of commitment, as Rebecca Goldstein explains in her biography on Gödel:<sup>3</sup>

'For both Gödel and Einstein, metaquestions of how, respectively, mathematics and physics are to be

interpreted – what it is that these powerful forms of knowledge actually do and how they do it– are central to their technical work. Einstein, too, had extremely strong metaconvictions regarding physics. More specifically, Einstein's and Gödel's metaconvictions were addressed to the question of whether their respective fields are descriptive of an objective reality – existing independent of your thinking– or, rather, are subjective human projections, socially shared intellectual constructs. ... Not only were both men centrally interested in the metalevel, but, even more unusually, they also wanted their technical work to shed metalight. ...' 'Gödel's audacious ambition to arrive at a mathematical conclusion that would simultaneously be a metamathematical result supporting mathematical realism was precisely what yielded his incompleteness theorems.' 'His Platonist conviction must have convinced him, *sans proof*, that mathematical reality must exceed all formal attempts to contain it; but how did he lay hands on the strategy by which to prove incompleteness?'

In Gödel we meet a scientist who is begeistert by a vision of reality, which profoundly influenced his scientific work. It shows a commitment to ideas and concepts beyond immediate (sensory) perceptive grasp that led to a major advance in objective knowledge of reality (and meta-reality): '... despite their remoteness from sense experience, we do have something like a perception also of the objects of set theory, as is seen from the fact that the axioms force themselves upon us as being true. I don't see any reason why we should have less confidence in this kind of perception, and more generally, in mathematical intuition than in sense perception taken in a more general sense, including, for instance, looking at a city from an airplane.'<sup>4</sup> Gödel asserted that the world is rational,<sup>5</sup> which brings us to the notion that if this is so we are to be able to connect with it. For Gödel this is the logical consequence of philosophical theism according to which the order of the world



reflects the order of the supreme mind governing it.<sup>6</sup> Even without this theistic element, the scientist's commitment to ideas and concepts, to the goal of securing objective knowledge about the (hidden) structure of reality, is perhaps easily overlooked when considering the practical, proportional, and tentative perspective on science both scientists and the public (including political leaders) nowadays seem to hold. For instance, John Barrow and Frank Tipler write in their *Anthropic Cosmological Principle* that they are cosmologists, not philosophers. They remark that many philosophers and theologians appear to possess an emotional affection to their theories and ideas, which presuppose belief in those theories, scientists tend to regard their ideas differently. They are interested in formulating many logically consistent possibilities, leaving any judgement regarding truth to observation. Thus it would be unwise of the readers of their book to draw any wider conclusions about the authors' views from what they may read here.<sup>7</sup> This rather odd statement does not hide the fact that both institutionally and personally, science is looked at as a discerning field of advice in terms of numerous aspects of life such as geographical position and direction (think of the Global Positioning System!), human health (medicine, food security and safety, particulate matter air pollution, cell-phone radiation, and etcetera), parenthood (the 'nanny shows' with its pedagogical experts once were broadcasting blockbusters). This is not surprising, as we increasingly *believe* that experts can inform us reliably and definitively about the status of the world with respect to many central characteristics of our personal and corporate lives:<sup>8</sup>

'In the 21st century, you might expect governments to be pragmatic about achieving their aims, to do what works. This means basing policies on hard evidence rather than on assumptions or ideology. Yet this seldom happens. Even when policies are tested before being rolled out to an entire area or country, the methods used to evaluate their effectiveness are often worse than useless. But now more and more researchers are calling for social strategies to be assessed by the gold standard for establishing

the effectiveness of any intervention: randomised controlled trials, long used to find out if new drugs are effective and acceptably safe.

"It's really a step towards a rational society and a fulfilment of the 18th-century Enlightenment, ..."

Society is awash with (scientific) experts giving advice to innumerable personal and corporate recipients. Yet, when scientists as scientists do not actually *believe* the theories they themselves work on and work with, then our penchant to believe their commitments is in danger of being an improper application of science, let alone when they clarify their scientific findings (e.g. in peer reviewed journals) to the general public in newspapers and on television shows.

Furthermore, the *type* of theory-commitment influences those who study science as philosophers, historians, and sociologists. Also, the theory-commitment scientists embrace influences their perception of religion. A crucial issue of concern in the study of science is the nature of the processes that lead up to scientific theory-commitment. Scientists and scientific communities express behaviour that indicates more than a mere assignment of probabilities to theories, whereby a theory is at any sceptical instant exchangeable for a more convincing alternative.<sup>9</sup> And so they should, in spite of what Bertrand Russell pessimistically spelt out in his *Scientific Outlook*: 'Scepticism may be painful, and may be barren, but at least it is honest and an outcome of the quest for truth. Perhaps it is a temporary phase, but no real escape is possible by returning to the discarded beliefs of a stupider age.'<sup>10</sup> Michael Polanyi, both as a highly respected practising scientist (in the field of chemistry) and philosopher of science, quite contrary to sceptical inclinations, emphasises that the pursuit of science is far from a value-free and tentative activity for it involves strong ethical and fiduciary-type commitments. In his view science is a detached activity *only* in the sense that honesty and open-mindedness are essential in the search for new knowledge. Science is a passionate endeavour that demands strong commitment!<sup>11</sup>

'... Yet personal knowledge in science is not made but discovered, and as such it claims to establish contact with

reality beyond the clues on which it relies. It commits us, passionately and far beyond our comprehension, to a vision of reality. Of this responsibility we cannot divest ourselves by setting up objective criteria of verifiability—or falsifiability, or testability, or what you will. For we live in it as in the garment of our own skin. Like love, to which it is akin, this commitment is a ‘shirt of flame’, blazing with passion and, also like love, consumed by devotion to a universal demand. Such is the true sense of objectivity in science, .... I called it the discovery of rationality in nature, a name which was meant to say that the kind of order which the discoverer claims to see in nature goes far beyond his understanding; so that his triumph lies precisely in his foreknowledge of a host of yet hidden implications which his discovery will reveal in later days to other eyes.’

There is no discovery in science without the fervent aspiration to know, and a belief that there is something out there *to* know. Passion, love, indeed faith sustain the method of science *a priori*. Linda Zagzebski remarks that ‘knowledge has interesting similarities with love because love and knowledge are the two ways in which we are drawn out of ourselves ....’<sup>12</sup> Both bring us in touch with reality beyond our inner world that supplicates us to be discovered. György Pólya observed that solving a problem in science is a not purely an intellectual affair, quite the contrary. Both strength of mind and passion have an important role to play. To solve a serious scientific problem, will power is needed that can ‘outlast years of toil and bitter disappointments. ... We are elated when our forecast comes true. We are depressed when the way we have followed with some confidence is suddenly blocked, and our determination wavers.’<sup>13</sup> Ignoring counterevidence in order to maintain the theory under investigation is not uncommon among scientists, and that may be the right way to respond, up to a point. But as Pólya reminds us, this is not just an epistemically informed decision. The passionate commitment informs the scientist to stick to his guns, which equally might result in the scientist overshooting the mark in order to avoid professional embarrassment.

This eminently is a moral issue where higher interests –trying to penetrate the hidden structure of reality in order to unearth the truth searched for– conflict with lower interests –pride, reputation, wealth, power. No rule-following will be of any help here other than the conscience of the scientist faithful to the scientific ideals of judiciousness and honest self-criticism. In other words, assessing how far the available data can be relied on is a matter of conscience decision-making whereby too little or too much caution is to be avoided.<sup>14</sup>

It is not an overstatement to maintain that quite a few scientists embrace theories with a determination similar to religious faith.<sup>15</sup> Therefore, commitment<sup>16</sup> typical for Christians (or other religious believers) is not *prima facie* unjustifiable or irrational. It is a prerequisite to *all* knowing. The question whether the principle of proportionality –the firmness with which one accepts a belief or a theory is, at all times, in proportion to the strength of the evidence for it– and Popper’s proxy of the principle of tentativity –all rational beliefs or theories should only be accepted tentatively concomitantly with the never-ending search for counter-evidence– are the discerning qualities of the scientific community is therefore justified.<sup>17</sup> The much-heralded separation between facts and values is a sterile and unproductive one. The fact that we value knowledge for its own sake and try to unearth this knowledge is but one indication thereof.<sup>18</sup>

Scientists such as Richard Dawkins have no truck with this outlook on science, although his (and similar so-called new-atheists) might seem immoderate even for most scientists. He for instance states that ‘science is not religion and it doesn’t just come down to faith. Although it has many of religion’s virtues, it has none of its vices. Science is based upon verifiable evidence.’<sup>19</sup> In a similar vein, Christopher Hitchens remarks that ‘[o]ur belief is not a belief. Our principles are not a faith.’<sup>20</sup> However, how can we show scientifically that we can be free from belief in science, or, that ‘any personal participation in our scientific account of the universe’ is ‘a residual flaw which should be completely eliminated in due course’?<sup>21</sup> This position is untenable as it is incoherent. Charles Taylor is spot on when he observes that ‘to hold that there are *no*

assumptions in a scientist's work which aren't already based on evidence is surely a reflection of a *blind faith*, one that can't even feel the occasional tremor of doubt. Few religious believers are this untroubled.<sup>22</sup> Equally, Polanyi notes that at 'all mental levels – it is not the functions of articulate logical operations, but the tacit powers of the mind that are decisive ... Even if we admitted that an exact knowledge of the universe is our supreme mental possession it would still follow that man's most distinguished act of thought consists in *producing* such knowledge; the human mind is at its greatest when it brings hitherto uncharted domains under its control. Such operations renew the existing articulate framework. Hence they cannot be performed with the framework ...'<sup>23</sup> Thomas Kuhn, as Polanyi, has shown the importance of commitment of scientists to their theories when considering scientific progress.<sup>24</sup> If scientists consider, as a matter of principle, their theories merely in a tentative and proportional manner, then the activity of scientific inquiry would deteriorate sooner or later, or even would become unscientific. Mary Midgley, in response to Barrow and Tipler's remarks referred to above, wonders whether scientists have no responsibility to take the things they put in print seriously. Can such writers always turn round and say, 'why did you bother with the arguments in my book? Of course I didn't believe a word of them?' The natural reply to that would surely be 'then why are you wasting our time?''<sup>25</sup> Progress requires that scientists get themselves in the grip of a theory, which they aim to develop and defend, without simply trying to dispose of it as fast as possible, as William Newton-Smith observes.<sup>26</sup> To be a successful scientist, tentativeness and proportionality as basic principles should be discarded as being counterproductive. A scientist is rationally entitled to hold his/her beliefs in relation to the theories at hand with a commitment that surpasses the strength of the evidence (for or against). Commitment and tentativeness are not mutually exclusive;<sup>27</sup> scientists must and do live with the tension between them.<sup>28</sup> Now, the subsequent question is: what *kind* of commitment do scientists in fact hold? This is important in order to discern epistemic (indicative of the truth of a given proposition) from non-

epistemic (not indicative of the truth of a given proposition) determinants in the commitment to theories, which both play a role. Commitment to contentful entities like theories, as part of the overarching commitment strategy of scientific communities Kuhn captured in his idiom 'paradigm', can be either (I) a *doxastic* commitment to the truth of the theory or to some proposition about the theory,<sup>29</sup> or (II) a *practical* commitment to behaving in accordance with the theory.

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*Everybody's  
rushing around  
Trying to keep a hold  
on some peace of mind  
All the time  
And somebody's  
looking around  
Trying to find  
something to believe in'  
(Clannad)*

---

### ... belief, and truth

A doxastic commitment contends with the *truth-status* of the entity in question (e.g. a theory) or the truth-status of some proposition thereof. A practical commitment prompts behaviour with reference to, or consistent with the entity. To give preference to a theory does not flow from belief in the truth of that theory. Rather, affirmation and defence of a particular theory is an expression of the voluntary commitment to using that theory in for instance education and research. The scientist therefore decides to stick with that theory. *Acceptance* should play a part in the choice of theories, not *belief*.<sup>30</sup>

Acceptance might accompany belief, and in the typical case one decides to accept it because one already believes. However, belief and acceptance are distinct mental states. While belief is usually regarded as involuntary, acceptance is under our control. As an example of the distinctiveness of acceptance and belief one could envision a trial lawyer accepting that, and thus act as if, her client is *not* guilty, even while she believes that he is guilty.<sup>31</sup> Ward Jones gives the following example of doxastic commitment in science that, as we will see, can only be defended epistemically:<sup>32</sup>

'When, for example, scientists explain other scientists' acceptances nonepistemically, they will inevitably resort to epistemic explanations when they explain their own. One recent example is provided by theoretical biologist

Stephen J. Gould's *Wonderful Life*, a detailed and sympathetic account of work done in the Burgess Shale, a Canadian repository of fossils first discovered and studied in the early twentieth-century. In his review of *Wonderful Life*, James Gleick observes:

'Mr. Gould . . . is a scientist, not a journalist, and he must tell this story – about colleagues and friends – from the inside. But I think that Stephen Jay Gould, the insider, falls into a trap that Stephen Jay Gould, the historian, has often warned against. A myth about science suggests that new theories arise when they are necessary to explain new facts. The messy and more interesting reality is that 'facts' themselves tend to depend on the theories of the fact finders. When writing about Walcott's mistakes, safely in the past, Mr. Gould shows in detail how scientific decisions were coloured by cultural and philosophical prejudices . . .

Yet when writing about his colleagues, Mr. Gould lets his readers take away a simpler impression, that a rational group of scientists developed a new view of evolution because they received new evidence from the Burgess fossils.'

In explaining the commitment to theories with which he disagrees, Gould makes free use of non-epistemic determinants. Yet when it comes to explaining his own commitments, Gould turns rationalist. Gleick chastises Gould for refusing to non-epistemically explain his own commitments, but it is not clear that he is right to do so.'

The last part of the above quote refers to the basic assertion Jones examines in his article: those who have doxastic commitments have limitations regarding how they can account for what reasons they have them. One cannot non-epistemically explain doxastic commitment without the commitment to that explanation being diminished. That is, scientists are reluctant to accept a theory while simultaneously accepting a non-epistemic explanation of why they adhere to that theory. This is called the *first-person constraint of doxastic explanation* (in short the *Constraint* or *FPC*). Jones argues for the following definition: 'The stronger my conviction that

the correct explanation of my doxastic commitment to p is non-epistemic, the weaker will be the commitment that it explains. As the explanation gets stronger, so will my tendency to give up the commitment being explained.'<sup>33</sup>

The central aspect of doxastic states is that if one reflects upon a belief, one must see it as being held first and foremost to acquire a certain truth. Belief thus has a truth-centred motive.<sup>34</sup> Its possession cannot be dependent on other goals. To do so would undercut the belief. If an explanation is given of a certain belief, either some experience or fact is stated, which is taken to support that belief. However, no appeal to the pragmatic reasons for beliefs can be made in defending a certain position. In no theoretical discourse (e.g., science, philosophy, history) do we find proponents of positions appealing to the pragmatic benefits (e.g. wealth, fame, succour, majority position) in order to adopt a certain position. Obviously, a variety of beliefs bring us solace or allow us to make money, but each of these must be seen, and are usually presented, as being derivative of the goal of truth. Securing objective knowledge, that is trying to secure knowledge about the hidden structure of reality, is (still) regarded as the primary aim of science.

Thus, practical arguments cannot leave any traces and they must lead to belief (if at all) without the believer being aware thereof.<sup>35</sup> The believer regards his belief about X as acquired *solely* by epistemic means of deliberations; non-epistemic justifications, if at all present, will remain hidden.

Whether or not the current practice of theory-commitment within the sciences is practical or doxastic is a contingent matter, to be settled empirically. If theory-commitment is doxastic, then scientists will be resistant to non-epistemic (that is not truth-related) explanations of their commitments.

The Constraint entails *doxastic involuntarism*, which is our inability to directly control what we believe. The Constraint severely impedes the strength of practical arguments for belief. This makes for the fact that truth and belief, as said, are to some extent separate entities, as is nicely portrayed in the story of Cassandra. In the tales of the Trojan War, she was a Trojan with a gift of the gods to accurately spell future events while conversely she was doomed, as none would believe her.<sup>36</sup>

Returning to the quote on Stephen Jay Gould, Jones states that if Gould's commitment to his favoured theories is doxastic, then (FPC) predicts that Gould will epistemically explain work *with which he agrees*. He could not have done otherwise while accepting the claims that he does.<sup>37</sup> Consider, as a further explication, Daniel Dennett's historical reflections on natural selection.<sup>38</sup>

'The idea of natural selection was not itself a miraculously novel creation of Darwin's, but, rather, the offspring of earlier ideas that had been vigorously discussed for years an even generations .... Chief among these parent ideas was an insight Darwin gained from reflection on the 1798 *Essay on the Principle of Population* by Thomas Malthus, which argued that population explosion and famine were inevitable, given the excess fertility of human beings, unless drastic measures were taken. The grim Malthusian vision of the social and political forces that could act to check human overpopulation may have strongly flavoured Darwin's thinking (and undoubtedly has flavoured the shallow political attacks of many an anti-Darwinian), but the idea Darwin needed from Malthus is purely logical. It has nothing at all to do with political ideology, and can be expressed in very abstract and general terms.'

Darwin's idea on natural selection needs to be stripped from its contingent ideological framework and presented as purely logical carried by nothing but epistemic determinants *if* a doxastic position is held by Dennett. And indeed, so he does, of which the reference to the historical as 'shallow' is a clear indicator. Robinson remarks that the idea of natural selection could have nothing at all to do with political ideology, presumably because it is purely logical, is the 'thinking of a true fundamentalist. Dennett seems unaware that zealots of every sort find every one of the tenets purely logical.'<sup>39</sup> Although to the point, Robinson seems unaware of the fact that Dennett *cannot* non-epistemically explain his own commitments. Unmistakably, he embraces the idea of natural selection doxastically. Thus, for Dennett, practical arguments cannot leave any trace and they must lead to his belief without him being aware thereof.

Despite being close at the surface, non-epistemic determinants are kept hidden by Dennett when discussing natural selection. John Greene, on a similar note, observes that the pursuit of science presupposes many kinds of metaphysical, moral, and aesthetic commitments. Yet the conceptual framework of modern science deprives nature of aim, purpose, and value, and hence of any meaning other than purely scientific intelligibility. Trapped in this quandary, the advocates of Darwinism are relegated to claiming sanction of evolutionary biology for values that originated elsewhere and to introducing illicit elements of teleology and value into their science.<sup>40</sup> As Robinson, Greene does not seem to be aware of the fact that the 'Darwinians' he discusses and directly debates can do nothing other than embrace their position epistemically within the confines of their worldview, whereby scientism, not science, is championed. In conclusion, it seems that scientists hold a doxastic commitment to theories, the higher interests we touched earlier. We should keep this in mind when discussing and deliberating the work and attitudes of the scientific community, its followers, and the impact of science on society in terms of its products (cell phones, space travel, water taps and the like)<sup>41</sup> and its beliefs of how reality should be viewed. The viewpoints of scientists (and their followers) on health, safety, climate change and indeed religion, should therefore not be accepted at face value and thus regarded as derived only from epistemic deliberations only.

Scientism is a prime example in which concealed non-epistemic deliberations direct the conviction for instance that there can be no God. With the examination of scientism below, we can add another example of doxastic commitment and the hidden non-epistemic determinants that drive scientism.

As a working definition, scientism carries the idea that science alone is deemed to be capable of elucidating and resolving genuine human problems (poverty, social inequity, global warming, warfare, pollution, food safety, the meaning of life, and etcetera) whereby all human affairs can be reduced to science. Accordingly, scientism is the effort to escalate science to all other fields of human affairs as to usurp them in a reductionist fashion. In 1892 Karl Pearson gave a useful summation of scientism when he states that the scientific method is



the sole path by which we can attain knowledge. Other methods, here or elsewhere, may lead to fantasy, as that of the poet or of the metaphysician, to belief or superstition, but never to knowledge, as is his conviction.<sup>42</sup>

In order to better understand scientism and the roles it plays, we will travel the road of scientism so to speak backwards, that is from the pragmatic methodological towards the fundamentals of scientism that is grounded in the materialistic/mechanistic worldview of the modern intellectual milieu. The latter aspects of scientism we will investigate with respect to the theological reflections we will discuss in chapter five and six.

## SCIENTISM IN A CAUTIOUS WORLD

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*I still believe in God  
But God no longer  
believes in me'*  
(*The Mission*)

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The goal of precaution is to foresee and forestall: 'Scientific uncertainty about harm is the fulcrum of this principle. Modern-day problems that cover vast expanses of time and space are difficult to assess with existing scientific tools. Accordingly we can never know with certainty whether a particular activity will cause harm. But we can rely on observation and good sense to foresee and forestall damage.'<sup>43</sup> Scientists, however, are quite self-conscious about the boundaries of (scientific) knowledge; methodological reductionism can elucidate only so much and the knowledge gained is bounded by the *a priori* reductive limitations, which in itself is unproblematic. Science, thus, is by default restricted regarding its capabilities to accurately gauge *all* kinds of consequences of human action.

Then again, when the demands for freedom of damage expand into the distant future, the limitations of knowledge will be more palpable. Precautionary culture thus characteristically shows a deep-seated epistemological scepticism with regard to the knowledge claims of science. This scepticism is strongly developed in post-modern theories of science, where all knowledge is presented as socially constructed, and therefore cannot have a privileged status.<sup>44</sup> This is illustrated

by the erosion of the idea(l) of autonomous knowledge and autonomous law,<sup>45</sup> which subsequently lent aid to the shift to the notion of *inter-subjective* knowledge.<sup>46</sup>

It is just a matter of degree to claim that all knowledge is related to interests and power.<sup>47</sup> 'Finding the truth' has throughout the twentieth century been, to some degree, replaced by 'winning the power struggle'.<sup>48</sup> New knowledge always carries the potential risk that it will upset agreed upon concepts, policies and power structures based on 'established' scientific knowledge. Examples abound in which science comes up with surprising new insights overturning old ideas and concepts.

At the same time, confronted with facts and stories about anthropogenic pollution and the degradation of nature,<sup>49</sup> the promise of modern science and technology to truly shape a safe and secure world for everyone, including the earth we walk upon, fuelled the flames of this growing scepticism of late modernity. Post-modern and environmental scepticism is merely one side of precautionary culture's dealings with science. The other side of the precautionary medallion in relation to science and its accomplishments is optimistic as it is pessimistic. The goal of precaution is 'to foresee and forestall', to perform 'adequate pretesting', and 'ban accidents'. In order to seriously entertain these convictions, one needs quite a robust belief in what science can and must deliver. This stance is not surprising considering the fact that Western World citizens have, in industrial society and its risk culture, experienced increasing wealth, safety, security, and longevity precisely on account of the same science and technology. Put differently, even when we have to be critical about what science has to offer, we still can be optimistic since we have alternatives at our disposal to fall back on.

However, when considering the alternatives – observation and good sense – we find that these are the basic tenets of the investigative attitudes that led to the development of science in the first place.<sup>50</sup> Thus science is inadvertently regarded as *the* instrument of acuity when considering risks to humanity and the planet in the near or distant future as a result of the same science and technology.<sup>51</sup> Paradoxically, this requires, considering the precautionary



requirements, ever-higher science and technology in order to be able to converge on the limits of our knowledge so as to keep the envisioned risks and uncertainties at bay.

In precautionary culture then, science finds itself between Scylla and Charybdis: a very high level of scepticism with regard to what science cannot and should not do goes hand in hand with a very high level of confidence regarding what science (observation and good sense) is supposed to deliver. Science and technology as originators of the perceived predicament has proven to be indispensable to highlight and measure the very same predicament.<sup>52</sup> Arnulf Grübler, with a sense of irony, points out that science and technology itself delivered the data to underscore this line of thought: the first space missions rendered pictures of Earth as a small blue planet engulfed by the dark hostility of space.<sup>53</sup> The mandate of science thereby is greatly widened in view of the precautionary requirements put forward earlier. As Steve Rayner remarks:<sup>54</sup>

‘For good or ill, we live in an era when science is culturally privileged as *the ultimate source of authority* in relation to decision making. The notion that science can compel public policy leads to an emphasis on the differences of viewpoint and interpretation within the scientific community. ... Opening up to the public the conditional, and even disputatious nature of scientific inquiry, in principle, may be a way of counteracting society’s currently *excessive reliance on technical assessment* and the displacement of explicit values-based arguments from public life ...’

Precautionary culture thus seems to a large extent driven by what science ought to deliver and vice versa. Our era could well be called the age of assessment.<sup>55</sup> Politicians for instance find it difficult to justify their work and outlook in the vocabulary of morality (as an out-dated notion). Officials now promote policies on the grounds that they are ‘evidence-based’ rather than because they are ‘right’ or ‘good’. In policymaking circles, the language of ‘right’ and ‘wrong’ has been displaced by phrases such as: ‘Research has shown ...’.<sup>56</sup> It could be argued that science, despite its inherent provisional nature,

is treated as a belief that provides an unquestionable and trustworthy account of the ‘truth’ of reality as it is now and in the future. Science transforms into scientism in precautionary culture. That is, the methodological reductionism legitimately required to scientifically handle complex material is expanded beyond its own borders. The results of science, thus, are unreasonably treated as ‘the whole story’. Below, we will trail the background thereof from the mid 20<sup>th</sup> century onwards.

## ENTRENCHING SCIENTISM IN MODERN SOCIETY

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*I can explain  
everything’  
(T Bone Burnett)*

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Taede Smedes refers to scientism as an ideology of Western culture.<sup>57</sup> More to the point, it transcends Western culture and is a global ideology. The effects and products of science (and technology) are implemented on a worldwide scale and its sheer successfulness impacts on more parts of society, both individually and corporately, than intrinsically can be deduced from the activities of science *per se*.

Scientism within communist thought is well known and need not detain us here.<sup>58</sup> The modern scientific history within 20<sup>th</sup> century Western societies is less known or perhaps even ignored, yet is quite articulate, progressively so after WWII. During WWII, engineers and scientists furnished key inventions such as radar and the atomic bomb. Research and development was seen as even more important in the battles of the future, which undoubtedly would come. The founders of the so-called project Research And Development conceived of *RAND* as a way of retaining and enhancing the considerable benefits of civilian scientific thinking developed in WWII. The project officially got under way in December 1945, and in March 1946 *RAND* was launched as a freestanding division within the Douglas Aircraft Company of Santa Monica, California. This was the genesis of the earliest so-called think tank. Operations research, the pet project conceived in the war years by the young men in the *Office of Scientific Research and Development (OSRD)*, evolved in the 1950s into the tentative

fabrications of systems analysis. *RAND* was its nursery. It was at *RAND* that the civilian defence intellectual who specialised in systems analysis took form.<sup>59</sup>

Herman Kahn was one of the leading researchers of this newly developed research institute, and one of the most controversial. Kahn began his career in the late 1940s with the *RAND Corporation* as a physicist and mathematician. While working at *RAND*, his co-directorship of the Strategic Air Force Project inspired him to write *On Thermonuclear War*, the 668-page tome, published first in 1960, that simultaneously elevated him to national and international pre-eminence and at the same time made him the focus of derision.<sup>60</sup> *On Thermonuclear War* was the first book to systematically analyse the possible effects of nuclear war and the possible strategic options under various circumstances. In this book he ‘popularised’ the term ‘megadeath’, a term denoting one million deaths. It is a prime example of scientistically trying to come to grips with global destruction by nuclear warfare, and even positing a winnable nuclear exchange with room to spare for rebuilding the devastated world. In the mid of the 20<sup>th</sup> century, researchers within the U.S. military, and Kahn in particular, tried, with the aid of science, to cope with history before it happened, whereby time-uncertainty was to be restrained. Assessing risks, proposing solutions, and trying to frame ‘unknown unknowns’ were Kahn’s playground. In *On Thermonuclear War* Kahn sought to reduce politics to a purely quantitative discipline, by applying mathematical tools to calculate nuclear collateral damage and proposing technological and scientific solutions. Taken as a whole, Kahn’s utopian drive was simply to transcend every earthly limit through human ingenuity, resolve and technical and scientific prowess. As Sharon Ghamari-Tabrizi observes:<sup>61</sup>

‘The problem for national security was always the unknown unknowns. How can you defend against No Discernable Thing? ... [T]his book is precisely about the unknown unknowns of national security. It is about how analysts in the Cold War developed ways to fill in the ciphers of strategic uncertainty. It explores the peculiarly inventive quality of strategy, *how uncertainty becomes the wellspring of extravagant threat scenarios.*

However much nuclear war planning ... was presented to the public during the Cold War as a practical question for scientific deliberation, war planning could never be a matter of fact. Whether or not humankind could survive a nuclear war could only be resolved with reference to one’s own beliefs about the social and natural world. To flesh out a world where clever men fashioned *Something out of Nothing, ...*’

This Cold War scientism, although recognised and abhorred by most 21<sup>st</sup> century Western world citizens within its historical and political context, is fully revived within precautionary culture. Whereas the context might be different, the aims are comparable, namely to formulate cautious perspectives in multiple fields of society that needs to become sustainably risk-free. Science as scientism is invoked to cope with history ‘before it happens’. Science as scientism is presented as having definitive and over-arching answers: how man-made climate change will evolve the next hundred years and how it could be ‘ameliorated’; what constitutes the ideal bodyweight in terms of health and longevity; what defines safe food; how the ‘ecologically noble savage’ could inform us in our way of life with nature and ourselves. Although unnoticed, parts of contemporary science show all the traits of scientism we have come across during the Cold War.

For instance, in the climate debate, one of the more interesting examples of scientism is the reference to the ‘hiatus in global warming’.<sup>62</sup> It describes the levelling-off of globally-averaged temperatures roughly since 1998, which is interpreted as some kind of ‘pause’ in the rise of global temperatures due to the increasing levels of carbon dioxide.<sup>63</sup> Now, the interesting thing here is *not* the intricate and elaborate ‘mechanics’ of climate change, the role of carbon dioxide therein and the discrepancies between models and reality, which we will not discuss. The reference to term ‘hiatus’ *itself* is intriguing, as there can be no meaning to the word other than that the models used are in fact deemed to be wholly representative of real world temperature series. The term thus implies that the temperature will continue to rise according to the forecasts of the models. To say there is a ‘hiatus’ is to say theory trumps reality. But

that would introduce scientism (and the fallacy of reification): again, the models are interpreted as to encapsulate all of (climate) reality. That immediately would introduce a contradiction, as the models did *not* forecast this ‘hiatus’ at all. To say there is a ‘hiatus’ entails insight into *why* the temperature did what it did. But again, if that is so, the ‘hiatus’ would have been forecasted, which was not the case.<sup>64</sup>

To give a further taste of the *wording* chosen to convey certitude of the scientific kind, some random examples need to suffice:

- (I) ... ‘As people in the rich countries –even the professional classes– begin to wake up to what the science is saying, climate-change denial will look as stupid as Holocaust denial, or the insistence that AIDS can be cured with beetroot. ...’<sup>65</sup>
- (II) ‘Obesity and diabetes are major causes of morbidity and mortality in the United States. ... Each year, an estimated 300.000 US adults die of causes related to obesity. ...’<sup>66</sup>
- (III) ‘All ... reports have identified low-density lipoprotein cholesterol (LDL-C) as the primary target of cholesterol lowering therapy. Many prospective studies have shown that high serum concentrations of LDL-C are a major risk factor for coronary heart disease (CHD). ...’<sup>67</sup>
- (IV) ‘Scientists know of no time when temperatures have risen faster and beyond 2°C increase .... In the next fifty years we will see ever increasing extremes of weather. More storms, floods, droughts. The natural world will not be able to adjust fast enough. By 2050 climate change will have directly led to the extinction of 30% of species, the death of 90% of coral reefs and the loss of half the Amazon rainforest. ... It is absolute scientific fact that the changes we are making to the concentrations of different gases will affect the way the atmosphere behaves. The only areas of debate is how serious the impacts are likely to be.’<sup>68</sup>
- (V) ‘... Artificial selection turned the wolf into the shepherd and the wild grasses into wheat and corn. In fact, almost every plant and animal that we eat today was bred from a wild, less-edible ancestor. If artificial selection can work such profound

changes in only 10,000 or 15,000 years, what can natural selection do operating over billions of years? The answer is all the beauty and diversity of life. ...

... In Carl Sagan’s original Cosmos series, he traced the unbroken thread that stretches directly from the one-celled organisms of nearly four billion years ago to you. ... From creatures who had yet to discern day from night to beings who are exploring the cosmos. Those are some of the things that molecules do given four billion years of evolution.<sup>69</sup>

- (VI) ‘... Their theory being that if you can discredit the history of those native peoples, and make them out to be just as ruthless and disrespectful of the natural world as you are, you can effectively disarm the environmental critics: see, we all do it, have always done it, it’s human nature, it’s progress don’t you know, and there’s no stopping it. ... For all their catastrophic and turbulent history, the one thing that did endure in so many of the various Indian cultures was their earth-based spirituality and the ecological wisdom it spawned. ...’<sup>70</sup>
- (VII) ‘Investigation of the neurochemicals that have some role in the synaptic transmission of signals is accordingly important not only for determining what is going on at the cellular level. It is important also because it shows us that chemical events at the cellular level can have enormous effects on the brain’s affairs as characterized at the psychological level of description. This is significant for those who oppose the idea of a unified science of the mind-brain, either because they believe the mind to be a distinct substance, because they believe mental properties to be emergent, or because they believe psychological theory to be irreducible to neurobiological theory. ... Not that neuropharmacology can now yield anything like a decisive demonstration of the falsity of these views, but it can undermine certain favored theses about how very different and separate are brain states and mental states. By inches it helps to erode the metaphysical conviction that one’s self is an affair apart from that mound of biological stuff hidden under the skull. ...’<sup>71</sup>

Within scientism, certitude is dished out in spades. However, those who want to gauge precautionary reality to its ostensible core, the edges of science, both in terms of its research-range and –impact, need to be covered as well. Ironically then, even the wildest guestimates need to be trustworthy in order to tame the uncertainties of futures undreamed and unknown. As François Ewald proposes: ‘For one must take all hypotheses into account, even and *in particular* the most dubious, one must be wide open to speculation, to the craziest imagined views. ... With precaution, science becomes a principal of challenge. ... Effectively science today interests us less by producing new knowledge than introducing new doubts. ... all that can be excluded is that anything should be excluded.’<sup>72</sup>

Below, another step back is taken as to trail some aspects and failures of scientism that articulate the current materialistic/mechanistic worldview and its ancestry. This will hopefully give insight in the historical backgrounds of scientism and its present-day corollaries.

## FALLACIES – CONNECTING SCIENTISM<sup>73</sup> AND ACCEPTABILITY

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‘Belief goes on and on ...’  
(U2)

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The science of knowledge

Mikael Stenmark describes different levels of scientism as concentric circles that increasingly expand and penetrate deeper into the realms of human life:<sup>74</sup>

- (I) *rationalistic* scientism – S<sub>R</sub>: the view that we are rationally entitled to believe *only* what can be scientifically justified or what is scientifically knowable;
- (II) *epistemic* scientism – S<sub>E1</sub>: the view that the only kind of knowledge we can have is scientific knowledge;
- (III) *ontological* scientism – S<sub>O</sub>: the view that the only reality that exists is the one science has access to;
- (IV) *axiological* scientism – S<sub>A</sub>: the view that science is the most valuable part of human learning or culture;

- (V) *existential* scientism – S<sub>E2</sub>: the view that science alone can explain and replace religion;
- (VI) *comprehensive* scientism – S<sub>C</sub>: the view that science alone can and will eventually solve all genuine human problems.

We need not go over all variations of scientism here yet we will discuss some aspects that are helpful for our enquiry, starting with some historical reflection.

Peeling the onion of scientism in search of an epistemic core that must be squared with science itself is indispensable if scientism is to survive other than an ideological or philosophical stance. However, as Stenmark has shown convincingly, scientism will not hold other than an ideology or a philosophy and for that reason can never be equated with science.

Dawkins nevertheless maintains that science defines knowledge, that is *epistemic* scientism – S<sub>E1</sub>: ‘We no longer have to resort to superstition when faced with the deep problems: Is there a meaning of life? What are we for? What is man? After posing the last of these questions, the eminent zoologist G.G. Simpson put it thus: ‘The point I want to make now is that all attempts to answer that question before 1859 are worthless and that we will be better off if we ignore them completely.’<sup>75</sup> If S<sub>E1</sub> equates with science as is maintained here, then, any further theological reflection would be pointless. S<sub>E1</sub> thus requires, for the sake of further argument, consideration.

With S<sub>E1</sub> a switch is made from ‘science gives us knowledge of reality’ to ‘*nothing but* science gives us knowledge of reality’. The *Center of Naturalism* for instance posits naturalism ‘as a worldview based on the premise that knowledge about what exists and about how things work is best achieved through the sciences, not personal revelation or religious tradition. *The knowledge we have of ourselves* and our place in nature is the achievement of a collective effort to construct a consistent view of the world that permits prediction and control. This effort proceeds by experiment and rational inquiry, and the knowledge gained is always subject to further testing as understanding matures. ... Scientific empiricism

has the necessary consequence of unifying our knowledge of the world, of placing all objects of understanding within an overarching causal context.<sup>76</sup>

But:

- (I) Is scientific knowledge the only kind of knowledge we have or is it a particular kind of knowledge?;
- (II) Can the previous question be answered by the sciences through its methodologies and experimentation?<sup>77</sup>

The latter question is fundamental to the answering of the former otherwise we are left with an article of faith, nothing more. Polanyi makes it clear that owing to the ultimately tacit character of all our knowledge, we remain forever unable to say all that we know. The expert diagnostician, taxonomist, and cotton-classer know countless more things than they can explicate in formalised (scientific) language, knowing them only in practice as instrumental particulars and not explicitly, as objects.<sup>78</sup> This *tacit* knowledge (opposite to *codified* knowledge) is part and parcel of our daily lives. Scientific knowledge would get nowhere without the faint foreknowledge and the propensity to know more than we can tell.

Alan Chalmers does not regard philosophers as having the means to be able to articulate a universal account of knowledge and its aims without a careful look at some real-life examples of human knowledge. Once these actual examples are considered, it becomes clear that there is such a wide range of kinds of knowledge that the endeavour to find an overarching characterisation of knowledge capturing the distinctive features of them all is not destined to be fruitful. We have everyday, common-sense knowledge, we have the knowledge possessed by skilled craftsmen or wise politicians, the knowledge contained in encyclopaedias or stored in the mind of a quiz show expert, and so on.<sup>79</sup> Reality, thus, contains infinitely more than science can elucidate; science does not exhaust knowledge and reality.

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*'Come and  
save my soul  
Before it's  
not too late...'  
(Sixpence None  
the Richer)*

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## The matter of intellectual labour

The debates within the philosophy of mind could serve as an exposition of the above discussion, as the activities of the human mind –intellectual labour- are at stake here. Embracing  $S_{EI}$ , the claim must be that the human mind (qualia,<sup>80</sup> consciousness, thought, rationality, intentionality)<sup>81</sup> is, in the final analysis, reducible to the brain or body as e.g. the *Center of Naturalism* infers, and which Patricia Churchland emphatically embraces (see example VII above in the previous paragraph). For starters, Erwin Schrödinger, one of the fathers of quantum mechanics, notes that what he calls the objectivation of matter –roughly the conceptual removal from it of anything that evokes ‘the personal’ or ‘mind’- makes the mind itself profoundly enigmatic. In his own words:<sup>82</sup>

‘So we are faced with the following remarkable situation. While the stuff from which our world picture is built is yielded exclusively from the sense organs as organs of the mind, so that every man’s world picture is and always remains a construct of his mind and cannot be proved to have any other existence, yet the conscious mind itself remains a stranger within that construct, it has no living space in it, you can spot it nowhere in space. We do not usually realize this fact, because we have entirely taken to thinking of the personality of a human being, or for that matter also that of an animal, as located in the interior of its body. To learn that it cannot really be found there is so amazing that it meets with doubt and hesitation, we are very loath to admit it. ...’

The picture modern science paints of the natural world is thus bereft of sensory qualities and of anything personal.<sup>83</sup> Yet, as Schrödinger observes, the picture itself exists within the minds of persons and takes as its evidential base the senses, and thus the very sensory qualities and consequences it refuses to locate in nature. Of course, this is an old puzzle already put forward by Democritus (roughly 5<sup>th</sup> century B.C.), one of the fathers



of atomism: 'By convention sweet and by convention bitter, by convention hot, by convention cold, by convention colour; but in reality atoms and void.'<sup>84</sup>

It must be emphasised, however, that Democritus, commendably, identified a difficulty facing a theory that he himself endorses, and that we have no idea how, or if, he tried to settle it: 'Wretched mind, you get your evidence from us, and yet you overthrow us? The overthrow is a fall for you.'<sup>85</sup> Indeed, the act of understanding, seeing a logical conclusion or fathoming some chemical issue like a reaction mechanism, is a rational experience that in part escapes scientific scrutiny of the material reality.

When working on lectures for students, my thoughts are for instance focussed on molecules and their reactions. When a neuroscientist tries to probe my brain with e.g. an MRI (Magnetic Resonance Imaging) machine in order to fathom my thoughts when they are on, say, a certain carbon atom in a  $sp^2$ -hybridisation state, it will reveal biochemical events in my brain. However, scientifically tracing a *physical*, that is a causal connection between the obvious biochemical activities of my thoughts and the *object of these thoughts*, which in this case is *not* a specific carbon atom existing at a particular time and place at all, is impossible. The biochemical sequence and the object of the thought evidently correlate, but remain distinct. They have different properties.<sup>86</sup> The nature of an idea or proposition or mental image in our consciousness (e.g. the aforementioned carbon atom) is such that we cannot conceive of it as a physical object or state, leaving scientific enquiry, as envisioned by  $S_{E1}$ , at a loss.<sup>87</sup>

This ties in with Thomas Nagel's analysis of the objective/subjective distinction he made in his article *What is it like to be a bat?*<sup>88</sup> The points he famously makes are that (I) we have little in common with a bat: the use of sonar alone creates a vastly different sensorial input in comparison to us; (II) even though we might have a full description of this creature's behavioural patterns, neurobiological and -physiological functioning, and etcetera, there is still one fundamental cluster of information missing: *what is it like to be a bat?*; (III) this is the essence of consciousness: there is a *what-it-is-like* aspect to being aware of oneself and the environment; (IV) no

objective, third-person account can substitute or even approximate the subjective, first person characteristics of consciousness:<sup>89</sup>

'I was standing today in the dark toolshed. The sun was shining outside and through the crack at the top of the door there came a sunbeam. From where I stood that beam of light, with the specks of dust floating in it, was the most striking thing in the place. Everything else was almost pitch-black. I was seeing the beam, not seeing things by it. Then I moved, so that the beam fell on my eyes. Instantly the whole previous picture vanished. I saw no toolshed, and (above all) no beam. Instead I saw, framed in the irregular cranny at the top of the door, green leaves moving on the branches of a tree outside and beyond that, 90 odd million miles away, the sun. Looking along the beam, and looking at the beam are very different experiences.'

This might all come down to an advancement-of-science question, or the apparent lack thereof, in understanding the human mind. As research in, say, neuroscience advances the issues raised here surely will be clarified within the confines of materialism. But as Edward Feser reminds us: science has shown that physical objects are composed of intrinsically colourless, tasteless, and odourless particles. Colours, tastes and odours, one way or the other exists only in the mind of the observer. That, however, is genuinely mysterious. How are these aspects related to the brain, which, like other material objects, is composed of nothing more than colourless, tasteless, and odourless particles?<sup>90</sup> Furthermore, science also informs us that the appearance of purpose in nature is an illusion. Strictly speaking, fins, for instance, do not have the purpose of propelling fish through the water, for they have in fact *no purpose at all*, being the products of the same meaningless and impersonal causal processes that are supposed to have brought about all complex phenomena, including organic phenomena. To be more precise, fins merely operate *as if* they had such a purpose, because the creatures that first developed them, e.g. as a result of some random genetic mutation, *just happened* thereby to have a competitive advantage



over those that did not. There was not design at all. But, if purposes were ‘mind-dependent’, and thus not truly present in the physical world at all but only projected on to it by us, then this makes that act of projection and the intentionality of which it is an instance, hard to explain in terms of processes occurring in the brain, which by default must be as brutally meaningless as and purposeless as are all other purely physical processes. In short, science has ‘explained’ the sensible qualities and meaning away. It hasn’t explained them at all. Any explanation has been relocated out of the physical realm and into the mental realm of an undefined quality. However, there they remain, forming a considerable bump under reality’s rug, and one that cannot be removed by further ‘scientific sweeping’.<sup>91</sup> The upshot of this argument is that mind –consciousness, intentionality and rationality– can’t possibly be exclusively material.<sup>92</sup> This conclusion is not in any way related to some ostensible lack of (scientific) knowledge, but the outcome of logical considerations.<sup>93</sup>


Another itemisation of the materialistic position is to categorise the brain as some kind of digital computer, on the face of it a fitting materialistic approximate of the brain’s structure and workings. John Searle, however, is not quite so sure if such an analogy works at all.<sup>94</sup> Searle emphasises that the key notions of the modern theory of computation –symbol manipulation, syntactical rules, information processing, and so on– are not definable in terms of the properties attributed to material systems by physical science. On the contrary, they are observer-relative, existing in a physical system only insofar as some interpreting mind attributes computational properties to it. Hence the very idea that the mind might be explained in terms of computation is fallacious:

- (I) computation involves symbol manipulation according to syntactical rules;
- (II) but syntax and symbols are not definable in terms of the physics of a system;
- (III) so computation is not intrinsic to the physics of a system (electronic wiring, arrangement of an abacus, and etcetera), but assigned to it by an observer;

(IV) so the brain cannot coherently be said to be intrinsically a digital computer.<sup>95</sup>

James Ross comes to a similar conclusion: ‘... The result is that such thought is never identical with any physical process or function. (Nor can it really be such a physical process or function either, though it may, for all we have said, have a material medium, like speech.)’<sup>96</sup> Again, all this has nothing to do with scientific ignorance. It simply identifies logical constraints on our understanding of relevant scientific facts. Obviously, any explanation in which God has a role to play (which will not be specified as such here) would, from a mechanistic point of view, be regarded as introducing mysteriousness, merely a marker for our ignorance.

If mysteriousness is the objection, then it begs the question as only mechanistic explanations are admitted *a priori*. What we usually are labelling ‘supernatural’ explanations are primarily intentional, teleological, or person explanations that cannot in principle be reduced to impersonal, mechanistic, or material explanations. Things will get mysterious if mechanistic approaches are allowed only; inadvertently, this would undermine the scientific enterprise itself.<sup>97</sup> Indeed, introducing mysteriousness in order to dismiss explanations beyond the material is mistaken, as it implicitly and erroneously offers the notion that matter, as the basis for our understanding of the whole of reality, could be, or in fact is, entirely transparent and in principal wholly open to our mental and physical understanding and manipulation. As Bas van Fraassen poignantly remarks: ‘There is a reason why metaphysics sounds so passé, so *vieux jeu* today: for intellectually challenging perplexities and paradoxes it has been surpassed by theoretical science. Do the concepts of the Trinity, the soul, haecceity, universals, prime matter, and potentiality baffle you? They pale beside the unimaginable otherness of closed space-time, event-horizons, EPR correlations, and bootstrap models. ...’<sup>98</sup> Galen Strawson reverses the whole perspective of mind and matter, albeit without really tackling the issues at stake, when he states that ‘we can never hope to understand how consciousness as we know it in everyday life relates to the brain considered as a lump of matter. But it doesn’t follow that consciousness is a mystery – except insofar



PASSION, LOVE, AND FAITH  
SUSTAIN THE METHOD  
OF SCIENCE A PRIORI,

**PROVIDING  
FOR THE HIGHER  
INTERESTS**

–SUMMARISED IN THE SEARCH  
FOR TRUTH– SCIENTISTS NEED  
TO EMBRACE TO ACTUALLY  
BECOME GOOD SCIENTISTS.

as everything is. ... This is the assumption that we have a pretty good understanding of the nature of matter –of matter in space– of the physical in general. It is only relative to this assumption that the existence of consciousness in a material world seems mystifying. For what exactly is puzzling about consciousness, once we put the assumption aside? We know just what it is like. Suppose you have an experience of redness, or pain, and consider it just as such. There doesn't seem to be any room for anything that could be called failure to understand what it is. You know what it is. It is not consciousness that is puzzling, then, but matter. What the existence of consciousness shows is that we have a profoundly inadequate grasp on the nature of matter. ...<sup>99</sup>

Rounding up, the fact that I can *recollect* all the required premises to build the argument as here presented underlines the absolute transparency of what it is to be conscious of reasoning and is in itself not testable scientifically. Unless we *believe in* our memories, that is have complete trust therein, we could never reason or do science at all, because in any inference we must remember our premises *en route* to the conclusion without hesitation. All activities we are engaged in presuppose knowledge based upon memory, and the possibility of access and trustworthiness once consciously retrieved is assumed *by definition*. But if  $S_{E1}$  is valid then we cannot know that we know this because such knowledge requires knowledge based upon conscious memory.<sup>100</sup>

$S_{E1}$  incorrigibly suffers from self-referential incoherence and thereby is self-refuting. This is easy to see when we revert to the second part of the question one needs to answer to explicate the validity of  $S_{E1}$ . We can only know that  $S_{E1}$  holds through the methods of science, as only *this* constitutes knowledge according to  $S_{E1}$ . However, that is impossible. No method in chemistry, physics or biology would apply.  $S_{E1}$  is simply not open to scientific scrutiny and will never become so regardless of the growing knowledge we will obtain through science. Again, this is not an argument from (scientific) ignorance.<sup>101</sup>

With scientism as a position outside of science, some kind of scientific fideism is introduced. Richard Lewontin's commentary on Carl Sagan's book *The Demon-Haunted World: Science as a Candle in the Dark*, quite candidly remarks that '[o]ur willingness to accept

scientific claims that are against common sense is the key to an understanding of the real struggle between science and the supernatural. We take the side of science in spite of the patent absurdity of some of its constructs, in spite of its failure to fulfil many of its extravagant promises of health and life, in spite of the tolerance of the scientific community for unsubstantiated just-so stories, because we have a prior commitment, a commitment to materialism. It is not that the methods and institutions of science somehow compel us to accept a material explanation of the phenomenal world, but, on the contrary, that we are forced by our *a priori* adherence to material causes to create an apparatus of investigation and a set of concepts that produce material explanations, no matter how counter-intuitive, no matter how mystifying to the uninitiated. Moreover, that materialism is absolute, for we cannot allow a Divine Foot in the door. The eminent Kant scholar Lewis Beck used to say that anyone who could believe in God could believe in anything. To appeal to an omnipotent deity is to allow that at any moment the regularities of nature may be ruptured, that miracles may happen.<sup>102</sup>

Padlocking one's convictions in the service of scientism, whereby honest self-criticism is barred, is unacceptable. This is the duplicity of circular rigidity, of *a priori* excluding everything apart from matter governed by physical laws. This will make the scientific and other endeavours vulnerable to a scepticism that ultimately denies our ability to discover and know at all. Science thus, in some measure, has caved in to the majority position both in- and outside the academia that only finds the materialistic stance acceptable. This acquiescence we will discuss anon.

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'... I'm not  
afraid to admit  
How much I  
hate myself'  
(*Sixpence None  
the Richer*)

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### Acceptability

Lewontin is adamant in his adherence to scientism, and is proud of its purported independence. However, this approach in science is far less autonomous than it seems. It is nourished by and caters for a culture that has become secular and precautionary throughout the 20<sup>th</sup> century. Science as the pervasive origin of many potential risks and uncertainties, such as the

much-feared man-made climate change, helped shape a response to ostensibly terminate that very same uncertainty: the pursuit, in science, of *acceptability*.<sup>103</sup>

Concisely put, the central truth requirement of a good argument or the aim to secure objective knowledge<sup>104</sup> is replaced by an acceptability requirement, and strongly relating argument appraisal to (global) audience adherence and context, in line with the growing scepticism of the latter part of the 20<sup>th</sup> century we discussed previously. The reason for this shift is straightforward: considering the innumerable unknowns that reality may possess and the uncertainties that the future may hold, science cannot secure objective knowledge. Concerning the future we are dealing with remote probabilities of certain negative consequences that might (or might not) materialise. As Furedi Frank concisely observes: 'The shift from probabilistic to possibilistic risk management characterizes contemporary cultural attitudes towards uncertainty. This shift in attitude is paralleled by the growing influence of the belief that future risks are not only unknown but are also unknowable. Scepticism about the capacity of knowledge to help manage risks has encouraged the dramatisation of uncertainty.'<sup>105</sup>

Uncertainty and its possibilistic counterpart thus call for democratic involvement.<sup>106</sup> Because of the many technological and scientific risks and uncertainties we are purportedly exposed to, particular directions in scientific and social inquiry, because of their ostensible positive social, political, and environmental outcomes, should be favoured.<sup>107</sup> Put differently, scientific inquiry, at the same time, should be explanatory, normative, practical and self-reflexive. An external authority that imposes its putatively objective standard is objectionable. Therefore, 'an argument is cogent for an audience if, according to standards that audience would deem on reflection to be relevant, the premises are acceptable and in the appropriate way sufficient to support the conclusion.'<sup>108</sup>

Ideally, the acceptability approach should empower people with capacities to reason critically and to assess sharply the conflicting (scientific) argumentations that play an important role in their lives.<sup>109</sup> The UK government's inquiry into the purported adverse

health effects of mobile phones for instance, concluded that in future 'non-peer reviewed papers and anecdotal evidence should be taken into account' as part of the process for reaching decisions on these matters.<sup>110</sup>

However, even if one were to agree, in a preliminary sense, with the acceptability approach as democratically laudable and worthy of effort, given the wide divergence of audiences and participants *not sharing* a common interest,<sup>111</sup> settling an argument's validity on the basis of acceptability of premises and acceptable inferential links embedded in a given value-based setting could, and most likely will, unjustifiably favour the stronger of the 'disputants' and place the weaker at a categorical disadvantage. Thus, if we are to expunge external authority (as previously hypostatized in the notion of God) that is thought to frustrate democratisation of discourse and thereby subverts the cause of justice, then the acceptability requirement re-imposes another, but hidden, external authority that it sought to eliminate in the first place.

Reverting to audiences and to their own standards of acceptance raises not only the spectre of relativism, but the more serious problem of allowing what intuitively seems impermissible when we look beyond the restricted interests of specific audiences. Are we committed to welcoming the statements of the racist when his like-minded audience approves of them? When an audience does not see the sleight of hand involved, or raises no objections, should we concede to the questionable reasoning of an arguer?

These questions point to a crucial problem: the point is itself implied by the reference to 'questionable reasoning', because to whom is it questionable? 'If we are prepared to extend to individual audiences carte blanche authority to set the standards of acceptability, then we fall prey to the vicissitudes of popularity ..., primarily in the form of *ad populum* arguments'.<sup>112</sup>

The tendency to suspend judgment about truth (*not* malleable to *our* wishes and demands) by lending primacy to the approach of acceptability, ironically re-establishes the very anti-democratic practices that this dialogue approach, as explained in the many governance initiatives, is thought to avoid.<sup>113</sup> Adherence to acceptability results in a pernicious relativism that renders it

duplicitous. Indeed, raising acceptable benchmarks, and strongly connecting argument appraisal with audience adherence and contexts, subverts the aim to secure objective knowledge. Within the context of risk and uncertainty, it is always possible to assume that a particular risk exists (conceived by a perhaps not too morbid imagination) and subsequently project more stringent policies, yet *impossible* to prove or assume that any and all possible risks are *absent*.<sup>114</sup> Thus, the search for acceptable levels of for instance toxicological exposure results in regulatory itineraries that persistently drive ever-increasing scientific research and additional and more stringent regulation. This development fuels the apprehensiveness of ‘doubt beyond reasonable proof’ licensing open-ended policy structures, resulting in a thrust to reduce personal freedom.<sup>115</sup> As Gilbert Hottois remarks:<sup>116</sup>

‘This argument postulates that once man has engaged in a direction that *might* lead to deep errors, he will no longer be able to stop or choose the good aspects and resist the bad. This argument is deeply antihumanist, for it supposes that individuals lose their capability to judge and decide freely, after reflection and deliberation, as soon as they have made one –fatal– step in a direction that might lead to evil. One may wonder what direction is perfectly ‘safe’ and ‘pure’ and what choice is totally free from ambiguities and ambivalent possible consequences. ... It is the belief in irresistible concatenations, entailing the negation of human freedom and of any positive contribution of rational analysis that leads the supporters of the ‘slippery slope’ argument to want to impose definitive and massive prohibitions. Such absolute prohibitions suppress, from the very beginning, freedom of choice (there is nothing left to distinguish or choose when one describes an issue or a field in a confused and amalgamating way), since this suppression of freedom is thought to be the only way to prevent future wrong uses of freedom.’

Here, scientism and the pursuit of acceptability unite. Both try to understand or mould reality according to human wishes and

demands. Both are utopian in their totality and harmony: scientism in its reductionist understanding of reality that conversely is regarded as all encompassing;<sup>117</sup> acceptability in its quest for democratic harmony, ironically opening the door to the ‘mischiefs of factions’.<sup>118</sup> Both carry a deep-seated totalitarian thrust that it searched to oust in the first place, whereby the lower interests –pride, reputation, wealth, power– might in the end dictate the higher interests –that is the search for truth– with which we started this chapter.<sup>119</sup> With the failure of scientism on the one hand and the flawed attempt to put forward acceptability as the discerning criterion on the other, we are left empty handed when considering the truth and the good about the reality we are immersed in. Perhaps, with the route now open to unearth some non-epistemic determinants of scientism and acceptability, we can get to a better position to scour the fields before us. The words of Nagel are appropriate here: ‘... for objectivity is both underrated and overrated, sometimes by the same persons. It is underrated by those who don’t regard it as a method of understanding the world as it is in itself. It is overrated by those who believe it can provide a complete view of the world on its own, replacing the subjective views from which it has developed. These errors are connected: they both stem from an insufficiently robust sense of reality and of its independence of any particular form of human understanding.’<sup>120</sup>

## REFLECTING ON EXISTENTIAL SCIENTISM – THEOLOGICAL PREAMBLES

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*‘There’s a light in  
the city, that comes  
down from above  
Leaving you as  
wise as a serpent,  
harmless as a dove*

Ernest Gellner sums up the scientific worldview and its credentials like no other in his *Postmodernism, Reason and Religion*: ‘... the laws to which this world is subject are symmetrical. This levels out the world, and thereby ‘disenchants’ it, .... no privileged facts, occasions, individuals, institutions or associations. In other words, no miracles, no divine interventions and conjuring performances ... no

*Don't blow your  
tomorrows,  
don't throw  
away your love  
You've got to be as  
wise as a serpent,  
harmless as a dove'  
(Gerry Rafferty)*

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saviours, no sacred churches or sacramental communities. All hypotheses are subject to scrutiny, all facts open to novel interpretations, and all facts subject to symmetrical laws which preclude the miraculous, the sacred occasion, the intrusion of the Other into the Mundane. ... The idea of a Message (or, indeed, a Messenger) declaring itself to be authoritative, final, and self-confirming, and hence demanding assent with menaces, is morally as well as intellectually unacceptable. ...<sup>121</sup> Gellner's proposal *a priori* excludes anything deific. The view that God does not (or cannot, or by predilection should not) exist is part and parcel of the scientific worldview.<sup>122</sup> But the objections Gellner raises cannot be scientific as defined in the experimental methods of, say, chemistry and physics. If scientism cannot be part of science, what then is its backdrop? Two non-epistemic determinants spring to mind: the success motive and the fear (hate?) of religion (God?). Jacques Monod agrees, albeit reluctantly, with the former: 'If it has commanded recognition, this is solely because of its prodigious powers of performance.'<sup>123</sup> Success, consequently, does force its presence, might indeed induce acceptance, yet *belief* in a scientific (naturalistic) worldview is entirely another matter. Michael Ruse alludes to this distinction when he states that 'a 'Darwinist religion', ..., does not have to be part of one's package.'<sup>124</sup> Christopher Martin points out that the element of divine punishment – as Jesus e.g. refers to in Luke 12 (verse 4 and 5) – gives non-epistemic support of the latter kind to the scientific myth; a form of wishful thinking driven by fear and/or aversion.<sup>125</sup> Nagel points to the fear-of-religion motive, when he states that '... this *cosmic authority problem* is not a rare condition and that it is responsible for much of the scientism and reductionism of our time. One of the tendencies it supports is the ludicrous overuse of evolutionary biology to explain everything about life, .... Darwin enabled modern secular culture to heave a great collective sigh of relief, by apparently providing a way to eliminate purpose, meaning, and design as fundamental features of the world. ...'<sup>126</sup> Here, Nagel hints at existential scientism  $S_{E2}$ , that is the view

that science alone can explain and replace religion and thereby answer relevant existential issues, which he regards as flawed.  $S_{E2}$  demands some concluding thoughts en route to the theological reflections we will put forward in the final part of this enquiry, as  $S_{E2}$  is in direct competition with any theological reflection, here or anywhere else. Theology moving outside the confines of its own field will be confronted with  $S_{E2}$ , whether implicitly or explicitly. Any scientific understanding and explanation of religion must centre on the Darwinian imperative, which says that rational people follow their biological nature and try to maximise fitness. Firstly individual fitness, secondly genetic fitness, and when necessary secure individual and genetic fitness through reciprocal behaviour.<sup>127</sup> Survivability stands at the centre of religion, which thus must be an illusory mechanism for that survivability.

For instance, Darwinian survival requires the brain of a child to trust parents and elders whom parents tell them to trust. The envisioned consequence thereof is that the 'truster' has no way of distinguishing good advice from bad. Baseless and arbitrary beliefs and injunctions are so handed down the generations, given a fair wind by the useful programmability of the young human brain.<sup>128</sup> Religious behaviour thus is hidden from the conscious mind, in order to be capable to subordinate immediate self-interests to the group.<sup>129</sup>

The idea of illusion seems central in the Darwinian setting here. It is used as means to reinterpret behaviour in order to make it consistent with the assumptions of Darwinism: 'our moral sentiments have lots of upsides, including a heartening plasticity. They can be deployed less self-servingly than they were "designed" to be deployed. Darwin himself often felt pangs of concern about the plight of slaves, even though there were none in England to reciprocate his empathy. And consider the flush of compassion we feel upon witnessing, via TV, famine that is a hemisphere away. When moved by such images to donate money or canned goods – the rough opposite of greed and gluttony – we are in some Darwinian sense "misusing" our equipment of reciprocal altruism; the equipment is being "fooled" by electronic technology into (unconsciously) thinking that the victims of famine are right next door and might someday reciprocate. But that doesn't diminish the act. Our capacity to



thus distort biological purpose, to prevail over our selfish heritage, is a deep source of hope and a glimmer of true goodness.<sup>130</sup>

A critique on this perspective is not hard to find, even if one would consider only the unfeasibility for science to corroborate such a proposal. As Robinson remarks: ‘The elaboration of this nonsensical machinery, whose function, I would suggest, is not the behavioral one of converting selfishness into generosity but the rhetorical one of converting generosity into selfishness, looks to me like anything but science. If behavior is genetically based, then the only insight one can have into the content of the genes that govern behavior is in manifest behavior, which, like it or not, includes generosity.’<sup>131</sup> In a sense, Robinson concurs with Nagel when considering the overuse of evolutionary biology to explain everything about life and alludes to the failing notion of the closure of the physical that William Hasker, among others, finds fundamentally wanting.<sup>132</sup>

Further, Christianity is a religion with a universal scope instead of a tribal one, in which existential flourishing is offered to those outside one’s immediate group, and even to its enemies.<sup>133</sup> Susan Neiman, in her book *Moral Clarity*, reverts to the Old Testament debate between Abraham and God concerning the destruction of Sodom and Gomorrah to show that universality is part already of the Old Testament: ‘Three things about Abraham’s action stir hearts like mine. One is his resolute universalism. *Abraham’s concern for the innocents of Sodom is not concern for his friends or his neighbours, it’s concern for innocents everywhere. The people of Sodom are abstract and nameless and still worth the risk of his life.* Another is his resoluteness, period. In his concern for innocent life he endangers his own. ... Abraham dares to remind the King of Kings that He’s about to trespass on moral law. The text makes plain that Abraham is scared. His words are neither proud nor wheedling, but the plea of a servant to a master who could extinguish him with a glance. ...’<sup>134</sup>

(What Neiman misses of course is that in this story of Abraham and God is the fact that God’s justice goes far beyond what Abraham offers. He was willing to give up on less than ten righteous people whereas God, who purportedly has to be bargained into protecting ten people, spares the actual righteous four in Sodom. So, *none* of the righteous suffers with the wicked.)<sup>135</sup>

But why would only adherents of  $S_{E2}$  be capable of discovering the true basis of religion that needs to be hidden from the conscious mind of anybody else?<sup>136</sup> Smart people, when the Darwinian imperative holds, would not be fooled into religion at all. And if *that* were the case, smart people would not be fooled into science as well. Science would befall the same fate as religion. As science is as much a product of evolution as religion, any scientific expansion into the field of religion is not driven by scientific evidence, but by the Darwinian imperative. As Greene remarks:<sup>137</sup>

‘... In a Darwinian world, reason is of no importance except as an instrument of survival and reproduction, an instrument by means of which the human species has multiplied and achieved dominion over other living beings, only to find its dominion menaced by the very faculty that made it possible. But do scientist really believe that science is valuable only as a means of survival? They do not. The ethos which has guided and inspired science from the Greeks onward is grounded in the conviction that knowledge is valuable for its own sake, that truth ought to be pursued and proclaimed, come what may. The heroes of science are persons like Copernicus and Galileo and Darwin who clung to their vision of truth despite the opposition of popular opinion and the powers that be. But these value judgments make no sense in a world where survival and reproduction are the only criteria of value. ...’

Stenmark, with a keen sense of irony, notes that the scientists who most visibly defend and expound the Darwinian perspective on religion (but also ethics and morality) do so *not* because of compelling scientific evidence but because they are, as everybody else by Darwinian implication, driven by the Darwinian imperative.<sup>138</sup>  $S_{E2}$  thus suffers, as does  $S_{E1}$ , from self-referential incoherence.<sup>139</sup>

Scientific rationality and knowledge as such simply do not go deep enough: ‘Reason and justice grip the remotest and the loneliest star. Look at those stars. Don’t they look as if they were single diamonds and sapphires? Well, you can imagine any mad

botany or geology you please. Think of forests of adamant with leaves of brilliants. Think the moon is a blue moon, a single elephantine sapphire. But don't fancy that all that frantic astronomy would make the smallest difference to the reason and justice of conduct. On plains of opal, under cliffs cut out of pearl, you would still find a notice-board, "Thou shalt not steal."<sup>140</sup>

Scientism exacerbates the conundrum by tacitly stating that there is no depth to this world at all, whereby science is inadvertently and counter-intuitively destroyed in the process. What is cut out in the scientific worldview is that knowing, and the search for knowledge, is a risky business driven by commitment to this knowing, requiring ultimately the act of believing that there is something to be found in reality that can be discovered by our faculties of reason. Yet, reason itself has fallen prey to the scientific worldview as well.

Passion, love, and faith sustain the method of science *a priori*, providing for the higher interests scientists need to embrace to actually become good scientists. Terry Eagleton is on target when he remarks that: 'Clinical cold-eyed realism ... demands all manner of virtues – openness to being wrong, selflessness, humility, generosity of spirit, hard labor, tenacity, a readiness to collaborate, conscientious judgment, and the like; and for Aquinas, all virtues have their source in love. Love is the ultimate form of soberly disenchanting realism, which is why it is the twin of truth. ...'<sup>141</sup>

Therefore, reflections of the kind we will develop in the final part of this enquiry will be able to stand on its own feet, that is without the scientific fiat. In the final analysis, the scientific myth idolises science, belittles philosophy and religion, and panders to Western culture's proclivity for regarding science and technology as the patrons of indefinite progress toward some obscure but always glorious future paradise, usually of the utopian kind.<sup>142</sup>

## ACCOMPLISHMENTS AND PROSPECTS

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*'Well I heard there  
was a secret chord  
That David played,  
and it pleased  
the Lord  
But you don't  
really care for  
music, do you?'*  
(Jeff Buckley)

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What we have seen in this chapter is we need commitment and faith in order to reason and gather knowledge at all, which cannot and will never be reducible to reason alone. There is no discovery in science without the fervent aspiration to know and a profound *a priori* belief that there is something to know. Polanyi explains that this requires a strong moral conscience we cannot do without, regardless of Russell's admonition to leave a stupider age behind us: 'This then is our liberation from objectivism: to realize that we can voice our ultimate convictions only from within our convictions—from within the whole system of acceptances that are logically prior to any particular assertion of our own, prior to the holding of any particular piece of knowledge. If an ultimate logical level is to be attained and made explicit, this must be a declaration of my personal beliefs.'<sup>143</sup>

A surprising part of scientism is to all intents and purposes the attempt to circumvent the noetic (intellectual) effects of sin. Of course, sin in the scientific perspective is the baseless and arbitrary beliefs and commands so handed down the generations, given a fair wind by the useful programmability of the young human brain of pre-history. Sin thus is ignorance. Scientism is both a modern (positivistic) and ancient gnostic attempt to locate the totality of life's experiences solely in the mechanistic scientific endeavour that has been so successful. The former needs to embrace this totality; the latter needs to flee there from.

The residual evolutionary baseless and arbitrary beliefs can only be purged by knowledge generated by science in order to progress into an enlightened future: 'Science flings open the narrow window through which we are accustomed to viewing the spectrum of possibilities. We are liberated by calculation and reason to visit the regions of possibility that had once seemed out of bounds or inhabited by dragons ...'<sup>144</sup> And 'values derive from human needs and desires, not supernatural absolutes. Basic human values are widely shared by virtue of

being rooted in our common evolved nature. We need not appeal to a supernatural standard of ethical conduct to know that in general it's wrong to lie, cheat, steal, rape, murder, torture, or otherwise treat people in ways we'd rather not be treated. Our naturally endowed empathetic concern for others and our hard-wired penchant for cooperation and reciprocity get us what we most want as social creatures: to flourish as individuals within a community. ...<sup>145</sup> Small wonder then that not in a few instances most scientism-enthusiasts remain silent about the murky sides of science, the moral depravity humans fall prey to, from which science will not and cannot save. Stanley Kubrick's film *Dr. Strangelove or: How I Learned to Stop Worrying and Love the Bomb* (1964) expresses in a highly satirical manner the darkest side of human ingenuity and depravity: nuclear weaponry. The doomsday-machine features prominently in Kubrick's dystopia. It was proposed by Kahn, on whom the character of the ex-Nazi scientist dr. Strangelove is partly based and played to great theatrical and comical effect by Peter Sellers, as a means to assure mutual destruction (MAD).<sup>146</sup> These are not the elements of the condition of man that fill the scientism-enthusiasts with pride, endlessly trumpeting man's progress from the dark age of belief to the enlightenment of reason. Mature, self-reliant, rational human beings are quite capable of obliterating the planet themselves, not requiring any deity that would do the job for us. Although Steven Weinberg observes that no war was ever waged for a scientific aim, the perversion of science has been invoked to justify horrors such as the Holocaust.<sup>147</sup> Robinson points out that eugenics is science as much as totemism is religion. That both are in error is beside the point. Science quite appropriately acknowledges that error should be assumed, and at best it proceeds by a continuous process of criticism meant to isolate and identify error. So, bad science is still science in more or less the same sense that bad religion is still religion. That both of them can do damage on a massive scale is clear. The prestige of both is a great part of the problem, and in the modern period the credibility of anything called science is enormous. As the history of eugenics proves, science at the highest levels is no reliable corrective to the influence of cultural prejudice but is in fact profoundly vulnerable to it.<sup>148</sup>

The second issue we discussed deals with the pursuit of acceptability that has gained intellectual ground in the past 40 or so years. Good will, however necessary, is not sufficient to dispel the threat of relativism or to settle disputes. A worldly discourse that is literally designed for everyone simply does not exist, and more problematically, it discards the notion of truth independent of us. Harmony in this sense is an illusion, and a dangerous one to boot. Without any tangible evidence to truth and no aspiration to pursue this truth, acceptability would collapse under the weight of the will to power.<sup>149</sup> As a result, the 'infinite Universe of the New Cosmology, infinite in Duration as well as in Extension, in which eternal matter in accordance with eternal and necessary laws moves endlessly and aimlessly in eternal space, inherited all the ontological attributes of Divinity. Yet only those – all the others the departed God took away with Him.'<sup>150</sup>

The final part of this enquiry will bolster an argument that shows that God did not and has not departed from this world. Quite the contrary, we will see that His intimate involvement through Jesus is the founding principle of the reality we all inhabit.

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- <sup>2</sup> Lakatos, I., Musgrave, A. (eds.) 1970. *Criticism and the Growth of Knowledge*. Cambridge University Press, Cambridge, London, p. 92.
- <sup>3</sup> Goldstein, R. 2005. *Incompleteness. The Proof and Paradox of Kurt Gödel*. W.W. Norton & Company, New York, London, p. 28 – 29; p. 47; p. 66. Here, I will reiterate other’s understanding of his accomplishments. Gödel’s two incompleteness theorems (for which he became most famous and ‘earned’ him the title the second Aristotle) are: in any formal system adequate for number theory there exists an undecidable formula –that is, a formula that is not provable, and whose negation is not provable (Gödel’s first theorem). Even if we know that the statement is true, the system cannot prove it. This means the system is incomplete. The upshot of the first theorem is that the consistency of a formal system adequate for number theory cannot be proved within the system (Gödel’s second theorem). Overall, Gödel showed that *provability* is a weaker notion than *truth*, no matter what axiomatic system is involved (Hofstadter, D.R. 1979. *Gödel, Escher, Bach; an Eternal Golden Braid*. Vintage, New York). Rucker gives a humorous summation of Gödel’s incompleteness theorem (Rucker, R. 2005. *Infinity and the Mind. The Science and the Philosophy of the Infinite*. Princeton University Press, Princeton, p. 162):
1. ‘Someone introduces Gödel to UTM, a machine that is supposed to be a Universal Truth Machine, capable of correctly answering any questions at all.
  2. Gödel asks for the program and circuit diagrams of the UTM. The program may be complicated, but it can only be finitely long. Call the program *P(UTM)* for Program of the Universal Truth Machine.
  3. Smiling a little, Gödel writes out the following sentence: “The machine constructed on the basis of the program *P(UTM)* will never say this sentence is true.” Call this sentence *G* for Gödel. *Note that G is equivalent to “UTM will never say G is true.”*
  4. Now Gödel laughs his high laugh and asks UTM whether *G* is true or not.
  5. If UTM says *G* is true, then “UTM will never say *G* is true” is false. If “UTM will never say *G* is true” is false, then *G* is false (since  $G = \text{“UTM will never say } G \text{ is true.”}$ ) So if UTM says that *G* is true, then *G* is in fact false, and UTM has made a false statement. So UTM will never say that *G* is true, since UTM makes only true statements.
6. We have established that UTM will never say *G* is true. So “UTM will never say *G* is true” is in fact a true sentence. So *G* is true (since  $G = \text{“UTM will never say } G \text{ is true.”}$ ).
7. “I know a truth UTM never can utter,” Gödel says. “I know that *G* is true. UTM is not truly universal.”
- Gödel did in fact work on the ontological proof of God’s existence, which he thought was valid. See on the ontological proof Oppy, G. 1996. Gödelian ontological arguments. *Analysis* 56(4): 226 – 230.
- Gettings, M. 1999. Gödel’s ontological argument: a reply to Oppy. *Analysis* 59(4): 309 – 313.
- See in relation to issues of theology and religion Gierer, A. 1997. Gödel meets Carnap: A Prototypical Discourse on Science and Religion. *Zygon* 32(2): 207 – 217.
- <sup>4</sup> Wang, H. 1996. *A Logical Journey: From Gödel to Philosophy*. The MIT Press, Cambridge, Massachusetts, p. 226.
- <sup>5</sup> Wang, note 4, p. 316.
- <sup>6</sup> Yourgrau, P. 2005. *A World Without Time. The Forgotten Legacy of Gödel and Einstein*. Basic Books, Cambridge, p. 104 – 105.
- This aspect –the realism – anti-realism debate- goes beyond this thesis. Nevertheless, some aspects thereof will be addressed at a later stage.
- <sup>7</sup> Barrow, J.D., Tipler, F.J. 1988. *The Anthropic Cosmological Principle*. Oxford University Press, Oxford, p. 15.
- <sup>8</sup> Muir, H. 2008. Let Science Rule: the Rational Way to Run Societies. *New Scientist* 198(2657): 40 – 43.
- <sup>9</sup> Jones, W.E. 2003. Is Scientific Theory-Commitment Doxastic or Practical. *Synthese* 137: 325 – 344.
- <sup>10</sup> Russell, B. 2009. *The Scientific Outlook*. Routledge Classics, p. 70.
- <sup>11</sup> Polanyi, M. 1958. *Personal Knowledge. Towards a Post-Critical Philosophy*. Routledge, London, p. 66 – 67.
- <sup>12</sup> Zagzebski, L. 2009. *On epistemology*. Wadsworth Cengage Learning, United States, p. 1.
- <sup>13</sup> Pólya, G. 1988. *How to Solve It: A New Aspect of Mathematical Method*. Princeton University Press, Princeton, p. 93.
- <sup>14</sup> Polanyi, M. 1946. *Science, Faith, and Society*. Chicago University Press, Chicago.

- <sup>15</sup> Van Holten, W. 2003. *Explanation within the Bounds of Religion*. Peter Lang, Frankfurt am Main, p. 102.
- Although Van Holten mentions the distinction between religious faith and science respectively in terms of salvation and truth, this dissimilarity is not as clear-cut as it would seem.
- <sup>16</sup> The difference between dogmatism and (full) commitment is straightforward albeit seldom touched on properly. Dogmatism links a certain belief in a state of affairs with the attitude that nothing can count as counter-evidence to that belief. The belief is therefore impervious to fresh evidence that can be regarded as counter to the belief held. Full commitment to a certain belief is sensitive to new evidence, which might attenuate or indeed change the held belief. Parenthetically, for reasons of cognitive economy, (full) commitment to certain beliefs or theories is a much more efficient and workable approach than the principle of tentativity. To be sure, dogma, as understood as ‘that which one thinks is true’ (from the Greek) is hardly problematical.
- Stenmark, M. 2004. *How to Relate Science and Religion. A Multidimensional Model*. Wm. B. Eerdmans Publishing Co., Cambridge, p. 106 – 115.
- <sup>17</sup> Stenmark, M. 1995. *Rationality in Science, Religion, and Everyday Life. A Critical Evaluation of Four Models of Rationality*. University of Notre Dame Press, Notre Dame, Indiana.
- Other ‘rule-following’ principles can be mentioned: the verification principle – a statement has cognitive meaning if and only if it is either analytical or empirically verifiable; the falsification principle – a statement has cognitive meaning if and only if it is either analytical or if it is possible, beforehand, to say in which situation it is empirically falsifiable.
- <sup>18</sup> Obviously, the fact/value distinction goes further than here discussed. For a thoroughgoing critique see Martin, C. 2004. *The Fact/Value Distinction*. In: Oderberg, D.S., Chappell, T. *Human Values. New Essays on Ethics and Natural Law*. Palgrave Macmillan, Hampshire, New York, p. 52 – 69.
- <sup>19</sup> See [http://www.2think.org/Richard\\_Dawkins\\_Is\\_Science\\_A\\_Religion.shtml](http://www.2think.org/Richard_Dawkins_Is_Science_A_Religion.shtml) (last accessed on the 15th of November 2014).
- <sup>20</sup> Hitchens, C. 2007. *God is not Great: How Religion Poisons Everything*. Twelve Hachette Book Group, New York, p. 5.
- <sup>21</sup> Polanyi, M. 1959. *The Study of Man*. The University of Chicago Press, Chicago, p. 18.
- <sup>22</sup> Taylor, C. 2007. *A Secular Age*. The Belknap Press of Harvard University

Press, Cambridge, p. 835.

- <sup>23</sup> Polanyi, note 21, p. 19, 18.
- <sup>24</sup> Kuhn, T.S. 1970. *The Structure of Scientific Revolutions*. The University of Chicago Press, Chicago.
- See for initial work on the sociology of knowledge Fleck, L. 1935. *Entstehung und Entwicklung einer wissenschaftlichen Tatsache: Einführung in die Lehre vom Denkstil und Denkkollektiv*. Benno Schwabe & C., Basel, Switzerland.
- <sup>25</sup> Midgley, M. 1992. *Science as Salvation. A Modern Myth and its Meaning*. Routledge, London, p. 22.
- <sup>26</sup> Newton-Smith, W.H. 1981. *The Rationality of Science*. Routledge, London, New York, p. 75.
- <sup>27</sup> Stenmark, note 17, p. 136 – 139.
- <sup>28</sup> Kuhn refers to this tension as ‘divergence’ (critical thinking, tentativity, and the like) and ‘convergence’ (e.g. acceptance of majority perspectives). Moreover, Popper presented his falsification principle in a limited fashion; one cannot try to continuously and at all occasions falsify any and all theses on which science builds progressively.
- See also Polanyi, M. 1963. The Potential Theory of Adsorption. Authority in Science has its Uses and its Dangers. *Science* **141**: 1010 – 1013.
- <sup>29</sup> Pertaining to beliefs (thoughts, judgments, opinions, desires, wishes, fears).
- <sup>30</sup> Larry Laudan in his *Progress and Its Problems. Towards a Theory of Scientific Growth*. (1977, University of California Press, Berkeley) makes the distinction between *acceptance* and *pursuit* when he discusses his research traditions, which are ‘... a set of general assumptions about the entities and processes in a domain of study, and about the appropriate methods to be used for investigating the problems and constructing the theories in that domain.’ (p. 81; italics in original)
- He states in relation to the context of acceptance that ‘scientists often choose to accept one among a group of competing theories and research traditions, i.e., *to treat it as if it were true. [T]he choice of one tradition over its rivals is a progressive (and thus a rational) choice precisely to the extent that the chosen tradition is a better problem solver than its rivals.*’ (p. 108 – 109; italics in original) Conversely, in the context of pursuit ‘*scientists can have good reasons for working on theories that they would not accept. ... Putting the point generally, we can say that it is always rational to pursue any research tradition which has a higher rate of progress than its rivals* (even if the former has a

lower problem-solving effectiveness).’ (p. 110 – 111; italics in original)  
Laudan has given us a workable framework of rational choice in science, of which the pursuit of a scientific idea that nevertheless seems implausible is quite helpful. However, it seems that acceptance as he frames it is perhaps ‘too rational’. As a scientist, keeping one’s distance from the work one in fact does seems a too casual description of what scientists need to do and believe in order to further their research.

Bas van Fraassen, in his book *The Scientific Image* (1980, Clarendon Press, Oxford), sees ‘empirical adequacy’ as the best practical approximation of what scientific theories encapsulate. An empirically adequate theory *might also* describe the hidden structure of reality, that is actually be true with respect to the part of reality the theory is concerned about, but whether or not that is in fact the case is of no real concern to science: ‘For to say that someone is immersed in theory, ‘living in the theory’s world’, is not to describe his epistemic commitment. And if he describes his own epistemic commitment, he is stepping back for a moment, saying something like: the theory entails that electrons exist, *and* not all theories do, *and* my epistemic attitude towards this theory is *X*. We cannot revert to an earlier world-picture, because so many experimental findings cannot be accommodated in the science of an earlier time. This is not an argument for the truth of the present world-picture, but for its empirical adequacy. ...’ (p. 82)

<sup>31</sup> Jones, note 9.

<sup>32</sup> Jones, note 9.

*Encyclopaedia Britannica* defines scientism *firstly* as ‘the methods and attitudes typical of or attributed to the natural scientist’. *Secondly* it defines scientism as ‘an exaggerated trust in the efficacy of the methods of natural science applied to all areas of investigation’.

The *American Heritage Dictionary of the English Language* (4<sup>th</sup> edition) defines scientism as ‘the belief that the investigative methods of the physical sciences are applicable or justifiable in all fields of inquiry’. Interestingly enough, scientism is also defined *firstly* as ‘the collection of attitudes and practices considered typical of scientists’ as does the *Encyclopaedia Britannica*.

<sup>33</sup> Jones, note 9.

To elaborate a bit on this, the Constraint does *not* say that one must have an epistemically rationalising explanation for any of one’s beliefs, but rather that *if* one does have an explanation, it must be an epistemically

rationalising one if one is to retain the belief being explained. Furthermore, it does not entail that *no one else* can see the belief as dependent upon non-truth-related aims.

<sup>34</sup> Williams, B. 1973. *Deciding to believe*. In: *Problems of the Self*. Cambridge University Press, Cambridge, p. 136 – 151.

Williams discusses the example of a man who has heard that his son died at sea. The evidence for that is strong but not conclusive. Obviously, the man *wants to believe* that his son is alive, which means that his *belief* about his son equates with the statement that in reality ‘he wants his son to be alive’. This is what Williams calls the truth-centred motive of belief: ‘wanting to believe’ signifies ‘wanting it to be the case’. A non-truth-centred motive would be to avoid the pain of loss by means of believing that the son is alive despite the reality of his death. Attaining the belief that his son is alive –for instance through hypnosis or drugs– as a wilful project is, however, an incoherent and irrational strategy.

Funkhouser argues that believers can quite consciously disregard the demand for truth-conducive reasons and evidence. As an example he portrays an individual devoted to Christianity as an exclusive path to eternal life. This Christian also learned that were he to have been raised in an Arabic country, he would probably have sincerely believed that Islam provides the only path to eternal life. So, his Christian beliefs are accidental (relative to his birthplace). Our Christian can moreover recognise the ancestry of his belief, yet retains it nonetheless. He either judges that standards he accepts in other domains (e.g., scientific ones) do not apply here or simply discounts their verdict. Belief-segregation of actual believers seems therefore a distinct reality. (Funkhouser, E. 2003. Willing Belief and the Norm of Truth. *Philosophical Studies* 115: 179 – 195).

This, however, does not seem a very credible approach when regarding practical arguments (place of birth, ancestry of belief) in favour of held beliefs as dominant. Practical arguments can only work as a derivative of the truth. Recognising derivative practical arguments –my Christian belief is most certainly related to my ancestry– does not detract from the fact that I genuinely believe the truth of the Gospel. When truth is not on the table *at all*, then a mere practical approach of my held beliefs will be regarded by myself, and most certainly by others, as irrational or even ludicrous. The truth-centred motive of belief is underscored by Stenmark’s discussion on theological pragmatism (Stenmark, M. 2000. Theological Pragmatism: A



Critical Evaluation. *The Heythrop Journal* 41: 187 – 198).

See for a critical reflection on different aspects of non-doxastic religious commitment Radcliffe, D.M. 1995. Nondoxastic faith: Audi on religious commitment. *International Journal for Philosophy of Religion* 37: 73 – 86.

See further Jones, W.E. 2002. Explaining Our Own Beliefs: Non-Epistemic Believing and Doxastic Instability. *Philosophical Studies* 111: 217 – 249.

Alston, W.P. 2005. *Beyond "Justification"*. *Dimensions of Epistemic Evaluation*. Cornell University Press, Ithaca, especially chapter 4.

<sup>35</sup> Jones, note 9.

<sup>36</sup> Mavrodes, G.I. 1970. *Belief in God. A Study in the Epistemology of Religion*. University Press of America, Washington DC.

<sup>37</sup> Jones, note 9.

<sup>38</sup> Dennett, D. 1995. *Darwin's Dangerous Idea: Evolution and the Meanings of Life*. Simon & Schuster, New York, p. 40.

<sup>39</sup> Robinson, M. 1998. *The Death of Adam. Essays on Modern Thought*. Picador, New York, p. 41.

<sup>40</sup> Greene, J.C. 1999. *Debating Darwin: Adventures of a Scholar*. Regina Books, Claremont, p. 217.

<sup>41</sup> See for interesting and illuminating discussion on the material impact of science on society in relation to the introduction of the water tap Van den Brink, G. 2004. *Een Publieke Zaak. Theologie tussen Geloof en Wetenschap*. Uitgeverij Boekencentrum, Zoetermeer. [A Public Matter. *Theology between Religion and Science*.]

<sup>42</sup> Pearson, K. 2007. *The Grammar of Science*. Cosimo, New York, p. 77.

<sup>43</sup> Raffensperger, C. Tickner, J. (eds.) 1999. *Protecting Public Health and the Environment: Implementing the Precautionary Principle*. Washington DC: Island Press, p. 1.

<sup>44</sup> See e.g. Ravetz, J., Funtowicz, S. 1999. Post-Normal Science – an insight now maturing. *Futures* 31: 641 – 646.

Funtowicz, S. Ravetz, J. 1999. *Post-Normal Science. Environmental Policy under Conditions of Complexity*. See at [www.jvds.nl/pns/pns.htm](http://www.jvds.nl/pns/pns.htm) (last accessed on the 15th of November 2014).

Westra, L. 1997. Post-normal Science, the Precautionary Principle and the Ethics of Integrity. *Foundations of Science* 2: 237 – 262.

See for an interesting discussion Hacking, I. 1999. *The social construction of what?* Harvard University Press, Cambridge.

<sup>45</sup> See e.g. Unger, R.M. (1975) *Knowledge & Politics*. The Free Press, New York.

<sup>46</sup> Polanyi, note 11.

<sup>47</sup> See on this discussion Ravetz and Funtowicz, note 44.

Ravetz, J.R. 1999. What is Post-Normal Science. *Futures* 31: 647 – 653.

<sup>48</sup> Williams, B. 2002. *Truth & Truthfulness: An Essay in Genealogy*. Princeton University Press, Princeton.

See also Foucault, M. *Truth and Power*. In: Lynch, M.P. (ed.) 2001. *The Nature of Truth. Classic and Contemporary Perspectives*. The MIT Press, Cambridge, Massachusetts, p. 317 – 319.

<sup>49</sup> Hanekamp, J.C., Verstegen, S.W., Vera-Navas, G. 2005. The historical roots of precautionary thinking. *Journal of Risk Research* 8(4): 295 – 310.

<sup>50</sup> Latour, B. 1993. *We Have Never Been Modern*. Harvard University Press, Cambridge, p. 1.

<sup>51</sup> Raffensperger and Tickner, note 43.

<sup>52</sup> Hanekamp, et al., note 49.

<sup>53</sup> Grübler, A. 1998. *Technology and Global Change*. Cambridge University Press, Cambridge.

<sup>54</sup> Rayner, S. 2006. What drives environmental policy? *Global Environmental Change* 16: 4 – 6. Italics added.

<sup>55</sup> Rayner, S. 2003. Democracy in the age of assessment: reflections on the roles of expertise and democracy in public-sector decision making. *Science and Public Policy* 30(3): 163 – 170.

<sup>56</sup> Furedi, F. Politicising Science. *Spiked Online*. Available at [www.spiked-online.com/index.php?/site/article/4275/](http://www.spiked-online.com/index.php?/site/article/4275/) (last accessed on the 15th of November 2014).

<sup>57</sup> Smedes, T. 2004. *Chaos, Complexity, and God. Divine Action and Scientism*. Studies in Philosophical Theology 26. Peeters, Leuven, Belgium.

<sup>58</sup> See e.g. Popper, K.R. 1957. *The poverty of historicism*. Routledge, London. See further Jovarsky, D. 1970. *The Lysenko Affair*. The University of Chicago Press, Chicago.

<sup>59</sup> Ghamari-Tabrizi, S. 2005. *The Worlds of Herman Kahn. The Intuitive Science of Thermonuclear War*. Harvard University Press, Cambridge, Massachusetts.

See further Hanekamp, J.C. 2009. Neither Acceptable nor Certain – Cold War Antics for the 21<sup>st</sup> Century Precautionary Culture. *Erasmus Law Review* 2(2): 221 – 257.

<sup>60</sup> Kahn, H. 2007. *On Thermonuclear War*. Transaction Publishers, New Jersey. (Original publication 1960.)

Kahn for instance proposed a post-nuclear war food classification system based on the amount of Sr<sup>90</sup> contamination, a major radioactive isotope of nuclear detonations. Five grades were proposed –A, B, C, D, E– denoting increasing contamination (Kahn, p. 66 – 68). A-food with the lowest contamination would be reserved for children and pregnant women. B-food would be high-priced food available to everyone; C-food would be low-priced food available to everyone. People over the age of 40 or 50 should only be allowed to consume D-food. E-food, produce with the highest contamination, should only be given to food-animals as long as contamination of the final food-products remains within toxicologically acceptable bounds.

Another issue was how to shield the U.S. populace from nuclear blasts during the nuclear exchange itself. His solution was ‘simply’ to go underground. Factories could be erected in mineshafts; food for at least three years could be stored underground. More specifically, New Yorkers could retreat to the subway tunnels and sewers and utility strata beneath Manhattan Island in which shelters could be constructed for long-term occupation. It was estimated that in the U.S. in the mid 1950s roughly 70 million square meters was available for civil defence construction.

Kahn, H. 1959. *Some specific suggestions for achieving early non-military defense capabilities and initiating long-range programs*. RAND Corporation.

<sup>61</sup> Ghamari-Tabrizi, note 59, p. 1 – 3. Italics added.

<sup>62</sup> See e.g. Trenberth, K.E., Fasullo, J.T. 2013. An apparent hiatus in global warming? *Earth's Future* 1: 19 – 32.

<sup>63</sup> Intergovernmental Panel on Climate Change (IPCC). 2013. *Climate Change 2013: The Physical Science Basis. Working Group I Contribution to the Fifth Assessment Report of the IPCC*. Cambridge University Press, Cambridge.

The IPCC states that an ‘analysis of the full suite of CMIP5 historical simulations ... reveals that 111 out of 114 realizations show a GMST trend over 1998–2012 that is higher than the entire HadCRUT4 trend ensemble .... This difference between simulated and observed trends could be caused by some combination of (a) internal climate variability, (b) missing or incorrect radiative forcing and (c) model response error. These potential sources of the difference, which are not mutually exclusive, are assessed below, as is the cause of the observed GMST trend hiatus. ...’ (p. 769)

See further <http://www.remss.com/measurements/upper-air-temperature> (last accessed on the 15th of November 2014).

<sup>64</sup> Modified from <http://wmbriggs.com/blog/?p=14313> (last accessed on the 15th of November 2014).

<sup>65</sup> Monbiot, G. 2006. *Heat: How to Stop the Planet Burning*. Allen Lane, London.

<sup>66</sup> Mokdad, A.H., Bowman, B.A., Ford, E.S., Vinicor, F., Marks, J.S., Koplan, J.P. 2001. The Continuing Epidemics of Obesity and Diabetes in the United States. *Journal of the American Medical Association* 286(10): 1195 – 1200.

<sup>67</sup> Grundy, S.M., Cleeman, J.I., Bairy Merz, C.N., Brewer Jr., H.B., Clark, L.T., Hunninghake, D.B., Pasternak, R.C., Smith Jr., S.C., Stone, N.J.

2004. Implications of Recent Clinical Trials for the National Cholesterol Education Program Adult Treatment Panel III Guidelines. *Circulation* 110: 227 – 239.

<sup>68</sup> See <http://risingtide.org.uk/resources/factsheets/climatechange> (last accessed on the 15th of November 2014). Italics added.

<sup>69</sup> *Cosmos: A SpaceTime Odyssey*. 2014. Episode 2: *Some of the Things That Molecules Do*.

<sup>70</sup> Sale, K. 2000. Again, the Savage Indian. *Ecologist* 30(4): 52.

<sup>71</sup> Smith Churchland, P. 1989. *Neurophilosophy: Toward a Unified Science of the Mind-Brain*. The MIT Press, Cambridge, Massachusetts, p.69.

<sup>72</sup> Ewald, F. 2002. *The Return of Descartes's Malicious Demon: An Outline of a Philosophy of Precaution*. In: Baker, T., Simon, J. (eds.) *Embracing Risk. The Changing Culture of Insurance and Responsibility*. The University of Chicago Press, Chicago, p. 289.

I gratefully acknowledge Tobias Arnoldussen for supplying this reference.

<sup>73</sup> Based on Stenmark, M. 2001. *Scientism. Science, Ethics and Religion*. Ashgate Publishing Limited, Aldershot, England.

I am very much indebted to his sophisticated and original treatise of scientism.

<sup>74</sup> Stenmark, note 73.

<sup>75</sup> Stenmark, note 73, p. 24.

<sup>76</sup> See [www.naturalism.org/tenetsof.htm](http://www.naturalism.org/tenetsof.htm) (last accessed on the 15th of November 2014). Italics added.

The terms naturalism, materialism and physicalism are sometimes understood as interchangeable. Naturalism, roughly, is the view that the natural world is all there is. Whatever takes place in the universe takes place through natural processes. Causes outside the natural processes are excluded (as non-existent). Materialism or physicalism is the most adhered to naturalistic position. Materialism holds that matter forms the basic material of the universe; physicalism holds that matter is best understood

(albeit incomplete) by the physical sciences. Roughly, a worldview is regarded as naturalistic if it hypothesises a closed basic level of analysis to which all other levels have characteristics in virtue of that basic level.

<sup>77</sup> Stenmark, note 73.

<sup>78</sup> See Polanyi, note 11, p. 99 and p. 92. Polanyi formulates his thesis as follows: 'I shall take as my clue for this investigation the well-known fact that the aim of a skilful performance is achieved by the observance of a set of rules which are not known as such to the person following them.' (p. 51).

Joel Mokyr makes good use of the concept of tacit knowledge in explaining the fact that even scientific knowledge in the public domain needs to be found, interpreted by specialists, and reprocessed for actual use. All these steps, so as to make codified knowledge utilisable, require tacit knowledge of specialists. Scientific investigations are in considerable part dependent on tacit knowledge; that is for instance the skill of the scientific investigator.

During my chemistry PhD, my professor (prof. Dr. L. Brandsma) always emphasised the importance of tacit (in this case *laboratory*) knowledge and its effects on the outcome of synthetic organic chemistry experiments. Skills and traditions that have formed in his laboratory and which we utilised extensively, we were made aware of time and again. It was impressed on us to try (as far as it goes) to describe this knowledge as this is crucial in conveying the specifics of a certain practical synthetic chemistry procedures, which should be reproducible by other chemical experts not part of the laboratory culture in which the chemical syntheses were originally performed.

Mokyr, J. 2002. *The Gifts of Athena. Historical Origins of the Knowledge Economy*. Princeton University Press, Princeton.

<sup>79</sup> Chalmers, A. 1990. *Science and Its Fabrication*. University of Minnesota Press, Minneapolis, p. 25.

<sup>80</sup> Although the so-called qualia debate is highly interesting and important, I cannot delve therein in any substantive manner, although I will make some summarising notes in the course of the paragraph. The introductory section of the *Stanford Encyclopedia of Philosophy* notes the following on qualia:

'Feelings and experiences vary widely. For example, I run my fingers over sandpaper, smell a skunk, feel a sharp pain in my finger, seem to see bright purple, become extremely angry. In each of these cases,

I am the subject of a mental state with a very distinctive subjective character. There is something it is *like* for me to undergo each state, some phenomenology that it has. Philosophers often use the term 'qualia' (singular 'quale') to refer to the introspectively accessible, phenomenal aspects of our mental lives. In this broad sense of the term, it is difficult to deny that there are qualia. Disagreement typically centers on which mental states have qualia, whether qualia are intrinsic qualities of their bearers, and how qualia relate to the physical world both inside and outside the head. The status of qualia is hotly debated in philosophy largely because it is central to a proper understanding of the nature of consciousness. Qualia are at the very heart of the mind-body problem.'

See <http://plato.stanford.edu/entries/qualia/> (last accessed on the 15th of November 2014).

<sup>81</sup> The term 'intentionality' derives from the Latin 'intendere', which means 'to point at' or 'to aim at'. Intentionality is *that* characteristic of a mental state as a result of which is about, represents, is directed at something beyond itself. Thoughts about your car, for example, are about your car: it means or represents your car, and thus 'points to' or is 'directed at' your car. In this way it is like the word 'car', which represents 'cars' in general. However, that word considered merely as a set of ink marks or (if spoken) sound waves, 'car' doesn't represent or mean anything at all; it is, by itself, nothing but a meaningless pattern of ink marks or sound waves, and acquires whatever meaning it has from language users like us, who, with our capacity for thought, are able to impart meaning to physical shapes, sounds, and the like.

See for an excellent overview <http://edwardfeser.blogspot.nl/2011/05/mind-body-problem-roundup.html> (last accessed on the 15th of November 2014).

<sup>82</sup> Schrödinger, E. 1967. *What is Life? With Mind and Matter and Autobiographical Sketches*. Cambridge University Press, Cambridge, p. 122. In his *The Mystery of the Sensual Qualities* he remarks that scientific theories serve to facilitate the survey of our observations and experimental findings. However (p. 163 – 164):

‘Every scientist knows how difficult it is to remember a moderately extended group of facts, before at least some primitive theoretical picture about them has been shaped. It is therefore small wonder, and by no means to be blamed on the authors of original papers or of text-books, that after a reasonably coherent theory has been formed, they do not describe the bare facts they have found or wish to convey to the reader, but clothe them in the terminology of that theory or theories. This procedure, while very useful for our remembering the facts in a well-ordered pattern, tends to obliterate the distinction between the actual observations and the theory arisen from them. And since the former always are of some sensual quality, theories are easily thought to account for sensual qualities; which, of course, they never do.’

<sup>83</sup> See e.g. Dennett, D. 1993. *Quining Qualia*. In: Goldman, A.I. (ed.) *Readings in Philosophy and Cognitive Science*. MIT press, Cambridge, p. 381 – 414.

<sup>84</sup> Taylor, C.C.W. 1999. *The atomists, Leucippus and Democritus. Fragments: a text and translation with a commentary*. University of Toronto Press, Toronto, p. 9.

<sup>85</sup> Taylor, note 84, p. 13.

<sup>86</sup> See further Barefoot, D. *A Response to Richard Carrier’s Review of C.S. Lewis’s Dangerous Idea*. Available at [www.infidels.org/library/modern/darek\\_barefoot/dangerous.html](http://www.infidels.org/library/modern/darek_barefoot/dangerous.html) (last accessed on the 15th of November 2014).

In relation to representation, Barefoot remarks that ‘[a] primitive computing device, the abacus, provides another example of representation. Our mind is capable of seeing the positions of beads on the wires of the abacus as representing numbers. But the properties of numbers, it hardly needs saying, are different than the properties of beads on wires. For instance, beads on wires cannot said to be integers. Confusing a representation and its referent is a fallacy common in magic and superstition, exemplified, for instance, by the voodoo doll.’

<sup>87</sup> See further Reppert, V. 2003. *C.S. Lewis’s Dangerous Idea. In Defense of the Argument from Reason*. InterVarsity Press, Downers Grove, Illinois.

<sup>88</sup> Nagel, T. 1974. What is it like to be a bat? *The Philosophical Review* **83**: 435 – 450.

<sup>89</sup> Lewis, C.S. 1945. Meditation in a Toolshed. *The Coventry Evening Telegraph* **17<sup>th</sup> of July**.

<sup>90</sup> From Feser, E. 2005. *Philosophy of Mind*. Oneworld Publications, Oxford, p. 76 – 77.

<sup>91</sup> Feser, note 90.

<sup>92</sup> See Ross, J. 1992. Immaterial Aspects of Thought. *The Journal of Philosophy* **89**: 136 – 150.

Ross restated his argument in chapter 6 of his 2008-book *Thought and World: The Hidden Necessities*. University of Notre Dame Press, Notre Dame. See further Feser, E. 2013. Kripke, Ross, and the Immaterial Aspects of Thought. *American Catholic Philosophical Quarterly* **87**: 1 – 32.

<sup>93</sup> Moreland labels this as the deductive argument from consciousness for the existence of God, which is as follows:

- (1) Mental events are genuine non-physical mental entities that exist.
- (2) Specific mental event types are regularly correlated with specific physical event types.
- (3) There is an explanation for these correlations.
- (4) Personal explanation is different from natural scientific explanation.
- (5) The explanation for these correlations is either a personal or natural scientific explanation.
- (6) The explanation is not a natural scientific one.
- (7) Therefore, the explanation is a personal one.
- (8) If the explanation is personal, then it is theistic.
- (9) Therefore, the explanation is theistic.

Moreland, J.P. 2008. *Consciousness and the Existence of God. A theistic argument*. Routledge, Taylor & Francis Group, New York and London.

<sup>94</sup> Searle, J.R. 1990. Is the Brain a Digital Computer? *Proceedings and Addresses of the American Philosophical Association* **64**: 21 – 37.

<sup>95</sup> See <http://edwardfeser.blogspot.nl/2012/02/popper-contra-computationalism.html> (last accessed on the 15th of November 2014).

<sup>96</sup> Ross, 1992, note 92.

<sup>97</sup> This is not a disqualification of reductionism as such, quite the contrary. Regardless of the level of analysis at which we begin scientific inquiry, we always like to move to the next lower level for explanations in science. This attempt to ground our observations in fundamental characteristics of the analysed system under scrutiny is reductionism of the *methodological* kind, and a widely practiced and successful scientific strategy of studying wholes

through breaking them up into their constituent parts. However, this reductionist strategy by no means implies that for instance living beings studied in their constituent molecular parts are 'nothing but' collections of molecules, for the decomposition will have brought about the death of the organism. The obvious success of the strategy thereby does not imply that everything relevant to the whole can be studied in this way.

Here, *ontological* reductionism implies that the whole is *nothing but* the sum of its parts. Study the parts and it will reveal the whole. It is quite possible to hold to methodological reductionism yet to deny ontological reductionism as, in fact, many scientists do. The overarching conundrum of ontological reductionism is that it breaks down the distinction between logical and scientific possibilities. Put differently, methodological reduction, which in any scientific procedure is a normal routine as to make any research feasible, is within the scientific perspective expanded beyond its original research limits making the evidence retrieved from scientific research to be regarded as all-encompassing. Some form of improper disciplinary imperialism is induced by the scientific fallacy.

See e.g. Hackman, J.R. 2003. Learning more by crossing levels: evidence from airplanes, hospitals, and orchestras. *Journal of Organizational Behaviour* 24: 905 – 922.

Peterson, G.R. 2003. Demarcation and the Scientific Fallacy. *Zygon* 38(4): 751 – 761.

<sup>98</sup> Churchland, P., Hooker, C. 1985. *Images of Science: Essays on Realism and Empiricism, with a Reply from Bas C. van Fraassen*. University of Chicago Press, Chicago, p. 258.

Indeed, I cannot, as most I presume, begin to fathom the different concepts van Fraassen mentions in this quote from his reply to his critics (although I can look up the definitions of those concepts with ease)!

<sup>99</sup> Strawson, G. 1999. Little Gray Cells. *New York Times Book Review* July 11<sup>th</sup>.

<sup>100</sup> Stenmark, note 73, p. 29.

<sup>101</sup> The fact that  $S_{E1}$  is false also exposes the so-called evidentialist- (which sometimes but not necessarily equates with the scientific-) challenge to religion: it is rationally acceptable to hold (religious) beliefs *only* if there are good reasons (evidence) to believe that they are true. If the evidential principle that lies at the basis of this challenge were true, than almost all beliefs, including everyday beliefs that form the majority of our beliefs would be challenged and subsequently be rendered irrational. This makes

evidentialism untenable.

See Stenmark, note 73, for further discussion.

William Kingdon Clifford champions doxastic abstemiousness when he formulated the evidential principle in his *The Ethics of Belief*: 'To sum up: it is wrong always, everywhere, and for anyone, to believe anything upon insufficient evidence.' In his response, William James in his *The Will to Believe* scorns the impracticality of the stringent evidential principle as proposed by Clifford. Available at <http://ajburger.homestead.com/files/book.htm#will> (last accessed on the 15th of November 2014).

See for an overview of the reformed conception of religious epistemology (and its a rejection of the evidentialist assumptions) Plantinga, A., Wolterstorff, N. (eds.) 1983. *Faith and Rationality. Reason and Belief in God*. University of Notre Dame Press, Notre Dame.

See for a commentary Pritchard, D. 2003. Reforming Reformed Epistemology. *International Philosophical Quarterly* 43(1): 43 – 66.

<sup>102</sup> Lewontin, R. 1997. Billions and Billions of Demons. *New York Times Book Reviews* 9<sup>th</sup> of January.

<sup>103</sup> Boger, G. 2005. Subordinating Truth – Is *Acceptability* Acceptable? *Argumentation* 19: 187 – 238.

<sup>104</sup> The term *objectivity* involves some kind of impartiality, a lack of bias, basically distinguishing between two ways of forming beliefs about the hidden structure of the world: one way that is dependent on, say, caprice, prejudice, expectations (and other non-epistemic determinants); and one that avoids such influences, although, as we have seen, *hidden* non-epistemic determinants can and do shape beliefs which nevertheless are regarded as epistemic to the reasoner. Objectivity as defined ties into the *impersonal notion of evidence* as understood in science. If scientists try to convince the rest of the scientific community of the adequacy of the explanations they have put forward in order to have their theories accepted as a part of the *corpus* of scientific knowledge, then their evidence *e* cannot constitute personal reasons for believing hypothesis *h*. The scientists claim that *e* provides grounds for *anyone* to be convinced that *h*. Although evidence in science should not be relative to a person it is contextualised in relation to historical and epistemological circumstances surrounding the evidential claim. Scientists can *invoke* evidence the moment it is understood as evidence, within the context of a certain theory grasped by the experts. Before that, evidence is still evidence yet simply not recognised as such.

Godfrey-Smith, P. 2003. *Theory and Reality*. University of Chicago Press, Chicago.

See for a discussion on evidence Snyder, L.J. 1998. *Is Evidence Historical?* In: Curd, M., Cover, J.A. (eds.) *Philosophy of Science. The Central Issues*. W. W. Norton & Company, New York, p. 460 – 480.

<sup>105</sup> Furedi, F. 2009. Precautionary Culture and the Rise of Possibilistic Risk Assessment. *Erasmus Law Review* **2(2)**: 197 – 220.

<sup>106</sup> See e.g. Christoforou, T. 2003. The precautionary principle and democratizing expertise: a European legal perspective. *Science and Public Policy* **30(3)**: 205 – 211.

Mayer, S. 2003. Science out of step with the public: the need for public accountability of science in the UK. *Science and Public Policy* **30(3)**: 177 – 181.

Voß, J.-P., Bauknecht, D., Kemp, R. (eds.) 2006. *Reflexive governance for sustainable development*. Edward Elgar Publishing Limited, UK.

Stirling, A. 2007. Risk, precaution and science: towards a more constructive policy debate. *EMBO Reports* **8(4)**: 309 – 315.

See for a critical reflection Durodié, B. 2003. Limitations of Public Dialogue in Science and the Rise of New 'Experts'. *Critical Review of International Social and Political Philosophy* **6(4)**: 82 – 92.

<sup>107</sup> Raskin, M. *Story Telling Time*.

<sup>108</sup> Govier cited in Boger, note 103.

<sup>109</sup> Boger, note 103.

<sup>110</sup> Independent Expert Group On Mobile Phones, 2000. *Mobile Phones and Health*. National Radiological Protection Board, Didcot, p. 102.

See further Lash, W., Szerszynski, B., Wynne, B. (eds.) 1996. *Risk, Environment & Modernity. Towards a New Ecology*. Sage Publications, London.

Sassower, R. 2004. *Confronting Disaster. An Existential Approach to Technoscience*. Lexington Books, Lanham.

<sup>111</sup> Walton, D.N. 2000. *Argumentation and Theory of Evidence*. In: Nijboer, I.F., Reijntjes, I.M. (eds.) *Proceedings of the First World Conference on Trends in Criminal Investigation and Evidence (Volume I)*. Intersentia, Antwerpen, Groningen, Oxford, p. 711 – 732.

<sup>112</sup> Tindale cited in Boger, note 103.

What is not discussed here is the problem of the formalised scientific discourse versus layman's expertise we could capture under Polanyi's notion of tacit knowledge.

<sup>113</sup> Boger, note 103.

<sup>114</sup> See e.g. Weinberg, A.M. 1972. Science and Trans-Science. *Minerva* **10**: 209 – 222.

<sup>115</sup> Hanekamp, J.C., Verstegen, S.W. *The problem of the precautionary principle: the paternalism of the precautionary coalition*. In: Panton, J., Hartwich, O.M. (eds.) 2006. *Science vs Superstition. The case for a new scientific enlightenment*. Policy Exchange and University of Buckingham Press.

<sup>116</sup> Hottois, G. 2000. A Philosophical and Critical Analysis of the European Convention of Bioethics. *Journal of Medicine and Philosophy* **25(2)**: 133 – 146.

<sup>117</sup> In this context it is interesting to ponder one of tenets of the *Center of Naturalism*, which states that we as humans are the 'evolved products of natural selection, which operates without intention, foresight or purpose. Nothing about us escapes being included in the physical universe, or escapes being shaped by the various processes –physical, biological, psychological, and social– that science describes. On a scientific understanding of ourselves, there's no evidence for immaterial souls, spirits, mental essences, or disembodied selves which stand apart from the physical world.' This tenet explicitly expounds  $S_{Ei}$  and  $S_O$  and is an extra-scientific (philosophical, ideological) perspective on life, the universe and everything.

Note 76.

<sup>118</sup> Madison, J. 1787. *The Union as a Safeguard Against Domestic Faction and Insurrection*. Federalist Paper No. 10.

<sup>119</sup> Polanyi, note 14.

<sup>120</sup> Nagel, T. 1986. *The View from Nowhere*. Oxford University Press, Oxford, p. 4.

<sup>121</sup> Gellner, E. 1992. *Postmodernism, Reason and Religion*. Routledge, London, p. 37 – 38, p. 81, and p. 96.

<sup>122</sup> This does not mean that there are no good rational arguments against the existence of God as such, far from it. See for an overview thereof Oppy, G. 2006. *Arguing about Gods*. Cambridge University Press, Cambridge.

It is quite surprising then that, as Greene notices, a 'scientific mythology has grown around the theory of evolution.' (Greene, note 40, p. 43)

Having erected a naturalistic system that cannot by itself possess any ultimate purpose, still a sense of meaning mysteriously slips back into the vocabulary. This 'myth is intellectually dishonest, employing teleological and vitalistic figures of speech to describe processes that are advertised as "mechanistic" and pretending to derive from evolutionary biology values that stem from classical, Judeo-Christian, and Enlightenment sources.' As Greene remarks further (Greene, note 40, p. 42):



‘Not all of the champions of the modern synthesis have been as open as [Julian] Huxley in acknowledging the religious aspect of their devotion to evolutionary biology, but most of them, especially those who reject religious and philosophical approaches to the problem of human duty and destiny, manage to smuggle in by way of simile and metaphor the elements of meaning and value that their formal philosophy of nature and natural science excludes from consideration. Thus, Ernst Mayr, although he insists that evolution by natural selection is a “pure statistical phenomenon”, describes the phenomenon in language suggesting direction, purpose, striving, success, and failure. ... Natural selection, Mayr tells us, improves adaptation continually until it appears “as perfect as if it were the product of design”. It “remodels” proteins “in order to improve interactions”. It produces “ever increasing improvements in mechanical efficiency” and gives direction to evolution. It “does its best” to favor the production of programs that “guarantee behavior that increases fitness”, but it can “fail” when the “right genes” are not available for selection.’

In one of their publicised exchange of letters, Greene responds to geneticist and evolutionary biologist Theodosius Dobzhansky that linguistic personifications of abstractions such as species, varieties, and life are desperate metaphorical attempts to bring meaning to a mechanical and meaningless world, which from the outset knows no escape from physical closure and cannot know by definition meaning or purpose.

In an imitation of the latter, but devoid of any irony, Dawkins stands ‘tall to face the far horizon, for atheism nearly always indicates a healthy independence of mind and, indeed, a healthy mind.’ (Dawkins, R. 2006. *The God Delusion*. Bantam Press, London, p. 3.) This all sounds enigmatically meaningful, deep, and charged with the yearning perspective of human progress, yet cannot have, by the very perspective expounded, any meaning, as Dawkins would surely agree that ‘[w]e are the evolved products of natural selection, which operates without intention, foresight or purpose’. (Note 76)

<sup>123</sup> Monod, J. 1977. *Chance and Necessity. An Essay on the Natural Philosophy of Modern Biology*. Collins/Fount Paperbacks, Glasgow, p. 158. Italics added only in the second paragraph of this citation.

Monod states prior to the quoted sentence: ‘If there is an innate need

for a complete explanation whose absence causes deep inner anxiety; if the only form of explanation which can ease the soul is that of a total history which reveals the significance of man by assigning him a necessary place in nature’s scheme; if, to appear genuine, meaningful, soothing, the ‘explanation’ must be fused with the long animist tradition, then we understand why so many thousand years passed before the appearance, in the realm of ideas, of those presenting objective knowledge as the *only* source of truth. ... With nothing to recommend it but a certain puritan arrogance, how could such an idea be accepted? It was not; it still is not.’ Here Monod tacitly assumes comprehensive scientism (S<sub>c</sub>).

<sup>124</sup> Ruse, M. 1998. *Taking Darwin Seriously. A Naturalistic Approach to Philosophy*. Prometheus Books, New York, p. 294.

<sup>125</sup> Martin, C.F.J. 1998. *Thomas Aquinas: God and Explanations*. Edinburgh University Press, Edinburgh.

<sup>126</sup> Nagel, T. 1997. *The Last Word*. Oxford University Press, Oxford, p. 131. Italics added.

<sup>127</sup> Stenmark, note 73, p. 75.

<sup>128</sup> Dawkins, note 122, p. 176 – 177.

<sup>129</sup> Wilson, E.O. 2001. *On Human Nature*. Harvard University Press, Cambridge.

<sup>130</sup> Wright, R. 1996. Science and Original Sin. *Times Monday, October 28<sup>th</sup>*.

<sup>131</sup> Robinson, note 39, p. 52.

<sup>132</sup> Hasker, W. 1999. *The Emergent Self*. Cornell University Press, New York.

<sup>133</sup> Indeed, Matthew 5: 43 – 45 reads: ‘You have heard that it was said, ‘Love your neighbour and hate your enemy.’ But I tell you: Love your enemies and pray for those who persecute you, that you may be sons of your Father in heaven. ...’

<sup>134</sup> Neiman, S. 2008. *Moral Clarity. A Guide for Grown-Up Idealists*. Harcourt Inc, Orlando, p. 3.

Obviously, Neiman is mistaken to think that God might trespass on moral law. That would make that law higher than God, which is impossible.

<sup>135</sup> Stump, E. 2010. *Wandering in Darkness. Narrative and the Problem of Suffering*. Clarendon Press, Oxford, p. 284 – 285.

<sup>136</sup> Dawkins himself is proof-positive that it is quite possible to escape the ‘gullibility of evolutionary childhood programmability’, whereby humans can as a matter of fact ‘go beyond their genes’. So the mammalian imperative is not all-demanding as is suggested, quite the contrary.

<sup>137</sup> Greene, note 40, p. 205 – 206.

<sup>138</sup> Stenmark, note 73.

<sup>139</sup> The critique of  $S_{E2}$  reproduced here (but also the critique of  $S_{E1}$  discussed in previously) seems an alternate way of casting the argument from reason, made (in)famous by Lewis, although Gilbert K. Chesterton stated a roughly contemporaneous version in his book *Orthodoxy* first published in 1908: ‘That peril is that the human intellect is free to destroy itself. ... It is idle to talk always of the alternative of reason and faith. It is an act of faith to assert that our thoughts have any relation to reality at all. If you are merely a sceptic, you must sooner or later ask yourself the question, “Why should *anything* go right; even observation and deduction? Why should not good logic be as misleading as bad logic? They are both movements in the brain of a bewildered ape?” The young sceptic says, “I have a right to think for myself.” But the old sceptic, the complete sceptic says, “I have no right to think for myself. I have no right to think at all.”’ (Chesterton, G.K. 2006. *Orthodoxy*. The Walking Lion Press, West Valley City, USA, p. 26.) Overall, the argument from reason attempts to show that the necessary conditions of logical and mathematical reasoning as a human activity, which fundamentally undergird the natural sciences, require the refutation of all largely materialistic worldviews. Reppert formulates Lewis’ argument as follows (Reppert, V. 2009. *The Argument from Reason*. In: Craig, W.L., Moreland, J.P. (eds.) *The Blackwell Companion to Natural Theology*. Wiley-Blackwell, United Kingdom, p. 344 – 390):

1. No belief is rationally inferred if it can be fully explained in terms of nonrational causes.
2. If naturalism is true, then all beliefs can be fully explained in terms of nonrational causes.
3. Therefore, if naturalism is true, then no belief is rationally inferred.
4. If any thesis entails the conclusion that no belief is rationally inferred, then it should be accepted and its denial accepted.
5. Therefore, naturalism should be rejected and its denial accepted.

Thomas Nagel is implicitly aware of the conundrum the argument from reason poses when he remarks in *The Last Word* that given the universal validity of reason, how is it that we finite localised beings can engage in it at all? There are, he says, not many candidates for an answer to this

question. The most common answer has been evolutionary naturalism, which, Nagel writes, ‘has always seemed to me laughably inadequate.’ He illustrates this poignantly with the activity of counting numbers: ‘When we think of about the finite activity of counting, we come to realize that it can only be understood as part of something infinite. The idea of reducing the apparently infinite to the finite is therefore ruled out: Instead, the apparently finite must be explained in terms of infinite. The reason this is a model for the irreducibility of reason in general is that it illustrates the way in which the application of certain concepts from inside overpowers the attempt to grasp that application from outside and to describe it as a finite and local practice. It may look small and “natural” from outside, but once one gets inside it, it opens out to burst the boundaries of that external naturalistic view. It is like stepping into what looks like a small windowless hut and finding oneself suddenly in the middle of a vast landscape stretching endlessly out to the horizon.’ (Nagel, note 126, p. 71 – 72.)

So, does the argument from reason, that Lewis in the final analysis found acceptable, makes theism more likely in Nagel’s conception of it? Peculiarly, Nagel *does* assert that the problem he discusses might well have a (quasi)religious answer: ‘even without God, the idea of a natural sympathy between the deepest truths of nature and the deepest layers of the human mind ... makes us more *at home* in the universe than is secularly comfortable.’ (Nagel, note 126, p. 130. Italics in original.) Nevertheless, Nagel expresses his uneasiness with a religious answer despite his feelings of being at home in the universe, which I see as an important non-epistemic determinant of naturalism, considering the Law of Inverse Rationality: ‘I want atheism to be true and am made uneasy by the fact that some of the most intelligent and well-informed people I know are religious believers. It isn’t just that I don’t believe in God and, naturally hope that I’m right in my belief. It’s that I hope there is no God! I don’t want there to be a God; I don’t want the universe to be like that.’ (Nagel, note 126, p. 130.)

The ‘Law of Inverse Rationality’, as Merold Westphal proposes, applies when considering the epistemology of sin: the ability of human thought to be undistorted by *sinful* desire is inversely proportional to the existential import of the subject matter. We can be sensibly rational at the fringe of our interests, where the prospect for prideful self-assertion

is limited. Conversely, when a certain topic approaches the core of our being –our wealth, health, safety, security, and longevity- the greater the probability that truth will be subsidiary to other values (e.g. human autonomy, self preservation, fear).

Westphal, M. *Taking St. Paul Seriously: Sin as an Epistemological Category*. In: Flint, T.P. (ed.) 1990. *Christian Philosophy*. University of Notre Dame Press, Notre Dame, Indiana, p. 200 – 226.

<sup>140</sup> Chesterton, G.K. 2010. *The Innocence of Father Brown*. Sam Torodo Book Arts, Nashville, Tennessee, p. 12 – 13.

<sup>141</sup> Eagleton, T. 2009. *Reason, Faith, and Revolution: Reflections on the God Debate*. Yale University Press, New Haven, p. 122.

<sup>142</sup> Greene, note 40, p. 43.

<sup>143</sup> Polanyi, note 11, p. 281.

<sup>144</sup> Dawkins, note 122, p. 374.

<sup>145</sup> Note 76.

<sup>146</sup> Kahn, note 60.

<sup>147</sup> Weinberg, S. 1993. *Dreams of a Final Theory*. Vintage Books, Random House, London, p. 259.

<sup>148</sup> Robinson, M. 2006. The God Delusion. *Harper's Magazine* **October 20<sup>th</sup>**. Robinson, in her review of Dawkins' *The God Delusion*, remarks that there is a 'pervasive exclusion of historical memory in Dawkins's view of science. Consider this sentence from his preface, which occurs in the context of his vision of a religion-free world: "Imagine . . . no persecution of Jews as 'Christ-killers.'" In a later chapter he condemns Jews for discouraging "marrying out" and complains that such "wanton and carefully nurtured divisiveness" is "a significant force for evil." It is of course no criticism to say that he values the tradition of Judaism not at all, since this is only consistent with his view of religion in general. He seems unaware, however, that there was in fact significant intermarriage between Jews and gentiles in Europe as well as secularism and conversion among the Jews, and that this appears only to have fired the anti-Semitic imagination. While it is true that persecution of the Jews has a very long history in Europe, it is also true that science in the twentieth century revived and absolutized persecution by giving it a fresh rationale – Jewishness was not religious or cultural, but genetic. Therefore no appeal could be made against the brute fact of a Jewish grandparent. Dawkins deals with all this in one sentence. Hitler did his evil "in the name of. .

. an insane and unscientific eugenics theory." But eugenics is science as surely as totemism is religion. That either is in error is beside the point.'

<sup>149</sup> Eagleton, note 141.

<sup>150</sup> Koyré, A. 1957. *From the Closed World to the Infinite Universe*. The John Hopkins Press, Baltimore, p. 276.

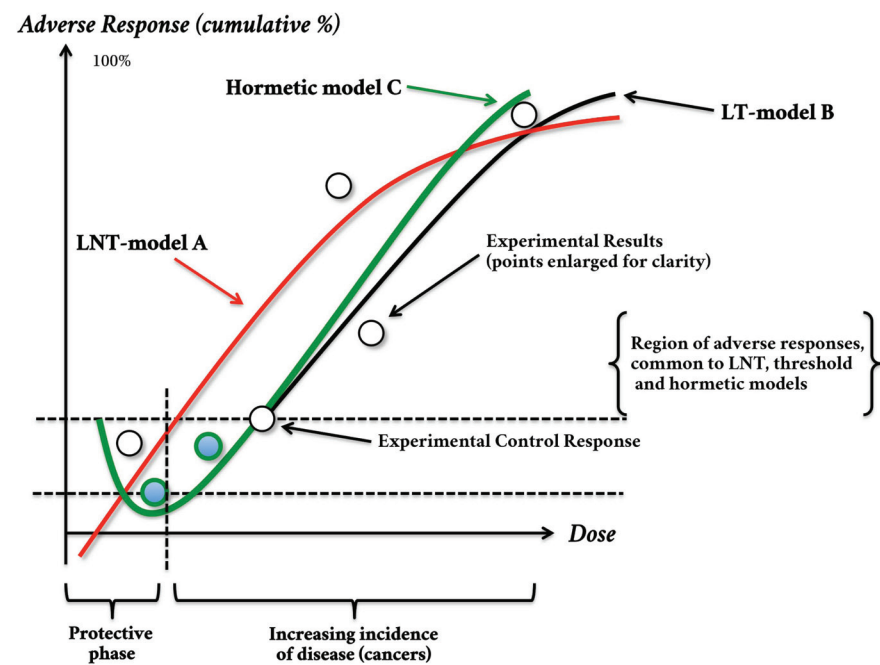


Figure 1. Toxicological models, page 73.

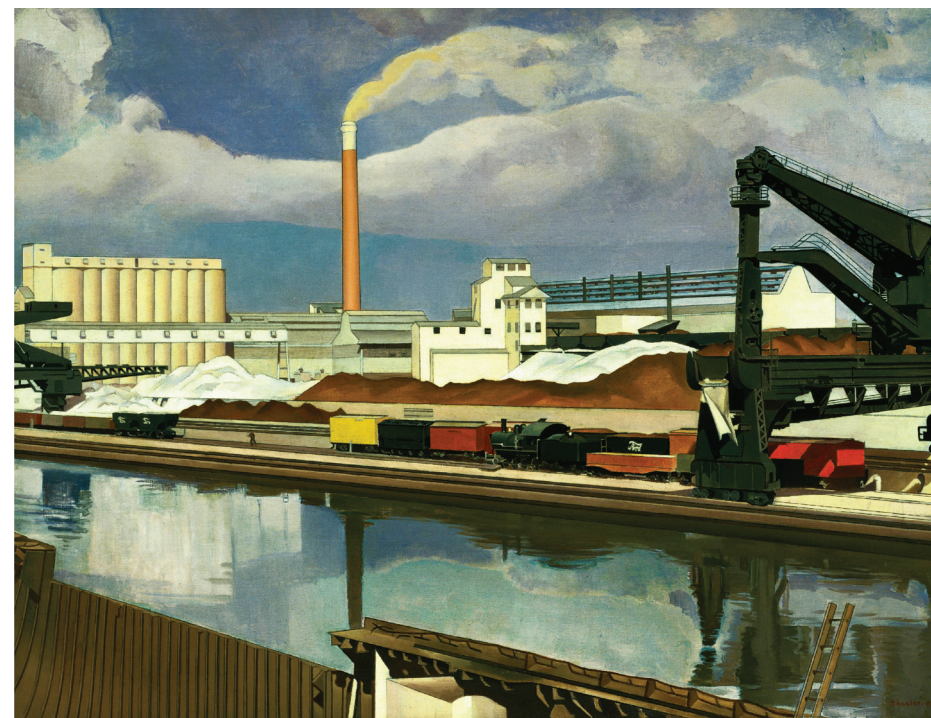


Figure 2. Charles Sheeler *American Landscape*, page 154.

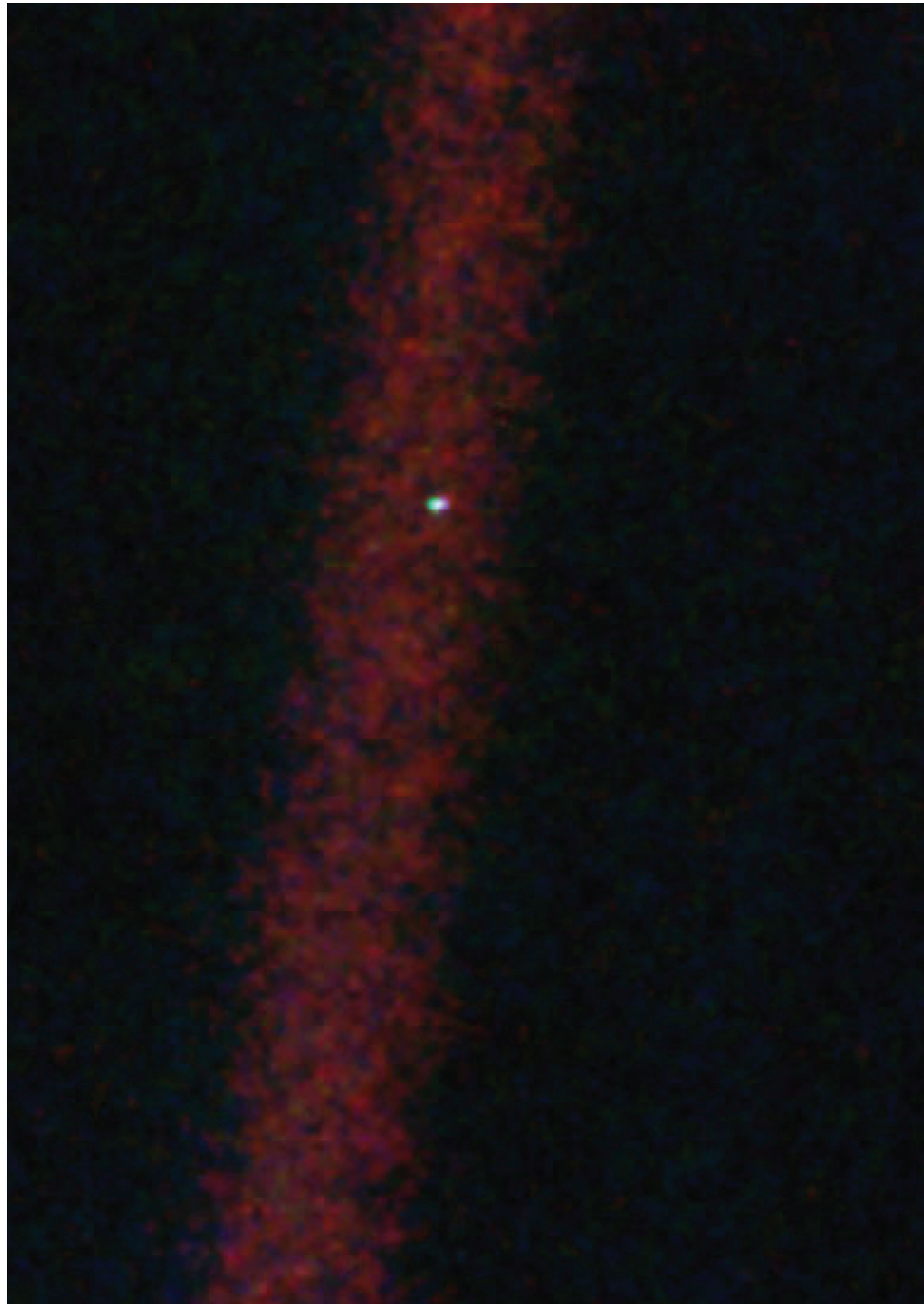


Figure 3. Pale Blue Dot, page 348.



# 05. PRECAUTIONARY CULTURE

## THE INCIPIENT UTOPIA

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*'Clouds of sulfur in the air  
Bombs are falling everywhere  
It's heartbreak warfare  
Once you want it to begin  
No one really ever wins  
In heartbreak warfare' (John Mayer)*

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### CHAPTER'S STRUCTURE AND SCOPE

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*'Exposure  
out in the open  
exposure'  
(Peter Gabriel/  
Robert Fripp)*

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AKIRA KUROSAWA (1910 – 1998) WAS A GIFTED STORYTELLER OF THE SILVER SCREEN. His best-known films are probably *Seven Samurai* and *Ran*. A film less known, produced by him when he was nearly eighty years old, in part deals with the theme of this chapter. *Dreams* (otherwise known as *Akira Kurosawa's Dreams*) is a retrospective look at his life, conveyed in representations of eight dreams, which he moulded in ancient Japanese theatre and other folkloristic structures.<sup>1</sup> In short, Kurasawa, in his *Dreams*, raises the question whether we are on the brink of perishing at our own hands requiring a utopian counterforce with pastoral undertones. It is proposed in this chapter that precautionary culture is utopian in spirit. In order to establish this, a reflection on the societal domination of the theme of risk distribution and the connected permanence and omnipresence of anxiety and fear is offered. Concurrently, a concise overview of utopian history and key elements therein are discussed as to underscore the utopian qualities of precautionary culture. The successfulness of the utopian strategy is questioned referring, amongst others, to the work of Michael Polanyi.

### STORIES AND DREAMS

---

*"Hey," I said, "You  
can keep my things  
They've come to  
take me home"  
(Peter Gabriel)*

---

The eight episodes that constitute *Dreams* are quite distinct and, taken together, constitute no obvious narrative. The film, however, can be divided into two parts: 'animist paradise' and 'afterwards'.<sup>2</sup> In the first three episodes (*Sunshine through the rain*, *The orchard*, *The blizzard*), the main character encounters elements of animism: foxes that serve as the assistants of a god or goddess, live dolls and spirits of peach trees, and a snow woman who seems to be the incarnation of death. According to animism, roughly, the universe and all things have spirits; nature is sacred and worshipped. But ghosts and spirits of ancestors are part of nature as well. Therefore, it is not



surprising that in the fourth episode (*The tunnel*) the ghost of a dead person, a killed soldier of the Second World War, appears before his superior commander responsible for his death. The notion of guilt towards fellow man, perished through human oversight, is expressed in this gripping sequence.

The fifth episode, *Crows*, serves as a transition between the two parts. The main character enters Van Gogh's paintings, where he encounters the painter himself. Here, Kurosawa bemoans the fact that adults are incapable of entering the animist world that would make them, again, part of nature, regaining paradise lost. The second half of the film constitutes a clear protest against the destruction of nature as a result mankind distancing itself from nature through e.g. science and technology: the meltdown of Mt. Fuji follows the explosion of a nuclear power plant (*Red Fuji*); a meeting with a human being who became a demon after the explosion (*The weeping demon*).

The last dream focuses on a meeting between the main character and an old man who talks about the destruction of nature and the possibilities of a harmonious coexistence of humans and nature (*Village of the watermills*). Here, *Dreams* comes full circle. The conversation the two main characters (the 'I' in the film and the old man) have in the final dream is telling of paradise regained in the pastoral ideal we are so familiar with. An excerpt from the script is clear enough:

'What is the name of this village?' 'Doesn't have one. We just call it 'The Village'. Some people call it Watermill Village.' ...  
'There's no electricity here?' 'Don't need it. People get too used to convenience. They think convenience is better. They throw out what's truly good.' 'But what about lights?' 'We've got candles and linseed oil.' 'But night's so dark.' 'Yes. That's what night is supposed to be. Why should night be as bright as day? I wouldn't like nights so bright you couldn't see the stars.'  
'You have paddies. But no tractors to cultivate them?' 'Don't need them. We've got cows, horses.' 'What do you use for fuel?' 'Firewood mostly. We don't feel right, chopping down trees, but enough fall down by themselves. We cut them up and use

them as firewood. And if you make charcoal from the wood just a few trees can give you as much heat as a whole forest. Yes, and cow dung makes good fuel, too.'

'We try to live the way man used to. That's the natural way of life. People today have forgotten they're really just a part of nature. Yet, they destroy the nature on which our lives depend. They always think they can make something better. Especially scientists. They may be smart but most don't understand the heart of nature. They only invent things that in the end make people unhappy. Yet they're so proud of their inventions. What's worse, most people are, too. They view them as if they were miracles. They worship them. They don't know it, but they're losing nature. They don't see that they're going to perish.'

'The most important things for human beings are clean air and clean water and the trees and grass that produce them. Everything is being dirtied, polluted forever. Dirty air, dirty water, dirtying the hearts of men. ...' (Drums beating, music playing.)

'Is there a celebration today?' 'No, a funeral. You find this strange? A nice happy funeral. It's good to work hard and live long and then be thanked. We have no temple or priest here. So all the villagers carry the dead to the cemetery on the hill. We don't like it when young adults or children die. It's hard to celebrate such a loss. But fortunately the people of this village lead a natural way of life. So they pass on at a ripe old age. ...'

'By the way, how old are you?' 'Me? One hundred-plus three. A good age to stop living. Some say life is hard. That's just talk. In fact, it's good to be alive. It's exciting.'

Life and death, the latter only coming at a 'ripe old age' because of the 'natural' life lived, are interwoven and devoid of sadness. The conversation between the old man and the 'I' is interspersed with truly awe-inspiring fragments of 'the garden of Eden', that is 'Watermill Village'.

Although the format and content of *Dreams* is quite Japanese, it carries the pastoral ideal to be found in the notion of the child losing its innocence by trespassing the natural order in the first story (*Sunshine through the rain* – whereby he is asked by his mother to kill

himself or ask forgiveness to the foxes and leave his ancestral home, that is paradise), and the regaining of some natural state of humanity in the simple life of *The village*.

Here we come to test the waters of another perspective that seems more viable, in terms of the illumination of and the rejoinder to precaution.<sup>3</sup> This requires another view of the culture we have become part of and another view of the *condition humaine* we are imbued with.

## A SOCIETY IN FLUX: GROWING WEALTH, ANGST, AND DYSTOPIC UNDERCURRENTS

---

*'Give me a story and  
give me a bed  
Give me possessions ...'  
(The Sundays)*

---

In 1986 Beck coined the concept of the *risk society* in his book *Risikogesellschaft. Auf dem Weg in eine andere Moderne*.<sup>4</sup> The English translation –*Risk Society: Towards a New Modernity*– was subsequently published in 1992.<sup>5</sup> The basic idea Beck expounds in his book is that industrial society has developed to such an extent that the distribution of scarce goods is no longer the primary social problem. Since WWII, food, products and services have become massively and affordably accessible to an increasing population as a result of the global expansion of the economies of scale. Wealth of individuals and nations increased tremendously. The purpose of wealth distribution is to meet the material needs of society and its individuals, which, in turn, serves as the rationale for the unrestrained production of goods. The logic of wealth distribution goes unquestioned until general material needs are reduced by increased productivity and/or through redistributive policies of welfare states developed from this process.

According to Beck, modern industrial society presupposes the dominance of the 'logic of wealth' and asserts the compatibility of risk distributions within it.<sup>6</sup> In essence, risk can be conceptually manipulated in a manner akin to the standard economic problem of material scarcity. Risk is just another resource to be allocated and distributed, although its invisibility makes it harder to assess and therefore remains tied to

monetary value and utility.<sup>7</sup> As Catherine Althaus rightly asserts, the dominance and pervasiveness of the economic concept of risk cannot be overstated.<sup>8</sup>

However, once material needs are met for most people (predominantly in the Western World), the logic of wealth distribution loses its immediate relevance, subsequently assenting to the logic of risk distribution. The risk society, which developed from the industrial society, becomes gripped by the hazards and potential threats unleashed by the exponentially growing productive forces in the modernisation process that are driven by science and technology. These hazards emanate from the fact that during the early stages of modernity economic scarcity was the overriding interest and concerns about risk-producing side effects were pressed to the periphery. As Beck asserts: 'The driving force in the class society can be summarized in the phrase: *I am hungry!* The movement set in motion by the risk society, on the other hand, is expressed in the statement: *I am afraid! The commonality of anxiety* takes the place of the commonality of need.'<sup>9</sup> Or as Christian Bröer aptly summarises Beck's position in relation to air travel: 'In a risk society, the logic of wealth distribution – 'I want to fly' – is gradually overshadowed by the logic of risk distribution – 'I don't want noise'. The distribution of 'bads' becomes more important than the distribution of 'goods', Beck argues.'<sup>10</sup> Thus, the goal of affluence yields to that of safety and security.

Furthermore, Beck's risk society asserts the incompatibility of distributions of wealth and risk and the competition of their logics. He radically breaks with the idea that the switchover from industrial to risk society would bring the solution to global environmental and human health problems within reach. A switchover is unfeasible as the risks of modernity –acid rain, global warming, DDT, nuclear radiation, credit crunch and etcetera– are:

- (I) undetectable by direct human sensory perception;
- (II) capable of transcending geographical boundaries and generations;
- (III) beyond the capacity of current insurance mechanisms to compensate victims.<sup>11</sup>

From the 1960s onward, the positive logic of the diffusion of wealth has been overshadowed by the negative logic of the distribution of technological risks.<sup>12</sup> According to Beck, in the aftermath of the Chernobyl accident, an ‘anthropologic shock’ rippled through society causing the majority of the populace of the Western industrialised world to change their perception of scientific and technological developments and innovations: ‘All this takes place downright mysteriously, since nothing has changed for the eyes, nose, mouth, and hands. It is not only –and perhaps not even most importantly– the fear of health consequences, but also the experience of a *cultural blinding* that makes comprehensible the deep uncertainty that has gripped people since Chernobyl and which has still not subsided. ... The foundations of life have changed, even if everything appears to have remained the same. ...’<sup>13</sup>

For risk avoidance and distribution to actually become society’s organising principle a number of conditions must be met:<sup>14</sup>

- (I) material needs must be satisfied;
- (II) insecurities about risks are heightened;
- (III) risks are regarded as geographically and temporarily universal and are deemed to have immediate and long-term effects;
- (IV) the consciousness of risk is linked to the uncertain future, rather than to a past determining the present.

This opening up of the future as something to think and to worry about has changed our ways of thinking about risks. In fact, we believe that the more the risk society develops we shall see the advance of a new culture around the perpetual theme of damage and disgrace. In other words, if industrial society knew a risk culture, then risk society will have a precautionary culture.<sup>15</sup>

Borders between individuals, groups, countries, and generations evaporate with the rise of risk-society: ‘Hunger is hierarchal, smog is democratic’.<sup>16</sup> Or as Bauman has it:<sup>17</sup>

‘Negative globalization has done its job, and all societies are now fully and truly open, materially and intellectually, so that any injury from deprivation and indolence, wherever it

happens, comes complete with the insult of injustice: the feeling of a wrong having been done, a wrong yelling to be repaired, but first of all avenged ... [sic] And in Milan Kundera’s succinct summary, such ‘unity of mankind’ as has been brought about by globalization means primarily that ‘there is nowhere one can escape to’. No secure shelters left where one can hide. In the liquid modern world, the dangers and fears are also liquid-like – or are they rather gaseous? They flow, seep, leak ooze ... [sic] No walls have been invented yet to stop them, though many try to build them.

The spectre of vulnerability hovers over the ‘negatively globalized’ planet. There are only three roles to play – perpetrators, victims, and ‘collateral casualties’ – and for the first role there is no shortage of bidders, while the ranks of those cast as the second and the third grow unstoppably. Those of us already on the receiving end of the negative globalization frantically seek escape and breathe vengeance. Those as yet spared are frightened that their turn to do the same may – and will – come.’

Beck’s analyses of modernity carry a strong resemblance with the analyses offered by *The Limits to Growth*. Both conclude that the high-consequence risks portray the apocalyptic dark side of modernity. Here, the term apocalypse captures the notion of some sort end of the world *without* the radically new following it. Extrapolating human behaviour towards a not too distant future will result in an apocalypse, understood as the literal end of the world for mankind and many other species.<sup>18</sup>

Andrew McMurry, for instance, poses to recast the four horsemen of the apocalypse (Revelation 6) in a more befitting postmodern context: ‘What is the hard evidence that taking the long view reveals an apocalypse already in progress? To keep our metaphor intact, we could speak in terms of the “four horsemen.” There are the usual ones – war, famine, disease, pestilence – but to put a finer point on the apocalypse I’m describing we are better to call our riders 1) arms proliferation, 2) environmental degradation, 3) the crisis of meaning, and, crucially, 4) the malignant global economy.’<sup>19</sup> He finally remarks that:

'Ours may be understood as an apocalypse without origin or destination. It may have begun to unpack with the advent of the junk bond, the A-bomb, the concentration camp, the internal combustion engine, the corporation, or even the scientific method; and it may cease only when most of those things are no more. So then: is this apocalypse I have described really an apocalypse, or just the motion of history itself? For the multitudes who have died, are dying, and will die under modern history's heavy feet there is no significant difference. Perhaps it is time to ask ourselves the questions we have foolishly assumed this same history has already settled. Who says the human presence on this earth was ever sustainable? Why do we continue to believe so strongly in our competency to manage the risks we compound daily? Where is this secret heart of history we trust has been beating? What precisely leads us to believe our world is not perishing? Why isn't this the Apocalypse?'

The perceived lack of control and the uncertainty of the (environmental) problems that are rooted in the science- and technology-driven globalisation of society and its economy propel, to a certain extent, this gloomy perspective.<sup>20</sup> In the era of reflexive modernity, science proves no longer capable of providing the security that is sought by the population to moderate their own anxieties and fears. It no longer serves as a referee, convincingly distinguishing between rational and irrational fears. The shift towards reflexive modernity and the attendant demystification of science implies institutionalisation of doubt. In a society in which, according to Beck, consciousness determines being, this institutionalisation of doubt means that lay actors are burdened with constant fear and insecurity. A separate dimension is introduced into the civilians' perception of risks, namely a dimension in which risks reside that are inescapable. In a society wherein newly emerging (mega-)hazards can no longer be contained within the boundaries of a class or a region, an attitude that focuses on whether people possess a certain knowledge of risks and of private options for evading them, loses its relevance. Risks are always present; they are

inescapable and they concern everybody; they are part of the overall risk profile of modernity. Everybody has to eat, drink and breathe. Consequently, everybody is exposed to risks.<sup>21</sup>

To be sure, we still live in industrial society in the sense that we still agonize about our possessions and our jobs. However, major worries have come to the fore, which centre not so much on our wealth but on our health. Here we encounter a theme that Anthony Giddens has explored in his book *Modernity and Self-Identity: Self and Society in the Late Modern Age*.<sup>22</sup> 'Life politics' has become a major task that people in late modernity feel the need to deal with. We have to think of the future and who and what we want to be. We constantly re-evaluate the present and the past. Life at the individual and at the societal level has become *reflexive* in late modernity.

Reflexivity expresses a persistent self-confrontation of institutions and individuals as a means to achieve structuring and change, whereby cumulative information is constantly utilised. To posit the inherent dangers of radioactivity, toxic waste or genetically modified food forces us to assess risks and question current institutional arrangements and personal choices. In this manner, modernisation becomes its own subject and project, whereby the ontological status of risks are more or less predetermined.

This leaves reflexive modernity with a number of routes towards the future in which uncertainty dominates. Giddens, for instance, envisages either a negative dystopic future of collapse of economic growth, the resurgence of totalitarian regimes, nuclear and other large-scale military conflicts, and catastrophic ecological decay, or a positive utopian future of post-scarcity with the aid of global coordination paralleled by the institutionalisation of a system of planetary care.<sup>23</sup> Ewald highlights life's uncertainty when faced with decisionmaking: 'Decisions are therefore made not in a context of certainty, nor even available knowledge, but of doubt, suspicion, premonition, foreboding, challenge, mistrust, fear, and anxiety.'<sup>24</sup> Both Ewald and Giddens, in a way, draw on the work of Kahn we came across earlier. Cold War anxieties and the apocalypse of ecological degradation are not separate entities. Kahn remarks on the former that: "I can believe the impossible", Father Brown notes, in one of Gilbert K. Chesterton's wonderful priest-detective

stories, “but not the improbable”. Unlike Father Brown, we believe not only the impossible *and* the improbable, but also the implausible, the unlikely, and the unproven. We believe in them and we take them seriously, especially when they involve what is probably the central issue of our time – nuclear war.<sup>25</sup> Change the term nuclear war for e.g. nanotechnology, food safety, or climate change and we have arrived in the 21<sup>st</sup> century with its precautionary fixations. The first report to *The Club of Rome* that posited solutions to the ‘world problematique’ (of which nuclear armament was just one of the many issues raised), lends a suitable causeway between the two. Its rise to fame was very much embedded in the gloomy Cold War atmosphere that so much vexed Western citizens.

## STAGING THE DISSENT: COLLECTIVE SOCIAL EXPERIENCES AND UTOPIAN DESIRES

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*And I will  
wait to find  
If this will  
last forever  
And I will  
wait to find  
If this will  
last forever  
And I will  
pay no mind  
When it won't and it  
won't because it can't  
It just can't  
It's not supposed to'*  
(John Mayer)

---

The precautionary culture of risk society is dominated by the logic of risk distribution, resulting in the permanence and omnipresence of anxiety and fear. Increased wealth, safety, security, and longevity are paradoxically paralleled by an increase in fear and anxiety. However, the rise of precautionary culture is best explained as a result of a number of developments and experiences, which citizens of Welfare States collectively share.<sup>26</sup> Here we begin to stage the dissent of the many voices that sing in harmony of the risks of modernity and the proposed precautionary remedy that should lead to a sustainable future.

In risk culture there is a constant drive to identify new risks and to specify more and more homogenous risk communities. The customary response to risk is thus to establish insurance or compensatory schemes, either through private insurance or public policy or both. This trend has accelerated in all modern societies and resulted in some version of the Welfare State. A number of collective social experiences that citizens of welfare states have gone through eventually leads to the

kind of attitude towards damage and disgrace that is characteristic of precautionary culture. Six developments can be regarded as major drivers of this development.

The rise of precautionary culture, *firstly*, is strongly rooted in the development and diffusion of science and technology in all societies. As a result of the growing scepticism of late modernity when confronted with facts and stories about anthropogenic pollution and the degradation of nature,<sup>27</sup> the optimistic early-modern promise of modern science and technology to shape a truly safe and secure world for everyone, paradoxically set off a precautionary response in risk culture to curb both. Yet, as Western World citizens have experienced increasing wealth, safety, security, and longevity on account of the same science and technology, both have been granted –again, paradoxically– an increasing impact-radius on society. Science and technology as originators of the perceived predicament has proven to be indispensable to highlight and measure the very same predicament.<sup>28</sup> ‘Pessimism about structures – and a generally negative view of political actors as a group – can be entirely consistent with high expectations about what governments can and will do.’<sup>29</sup>

A *second* major development is that social institutions and those in high places are not beyond reproach. All modern societies show a loss of trust of the population in its main institutions.<sup>30</sup> A high level of confidence regarding what science is supposed to deliver is offset by a high level of scepticism with regard to what science cannot and should not do. In modern society, scepticism about science’s capacity to secure objective knowledge, illustrated by the erosion of the idea(l) of autonomous knowledge and autonomous law,<sup>31</sup> lent aid to the shift towards the notion of *inter-subjective* knowledge.<sup>32</sup> It is merely a matter of degree to claim that all knowledge is related to interests and power.<sup>33</sup>

A *third* development is that more and more of the damage people incur is in fact being compensated. Modern man has created a legal culture in which individual rights continue to expand, a process, which is driven by the idea of total justice.<sup>34</sup> This kind of legal culture is common to all modern societies.

A *fourth* closely related development arose from progress modern



societies made in enhancing safety and security. In the logic of risk culture, the extension of compensation matches the extension of prevention, as people's lives become more valuable on account of increasing age and wealth.<sup>35</sup> Strangely enough, the safer human life in modern society has become, the more the remaining risks are regarded as a threat, whereby the focus on probabilities has shifted to outcomes, the possibilistic thinking we discussed earlier. Subsequently, as individual human life has expanded in time, control over the distant future within an increasing amount of policy fields has been thoroughly augmented (terrorism and global warming are just two examples), resulting in the development of what could be called a *Security State* as a radicalised version of the Welfare State.

The *fifth* development is that the more damage is compensated or prevented for, the more compensation and prevention will become the norm. Thus, the more harm and damage is prevented or compensated, the more any remaining adverse experiences are met with feelings of indignity. Damage, again, has become a disgrace. This time, however, it is not the victim that is blamed. In precautionary culture we assume that those in charge of industry and especially governmental officials –societies' system-managers– are to blame. This is because risk culture has developed the idea that damage is primarily not due to individual carelessness but should be seen as undesired side effects of industry, economy or any other social system regarded as worthwhile. This lesson is retained in precautionary culture, but the idea that some damage is unavoidable and acceptable is no longer held as valid: damage should be foreseen and forestalled. In precautionary culture, people feel that all damage can be predicted and should be avoided by precautionary action.<sup>36</sup> Where risk culture took (some) damage for granted and prevented damage only to the extent that it was cost-effective, in precautionary culture the avoidance of damage comes first, whatever the cost. When precaution fails, this leads, first, to a moral public outcry against those officials who have forsaken their duty to avoid risks (and must be punished), and second to a claim of full compensation. The system-managers' concept and their proneness to precautionary liability can be examined in a different way.<sup>37</sup> In Western societies experts and their specialist knowledge are increasingly depended upon. No aspect of industrialised and technological life is left unaffected.

In this situation, citizens, even when they are experts in some field, usually lack the knowledge to assess all the risks they run in everyday life. It is therefore no wonder that the blame is shifted away from the victims and towards the experts and especially the ones that 'control' the systems of society. Deprived of social mastery in circumstances of serious man-made threats, experts increasingly bear the brunt of the blame of a certain situation that arose from the implementation of certain technologies.

The *sixth* development –the development we will focus on in the final analysis– is that of secularisation. The belief in the God of Abraham, Isaac, and Jacob who revealed himself in Jesus<sup>38</sup> has diminished considerably in the twentieth century, especially in the Western World (although this does not depict an increasing, for lack of a better word, atheism). Secularisation,<sup>39</sup> in conjunction with the lengthening of individual human life, has resulted in the ultimate valuation of the here and now devoid of any expectancy of life beyond immediate experience. When life is regarded only as a material event that takes place between birth and death, the sole perspective secularised life can offer is a long and healthy lifespan lived in peace and quiet, catered for by increasing amounts of science and technology (and boosting the scientific traits thereof). The anticipatory character of life,<sup>40</sup> therefore, is lost with the demise of any perspective beyond the material. Life, mind and cosmos are only to be understood as material.

Overall, the logic of risk distribution does not entail an increase in anxiety and fear, as proposed by Beck and many others with him. Conversely, the loss of any life-transcending perspective seems a rational and superior explanation of the increase in fear and anxiety in present-day society. This we will investigate further anon.

## FEAR COMES FIRST - DISASSEMBLING REFLEXIVITY

*'God save me rejection  
From my reflection*

But how should we view the risks we are increasingly made wary of? The ontological status of risk comes into view here. The understanding thereof, in part, will illuminate our



*I want perfection  
...  
And your Jesus really  
died for me  
Then Jesus really  
tried for me'  
(Robbie Williams)*

---

fears towards our existential conundrum as played out in precautionary culture.

Beck, for instance, is not sure about the ontological status of the risks he discusses, and does not resolve the issue. At times he presents a constructionist view: he defines the environmental problem as a social crisis and stresses that the transition from industrial to risk society depends on culturally mediated perceptions. On other occasions he posits the genuine, real, physical riskiness of large-scale nuclear and chemical technologies that has taken industrial society beyond its limits of calculability.<sup>41</sup>

Indeed, in a later publication, he argues for a 'cosmopolitan realism' and he describes risks as actors: they 'set up a global dynamic' and 'create a sharper awareness'.<sup>42</sup> Conversely though '...ecological, economic and terrorist risks have one essential characteristic in common: they cannot be classed as *external* environmental risks, but must be understood as facts and elements of insecurity generated by civilization. In this sense, civilizational risks potentially create a sharper awareness of standards among a global public and make a cosmopolitan perspective possible. In world risk society new political disputes flare up over the causes of global dangers and who is responsible for them – disputes that require an institutionalized cosmopolitanism to settle the problems of definition and liability.<sup>43</sup>

Nevertheless, the naturalising propensity in Beck's theory regarding the risks of modernity as real in the external sense is uncovered when he uses the metaphor of a boomerang effect. 'The agents of modernization themselves are emphatically caught in the maelstrom of hazards they unleash and profit from.'<sup>44</sup> Thus, according to Beck, industrial society, in primary modernity, produces pollutants that it defines as controllable side effects. But these side effects threaten modern global society through their incalculable, devastating and poisoning capabilities that are initially hidden or are uncertain.

Bauman commented on the English edition of *Risk Society* in the *Times Higher Education* with a pointed observation that the

problem is not only that we are confronted with challenges of an undreamt scale but, more thorny, that all attempts to resolution contain the kernel of new, more arduous problems. Thus, the culture of fear stems from the ironic condition that the institutions that are designed to control risk incontrovertibly produce uncontrollability and thereby reduce society's stability. 'The most fearsome of disasters are those traceable to the past or present pursuits of rational solutions. Catastrophes most horrid are born – or are likely to be born – out of the war against catastrophes. ... Dangers grow with our powers, and the one power we miss most is that which divines their arrival and sizes up their volume. ... Ever more resources are to be consumed in order to repair the gruesome effects of yesterday's risks resource consumption. Individual fears beefed up by the exposure of yesterday's risks are deployed in the service of collective production of the unknown risks of tomorrow. ...'<sup>45</sup>

In *Liquid Times*, Bauman links existential fear most Westerners experience with substitute-fears that allow some form of control. Here, he digs deeper than Beck does, as he regards the risks of modernity as meagre substitutes for the issues he regards as fundamental:<sup>46</sup>

'Unable to slow the mind-boggling pace of change, let alone to predict and control its direction, we focus on things we can, or believe we can influence .... We are engrossed in spying out 'the seven signs of cancer' or 'the five symptoms of depression', or in exorcising the spectre of high blood pressure, a high cholesterol level, stress or obesity. In other words, we seek to *substitute* targets on which to unload the surplus existential fear .... Each next revision of the diet in response to a successive 'food panic' makes the world look *more* treacherous and fear-some, and prompts *more* defensive actions – that will, alas, add more vigour to the self-propagating capacity of fear.'

As an answer to the predicaments of risk society, Beck proposes the embracement of a culture of uncertainty, which has to be clearly distinguished from residual risk culture, which accepts risks that

cannot be eliminated, on the one hand, and a no-risk culture on the other. The key to this culture of uncertainty, as Beck sees it, lies in the readiness to openly discuss the approaches to risk, the willingness to negotiate between different rationalities, rather than to engage in mutual accusations, and the willingness to erect modern taboos on rational grounds.<sup>47</sup>

On first reflection, it seems that Western World societies have fallen prey to massive social hypochondria.<sup>48</sup> Continuous self-reflection did not result in self-awareness or individual and corporate strength, but in self-doubt, anxiety and fear. Variations in history that are out of line with precautionary expectations are met with fear and aversion, not entirely unlike 14<sup>th</sup> century uncertainties and risks that were fruitlessly countered by the clergy. Reflexivity is partly a consequence of policies that derive their existence from fear and aversion. Reflexive modernity therefore duplicates its own reflexivity:<sup>49</sup> the 'polluting agent' does not need to trigger concern, but concerns (fear) might well turn the agent into a pollutant: physically, mentally, and even spiritually. Uncertainty, distrust, and fear, as a result, have become an important source for scientific investigation, and not a consequence thereof.<sup>50</sup>

The boomerang effect triggered by polluting agents, be they chemicals, aircraft noise, deforestation, urbanisation, immigration, economic recession, climate change and the like, as part of reflexive modernisation, holds inconsistencies that express the notion that fear comes first. Empirically, for instance, as far as aircraft noise is concerned, planners, scientists and politicians were concerned about the issue before it aroused large-scale public anxiety. This awakened other parties to the issue and set a process of social struggle in motion.<sup>51</sup>

Social conflicts and unrest surrounding risks are as much, if not more, products of policy interventions as a response thereto.

Increasing efforts to control establishes a vicious circle of awareness, rising expectations and expressly negative evaluations. The legitimisation of agents as pollutants mobilises a critical attitude in citizens and not in a few instances will subsequently be institutionalised. Stephen Breyer (incumbent associate Justice of the Supreme Court of the United States), in his well known book

*Breaking the Vicious Circle*, comments that the 'three elements of the vicious circle –public perception, Congressional reaction, and the uncertainties of the regulatory process–reinforce each other. Obviously, public perceptions influence Congress, Congress (through press reports of its activities in particular) helps to shape public perception, and both influence the response of agency administrators to the problems they consider important.<sup>52</sup>

This brings us to the point where dystopian forecasts, of which climate change is probably the most prominent, elicit the utopian undercurrents in the precautionary debate. To these undercurrents we will turn subsequently.

## UTOPIA AND DYSTOPIA<sup>53</sup> – HEADING FOR THEOLOGY

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*'Why did you bring  
me to a place so  
wild and pretty?*

...

*Why did you  
pick me?'*  
(Joni Mitchell)

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Harmony ...

To present a historical and philosophical survey of Utopia, to reveal its roots and development, and, to some, its death, is a utopian task in itself. We will leave the sum total of utopian thought and history to the *opus magnus* of Frank Manuel & Fritzie Manuel and the work of Krishan Kumar, to name just these scholars.<sup>54</sup> In the Netherlands, Hans Achterhuis has delved deep into the history of Utopia resulting in a multi-faceted picture and understanding of Utopia and its dystopic nemesis.<sup>55</sup> What we can only do here is offer the main themes of Utopia and in what ways the Gospel (or Christianity) suffuses the former.<sup>56</sup>

Thomas More as the writer of *Utopia* –the term itself was coined by More, meaning both 'a good place' and 'nowhere'– is regarded as the prototype of all other utopian literature. The utopian tradition continues with amongst others Francis Bacon (*New Atlantis*, 1627), Tommaso Campanella (*Città del sole*, 1602), Jean Jacques Rousseau (*Du Contrat Social, Principes du droit politique*, 1762), Henri de Saint-Simon (*Catéchisme politique des industriels*, 1824), Charles Fourier (*Le nouveau monde industriel et sociétaire*, 1829), Edward Bellamy (*Looking Backward*, 1888), William Morris (*News From Nowhere*, 1891),

Peter Kropotkin (*La Conquête du Pain*, 1892), up to such 20<sup>th</sup> century thinkers as Bernard Skinner (*Walden Two*, 1948), Aldous Huxley (*Island*, 1962), Ernest Callenbach (*Ecotopia*, 1975), Marge Piercy (*Woman on the Edge of Time*, 1976), and Murray Bookchin (*The Ecology of Freedom*, 1991) to name just some of the most recognised works. In defining the core of Utopia and utopian thought, Isaiah Berlin gets quite close when he observes that:<sup>57</sup>

‘All the Utopias known to us are based upon the discoverability and harmony of objectively true ends, true for all men, at all times and places. ... The communist societies of Mably and Morelly, the state capitalism of Saint-Simon, the Phalanstères of Foerier, ... rest on the three pillars of social optimism in the west ...: that the central problems ... of men are, in the end, the same throughout history; that they are in principle soluble; and that the solutions form a harmonious whole. Man has permanent interests, the character of which the right method can establish. These interests may differ from the goals which men actually seek, or think that they seek, which may be due to spiritual or intellectual blindness, or laziness, or the unscrupulous machinations of self-seeking knaves ... who throw dust in the eyes of fools and ultimately their own. Such illusions may also be due to the destructive influence of social arrangements –traditional hierarchies, the division of labour, the capitalist system– or again to impersonal factors, natural or the unintended consequences of human nature, which can be resisted or abolished. Once man’s true interests can be made clear, the claims which they embody can be satisfied by social arrangements founded on the right moral directions, which make use of technical progress or, alternatively, reject it in order to the idyllic simplicity of humanity’s earlier days, a paradise which men have abandoned, or a golden age still to come. Thinkers from Bacon to the present have been inspired by the certainty that there must exist a total solution: that in the fullness of time, whether by the will of God or by human effort, the reign of irrationality, injustice and misery will end; man will be liberated, and will no longer be the plaything of forces

beyond his control –savage nature, or the consequences of his own ignorance or folly or vice; that this springtime in human affairs will come once the obstacles, natural and human, are overcome, and then at last men will cease to fight each other, unite their powers and cooperate to adapt nature to their needs (as the great materialist thinkers from Epicurus to Marx have advocated) or their needs to nature (as the Stoics and modern environmentalists have urged). ...’

Berlin points to the heart of Utopia: total harmony *and* the discoverability of the truth thereof. Thus, the truth of harmony between different values and goals, between individuals and groups of people, between society and the individual, humanity and nature, between public and private interests, and so on and so forth, is within the grasp of humanity. Ultimate reconciliation of the actual and widely divergent human values and wishes is regarded as feasible.

The real essence of community is to be found in the fact that it has a centre, as Martin Buber remarks in his *Paths in Utopia*.<sup>58</sup> He uses the image of a circle as described by the radii and not by the points along its circumference.

‘True’ or ‘real’ human nature is universal, good, and collaborative and, above all, will guarantee freedom for all. This smacks of what we have referred to earlier, namely the source of value the *Center of Naturalism* defines as our ‘naturally endowed empathetic concern for others and our hard-wired penchant for cooperation and reciprocity get us what we most want as social creatures: to flourish as individuals within a community. ...’<sup>59</sup> Within the context we discussed so far, the perspective the *Center of Naturalism* has on value carries a distinct utopianism.<sup>60</sup> Human nature and human needs are viewed by utopians as more or less fixed and to be discovered and implemented in all.

Utopia is not a vision of improvement but of perfection. It ‘has a unique synthetic aspect which combines the civic, the political, the socio-economic, the humanitarian, the cultural, and the religious. It offers a total plan for human regeneration’, as Fred Polak would have it.<sup>61</sup>

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*Remembering  
You fallen into my arms  
Crying for the  
death of your heart  
You were stone white ...'  
(The Cure)*

---

... fear ...

No matter how real Utopias are presented, in the end Utopias are stories about reality unrealised. They are either past or future projections. Utopia is specific in its portrayal of the possibilities of human society that are viewed as part of the past or the future but *not* of the present.

Utopia is not only a program of action but also a device for criticising the existing order, with the aid of a vision of an infinitely better tomorrow. Utopia is a means to reflect on the shortcomings of present-day society by means of portraying a better society. Utopias are constructed out of hope and despair. They are prototypical models of stability anchored in a spirit of contradiction: it implies the nightmare of the present.

In the days the first Utopias were put to paper, fear and uncertainty in which Europeans lived was one of the main drivers for the rise of Utopia.<sup>62</sup> In *A Distant Mirror: The Calamitous 14<sup>th</sup> Century*, Barbara Tuchman penned down the turmoil Europe was in.<sup>63</sup> The Church and its theology was increasingly questioned by the forerunners of the Reformation; the popes traded Rome for Avignon; the clergy was increasingly criticised for its morals; the Hundred Year War (1337 – 1453) between England and France affected Europe in no small measure.

But the most devastating of all was the plague pandemic that hit Europe between 1346 and 1353. Chronicles and letters from that time describe the terror and utter desolation the infection brought. In Florence, the great Renaissance poet Petrarch was sure that posterity would not believe what survivors had witnessed: 'O happy posterity, who will not experience such abysmal woe and will look upon our testimony as a fable.'<sup>64</sup> Tuchman observes:<sup>65</sup>

'Survivors of the plague, finding themselves neither destroyed nor improved, could discover no Divine purpose in the pain they had suffered. God's purposes were usually mysterious, but this scourge had been too terrible to be accepted without questioning. If a disaster of

such magnitude, the most lethal ever known, was a mere wanton act of God or perhaps not God's work at all, then the absolutes of a fixed order were loosened from their moorings. Minds that opened to admit these questions could never again be shut. Once people envisioned the possibility of change in a fixed order, the end of an age of submission came in sight: the turn to individual conscience lay ahead. To that extent the Black Death may have been the unrecognized beginning of modern man.'

The ensuing loss of family ties, the weakening of governmental structures, the waning authority of the church, and increasing scarcity of food and materials, fear was on the rise in the hearts of those Europeans left to view the physical, psychological, intellectual, and institutional devastation. Everything was loosened, nothing proved to be certain. Fear became the common denominator for at least a century and a half in the aftermath of the plague pandemics. As a result, with the aid of Utopia, society could be pictured as something to be infinitely improved upon. Fear, uncertainty, and other human limitations could be transcended through human ingenuity, resolve and political will.

... scarcity ...

Tuchman suggests with her analysis of the 14<sup>th</sup> century that modern man and its individuality was born there and then. At least it can be inferred that the manner in which the eternal questions of evil, suffering, and scarcity were perceived changed irreversibly.

The answers given by the church and its theology proved to be inadequate and ineffective during and after the plague pandemics. The eternal questions came to be seen in a new light. 'They lived through a period which suffered and struggled without visible advance. They longed for remedy, for a revival of faith, for stability and order that never came. The times were not static. Loss of confidence in the guarantors of

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*'Look my eyes  
are just holograms  
Look your love has  
drawn red from  
my hands  
From my hands you  
know you'll never be  
More than twist  
in my sobriety ...'  
(Tanita Tikaram)*

---

order opened the way to demands for change, and *miseria* gave force to the impulse. ...<sup>66</sup> Rebellion took over from religious complacency. Suffering was no longer regarded as inevitable, as simply a part of human reality; it demanded amelioration up to the point of vanishing altogether.

Achterhuis perceptively notes that this development is very much related to the issue of scarcity, as it is regarded as solvable. When scarcity is mentioned, the usual response is to find a means of resolution. Scarcity, in other terms, is the agency through which human weakness and suffering emerges in the light of social engineering and its potential for resolution.<sup>67</sup> Scarcity is not static, as simply the mismatch between needs and the means to rectify it. On the contrary, with increasing needs scarcity will increase as well. Needs are not only objective (such as food and water), they have become increasingly subjective, that is related to the potential to progressively remedy human shortcomings in more and more domains of life and living.

Achterhuis specifically shows that scarcity intimately connects Utopia with dystopia. As humanity increasingly believes that the world can be massively improved upon by man, the realisation grows that the world in fact is some sort of hell, filled with suffering, evil, hunger, war, and the like. *This is the utopian dialectic*. It explains the notions of pending doom, and the experience of a present dystopia, as so many 20<sup>th</sup> and 21<sup>st</sup> century films aptly portray. *Alpha Ville* (1965), *a Clockwork Orange* (1971), *Soylent Green* (1973), *Logan's Run* (1976), *Blade Runner* (1982), *Brazil* (1985), *Twelve Monkeys* (1995), *Dark City* (1998), *The Matrix* (1999) (*The Matrix Reloaded* and *Revolutions*), *Serenity* (2005), *V for Vendetta* (2005), *The Road* (2009), *Watchmen* (2009), *The Hunger Games* (2012) *Snowpiercer* (2013), *Elysium* (2013), and *Interstellar* (2014) are just a few examples that depict dystopias and doomsdays of varying sorts.

*Watchmen*, based on the 1980s cult comic book classic written by Alan Moore telling the tale of superhero's, Watchmen, who are in the service of mankind in an alternate 20<sup>th</sup> century *fin de siècle*, poses the question how to reconcile human nature

and the potential for a lasting Utopia, and chooses as an answer the age-old approach of the scapegoat, the foreign enemy to be cast out from human society (here at the expense of millions of people dead). Kumar shows the intimate relationship between Utopia and dystopia when he comments on Aldous Huxley's work in relation to H.G. Wells:<sup>68</sup>

'... Finally came the all-out counterblast in *Brave New World* (1932): 'a novel about the future,' wrote Huxley, 'on the horror of the Wellsian Utopia and a revolt against it'. But the relationship to Wells goes beyond this. The antagonism hid a deeper affinity to the older writer. Fundamentally, although he was at his sparkling best as an anti-Utopian satirist, Huxley was a Utopian. Like Wells, he was haunted throughout his life by the sense of an impending disaster for the human race. ... Like Wells, in his earlier writings and novels he was more concerned to criticize and warn, although in an ironic and satirical mode than in Wells's savage and apocalyptic tones. Like Wells, there came a moment when he broke through to a constructive, Utopian philosophy; and, as with Wells, it was a variety of religion that offered the solution. In the decade after *Brave New World* Huxley discovered and discoursed on the perennial philosophy, a form of mysticism which he saw as the basic unifying philosophy of all the world religions, and the only hope for mankind. ... in his very last novel *Island* (1962), he made full amends for the destructiveness of *Brave New World* by offering a fully realized portrait of a Utopian society, in which the Buddhist form of the perennial philosophy has been successfully applied to all aspects of personal and public life.'

Proponents of Utopia fear the dystopic present as much as they are attracted to the Utopia of the future. This is all the more complicated as the present dystopia can be regarded as the fruit of the utopian longing of the past, strongly present in the modern Western world since the 14<sup>th</sup> century. Utopia and dystopia are truly the different sides of the same coin.

The contributors of the 2009-*Futures* special on Utopia and



sustainable development overlook the linkage that the fulfilment of Utopia will generate the opposite. In one contribution, it is erroneously proposed that dystopian thought can only be regarded as the negation, the antithesis, of utopian thought. Utopian thought is visionary, portraying a desired goal for society based on contemporary experiences, whereas dystopian thought portrays an undesired society evolving from present conditions.<sup>69</sup>

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*I wanna be adored*  
*You adore me*  
*You adore me*  
*You adore me*  
*I wanna*  
*I wanna*  
*I wanna be adored'*  
*(The Stone Roses)*

---

... power ...

The aspect of Utopia usually left untouched is ultimately the desire for power, also known as the hidden logic of Utopia.

All the goodness that Utopia might exude could simply be a disguise for something as mundane as power. Power and the appetite for it are just around the corner for almost anybody, and those intent on the realisation of Utopia for no other reason than the lust for power cannot, in good conscience, reject the use of force to bring it about and preserve it.<sup>70</sup>

Karl Popper bluntly asks the question whether Plato was simply ambitious. He answers unequivocally that he 'was reaching for the stars – for god-likeness. I sometimes wonder whether part of the enthusiasm for Plato is not due to the fact that he gave expression to many secret dreams. Even where he argues against ambition, we cannot but feel that he is inspired by it. ... I think we must face the fact that behind the sovereignty of the philosopher king stands the quest for power. The beautiful portrait of the sovereign is a self-portrait. ...

We may begin to discern its human, indeed, its only too human features. We may even begin to feel a little sorry for Plato, who had to be satisfied with establishing the first professorship, instead of the first kingship, of philosophy; who could never realize his dream, the kingly Idea which he had formed after his own image. ...<sup>71</sup>

More confesses in a letter to Erasmus, who had seen the manuscript of Utopia: "You cannot think how elated I am," he wrote, "how I have thrown in stature and hold my head

higher' so constantly do I imagine myself in the part of the sovereign of Utopia: in fact I fancy I am walking with the crown of corn ears upon my head, wearing a Franciscan cloak, carrying the corn sheaf as a sceptre, attended by a great throng of people." ... Just so had Campanella imagined himself to be the Great Metaphysician in his City of the Sun; Bacon, the Father in his Solomon's House; ...; Cabet, the Lawgiver of his Icaria ...<sup>72</sup> Orwell mentions that the 'people who have shown the best understanding of Fascism are either those who have suffered under it or those who have a Fascist streak in themselves.'<sup>73</sup>

The itch for power, with all its consequences, is perhaps the most compelling driver of Utopia. Utopia, in its vision of a world rendered transparent to human discernment and entirely subject to human will, epitomises Enlightenment optimism. The scientific myth we discussed in previously fosters utopian dreams of genetic manipulation and control designed to reshape imperfect human nature according to some scientific ideal.<sup>74</sup> And that makes sense when one considers that the scientific and philosophical revolution that spawned the scientific myth in all intents and purposes discarded value-concepts such as meaning and purpose. Thereby, being as such is de-valourised, leaving man outwardly malleable to optimistic utopian impulses fuelled with dreams of absolute power.<sup>75</sup>

'Some people believe that evil can be eliminated, that Eden on earth is possible. Whatever it is in human behavior or human society that is responsible for the misery around us can be swept away, in their view. They are reformers on a global scale. The moral response to suffering, of course, is the Good Samaritan's: doing what we can to stop the suffering, to help those in need. Global reformers are different from Good Samaritans, though; global reformers mean to remove the human defects that produced the evil in the first place. The failure of the great communist social experiment is a sad example of the problems with this approach to evil. Every good family runs on the principle "from each according to his ability; to each according to his need." The extended human family in Eastern Europe intended to run on this principle



and turned it instead into “from each according to his weakness; to each according to his greed.” Ecclesiastics sums up the long-term prospects for global reform in this way: “I observed all the happenings beneath the sun, and I found that all is futile and pursuit of wind; a twisted thing that cannot be made straight, a lack that cannot be made good” (1” 14 – 15).’

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*I'm the trouble  
starter, punking  
instigator  
I'm the fear addicted,  
danger illustrated  
I'm a firestarter,  
twisted firestarter,  
you're the firestarter,  
twisted firestarter  
...  
Yeah, I'm the pain  
you tasted, fell  
intoxicated'  
(Prodigy)*

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### ... and the moral zeal within Utopia

This observation brings us at the lot of Utopia in history. Professing faith in a practically limitless and total perfectibility of human nature and a total reconstruction of society has shown to be compatible with treating actual human beings like raw material whose current nature leaves much to be desired. Human nature can be fundamentally improved upon by inexorable moulding. Buber, as we referred to earlier, sees the utopian community as defined by the centre overriding all other relations. The circle is described by the radii and not by the points along its perimeter.

The contradiction in Buber's remarks about community that has always plagued the implementation of utopian states in the real world points at the harmony Berlin sees as central and fundamentally flawed to all utopian constructs. This contradiction concerns the fact that Buber cannot picture community without recourse to a circular configuration dominated by a centre (in his case of a divine nature). Insisting that the radii, and not the points along the circumference, are the elements of the figure that describe its shape reduces the members of the community to indistinguishable elements of similarity. The circle needs to be defined by *a priori* design, whereby the radii, that is the members of the community, need to be moulded to the exact specifications of that circle.

The study into the realm of Utopia gives us little, if any, hope of success, and the 2009-film *Watchmen* is an appropriate 21<sup>st</sup> century cinematographic answer to Kurosawa's *Dreams* with which we began this chapter. *Watchmen* gives us, specifically at

this juncture, insight into the violent mechanism of Utopia created out of the dystopia of imminent nuclear destruction of a Cold War close to becoming hot. Citing from the film (which follows the book relatively closely), Ozymandius, one of the Watchmen, states that '[w]e can do so much more. We can save this world, with the right leadership', portraying in a nutshell the utopian/dystopian discourse. Another watchman (the Comedian) counters this notion dolefully:

- *Comedian*: 'And that'd be you, right, Ozzy? I mean, you're the smartest man on the planet.'
- *Ozymandius*: 'It doesn't take a genius to see the world has problems.'
- *Comedian*: 'Yeah, but it takes a room full of morons to think they're small enough for you to handle. You know, mankind's been trying to kill each other off since the beginning of time. Now we finally have the power to finish the job. Ain't nothing gonna matter once those nukes start flying. We'll all be dust. Then Ozymandias here will be the smartest man on the cinder.'

The answer to this deadly conundrum is secretly wrought by Ozymandias, through the set-up of an external enemy to both the USA and the USSR: the stoic superhuman Watchman-colleague Dr. Manhattan. Destroying New York and a few other major cities, and killing millions of people in the process, Ozymandius frames Dr. Manhattan for this crime whereby the USA and the USSR unite in friendship against this threat. Worldwide peace ensues. But the truth of this murderous peace remains hidden, and Ozymandius has second thoughts in his last conversation with Dr. Manhattan (here the book gives more insight than the film):

*Ozymandius*: '... I've made myself feel every death. By day I imagine endless faces. By night ... well, I dream about swimming towards a hideous ... no. It isn't significant ... What's significant is that I know. I know I've struggled across the backs of murdered innocents to save humanity ... But someone had to take the weight of that awful necessary crime.'

... I did the right thing, didn't I? It all worked out in the end.'  
*Dr. Manhattan*: "In the end?" Nothing ends, .... Nothing ever ends.'

Orwell's dystopia *1984* is perhaps the best literary critique of Utopia we have available. Other literary masterpieces are Yevgeny's Zamyatin's *We* (1921) and Arthur Koestler's *Darkness at Noon* (1940). These dystopias, all related to the rise and establishment of communism, show unequivocally the darkest sides of humanity because of the belief in the goodness of human nature that needs to be unearthed by those who think to have grasped the inner truth of that nature.<sup>76</sup> As Koestler describes so meticulously, in utopian societies, disintegration of real communities is part of the perfecting strategies by the utopians. The political powers-that-be intentionally strives to abolish personal integrity as well as the very possibility of authentic community-formation. Both need to be cast into the utopian mould. As a result, anything can be made believable once suspicion and fear prevail and the web of trust has been shattered.<sup>77</sup> Humans, within the confines of Utopia, will be completely solitary.<sup>78</sup>

## INTRODUCING THE UTOPIAN CONTRADICTION

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*'Before last night  
my heart was grey  
Like my country  
is today'  
(K's Choice)*

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Underneath all this utopian moral passion to create a better world lurks a contradiction, which goes along with a culture that tries so hard to surpass its human boundaries. This contradiction Polanyi perhaps explicated most clearly. Concisely, he saw the rise of scepticism as a means to do science as a threat to humanity as a whole. In his own words:<sup>79</sup>

'Science rebelled against authority. It rejected deduction from first causes in favour of empirical generalisations. Its ultimate ideal was a mechanistic theory of the universe, though in respect of man it aimed only at a naturalistic explanation of his moral and social responsibilities. ...

Scientific rationalism did serve man well as long as it was moving towards its false ideals from a great distance. But this could not last. Eventually the truth-bearing power of its absurd ideals was bound to be spent and its stark absurdity to assert itself. ...

Scientific obscurantism has pervaded our culture and now distorts even science itself by imposing on it false ideals of exactitude. Whenever they speak of organs and their functions in the organism, biologists are haunted by the ghost of 'teleology.' They try to exorcise such conceptions by affirming that eventually all of them will be reduced to physics and chemistry. ... Neurologists follow suit by asserting that all mental processes too will be explained by physics and chemistry. ...

Neurologists, like all the rest of us, know the difference between consciousness and unconsciousness; when they deny it, they mean that since it eludes explanation in terms of science, its existence endangers science and must be denied in the interest of science. ...'

The rise of Western science thus was closely tied to a developing mechanistic conception of the natural world, which subsequently yielded a mechanistic conception of the person. The latter, in turn, engendered a materialist view of politics and a naturalistic explanation of moral and social responsibilities. The scientific revolution supplied the supreme axiom of developing sceptical rationalism and the rejection of *all* authority including the moral and religious ones. Indeed, *Nullius in Verba* (roughly translated as 'take nobody's word for it') had been the motto of the Royal Society since its foundation in 1660.

With this development Polanyi sees the rising contrast between the search for truth and truth itself. The declared aim of modern science is to ascertain a stringently detached, objective knowledge. Any falling short of this principle is accepted only as a temporary imperfection, which we must aim at eliminating.<sup>80</sup> The acceptance of science on the one hand

–the essence of which is discovery; that is the drive to explore new and as of yet imprecise ideas– and the assertion and explication of a wholly unequivocal truth on the other (which we have described as scientific), Polanyi saw colliding.

As the (especially physical) sciences went from triumph to triumph, theorists of different stripes increasingly sought to apply the scientific method to studies of the social order. Wrapped, then, in the authority of science, the reductionist interpretations of political trends and the ostensible predictions of politico-economic futures could be presented as unassailable empirical accounts of the truth. As a result, those embracing such accounts of truth could effectively license despotism, at least in principle.<sup>81</sup> ‘Time, accomplice of exterminators, disposes of morality. Who, today, bears a grudge against Nebuchadnezzar?’<sup>82</sup>

With the rise of scepticism and the ostensibly achievability of truth best understood as scientism, moral values became and still are prone to be criticised as old school or worse, wholly outmoded. The scientific challenge to traditional forms of social order and authority resulted in secularism and the shift from a static conception of society to a dynamic one. The idea that society is ever progressing toward higher and more adequate configurations gained wide acceptance, and achieved dominancy.

This precarious development in science and society was carried by both the ‘twin devils of the ideal of knowledge as detached objectivity and the ideal of action as moral perfectionism’,<sup>83</sup> the core of the 20<sup>th</sup> century predicament. Polanyi coined this development with the term ‘moral inversion’. Analogous to Koestler’s literary portrayal of moral inversion, Polanyi remarks that:<sup>84</sup>

‘... a man looking at the world with complete scepticism can see no grounds for moral authority or transcendent moral obligation; there may then seem to be no scope for his moral perfectionism. Yet he can satisfy it by turning his scepticism against existing society, denouncing its morality as shoddy, artificial, hypocritical, and a mere mask for lust and exploitation. Though such a combination of his moral scepticism with his moral indignation is inconsistent, the two

are in fact fused together by their joint attack on the same target. ... Having condemned the distinction between good and evil as dishonest, he can still find pride in the honesty of such condemnation. Since ordinary decent behaviour can never be safe against suspicion of sheer conformity or downright hypocrisy, only an absolute amoral meaningless act can assure man of his complete authenticity. All the moral fervour which scientific scepticism has released from religious control and then rendered homeless by discrediting its ideals, returns then to imbue an amoral authenticity with intense moral approval. This is how absolute self-assertion, fantasies of gratuitous crime and perversity, self-hatred and despair, are aroused as defences against a nagging suspicion of one’s own honesty.’

The combination of disdain for moral values such as truth and justice with a boundless moral passion for utopian perfection set the stage for the societal and political dramas we have seen in the 20<sup>th</sup> century.<sup>85</sup> The scepticism of science, which in the final analysis cannot validate moral judgement within its epistemology, together with man’s unlimited and unprecedented moral aspirations to build an infinitely better future for itself Polanyi brought together.

## FROM GOSPEL TO UTOPIA

*Love is a temple  
Love is a higher law  
You ask me to enter  
But then you  
make me crawl  
And I can’t keep  
holding on  
To what you got*

### Messianism

The Christian heritage is the pivotal factor in understanding Utopia.<sup>86</sup> This, however, does not make it a straightforward actor in the development of Utopia. Few would dispute the preoccupation of the first Christians with the ultimate purpose of God with the world through the life, death and resurrection of Jesus. There is significant difference of opinion for instance between those who argue for the coming of some spiritual kingdom after the winding up of this world, and those who

When all you've  
got is hurt'  
(U2)

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find early Christian expectations on the historic-political plane, keeping the time-scale of those expectations out of the equation. Gershom Scholem for instance describes the distinction between what he calls spiritual messianism of Christianity (e.g. John 18: 36)<sup>87</sup> and political messianism of Judaism:<sup>88</sup>

'Any discussion of the problems relating to Messianism is a delicate matter, for it is here that the essential conflict between Judaism and Christianity has developed and continues to exist. ... A totally different concept of redemption determines the attitude to Messianism in Judaism and Christianity; ... Judaism, in all of its forms and manifestations, has always maintained a concept of redemption as an event which takes place publicly, on the stage of history and within the community. ... In contrast, Christianity conceives of redemption as an event in the spiritual and unseen realm, an event which is reflected in the soul, in the private world of each individual, and which effects an inner transformation which need not correspond to anything outside. ... What appeared to the Christians as a deeper apprehension of the external realm appeared to the Jew as its liquidation and a flight which sought to escape verification of the messianic claim within its most empirical categories by means of a non-existent pure inwardness.'

As there is continuity between Second Temple Judaism and early Christianity,<sup>89</sup> for instance in relation to messianic hopes,<sup>90</sup> Scholem posits an ostensible contradiction in early Christianity after the death of Jesus: the apparent reality that showed nothing of any Messianic transformation of the world and their Messianic faith and the expected return of the Messiah in his glory inaugurating the new kingdom. Jesus was sent to announce the new kingdom and rule over it (see e.g. Matthew 5: 43, 44; Mark 1: 15; Luke 11: 20), but apparently failed. John Gray unsurprisingly argues, along similar lines, that early Christianity was an eschatological cult: Jesus and his

followers believed that the world was destined to undergo a complete renewal, that is the inauguration of the Kingdom of God of justice and peace over which Jesus would rule.<sup>91</sup> However, the new kingdom did not arrive, and Jesus was arrested and executed by the Romans. The history of Christianity, as Gray and others perceive it, seems to be driven by this so-called 'eschatological disappointment'. Scholem remarks that from this disappointment, this contradiction, Christian theology emerged, which spiritualised the Jewish notion of this-worldly political renewal. The historic-political element within Christianity, however, lingered as a viable undercurrent, in a sense driving human history in especially the Western world for the past twenty centuries.

The common view then is that Jesus, after his execution, left his followers and subsequently the world with the image of an infinitely better world than experienced daily, even until today. Jesus, because of his death, proved *not* to be the ruler of this kingdom that the Jews so eagerly anticipated (see below), and left his message with his followers, now obviously responsible for the coming of this kingdom.

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### The Pursuit of the Millennium

All this created the potential for a shift from a spiritual religious-eschatological (which nevertheless can be political; see below) to a utopian-political conception of reality. Norman Cohn, in his highly influential study *The Pursuit of the Millennium*, posits the following central question: 'When did people cease to think of a society without distinctions of status or wealth simply as a Golden Age irrevocably lost in the distant past, and begin to think of it instead as preordained for the immediate future?'<sup>92</sup> He classically defines the millennial salvatory answer in a fivefold structure. It is (I) *collective* that is enjoyed by the faithful as a collective; (II) *terrestrial* that is realised on this earth; (III) *imminent* that is soon and abruptly; (IV) *total* that is utterly transformative for the entirety of

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'All good things in  
time  
I know will be fine  
Buried underneath  
You are all I see'  
(Active Child)

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human life and human society on earth; (V) *miraculous* that is with the help of supernatural agency.<sup>93</sup>

He positions the shift from religious eschatological thinking to the social myth of utopian thinking in the 14<sup>th</sup> century, specifically the English Peasant Revolt of 1381, in which an end to all lordship beyond that of the King was demanded and the Church's estates be confiscated and divided among the wider populace. This was by all means a violent attempt, with John Ball playing a noticeable role, to reform society into an egalitarian ideal. Ball is ascribed to have said in a sermon that 'things cannot go well in England nor ever shall until all things are in common and there is neither villein nor noble, but all of us are of one condition.'<sup>94</sup>

Although intensely modern, this notion of 'all of us are of one condition' is not without a theological basis. Matthew 5: 48 is an appropriate reference here where Jesus admonishes to be 'perfect, therefore, as your heavenly Father is perfect.' Orthodoxy laid down the perspective that it was impossible for man to be or become perfect in anything like the same sense that God was understood to be perfect. Sin blocked the road to perfectibility.

Nevertheless, a differing view persisted within Christianity, as the injunction in Matthew is obvious enough. Indeed, was not Jesus himself a human paradigm of God-like perfection, and were not men called upon to imitate him so that we will be of 'one condition', that is perfect? Matthew 5, for instance, might well be understood as the inauguration of the perfect society; those who adhere to Jesus' words of faultlessness inherit the entire earth.

Gnosticism was one response that tried to frame the notion of perfectibility through the acquirement of gnosis. As Pagels remarks (and this bears compelling similarities with scientific ignorance being sin): 'Many Gnostics ... insisted that ignorance, not sin, is what involves a person in suffering. ... Whoever remains ignorant ... cannot experience fulfilment. Gnostics said that such a person "dwells in deficiency" (the opposite of fulfilment). ... How –or where– is one to seek self-knowledge? ... the psyche bears within itself the potential for liberation or destruction. ... "If you bring forth what is within you, what you bring forth will save you. If you do not bring forth what is within you, what you do not bring forth

will destroy you." [*Gospel of Thomas*] ... So, according to the *Gospel of Thomas*, Jesus ridiculed those who thought of the "Kingdom of God" in literal terms, as if it were a specific place.... Instead it is a state of self-discovery .... That "Kingdom" ... symbolizes a state of transformed consciousness ....<sup>95</sup>

Pelagius, that 5<sup>th</sup>-century British celebrity, had a different take on sin as the obstacle to human perfectibility. Men, he proposed, are born neither perfect nor corrupt. The choice towards the one or the other lies in the exercise of the will, which he regarded as wholly free. They have that capacity as God, through Jesus, commanded man to be perfect. He could not have commanded something that is outside the reach of man. The sin is then not to be perfect as a result of the will. The Church must be an institution of perfection, a community of saints. To be sure, Pelagianism is not directly associated with utopianism, but it gave leeway to utopian thoughts and writings. Condemned as heresy at the Council of Carthage in 418, it nonetheless did not disappear from Christian thought. Nor did another development that inspired utopian thought probably the most: millennialism. This notion is in part embedded in the prophecies of ancient Israel. Many prophecies, as Scholem underlines, proclaim the coming of a new political order in Israel, as for instance found in the book of Isaiah chapter 35.<sup>96</sup> Obviously, prophets like Isaiah let these promises of renewed order precede with a condemnation of the behaviour of the people of Israel as e.g. in chapter 1: '4 Ah, sinful nation, a people loaded with guilt, a brood of evildoers, children given to corruption! They have forsaken the Lord; they have spurned the Holy One of Israel and turned their backs on him.'

The age to come would be implemented by some ideal king, a Messiah (God's anointed One),<sup>97</sup> who would exercise God's justice and would install peace, not just for Israel, but the whole world.<sup>98</sup> Isaiah's ideal is perhaps the strongest image available here. He sketched this ideal king like in chapters 9: 2 – 6, 11: 1 – 10, and 32: 1 – 5.<sup>99</sup> The complete restoration of Israel, the appearance of the ideal king of the age to come, and the conversion and salvation of the Gentiles through Israel's mediation, would be a this-worldly affair. It is very much rooted in the conviction that in this world,



God Himself will install justice and peace for all through the king of end-time. Jesus himself referred to this when clearing the Temple: 'My house will be called a house of prayer for all nations.'<sup>100</sup>

### Millennialism

From Ezekiel came the notion that struggle precedes harmony.<sup>101</sup> This and other Jewish notions were infused into Western culture decisively through the rise of Christianity, which supplied the form of millennialism. The term derives from the Latin 'one thousand years', and stands for the expectation of a visible reign of Christ with the believers before the immediate coming of the end of the present world, that is the apocalypse.<sup>102</sup>

Millennialism has never been a central dogma of Christianity in the first millennium (or indeed in any later age). Augustine of Hippo (354 – 430) rejected any notion of predictive imminence and a literal millennial kingdom.<sup>103</sup> It revived however with the work of Joachim de Fiore (± 1135 – 1202), a Cisterian monk from Calabria (Italy). He gave a new exposition of the revelations of John in which he distinguished between those issues that already have come to fulfilment and others where fulfilment was still to come.<sup>104</sup> 'This attempt to explain history religiously and the Revelation of St. John historically is no more and no less than an intricate elaboration of the Christian presupposition that the church is the body of Christ and that therefore her history is intrinsically religious and not merely a department of the history of the world. And, since the history after Christ is still on its way and yet revealed as having an end, the fullness of time is not to be conceived traditionally as a unique event in the past but as something to be worked out in the future ...'<sup>105</sup>

Joachim presented in his works a historical scheme wherein three different dispensations (covenants) come to pass in three different epochs in which the three persons of the Trinity are consecutively manifested. The old covenant of the Father is

characterised by law and fear; the second covenant of the Son that according to his calculations would last until 1260, is characterised by grace and faith; the last covenant, the last epoch, is characterised by love and the Spirit.<sup>106</sup> Joachim thus understood history as prophecy, and the correct understanding of the past depends on the correct perspective on the future. The consummation of history does not, according to Joachim, occur beyond time, at the end of the world so to speak, but in a defined historical epoch.

His eschatological scheme of the final epoch is twofold: an ultimate historical phase of salvation *preceding* the transcendent eschaton of the new aeon inaugurated by the second coming of Christ. 'The real significance of the sacraments is not, as with Augustine, the significance of a transcendent reality but the indication of a potentiality which becomes realized within the framework of history.'<sup>107</sup> The intensity of Joachim's eschatological expectancy was fuelled by the perceived state of corruption in his time. This particular aspect will resurface in the utopian times of the 20<sup>th</sup> century we will discuss below with the aid of the work of Polanyi. Joachim did not draw any revolutionary conclusions from the implications of his eschatological visions. He did not criticize the contemporary church, nor did his interpretation of the angel of the Apocalypse (Rev. 7: 2) entitled to renovate Christianity, mean that he intended a revolutionary restructuring of the existing institutions and sacraments. To him it only meant that a messianic leader was to appear, bringing about a spiritual renewal, disclosing but not abolishing what hitherto has been veiled in significant figures and sacraments. The revolutionary conclusions were drawn later by men of the thirteenth and fourteenth centuries,<sup>108</sup> and by 19<sup>th</sup> and 20<sup>th</sup> century revolutionaries who decreasingly had need for transcendent messiahs.

In his massive *Principle of Hope*, Ernst Bloch remarks that Joachim brought forth the 'most momentous social utopia of the Middle Ages ...' But, he 'was not trying to purge the Church, or even the state, of their atrocities; they were abolished instead. And the existing Gospel was rekindled, or rather the lux nova within it: what was called by the Joachites the Third Kingdom. ... Connected with this, and with even more momentous consequences, was the complete

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*Lost in the magic  
From the last time  
This town turning  
My rose to desire'  
(Massive Attack)*

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transfer of the kingdom of light *from the other world and the empty promises of the other world into history*, even though into a final state of history. ... utopia for Joachim, as for the prophets, appears exclusively in the mode and as the status of historical future. Joachim's chosen few are the poor, and they are to go to paradise in the living body, not just as spirits. In the society of the third Testament there are no classes any more; there will be an 'age of monks', that is universalized monastic and consumer communism, and 'age of the free spirit', that is spiritual illumination, without sundering, sin and the world that goes with it. ...'.<sup>109</sup>

Bloch links God and humanity intimately in a new age firmly rooted in human history. Utopia is not far into the future but forms the heart of human experience. It is close at hand, in an anticipatory and fragmentary way.<sup>110</sup>

Mircea Eliade critically diverges from Bloch in a remarkably similar-toned observation: 'Marx takes over and continues one of the great eschatological myths of the Asiatico-Mediterranean world –the redeeming role of the Just (the "chosen," the "anointed," the "innocent," the "messenger"; in our day, the proletariat), whose suffering are destined to change the ontological status of the world. In fact, Marx's classless society and the consequent disappearance of historical tensions find their closest precedent in the myth of the Golden Age that many traditions put at the beginning and the end of history. Marx enriched this venerable myth by a whole Judeo-Christian messianic ideology: on the one hand, the prophetic role and soteriological function that he attributes to the proletariat: on the other, the final battle between Good and Evil, which is easily comparable to the apocalyptic battle between Christ and Antichrist, followed by the total victory of the former. ...'.<sup>111</sup> Here, the seeds of moral inversion start to germinate. This will subsequently be our topic.

## MORAL INVERSION

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*'Pawns in the  
game are not  
victims of chance  
Strewn on the  
fields of Belgium  
and France  
Poppies for  
young men,  
death's bitter trade  
All of those young  
lives betrayed'  
(Sting)*

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Returning to the contradiction with which we started this part of our enquiry, Polanyi combined the trend connected to the development of scientific rationalism into positivistic skepticism with the trend relating to shifts in and intensifications of civic moral aspiration. As Jacques Barzun remarks on scientism:<sup>112</sup>

'... The case of Karl Marx is typical. Infatuated with the kudos of science, he persuaded himself and his millions of followers in and out of the Soviet Union that he had at last formulated the mechanics of history and could predict the future scientifically.'

Societies professing Christian rule, for centuries the European reality, carried the internal contradiction of not being able to live up to this rule. However, transcendently understood morals and customs, and the notion of sin and redemption kept this contradiction, this societal instability, more or less in check. This is the restraint to wait for Christ to return and create anew, and work in the meanwhile: the 'already' contrasted with the 'not yet'.

Moral fervour to create societal perfection in which no one would experience any form of lack, however, grew concurrently with the decline of Christianity in the 19<sup>th</sup> and 20<sup>th</sup> century in the West. As Cohn, Polanyi's understands the conundrum facing the 20<sup>th</sup> century as an outgrowth of Old Testament prophetic Messianism reinforced by New Testament apocalyptic announcements resulting in what he calls moral inversion. Apocalyptic visions of a new world contained the discord to actually attain it. Concisely, with the decay of long-established customs and indubitable authority, the internal contradictions between the practice and the rhetoric of any society professing Christian precepts became a source of social disruption. Whereas morality had once been construed as the restraint of passion and quietude in the face

of fate, it began to be understood in terms of the pursuit of the enabling or enactment of the social good; this produced 'inordinate aspirations' and opened the way for 'moral excess'.<sup>113</sup> Indeed, since secularised insurgences erupting in the 20<sup>th</sup> century were apparently overwhelmed by the same contradictions against which the rebellions originally took place, it could only persevere by proclaiming to be the absolute and ultimate good, in other words by immanisation of the eschaton. A triumphant insurrection will create a new centre of power, and as this new insurgence had been motivated by Christian morality, the new centre will be beset by the same contradiction against which its supporters had risen in rebellion. It will, all in all, be in a worse position, as its internal balance will not be safeguarded by any traditional concession. It can then hold on only by proclaiming itself to be the absolute and final good: a Second Coming greater than the first and placed therefore beyond good and evil. 'We see arising then the 'moral superman', whom Norman Cohn compares with the 'armed bohemians' of our days, the followers of Bakunin and Nietzsche. For the first time the excesses of Christian morality turned here into fierce immoralism.'<sup>114</sup> Cohn, as Polanyi, had no trouble in identifying communism and Nazism as the grand 20<sup>th</sup> century millennial movements. This was probably the most troubling aspect of their analyses, as both recognised profound religiously inspired morals within outwardly secular political developments. If society is only man-made, with divine intervention or inspiration vanishing into ancient history, then man is fully responsible to make it 'good' in every respect. This comprehensive perfecting necessitates revolution, and revolution of this sort requires comprehensive power. As a result, all resistance is resistance against the truth of the good society that must be crushed.<sup>115</sup> This is Messianic logic secularised. What had once been demanded by the will of God was now demanded by the purpose of history. But the demand itself remained unchanged: to purify the world by destroying the agents of corruption. What is more, the agents of corruption were still identified with the usual suspects from the Middle Ages onwards: the bourgeoisie, the Jews. And as for the coming society itself, that too was pictured in Middle Age terms: as a state of total community, a society wholly unanimous in its beliefs

and wholly free from inner conflicts. 'Such was the tradition of the apocalyptic fanaticism which –secularised and revived– was inherited by Lenin and by Hitler.'<sup>116</sup> But there is progression: messianic violence from a means to an end transformed into an aim in itself. Thereby the purpose of History resulted in the rejection of history and 'the determination to construct the future, no longer with regard to the historic spirit, but so as to coincide with the man-king.'<sup>117</sup>

The final point reached by moral passions in their modern quintessence is the 'dictatorship of the proletariat' as a 'scientific term indicating the class which plays the leading role in it and the special form of state power called dictatorship, i.e., power based not on law or elections, but directly on the armed force of a particular section of the population', as Lenin saw it.<sup>118</sup> Popper explicates Lenin's perspective in his *Utopia and Violence*:<sup>119</sup>

'Utopian aims are designed to serve as a basis for rational political action and discussion, and such action appears to be possible only if the aim is definitely decided upon. Thus the Utopianist must win over, or else crush, his Utopianist competitors who do not share his own Utopian aims and who do not profess his own Utopianist religion.

But he has to do more. He has to be very thorough in eliminating and stamping out all heretical competing views. For the way to the Utopian goal is long. Thus the rationality of his political action demands constancy of aim for a long time ahead; and this can only be achieved if he not merely crushes competing Utopian religions, but as far as possible stamps out all memory of them.

The use of violent methods for the suppression of competing aims becomes even more urgent if we consider that the period of Utopian construction is liable to be one of social change. In such a time ideas are liable to change also. Thus what may have appeared to many as desirable at the time when the Utopian blueprint was decided upon may appear less desirable at a later date. If this is so, the whole approach is in danger of breaking down. For if we change our ultimate political

aims while attempting to move towards them we may soon discover that we are moving in circles. The whole method of first establishing an ultimate political aim and then preparing to move towards it must be futile if the aim may be changed during the process of its realization. It may easily turn out that the steps so far taken lead in fact away from the new aim. And if we then change direction in accordance with our new aim we expose ourselves to the same risk. In spite of all the sacrifices which we may have made in order to make sure that we are acting rationally, we may get exactly nowhere – although not exactly to that ‘nowhere’ which is meant by the word ‘Utopia’. Again, the only way to avoid such changes of our aims seems to be to use violence, which includes propaganda, the suppression of criticism, and the annihilation of all opposition. With it goes the affirmation of the wisdom and foresight of the Utopian planners, of the Utopian engineers who design and execute the Utopian blueprint. The Utopian engineers must in this way become omniscient as well as omnipotent. They become gods. Thou shalt have no other Gods before them.’

Popper sounded the depths of dualistic utopian thought with his reference to Exodus 20: 3. The Decalogue refers to the holiness of God and the praiseworthiness of Him alone, which Popper reverses by referring to the utopians as gods, the secularised wielders of omniscient and omnipotent power with all the endless violence and destruction that it entails. By shifting the Decalogue from the hand of God to the hands of the utopians, the inversion is made complete.<sup>120</sup>

Moral inversion as understood by Polanyi was and is not interminable. Both the collapse of communism in Eastern Europe and Russia and the renaissance of traditional moral values Polanyi anticipated by no less than a quarter of a century, underscoring the value of his analysis: ‘Finally, the events following the death of Stalin (1953) clearly revealed that a system based on a total inversion of morality was intrinsically unstable. The first act of Stalin’s successors was to release the thirteen doctors of the Kremlin, who had quite recently been sentenced to death on their

own confession of murderous attempts against the life of Stalin and other members of the government. This action had a shattering effect on the Party. A young man who at that time was a fervent supporter of Stalinism in Hungary described to me how he felt when the news came through on the wireless. It was as if the motion picture of his whole political development had started running off backwards. If party-truth was now to be refuted by mere bourgeois objectivity, then Stalin’s whole fictitious universe would presently dissolve and so the loyalty which sustained this fiction and was in its turn sustained by it would be destroyed as well.’<sup>121</sup>

In summary, modernity, in all its kaleidoscopic consequences, hardly proved to be a break with Christianity, but a secularisation of the New Testament hope for a new world. Our post-Christian culture ‘does not allow us to settle down in the Stoic manner of antiquity’ as it ‘carries in its blood’ the heritage of Christian eschatology: ‘the ever-unquenched hunger and thirst after righteousness ...’<sup>122</sup>

In general, it can be noted that what the modern idea of progress did was to replace the transcendence of God ‘above’ with the transcendence of the future ‘ahead’. Human hopes and dreams of emancipation from the evils of this world were directed to a future that would come about through the power of human reason. The world was to be reshaped into a Utopia by science, technology, and education. The struggles and sacrifices of the present were worthwhile because of the result that future generations would undoubtedly enjoy. Despite the loss of truly divine transcendence, modern progressivism retained from its religious roots human aspirations to salvation that were religious in their dimensions and in their confidence. History itself was a kind of self-transcending progress from which a qualitative new future would emerge.<sup>123</sup> Thus, when Christianity was rejected, its eschatological hopes did not disappear. They were bottled up, only to return as projects of universal emancipation.<sup>124</sup> Progress, the future of science, the cult of technology and of production, are ‘bourgeois myths, which in the nineteenth century became dogma’, as Albert Camus noted poignantly.<sup>125</sup> Precautionary culture, with its principal of law, seems the next phase in the utopian emancipation.

## THE UTOPIANISM OF PRECAUTION

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*You ask me  
where to begin  
Am I so lost in my sin  
You ask me  
where did I fall  
I'll say I can't  
tell you when  
But if my spirit  
is strong  
I know it can't be long  
No questions  
I'm not alone  
Somehow I'll find  
my way home ...'  
(Jon & Vangelis)*

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From a sustainable Utopia ...

The obvious question to be answered is whether the culture we have discussed earlier could be typified as utopian. While the dialectic of catastrophic thinking has become ubiquitous on any number of issues, it is nowhere more apparent than on the subject of the environment, in which the topic of climate change receives the majority of the attention. Of course, this appears most explicitly among those dedicated to the cause of environmentalism, but the sentiment has already become a worldwide phenomenon.<sup>126</sup> Overall, precautionary culture fixates on irreversible imbalances and human uncertainties in the face of catastrophe. Conversely, precautionary culture generates perspectives in multiple fields on the 'good society' that is sustainable and to all intents and purposes dealing with the uncertainties of the future. In a sense, the 'end of uncertainty' is envisioned in precautionary culture. The discourse on environment and development reveals a world of thriving utopian design. New basic orders in politics, economics, and social relationships at both the national and international levels are on the agenda. The four elements James Scott links to the most tragic episodes of state-initiated utopian social engineering seem at work here:

- (I) the simplified administrative ordering of nature and society;
- (II) the high-modernist ideology, that is the self-confidence about scientific and technological progress, a faith that borrowed the legitimacy of science and technology, whereby it became uncritical, unskceptical, and thus unscientifically optimistic about the possibilities for the comprehensive planning of human settlement and production;
- (III) the rise of an authoritarian state that is willing and able to use the full weight of its coercive power to bring these high-modernist designs into being;

(IV) the rise of a powerless civil society that lacks the capacity to resist these plans.<sup>127</sup>

Scott outlines utopian developments and characteristics that match the developing precautionary culture. Radical changes of the societal order are thought to be essential if the global community and the planet as a whole are to survive pollution, deforestation, soil erosion, climate change, social and political strife, hunger, poverty, and the like. The overarching restructuring of society to our precautionary wishes and demands are utopian in its total social engineering promise and its naïve optimism and its lack of an intellectual and societal counterforce.<sup>128</sup>

The project of sustainable development demands a thorough integration of the social, economic, and ecological spheres, and in some interpretations even calls for quite a different world order. Consequently, there is an urgent need, it is thought, to theorize and to develop Utopian thought about social, economic, and ecological relationships on a global scale.<sup>129</sup> When referring to the *World Summit on Sustainable Development* in Johannesburg, South Africa, from 2 to 4 September 2002, Johan Hedrén clearly underscores the totality of sustainability:<sup>130</sup>

'In the Johannesburg meeting it was declared that "/w/e, the representatives of the peoples of the world, .../.../commit ourselves to building a humane, equitable and caring global society, cognizant of the need for human dignity for all." The deeply Utopian character of these meetings is expressed in many ways, for example: "all of us, coming from every corner of the world, informed by different life experiences, are united and moved by a deeply felt sense that we urgently need to create a new and brighter world of hope." In the Johannesburg documents this is definitely not just a matter of slight corrections to the current structures, but rather a creation of something fundamentally new: a world without chronic hunger, malnutrition, foreign occupation, armed conflict, illicit drug problems, organized crime, corruption, natural disasters, illicit arms trafficking, trafficking in persons, terrorism, intolerance

and incitement to racial, ethnic, religious and other hatreds, xenophobia, and endemic, communicable and chronic diseases, in particular AIDS, malaria and tuberculosis.’

Precautionary culture is not only envisioned to smooth the path to sustainability, it also opened the door to scientism. Science, despite its inherent provisional nature, is treated as a discerning field of advice that provides an unquestionable account of the ‘truth’ of reality. In view of the utopian dialectic of global apocalyptic catastrophe, the truth-content of the results of the sciences gauging the status of our world is deemed to be *essential*. This understanding of science is utopian.

Al Gore stated in his 2007-Nobel Peace Prize lecture, and we need to quote him here at length, that he has a purpose to urge people into action to stave off anthropogenic climate change:<sup>131</sup>

‘I have a purpose here today. It is a purpose I have tried to serve for many years. I have prayed that God would show me a way to accomplish it. ... Even though I fear my words cannot match this moment, I pray what I am feeling in my heart will be communicated clearly enough that those who hear me will say, “We must act.”

The distinguished scientists with whom it is the greatest honor of my life to share this award have laid before us a choice between two different futures – a choice that to my ears echoes the words of an ancient prophet: “Life or death, blessings or curses. Therefore, choose life, that both thou and thy seed may live.”

We, the human species, are confronting a planetary emergency – a threat to the survival of our civilization that is gathering ominous and destructive potential even as we gather here. But there is hopeful news as well: we have the ability to solve this crisis and avoid the worst – though not all – of its consequences, if we act boldly, decisively and quickly.

... too many of the world’s leaders are still best described in the words Winston Churchill applied to those who ignored Adolf Hitler’s threat: “They go on in strange paradox, decided only to

be undecided, resolved to be irresolute, adamant for drift, solid for fluidity, all powerful to be impotent.”

So today, we dumped another 70 million tons of global-warming pollution into the thin shell of atmosphere surrounding our planet, as if it were an open sewer. And tomorrow, we will dump a slightly larger amount, with the cumulative concentrations now trapping more and more heat from the sun.

As a result, the earth has a fever. And the fever is rising. The experts have told us it is not a passing affliction that will heal by itself. We asked for a second opinion. And a third. And a fourth. And the consistent conclusion, restated with increasing alarm, is that something basic is wrong.

We are what is wrong, and we must make it right. ...

... Moreover, the catastrophe now threatening us is unprecedented – and we often confuse the unprecedented with the improbable.

We also find it hard to imagine making the massive changes that are now necessary to solve the crisis. And when large truths are genuinely inconvenient, whole societies can, at least for a time, ignore them. Yet as George Orwell reminds us: “Sooner or later a false belief bumps up against solid reality, usually on a battlefield.” ...

In every land, the truth – once known – has the power to set us free.

Truth also has the power to unite us and bridge the distance between “me” and “we,” creating the basis for common effort and shared responsibility. ...’

‘We are what is wrong ...’ that is consequently counterpointed with ‘... and we must make it right’ is Gore’s dialectic centrepiece. The utopian dream of the future, with its sources in fantasy and alienation, implies the nightmare of the present.<sup>132</sup> The dystopia of the present is immediately followed by the Utopia of tomorrow, which will be constructed by a transformed and redeemed humanity. In a word: rational and destructive *Homo economicus* can and will be transformed into empathic and constructive *Homo ecologicus*.



ON FIRST REFLECTION,  
IT SEEMS THAT WESTERN  
WORLD SOCIETIES

**HAVE FALLEN  
PREY**

TO MASSIVE SOCIAL  
HYPOCHONDRIA.



The sacrifices of today will, so the tale goes, inaugurate the shining future of tomorrow.

Knowledge as the ostensibly redeeming factor in the history of humanity is emphasised. In modernity, ignorance, not pride, is sin. Ignorance can be overcome with knowledge. Gore presents the distinguished scientists he shares the Nobel peace prize with as the high priests of knowledge. Contemporary politics have been driven by the belief that humanity can be delivered from immemorial evils by the power of knowledge. In its most radical forms, this belief underpinned the experiments in utopianism that defined the last two centuries of especially Europe.<sup>133</sup> Voegelin, states that ‘the socially still-expanding movement of sectarians’ within the sciences ‘want to monopolize the meaning of the terms “truth” and “science” for the results and methods of the mathematizing sciences.’<sup>134</sup> Science, thus, is a god, apparently of a gnostic kind:<sup>135</sup>

‘The spiritual growth of the West ...expressed itself in Joachim’s speculation in the idea of a Third Realm of the monks, ... a Third Realm of intellectual life that succeeds the imperial spiritual and temporal orders; and in the Age of Reason a Condorcet conceived the idea of a unified civilization of mankind in which everybody would be a French intellectual. ... finally, with the prodigious advancement of science since the seventeenth century, the new instrumentation of cognition would become ... the symbolic vehicle of gnostic truth. In the gnostic speculation of scientism this particular variant reached its extreme when the positivist perfecter of science replaced the era of Christ with the era of Comte. Scientism has remained to this day one of the strongest gnostic movements in Western society; and the immanentist pride in science is so strong that even the special sciences have each left a distinguishable sediment in the variants of salvation through physics, economics, sociology, biology, and psychology.’

We are confronted with a secularised apocalyptic and eschatological logic in which God has been replaced by nature reacting appropriately to sin or humiliation in an almost deterministic manner. An

existential choice is proposed between a world beset by plagues of biblical proportions or graced with a hard-won salvation that will create a harmonious world in which we succeed in balancing risks using precaution and restore the harmony of the earth’s ecosystems. This kingdom of harmony is a vision of and for the future, and is focused on the harmony between humans and nature and between humans and their offspring.

The biblical imagery is taken further by presenting the people fighting to address e.g climate change as a small band of chosen ones. The future of the world lies in their expert hands. ‘The ‘conversion’ to realise the change in the behaviour of humankind is not an easy one. It entails transforming our beliefs, our scientific methods, and our modes of production and consumption. It cannot be otherwise. We all carry the burden of the fall from grace, presented in precautionary logic as our wasteful and short-sighted, profit-minded human temperament. In mediaeval philosophy, humankind is tainted with original sin. The expulsion from the Garden of Eden happened when humans ate from the forbidden fruit of knowledge. The same ambiguous stance towards knowledge is found in precautionary logic as it is in religious doctrine: human knowledge is not to be trusted, but it may be ultimately beneficial when we utilise it for the love of God or nature respectively. ... This is what precaution asks from us: the sacrifice of consumption and production, a new modesty in the face of risk, and the establishment of harmony between our development and the demands of nature. The role of humankind in religious logic is similar to its role in precautionary logic. It is not after autonomy but seeks to maintain a harmonious relationship. In mediaeval times, this relationship was our covenant with God. In present times, it is that between humans and their environment. We should not disrupt the harmony between humans and nature’, as Tobias Arnoldussen astutely observes.<sup>136</sup>

Precautionary culture combines pessimism about human nature with sanguinity about the human potential to reshape society along the lines Arnoldussen sketches. We can be redeemed and we might be spared the catastrophe, but then conversion is required; ‘the sinner can be forgiven through conversion, repentance, and

disavowal of his own sin. He who produces many children can stop doing so, or at least he can limit the evil. This will happen through increased in-sight and increased consciousness, awareness of the techniques available, and a new life.<sup>137</sup> All the ingredients defining Utopia are present in Gore's Noble prize-speech.<sup>138</sup> As Bron Taylor remarks:<sup>139</sup>

'Radical environmental apocalypticism, then, is deeply ambivalent about catastrophe. Disaster is imminent, it involves the desecration of a sacred world, and it must be resisted. Yet the decline of ecosystems and the collapse of human societies may pave the way back to an earthly paradise.'

Thus, there is a difference between the Utopia's of the past and the developing Utopia of precautionary culture. The Utopia's of the past were characterised by hope with regards to the perfectibility of man and his present imperfect state. Utopia is the true and final secularised eschatological state of man. The dialectic had, so to speak, a positive note: the present surely is objectionable; the future would be paradise on earth for everyone. Sustainable Utopia has a negative inward connotation. We need Utopia to avert some man-made apocalypse – be it political, economic, belligerent, environmental, nuclear, demographical, or a combination thereof as *The Club of Rome* would have it – in order to survive.<sup>140</sup> The survival of the Western world lifestyle is in jeopardy.

Johan Galtung, with his enthusiastic outlook on Mao's China in which he quite surprisingly felt unable to live,<sup>141</sup> is on track when he pointed out in his review of *The Limits to Growth* that when 'such evils [pollution/depletion; *author*] reach people higher up and nations higher up, reach into the middle classes, that organizational potentials strong enough ... are tapped.'<sup>142</sup> Despite the fact that the inter-generational aspect in precautionary culture is frequently hailed as an articulation of a widening consciousness, it seems above all else focussed inwardly, that is on the Western world citizens. Massive expenditures are required and at hand to ostensibly protect Western world citizens against climate-change, aging, and procure safe food (see chapter two) with very little of this expenditure

reaching the truly needy in this world; quite the contrary. In our drive to guarantee safe and sustainable food for instance, third country exporters are kept out of normal trading relationships to the benefit of Western world markets.<sup>143</sup> Precautionary culture and its sustainable wishes seem the overarching expression of Western world citizens' egotism.

If precautionary culture is characterised by sought-after utopian societal arrangements of the sustainable kind, what then are the (perceived) scarcities we are confronted with? One overarching shortage we have become intensely familiar with is the lack of certainty. Beck even speaks of a culture of uncertainty. Despite the self-assured post-modern awareness that nothing is certain, certainty and security *have* become societies' holy grails of which science and technology paradoxically are the guides *par excellence*. Precautionary culture has expanded our desire for certainty, and thereby increased the uncertainties we ostensibly need to live with. As the introductory note of the 2003-*Hedgehog Review* on fear states: 'In the absence of existential comfort, we have now come to settle for safety, or the pretense of safety.'<sup>144</sup> Uncertainties about the future of mankind and the planet will only increase, and our ability to deal therewith will need to increase yet will ultimately diminish.<sup>145</sup> As a tangible explication of 21<sup>st</sup> century uncertainties, the 'ecological crisis' and its environmental compartments can also be described in the utopian colours of scarcity. Clean air, water, soil, biodiversity, (safe) food, a stable climate (whatever that may be) are all regarded as being in short supply among others because of growing populations and increasing scientific and technological capabilities. William Vogt, perhaps the most outspoken environmentalist writer on demographical issues, which he viewed in terms of 'lifeboat ethics' and the 'economics of spaceship earth',<sup>146</sup> didn't see 'any kindness in keeping people from dying of malaria so that they could die more slowly of starvation.'<sup>147</sup> Indeed, in a paragraph titled 'The dangerous doctor', Vogt states that the 20<sup>th</sup> century medical profession was setting the stage for a tragedy of epic proportions by continuing to believe that it had 'a duty to keep alive as many people as possible' and, 'through medical care and improve sanitation', in the final analysis being responsible 'for more millions living more

years in increasing misery'.<sup>148</sup> With fewer people, the potential to maintain a high standard of living rather increases.

The solutions to the numerous global problems seemingly lie in concerted supra-national action. This is our debt to *The Limits to Growth*. Climate change and its proposed topmost solution – global CO<sub>2</sub> emissions reduction – is one example in which scarcity, a 'stable climate', is closely linked to political power to actually enforce climate policies worldwide: the Kyoto protocol was built on the notion of changing the world first in order to meet its goals, rather than taking the world as it is and seeking ways to work with possibilities and dynamics already present.<sup>149</sup> No wonder that some are quite certain the now defunct Kyoto protocol and its possible successors will fail precisely because of its flawed social engineering perspective.<sup>150</sup> Still, the synthesis paper of the key messages from the individual papers written by the Blue Planet Laureates unwaveringly presents the now very stale old wine in new caskets.<sup>151</sup>

'Globally, we urgently need better means to agree and implement measures to achieve our collective goals. Given the large numbers of states and their separate jurisdictions, more effective and far-reaching international institutions and rules are necessary, yet nation states are unwilling to submit to collective agreements which constrain their freedom of manoeuvre. Equally, greater control over international financial and corporate actors is needed, to reduce their ability to escape fiscal and other responsibilities through freedom of movement between different jurisdictions. Global efforts to address climate change have resulted in a complex international governance architecture, which has largely replicated geopolitical and global economic power relations among nations. There has been little room in these evolving governance arrangements for the priorities of weaker countries and marginalized people to be heard and addressed. Growing reliance on the G20 as a forum for sorting out global problems runs the risk of disempowering the large number of smaller, less economically prominent nations.'

The rise of precautionary culture makes it clear that the Welfare State does not wither away, even though the collective arrangements for social security have diminished over time in most Western-world countries. The latter development, however, is accompanied by new demands on the State to provide for a global clean environment (soil, water, and atmosphere), safe technologies, guaranteed health care systems, a secure nation with a secure economy, and a stable climate, to name just a few issues. So instead of shrinking, States are growing not only in size<sup>152</sup> but in new directions as well. The political programs to avert the credit crunch have demanded substantial amounts of public moneys in many States, although the funds spent thereon are dwarfed by the costs European citizens have to bear for implementing regulations.<sup>153</sup> The term 'Security State' is a fitting utopian term to refer to this radicalised and enlarged version of the Welfare State.

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*'Please to bend down  
for the one called  
the Greenman  
He wants to make  
you his bride*

...  
*Please to dance round  
for the one called  
the Greenman  
He wants to make  
you his child  
And you know for a  
million years he has  
been your father  
He'll be a million  
more*

...  
*See the Greenman  
blow his kiss from  
high church wall  
An unknowing  
church  
will amplify his call'*  
(XTC)

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... to a coercive ecotopia?

But is this Security State on level pegging with some sort of ecological Utopia, for instance like the one of Callenbach.<sup>154</sup> Can we envision a different ecotopia without the utopian dangers of growing bureaucratic States? Marius de Geus, in his *Ecological Utopias*,<sup>155</sup> proposes that we indeed can envision a Utopia-inspired sustainable society without the drawbacks of Utopia we discussed above. Sustainable society need not feed off the fear of the future. To be sure, he starts his analysis of Utopia with all the well-known warnings and admonitions. He grants Popper, as his main character in the critical discourse, the critique of Utopia as being a-historical, all-encompassing, aspiring to the truth, capable of transforming the whole of society and the individual, violent, and etcetera. Nevertheless, he sees potential in the proposal of Utopia being a navigational compass, a source of inspiration to capture glimpses of a sustainable society without the totalitarian drawbacks. Without Utopia, man would be left without muse to shape history.<sup>156</sup> Bauman mourns the loss of Utopia and

proposes that we should keep it in the back of our minds.<sup>157</sup> Utopia does not have to be realised as a specific social order, which Bauman refers to as solid. It should, at least, be an underlying possibility, an active alternative to the present. Utopia, for Bauman, used to denote a desirable goal to which progress should, could and would eventually bring its seekers into an improved world. Utopia should be not a goal but an orientation.<sup>158</sup> The Odysseus-metaphor, sailing past the (utopian) cliffs of the Sirens tied to the ship's mast in order to be inspired by Utopia's wonderful music yet not be lured onto its deadly cliffs, is proposed by de Geus.<sup>159</sup>

*Ecotopia* of Callenbach, one of the most famous ecological Utopias, is extensively discussed in *Ecological Utopias*. The book is set in 1999, 25 years in the future as seen from the date of its first publication (1974), and consists of the diary entries and reports of reporter William Weston, who is the first American to investigate Ecotopia. This is a newly formed country that separated from the USA in 1980. Ecotopia roughly consists the former states of Oregon and Washington, including Northern California. Callenbach proposes to systematically analyse the needs of nature and the environment, one of the core aspects of a sustainable society.

The rationale of *Ecotopia* is an enquiry into the accomplishment of a 'clean' society that leaves nature unscathed, and warrants the immutable physical and spiritual welfare of humanity. It searches for a way out of the increasing environmental degradation by a deliberate reduction of the population size, and a limitation of production and consumption levels. Standardised consumer goods are explicitly produced with re-use and recycling in mind. Energy prices are drastically increased as to stem consumption.

According to Callenbach, a nature- and environmentally benign stable-state society can only result from an all-embracing approach, in which its inhabitants take into account, to the smallest detail, the environmental consequences of their behaviour. A complete termination of the use of fossil fuel and the implementation of a decentralised energy generating system are regarded as essential to inaugurate the 'stable-state society'. Callenbach proposes, and solidly believes in, a realisable Arcadia, in which the harmony between mankind and nature and a human society uncorrupted

by 'civilisation' is established. This implies that the proposed Security State is nothing like the *Ecotopia* of Callenbach or any other ecological Utopia for that matter.<sup>160</sup>

However, de Geus assesses the different consequences of Ecotopia and sees in Callenbach's proposal the necessity for a strong government that will warrant the ecological sanity of its society. More than that, the populace of Ecotopia reprimand each and every individual who commits, or is likely to commit, some 'ecological vice'.<sup>161</sup> Unsurprisingly, de Geus remarks that Callenbach is unable to adequately assess the risks of both social control and social pressure in tight-knit communities.<sup>162</sup> In a sudden twist of argument, however, de Geus praises Callenbach for the grandeur of his plans, specifically in view of their inclusiveness and internal consistency.<sup>163</sup> Therefore, it cannot be taken apart to choose the right elements and rise above the unwanted or the dangerous. Totality and holism are at the core of Ecotopia, and therefore de Geus produces an incoherent analysis.

The Security State, thus, could well be the end-result of sustainable ecotopian dreams. Mary Douglas and Aaron Wildavsky are correct in their analysis in *Risk and Culture* when they state that contrary to the hopes and dreams of a sustainable Utopia 'bureaucracy would grow as it regulates the risks people are allowed to take. ... To the innocent-sounding question, "How much safety is enough?" [the] answer is that there can never be enough. Risk, like worldliness, is an ideal target for criticism. It is immeasurable and its unacceptability is unlimited. ... There can never be sufficient holiness or safety.'<sup>164</sup>

Callenbach's *Ecotopia*, as any other Utopia, makes use of violence to maintain its ecotopian integrity of which MAD –Mutual Assured Destruction– is the most prominent and extreme component thereof. When during the secession of Ecotopia from the rest of the USA, 'lobbyists for the various interests affected tried to commit the federal government to intervene militarily. This was, however, several months after Independence. The Ecotopians had established and intensively trained a nationwide militia, and airlifted arms for it from

France and Czechoslovakia. It was also believed that at the time of secession they had mined major Eastern cities with atomic weapons, ... Washington, therefore, ..., finally decided against an invasion.<sup>165</sup> In James Cameron's film *Avatar* (2009), an ecotopian Garden of Eden is again erected, this time on a fictional distant inhabited moon Pandora, by which a much larger audience was reached in comparison to Callenbach's book.<sup>166</sup> The main character –Jake Sully– needs to bridge the gap between corporate stakeholder value of an earth-based company, epitomised in the priceless unobtainium<sup>167</sup> that stands as a model for humanity's greed and destructive folly, and the moon's indigenous inhabitants, the Na'vi, who need to be relocated in order for the humans to get to this mineral wealth. This is done by means of an avatar, a genetically engineered part-alien, part-human body that Jake controls in a dream-like state, like a puppeteer, from within remote high-tech equipment. As a viewer, like the fictional main character, you fall in love with this perfect world. Nevertheless, even this perfect world requires a hero that is neither pure Na'vi nor human. He must be both, as he knows both inside out, and knows a way out of the conundrum. Cameron spells out a full-fledged religious morality play inevitably and richly laced with 'eco'-violence to maintain Pandora's paradise against human interference. On reflection, Utopia is only sustainable through violence. As remarked by the director in an interview: *EW*: '*Avatar* is the perfect ecoterrorism recruiting tool.' *JC*: Good, good, I like that one. I consider that a positive review. I believe in ecoterrorism.<sup>168</sup> Even if we could curb hunger, disease, poverty, illiteracy, and so many other evils to the point of extinction, Pandora's Garden of Eden inhabited by perfect and beautiful Na'vi is a Utopia, a nowhere land. Taylor remarks that:<sup>169</sup>

'Dark green religion –religion that considers nature to be sacred, imbued with intrinsic value, and worthy of reverent care– has been spreading rapidly around the world. I label such religion "dark" not only to emphasize the depth of its consideration for nature (a deep shade of green concern) but also to suggest that such religion may have a shadow side –it

might mislead and deceive; it could even precipitate or exacerbate violence.'

All the aspects Taylor addresses ring true of *Avatar*. Ecotopia, consequently, fosters a dualism of a sustainable and eco-friendly future on the one hand and not being able to reach that future on the other, the innate instability Polanyi identified decades ago. Ecotopia is no different.<sup>170</sup>

## SOME CONCLUDING REMARKS

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*'But I still haven't  
found what I'm  
looking for'  
(U2)*

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Precautionary culture with its sustainable dreams, *if* handled as explicit truths of the state of humanity and the planet, carries violence within, as do all other Utopias. The propensity towards moral inversion is built into the very fabric of precautionary culture: sustainability requires a change in personal and institutional behaviour that is designed towards the *a priori* determined sustainable future, whereby the potential for failure is to all intents and purposes inevitable. Trying to change the world *first* in order to meet the set goals for the future, rather than taking the world as it is and seeking ways to build on possibilities and dynamics already present,<sup>171</sup> is the inherent flaw.

When Camus suggested that the future is the only transcendent value for men without God,<sup>172</sup> the denial of human finitude, as in fact is being done in precautionary culture, will instate the evil men inevitably do in the name of a better future, sustainable or otherwise.<sup>173</sup> Precautionary culture, *if* she continues on the road we have sketched, will not escape utopian logic. Gray is not optimistic here: 'Interacting with the struggle for natural resources, the violence of faith looks set to shape the coming century.'<sup>174</sup>

Forcing an *a priori* vision on the world not only courts tragedy, but imposes a static view of the world's future as well as C.S. Lewis so eloquently articulated.<sup>175</sup>

Instead of forcing some static green theocracy in our world or

flatly denying its possibility, the source of Utopia itself –the Gospel– must expose the incurable defects of that same Utopia. The Gospel urges for a different track we subsequently need to interrogate.

A Gospel that only caters dualistically for some feeble-minded post-death world, in which the righteous enjoy some sort of ‘happy ever after-life’ of no concern to the living, while the world they left behind in faith is left to the ingenuity or failure of the living, is a Gospel devoid of its world-transforming potential.

Those who want to understand the Gospel and the position Jesus takes therein will find in Utopia its secularised expression that will function as the lens that magnifies the life and words of that very same Jesus. Clearly, and this should be kept in mind reading this enquiry, the Gospel is not anti-utopian as such, nor can those in conflict with Jesus in his day and age be typified as proto-utopians. The utopian history is decidedly modern and cannot be transposed on the first-century world of the Middle East. Nevertheless, the history of Utopia positions theology, and its reflections on the New Testament in general and the Gospel in particular, firmly in the present world.



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It was the first film my then future wife Winie and I have seen together in an Utrecht cinema in 1990.
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- <sup>3</sup> Pieterman, R. 2001. Culture in the Risk Society. An Essay on the Rise of a Precautionary Culture. *Zeitschrift für Rechtssoziologie* **22(Heft 2)**: S.145 – 168.
- <sup>4</sup> Beck, U. 1986. *Risikogesellschaft. Auf dem Weg in eine andere Moderne*. Suhrkamp, Frankfurt.
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- <sup>7</sup> See e.g. Kip Viscusi, W. 2004. The Value of Life: Estimates with Risks by Occupation and Industry. *Economic Inquiry* **42(1)**: 29 – 48.
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Althaus, note 8.
- <sup>15</sup> Pieterman, note 3.
- <sup>16</sup> Mol and Spaargaren, note 12.
- <sup>17</sup> Bauman, Z. 2003. *Liquid Fear*. Polity Press, Cambridge, p. 97 – 98.
- <sup>18</sup> See e.g. Turner, G. 2014. *Is Global Collapse Imminent? An Updated Comparison of The Limits to Growth with Historical Data*. MSSI Research Paper No. 4, Melbourne Sustainable Society Institute, University of Melbourne, Australia.
- <sup>19</sup> McMurry, A. 1996. The Slow Apocalypse: A Gradualistic Theory of the World's Demise. *Postmodern Culture* **6(3)**.  
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- <sup>20</sup> See e.g. Arcuri, A. 2006. The Law of Catastrophic Risks: When the Impossible May Erupt into the Possible. *Ars Aequi* **55**: 2 – 10.
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- <sup>26</sup> Pieterman, note 3.
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- <sup>43</sup> Beck, note 42. Italics added.
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- <sup>52</sup> See Breyer, S. 1993. *Breaking the Vicious Circle. Toward Effective Risk Regulation*. Harvard University Press, Cambridge, p. 50.

See further Lave, L.B., Malès, E.H. 1989. At risk: The framework for regulating toxic substances. *Environmental Science and Technology* 23(4): 386 – 391.

- <sup>53</sup> Derived from Achterhuis, H. 1998. *De erfenis van de Utopie*. Ambo, Amsterdam. [*The Legacy of Utopia*.]
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- <sup>55</sup> Achterhuis, note 53.
- <sup>56</sup> Utopia as such is not some static human archetype or a common human predisposition. It is to be found only in societies with the classical Christian heritage, that is the West. Undeniably, the notion of 'the good life', a much broader term than the term Utopia encompasses, is deeply embedded in the human condition. Renowned climatologist Hubert Lamb, in his *Climate History and the Modern World*, quite astutely links the 'legends of a Golden age in some earlier time', the best-known being the biblical story of the Garden of Eden, to 'the down-turn of climate' after 3 000 BC. Before that period in history, mankind had ostensibly enjoyed the favourable living conditions of a regular and warm climate for some 2 000 to 3 000 years that followed the hostility of the last Ice age of some 10 000 years ago. The notions of 'the good life' are to be found in the literature of classical Greece and Rome, up to 20<sup>th</sup> century industrial society.
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- <sup>57</sup> Berlin, I. 1990. *The Apotheosis of the Romantic Will*. In: *The Crooked Timber of Humanity*. Princeton University Press, Princeton, 211 – 212.
- <sup>58</sup> Buber, M. 1996. *Paths in Utopia*. Syracuse University Press, p. 135.
- <sup>59</sup> See [www.naturalism.org/tenetsof.htm](http://www.naturalism.org/tenetsof.htm) (last accessed on the 15<sup>th</sup> of November 2014).
- <sup>60</sup> See further Hollander, P. 1998. *Political Pilgrims: Western Intellectuals in Search of the Good Society*. Transaction Publishers, New Brunswick, p. 30. In *The Social Contract* (Rousseau, J.J. 1762. *The Social Contract or Principles of Political Right*), Rousseau famously defines the conundrum of the individual and society as follows: 'The problem is to find a form of association which will defend and protect with the whole common force the person and goods of each associate, and in which each, while uniting himself with all, may still obey himself alone, and remain as free as before.' (Book 1, chapter 6.)

The 'general will' is a recurring theme of Rousseau, but how to define it? No ordinary political democratic discourse will do, despite the fact that Rousseau suggests that voting results in the establishment of the general will: '[e]ach man, in giving his vote, states his opinion on that point; and the general will is found by counting votes.' However, and here is the catch, '[w]hen therefore the opinion that is contrary to my own prevails, this proves neither more nor less than that I was mistaken, and that what I thought to be the general will was not so. If my particular opinion had carried the day I should have achieved the opposite of what was my will; and it is in that case that I should not have been free.' (Book 4, chapter 2.) For Rousseau, it seems that the general will is detached from the people who actually will it. Taken to its extreme, the general will could be contrary to, yet to the ostensible benefit of, everyone: 'whoever refuses to obey the general will shall be compelled to do so by the whole body. This means nothing less than that he will be forced to be free ....' (Book 1, chapter 7.) The general will, then, has a disturbing side to it as 'the general will is always right and tends to the public advantage; but it does not follow that the deliberations of the people are always equally correct. Our will is always for our own good, but we do not always see what that is; the people is never corrupted, but it is often deceived, and on such occasions only does it seem to will what is bad.' (Book 1, chapter 7. Italics added.)

Rousseau's freedom, like the general will, has a deeply disturbing quality to it as is shown in a footnote: 'Genoa, the word Liberty may be read over the front of the prisons and on the chains of the galley-slaves. This application of the device is good and just. It is indeed only malefactors of all estates who prevent the citizen from being free. In the country in which all such men were in the galleys, the most perfect liberty would be enjoyed.' Rousseau, as do all Utopians, observes a tension between true human nature and behaviour as it in fact is in reality. He also is of the opinion, as are all Utopians, that people therefore do not know what is good for them. Squaring the circle seems child's play compared to what Rousseau proposes. (Book 4, footnote 35.)

Available at [www.constitution.org/jjr/socon.htm](http://www.constitution.org/jjr/socon.htm) (last accessed on the 15<sup>th</sup> of November 2014).

<sup>61</sup> Polak, F. 1973. *The Image of the Future*. Elsevier Scientific Publishing Company, Amsterdam, p. 174.

<sup>62</sup> Lasky, M.J. 1976. *Utopia and Revolution: On the Origins of a Metaphor, or Some*

*Illustrations of the Problem of Political Temperament and Intellectual Climate and How Ideas, Ideals, and Ideologies Have Been Historically Related.* University of Chicago Press, Chicago.

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- <sup>66</sup> Tuchman, note 63, p. 580.
- <sup>67</sup> Achterhuis, note 53, p. 104.
- <sup>68</sup> Kumar, note 54, p. 226.
- <sup>69</sup> Hjerpe, M., Linnér, B.-O. 2009. Utopian and dystopian thought in climate change science and policy. *Futures* 41: 234 – 245.
- <sup>70</sup> Hollander, note 60, p. 30.
- <sup>71</sup> Popper, K.R. 1971. *The Open Society and Its Enemies. Volume I.* Princeton University Press, Princeton, p. 155.
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The Icarian movement was founded by Étienne Cabet (1788 – 1856), a French philosopher and Utopian socialist.
- <sup>73</sup> Kumar, note 54, p. 300.
- <sup>74</sup> Greene, J.C. 1999. *Debating Darwin: Adventures of a Scholar.* Regina Books, Claremont, p. 43.
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- <sup>76</sup> Koestler, A. 1968. *Darkness at Noon: A Novel.* Scribner, New York, p. 152.
- <sup>77</sup> See further Polanyi, M. 1958. *Personal Knowledge. Towards a Post-Critical Philosophy.* Routledge, London.
- <sup>78</sup> In all this, truth seems irrelevant, or perhaps, relativised vis-à-vis the ruling class, whoever they may be. If there is truth of a higher order than objective truth, if the criterion of truth is political expediency, then even a lie can be ‘true’ simply because it can be temporarily useful. And, historically, violence is the corollary of expediency. As Camus remarks: ‘The concentration-camp system of the Russians has, in fact, accomplished the dialectic transition from the government of people to the administration of objects, but by identifying people with objects. ... Beyond the confines of the Empire there is no salvation. This is, or will be, the Empire of friendship. But this

friendship is the befriending of objects, for the friend cannot be preferred to the Empire. The friendship of people –and there is no other definition of it– is specific solidarity, to the point of death, against everything that is not part of the kingdom of friendship. The friendship of objects is friendship in general, friendship with everything, which supposes –when it is a question of self-preservation– mutual denunciation. He who loves his friend loves him in the present, and the revolution wants to love only a man who has not yet appeared. To love is, in a certain way, to kill the perfect man who is going to be born of the revolution. In order that one day he may live, he should from now on be preferred to anyone else. In the kingdom of humanity, men are bound by ties of affection; in the Empire of objects, men are united by mutual accusation. The city that planned to be the city of fraternity becomes an ant-heap of solitary men.’

Camus, A. 1991. *The Rebel. An Essay on Man in Revolt.* Vintage International, New York, p. 238 – 239.

- <sup>79</sup> Polanyi, M. 1959. “The Two Cultures”. *Encounter* September: 61 – 65.
- <sup>80</sup> From Polanyi, M. 1966. *The Tacit Dimension.* Doubleday and Company, Anchor Books, Garden City, N.Y.
- <sup>81</sup> Yeager, D.M. 2002. Confronting the Minotaur: Moral Inversion and Polanyi’s Moral Philosophy. *Tradition and Discovery* 29 (1): 22 – 48.
- <sup>82</sup> Cioran, E.M. 1983. *Drawn and Quartered.* Seaver Books, New York, p. 178. Obviously, this statement is false. If enough time passes, people do indeed forget about past injustices. But on what grounds does this annual morality itself? Cioran confuses two propositions: (I) the passage of time extinguishes moral memories; (II) the passage of time extinguishes morality itself, so that (un)just acts eventually become neither just nor unjust. While the first proposition is certainly true, the second clearly is false.
- <sup>83</sup> Prosch, H. 1986. *Michael Polanyi: A Critical Exposition.* SUNY series in Cultural Perspectives. State University of New York Press, Albany, N.Y., p. 272.
- <sup>84</sup> Polanyi, M. 1965. On the modern mind. *Encounter* 24: 15 – 20. Cited from: Scott, D. 1985. *Everyman Revived. The Common Sense of Michael Polanyi.* William B. Eerdmans Publishing Company, Grand Rapids, Michigan, p. 99. See further Smith, M. 2000. Environmental Antinomianism: The Moral World Turned Upside Down. *Ethics and the Environment* 5(1): 125 – 139.
- <sup>85</sup> Polanyi, M. 1969. *Knowing and Being.* University of Chicago Press, Chicago.
- <sup>86</sup> Kumar, note 54.
- <sup>87</sup> ‘Jesus said, “My kingdom is not of this world. If it were, my servants would

fight to prevent my arrest by the Jews. But now my kingdom is from another place.’

<sup>88</sup> Scholem, G. 1971. *The Messianic Idea in Judaism and Other Essays on Jewish Spirituality*. Schocken Books, New York, p. 1 – 2.

See e.g. Psalm 72.

<sup>89</sup> See e.g. Moule, C.F.D. 1981. *The Birth of the New Testament*. Adam & Charles Black, London.

<sup>90</sup> Chester, A. 2007. *Messiah and Exaltation*. Wissenschaftliche Untersuchungen zum Neuen Testament 207, Mohr Siebeck, Tübingen, Germany.

Chester remarks that ‘however atypical Jesus’ messianic profile may be in a number of respects, it should still be seen as an integral ... part of the rich and fascinating spectrum of messianism in first-century Judaism’ (p. 327).

<sup>91</sup> Gray, J. 2007. *Black Mass. Apocalyptic Religion and the Death of Utopia*. Allen Lane, London, p. 7.

<sup>92</sup> Cohn, N. 2004. *The Pursuit of the Millennium. Revolutionary Millenarians and Mystical Anarchists of the Middle Ages*. Pimlico, London, p. 198.

<sup>93</sup> Cohn, note 92.

<sup>94</sup> Cohn, note 92, p. 199.

<sup>95</sup> Pagels, E. 1979. *The Gnostic Gospels*. Random House, Toronto, p. 126 – 131.

<sup>96</sup> ‘<sup>1</sup> The desert and the parched land will be glad; the wilderness will rejoice and blossom. Like the crocus, <sup>2</sup> it will burst into bloom; it will rejoice greatly and shout for joy. The glory of Lebanon will be given to it, the splendor of Carmel and Sharon; they will see the glory of the Lord, the splendor of our God. <sup>3</sup> Strengthen the feeble hands, steady the knees that give way; <sup>4</sup> say to those with fearful hearts, “Be strong, do not fear; your God will come, he will come with vengeance; with divine retribution he will come to save you.”’

<sup>97</sup> 1 Samuel 2: 9, 10: ‘He will guard the feet of his saints, but the wicked will be silenced in darkness. “It is not by strength that one prevails; those who oppose the Lord will be shattered. He will thunder against them from heaven; the Lord will judge the ends of the earth. “He will give strength to his king and exalt the horn of his anointed.”’

<sup>98</sup> Lindblom, J. 1973. *Prophecy in Ancient Israel*. Blackwell Publishers, Oxford, p. 396 – 397.

See .g. Isaiah 2: 2: ‘In the last days the mountain of the Lord’s temple will be established as chief among the mountains; it will be raised above the hills,

and all nations will stream to it.’

<sup>99</sup> Isaiah 9: 2 – 6: ‘The people walking in darkness have seen a great light; on those living in the land of the shadow of death a light has dawned. You have enlarged the nation and increased their joy; they rejoice before you as people rejoice at the harvest, as men rejoice when dividing the plunder. For as in the day of Midian’s defeat, you have shattered the yoke that burdens them, the bar across their shoulders, the rod of their oppressor. Every warrior’s boot used in battle and every garment rolled in blood will be destined for burning, will be fuel for the fire. For to us a child is born, to us a son is given, and the government will be on his shoulders. And he will be called Wonderful Counselor, Mighty God, Everlasting Father, Prince of Peace.’

Isaiah 11: 1 – 10: ‘A shoot will come up from the stump of Jesse; from his roots a Branch will bear fruit. The Spirit of the Lord will rest on him – the Spirit of wisdom and of understanding, the Spirit of counsel and of power, the Spirit of knowledge and of the fear of the Lord – and he will delight in the fear of the Lord. He will not judge by what he sees with his eyes, or decide by what he hears with his ears; but with righteousness he will judge the needy, with justice he will give decisions for the poor of the earth. He will strike the earth with the rod of his mouth; with the breath of his lips he will slay the wicked. Righteousness will be his belt and faithfulness the sash around his waist. The wolf will live with the lamb, the leopard will lie down with the goat, the calf and the lion and the yearling together; and a little child will lead them. The cow will feed with the bear, their young will lie down together, and the lion will eat straw like the ox. The infant will play near the hole of the cobra, and the young child put his hand into the viper’s nest. They will neither harm nor destroy on all my holy mountain, for the earth will be full of the knowledge of the Lord as the waters cover the sea. In that day the Root of Jesse will stand as a banner for the peoples; the nations will rally to him, and his place of rest will be glorious.’

Isaiah 32: 1 – 5: ‘See, a king will reign in righteousness and rulers will rule with justice. Each man will be like a shelter from the wind and a refuge from the storm, like streams of water in the desert and the shadow of a great rock in a thirsty land. Then the eyes of those who see will no longer be closed, and the ears of those who hear will listen. The mind of the rash will know and understand, and the stammering tongue will be fluent and clear. No longer will the fool be called noble nor the scoundrel be highly respected.’

<sup>100</sup> Mark 11: 17. Obviously, Jesus refers here to Isaiah 56: 6, 7: And foreigners who bind themselves to the Lord to serve him, to love the name of the Lord, and to worship him, all who keep the Sabbath without desecrating it and who hold fast to my covenant – these I will bring to my holy mountain and give them joy in my house of prayer. Their burnt offerings and sacrifices will be accepted on my altar; for my house will be called a house of prayer for all nations.”

<sup>101</sup> Kumar, note 54, p. 14.

<sup>102</sup> See Revelations 20: 1 – 15.

<sup>103</sup> See further Bull, M. (ed.) 1995. *Apocalypse Theory and the Ends of the World*. Blackwell, Oxford.

<sup>104</sup> Schwarz, H. 2000. *Eschatology*. William B. Eerdmans Publishing Company, Grand Rapids, Michigan, p. 325 and further.

<sup>105</sup> Löwith, K. 1949. *Meaning in History*. The University of Chicago Press, Chicago, p. 149.

<sup>106</sup> Schwarz, note 104.

<sup>107</sup> Löwith, note 105, p. 151.

<sup>108</sup> Löwith, note 105, p. 151.

<sup>109</sup> Bloch, E. 1986. *The Principle of Hope. Volume Two*. The MIT Press, Cambridge, Massachusetts, p. 509 – 511.  
See further Miles, M. 2006. The End of Utopia: Imminent and Immanent Liberation. *Spaces of Utopia: An Electronic Journal* 3: 105 – 113.

<sup>110</sup> Rowland, C. 1995. ‘Upon Whom the Ends of the Ages have Come’: *Apocalyptic and the Interpretation of the New Testament*. In: Bull, note 103, p. 38 – 57.

<sup>111</sup> Eliade, M. 1987. *The Sacred and the Profane. The Nature of Religion*. Harcourt, Inc., Orlando, p. 206 – 207.

<sup>112</sup> Barzun, J. 2000. *From Dawn to Decadence: 500 Years of Western Cultural Life. 1500 to the Present*. Harper Collins Publishers, p. 218.

<sup>113</sup> Polanyi, M. 1970. *Beyond Nihilism*. In: Jelenski, K.A. (ed.) *History and Hope. Tradition, Ideology, and Change in Modern Society*. Books for Library Press, New York, p. 17 – 35.

<sup>114</sup> Polanyi, note 113.

<sup>115</sup> Polanyi, note 113.

<sup>116</sup> Cohn, note 92, p. 285 – 286.

<sup>117</sup> Camus, note 78, p. 154.

<sup>118</sup> Lenin, V.I. 1917. An Epidemic of Credulity. *Pravda* June 21 76(8). Available at [www.marxists.org/archive/lenin/works/1917/jun/21c.htm](http://www.marxists.org/archive/lenin/works/1917/jun/21c.htm) (last accessed

on the 15th of November 2014).

<sup>119</sup> Popper, K.R. 1986. Utopia and Violence. *World Affairs* 149(1): 3 – 9.

<sup>120</sup> Popper’s perspective on Utopia is not alien to his epistemological work. Popper greatly emphasised the idea that we never can be completely sure that a theory is true. Most philosophers of science accept fallibilism, as this position is known. However, Popper also rejected the notion that we can be increasingly confident of the truth-status of theories in science. It seems that he was of the conviction that truth can never be within reach of human understanding and action, which, it seems, is an epistemological expression of his understanding of the second commandment (Exodus 20: 4, 5).

<sup>121</sup> Polanyi, note 113.

<sup>122</sup> Polanyi, M. 1951. *The Logic of Liberty. Reflections and Rejoinders*. Liberty Fund, Indianapolis, p. 135.

<sup>123</sup> Bauckham, R. 2007. *Eschatology*. In: Webster, J., Tanner, K., Torrance, I. (eds.) *The Oxford Handbook of Systematic Theology*. Oxford University Press, Oxford, p. 306 – 322.

<sup>124</sup> Gray, note 91, p. 27 – 28.

<sup>125</sup> Camus, note 78, p. 193.

<sup>126</sup> Kerstein, B. 2009. The Age of Catastrophic Thinking. *Azure Online* 37.

<sup>127</sup> Scott, J.C. 1998. *Seeing Like a State. How Certain Schemes to Improve the Human Condition Have Failed*. Yale University Press, New Haven, p. 4 – 5.

<sup>128</sup> See for such a naïve optimistic perspective the *German Advisory Council on Global Change (WBGU) Flagship Report World in Transition. A Social Contract for Sustainability* from 2011. The possibilities to cite utopian visions are virtually endless. A sample must do here (p. 317 – 318):

‘The ultimate aim of any future global governance must be the creation of a new, equitable global system whose institutions put the international community of states in a position, as early as within the first half of the 21<sup>st</sup> century, that leaves them capable of appreciating the complex interdependencies of the global society within the scope determined by the planetary guard rails, and responding in a timely and adequate manner. To be successful in the long run, a global system like this must not be restricted to action-capable ‘islands’ inhabited by those parts of humankind which are currently the wealthier ones; it must also include those who are currently excluded, and will be in the



near future: the 'bottom billion'.

This, however, means that decision-makers in politics, business and society are facing fundamental political and intellectual challenges: politically, it requires a historically unprecedented transcending of established sovereignty concepts and purely power-driven global politics in favour of ensuring the long-term availability of global commons. Intellectually, it requires solid strategies and concepts that anchor sustainable global development in cross-border democratic structures, attempt to find answers to 21st century issues of global equity and fair distribution, and, not least, can claim global legitimacy for themselves.

Both do not equal a utopian demand for a global government or a global state. Instead, the parallel quests of global governance theoreticians, cosmopolitans, transnationalists, philosophers of justice and so on must focus on legitimately operable norms, rules and procedures, and base themselves on the fundamental principle of a virtual global social contract. Such a process would represent a quantum leap for civilisation, on par with the transition from feudalism to democracy and the rule of law in the 17th and 18th centuries, and the 19th century embedding of markets through the institutions of the welfare state.

In the WBGU's view, this is achievable at a global level only through the agreement on universal goals. The Universal Declaration of Human Rights immediately comes to mind here as an example that is not faultless, but nevertheless encouraging: even though the protection of human rights leaves much to be desired empirically, the concept of human dignity, and the special protection it deserves, is universally recognised. It should therefore also be fundamentally possible to reach a comparable consensus with regard to humanity's capability for survival within Earth's planetary guard rails. A global transformation towards this necessarily presupposes extensive 'Global Enlightenment', which must be aimed at promoting cooperative behaviour, and accelerating the formation of the requisite global social standards and debate. Apart from the political responsibility to advance transformative policies in the basic architecture of economies and infrastructures carried by states and governments, the global civil society is also called upon to transport awareness of the trends

and driving factors of global change in the quest for a new 'Global Enlightenment' (Chapters 2, 6).'

- <sup>129</sup> Hedrén, J., Linnér, B.-O. 2009. Utopian thought and sustainable development. *Futures* 41: 197 – 200.
- <sup>130</sup> Hedrén, J. 2009. Shaping sustainability: Is there an unreleased potential in Utopian thought? *Futures* 41: 220 – 225.
- <sup>131</sup> See [http://nobelprize.org/nobel\\_prizes/peace/laureates/2007/gore-lecture\\_en.html](http://nobelprize.org/nobel_prizes/peace/laureates/2007/gore-lecture_en.html) (last accessed on the 15th of November 2014). Italics added. See also Davidson, M.D. 2008. Wrongful Harm to Future Generations: The Case of Climate Change. *Environmental Values* 17: 471 – 488.
- <sup>132</sup> Lasky, note 62, p. 9.
- <sup>133</sup> Gray, note 91, p. 14. Italics added.
- <sup>134</sup> Voegelin, E. 2000. *Order and History. In Search of Order. Volume 18.* Sandoz, E. (ed.), University of Missouri Press, Columbia, London, p. 32.
- <sup>135</sup> Voegelin, E. 2000. *Modernity without Restraint. The Collected Works of Eric Voegelin. Volume 5.* Henningsen, M. (ed.), University of Missouri Press, Columbia, London, p. 191 – 192.
- <sup>136</sup> Arnoldussen, T. 2009. Precautionary Logic and a Policy of Moderation. *Erasmus Law Review* 2(2): 259 – 285.
- <sup>137</sup> Galtung, J. 1973. 'The Limits to Growth' and Class Politics. *Journal of Peace Research* 10(1/2): 101 – 114.
- <sup>138</sup> R. K. Pachauri, Chairman of the Intergovernmental Panel on Climate Change (IPCC), received on behalf of the IPCC the other half of the Nobel peace prize. His statement contained the following:

'... Honouring the IPCC through the grant of the Nobel Peace Prize in 2007 in essence can be seen as a clarion call for the protection of the earth as it faces the widespread impacts of climate change. The choice of the Panel for this signal honour is, in our view, an acknowledgement of three important realities, which can be summed up as:

1. The power and promise of collective scientific endeavour, which, as demonstrated by the IPCC, can reach across national boundaries and political differences in the pursuit of objectives defining the larger good of human society.
2. The importance of the role of knowledge in shaping public policy and guiding global affairs for the sustainable development of human society.

3. An acknowledgement of the threats to stability and human security inherent in the impacts of a changing climate and, therefore, the need for developing an effective rationale for timely and adequate action to avoid such threats in the future.

These three realities encircle an important truth that must guide global action involving the entire human race in the future. ...'

Again, Utopian elements seem clearly present in Pachauri's proposal to 'deal' with climate change. Optimism, combined with a foreboding of threat and destruction explicitly encapsulates the Utopian dialectic. See [http://nobelprize.org/nobel\\_prizes/peace/laureates/2007/ipcc-lecture\\_en.html](http://nobelprize.org/nobel_prizes/peace/laureates/2007/ipcc-lecture_en.html) (last accessed on the 15th of November 2014).

<sup>139</sup> Taylor, B. 2009. *Dark Green Religion. Nature, Spirituality and the Planetary Future*. University of California Press, Berkeley, p. 85.

<sup>140</sup> Peccei, A. 1977. *Human Quality*. Pergamon Press, New York.

<sup>141</sup> Galtung, J., Nishimura, F. 1976. The farmer-worker-student-militiaman. *Ceres FAO Review* 51: 40 – 43.

In this contribution, Galtung and Nishimura see a glorious future for the People's Republic of China. They share the fascination of the communist experiment as so many other western intellectuals of which Hollander and also Achterhuis wrote incisively (respectively note 60 and note 53, p. 91). Galtung and Nishimura state for instance that:

'Here is a new type of existence, not four different jobs that constitute corners in a rotation quadrangle. To the extent that this is the case, one has obviously come beyond job rotation and entered the phase of job reconstruction. It is in fact relatively close to Marx's old utopia of "hunter in the morning, fisherman in the afternoon, shepherd in the evening and social critic at night," except that this had something aristocratic about it, and did not care to explore what happens after the animals have been killed, the fish caught, or to the sheep when the shepherd runs home for his authorship. The Chinese model constitutes a viable society, yet at the same time seems to integrate man considerably better than preceding models. ...'

<sup>142</sup> Galtung, note 137.

<sup>143</sup> Hanekamp, J.C., Kwakman, J., Pieterman, R., Ricci, P.F. 2012. The

Administrative Ordering of Nature and Society – Precaution and Food Safety at the Molecular and Global Levels. *European Journal of Risk Regulation* 3: 313 – 325.

<sup>144</sup> Fear Itself. *The Hedgehog Review* 5(3): 5 – 7.

<sup>145</sup> Lewis, C.S. 1943. *The Abolition of Man*. In: C.S. Lewis. 2002. *The Complete C.S. Lewis Signature Classics*. Harper San Francisco, San Francisco, p. 465 – 498.

<sup>146</sup> Hardin, G. 1974. Lifeboat Ethics: The Case Against Helping the Poor. *Psychology Today* 8: 38 – 43.

<sup>147</sup> Vogt, W. 1948. *Road to Survival*. William Sloane Associates Inc., New York, p. 13.

<sup>148</sup> Vogt, note 147, p. 48.

See further Desrochers, P., Hoffbauer, C. 2009. The Post War Intellectual Roots of the Population Bomb. Fairfield Osborn's 'Our Plundered Planet' and William Vogt's 'Road to Survival' in Retrospect. *The Electronic Journal of Sustainable Development* 1(3): 37 – 61.

<sup>149</sup> Prins, G. Rayner, S. 2007. *The Wrong Trousers: Radically Rethinking Climate Policy*. Joint Discussion Paper of the James Martin Institute for Science and Civilization, University of Oxford and the MacKinder Centre for the Study of Long-Wave Events, London School of Economics. James Martin Institute for Science and Civilization, Oxford.

<sup>150</sup> Prins, G. Rayner, S. 2007. Time to Ditch Kyoto. *Nature* 449: 973 – 975.

<sup>151</sup> Brundtland, G.H., Ehrlich, P., Goldemberg, J. Hansen, J., Lovins, A., Likens, G., Lovelock, J., Manabe, S., May, B., Mooney, H., K.-H. Robert, K.-H., Salim, E., Sato, G., Solomon, S., Stern, N., Swaminathan, M.S., Watson, B. 2012. *Environment and Development Challenges: The Imperative to Act*. Available at [www.unep.org/pdf/pressreleases/Blue\\_Planet\\_synthesis\\_paper.pdf](http://www.unep.org/pdf/pressreleases/Blue_Planet_synthesis_paper.pdf) (last accessed on the 15th of November 2014).

<sup>152</sup> See on the growth of governments e.g. Holcombe, R.G. 2005. Government growth in the twenty-first century. *Public Choice* 124: 95 – 114.

Garrett, T.A., Rhine, R.M. 2006. On the Size and Growth of Government. *Federal Reserve Bank of St. Louis Review* 88(1): 13 – 30.

<sup>153</sup> Ambler, T., Chittenden, F., Bashir, A. 2009. *Counting the Cost of EU Regulation to Business*. Eurochambres, Brussels.

<sup>154</sup> Callenbach, E. 1975. *Ecotopia*. Banyan Tree Books, Berkeley.

<sup>155</sup> De Geus, M. 1999. *Ecological Utopias. Envisioning the Sustainable Society*. International Books, Utrecht, The Netherlands.

<sup>156</sup> Already in 1936 Mannheim noted that the ‘disappearance of utopia brings about a static state of affairs in which man himself becomes nothing more than a thing. We would be faced then with the greatest paradox imaginable, namely that man, who has achieved the highest degree of rational mastery of existence, left without any ideals, becomes a mere creature of impulses. Thus, after a long tortuous, but heroic development, just at the highest stage of awareness, when history is ceasing to be blind fate, and is becoming more and more man’s own creation, with the relinquishment of utopias, man would lose his will to shape history and therewith his ability to understand it.’

Mannheim, K. 1936. *Ideology and Utopia: An Introduction to the Sociology of Knowledge*. Harvest Book Harcourt Inc., San Diego, New York, p. 262 – 263.

<sup>157</sup> Bauman, Z. 2007. *Liquid Times. Living in an Age of Uncertainty*. Polity Press, Cambridge.

<sup>158</sup> Suvin, D. 1997. *Locus, Horizon, and Orientation: The Concept of Possible Worlds as a Key to Utopian Studies*. In: Daniel, J.O., Moylan, T. (eds.) *Not Yet: Reconsidering Ernst Bloch*. Verso, London, p. 122 – 137.

<sup>159</sup> De Geus, note 155, p. 56.

<sup>160</sup> See further Mathisen, W.C. 2001. The Underestimation of Politics in Green Utopias: The Description of Politics in Huxley’s Island, Le Guin’s The Dispossessed, and Callenbach’s Ecotopia. *Utopian Studies* **January 1<sup>st</sup>**.

<sup>161</sup> De Geus, note 155, p. 224.

<sup>162</sup> De Geus, note 155, p. 184.

<sup>163</sup> De Geus, note 155, p. 184.

<sup>164</sup> Douglas, M., Wildavsky, A. 1982. *Risk and Culture. An Essay on the Selection of Technological and Environmental Dangers*. University of California Press, Berkeley, p. 183 – 184.

<sup>165</sup> Callenbach, note 154, p. 44 – 45.

<sup>166</sup> Dargis, M. 2009. A New Eden, Both Cosmic and Cinematic. *The New York Times* **December 18<sup>th</sup>**.

The film is now at the top of the list of the worldwide box office, grossing more than 2 billion dollars. See [www.boxofficemojo.com/alltime/world/](http://www.boxofficemojo.com/alltime/world/) (last accessed on the 15th of November 2014).

<sup>167</sup> The word unobtainium is a portmanteau derived from unobtainable and -ium (the suffix for a number of chemical elements such as Cerium and Praseodymium, which are rare earth metals). It is a comical term denoting any exceptionally rare, costly, or physically impossible material needed to

meet a certain design for a given application, usually in (science) fiction or thought experiments.

Hansen, J.R. 1987. *Engineer in Charge: A History of the Langley Aeronautical Laboratory, 1917-1958*. United States Government Printing.

<sup>168</sup> Svetkey, B. 2010. James Cameron: Q&A. The “Avatar” director on his harshest critics – and his biggest fans. *Entertainment Weekly* **January 15<sup>th</sup>**.

<sup>169</sup> Taylor, note 139, p. ix.

<sup>170</sup> The belief that we can find one true way to the good green society seems to lead to intolerance and suppression of those who espouse other views. Michael Carson’s short story entitled ‘The Punishment of Luxury’ illustrates in a not so tongue-in-cheek fashion violent ecotopian consequences:

‘The Dark Green government demanded that extensive coverage be given to the first execution of a citizen convicted under the new transportation act. Broadcasting equipment was brought to Trafalgar Square by bicycle, tricycle and solar-powered scooter, and set up around Vehicle Compacter Number One, to the south of Sperm Whale column. A crowd gathered from early morning. Around eight, six Dark Green Ecological Enforcers pushed a black Jaguar into the square. Its owner, the condemned man, Dr Robert Stone of Cattawade, Essex, had been arrested, convicted and was now about to be executed for being found in possession of an automobile. This crime would have been sufficient to assure that the doctor spent the rest of his life in uncomfortably natural surroundings. But what had brought down the full rigours of the new law upon his head was that he’d actually been caught *driving* his car. ... Dr Stone had been arrested, chained and brought to the Old Bailey in a police rickshaw. The Jaguar was placed next to the compactor. The doctor sat in it stoically as the ecological enforcers pushed the vehicle into the machine. The public executioner pushed the switch. The compactor rumbled into life. The peace of rush-hour London was shattered. Goat-hands had trouble controlling their herds on the Whitehall allotments. Shire ponies shied. Thousands of pigeons, unused to a mechanical sound, took to the air in panic, wheeling and flapping. Even the ripening wheat in Kensington Gardens seemed to tremble. The doomed doctor looked up and caught sight of the steeple of Saint Martin’s with birds soaring all around it. Then he saw the passenger door to his left coming towards

him. The roof of the car crumpled, approaching and retreating. Five minutes later, the compacter opened its jaws to reveal a solid black and grey cube. This was man-handled to a corner of Trafalgar Square and placed on a plinth directly opposite the National Gallery of Batik. A sign was placed below the compacted Jaguar-and-Doctor Stone, which read: THE PUNISHMENT OF LUXURY. ... And the Good Earth heaved a sigh of satisfaction on seeing Humankind put firmly –at long last– in its place.’

Pepper, D. 1996. *Modern Environmentalism. An Introduction*. Routledge, London, p. 326.

See further Lee, M.F. 1996. *Violence and the Environment: The Case of 'Earth First!'*. In: Barkun, M. (ed.) 1996. *Millennialism and Violence*. Frank Cass, London, p. 109 – 127.

<sup>171</sup> Prins and Rayner, note 149.

<sup>172</sup> Camus, note 78, p. 166.

<sup>173</sup> As Robert Sutton III remarks: “The actualization of these lies in the future become the ethic of society. Persons and nature become objects to be manipulated and pressed into the service of the hero-system. Anyone who resists, who does not serve the lie and build toward this future, is crushed in the frenzy. For Camus, the end of history in some future state of earthly or heavenly perfection “... is not exemplary or a perfectionist value; it is an arbitrary and terroristic principle.”

Sutton III, R.C. 1992. *Human Existence and Theodicy. A Comparison of Jesus and Albert Camus*. Peter Lang, New York, p. 125.

Reference to Camus, note 78, p. 224.

<sup>174</sup> Gray, note 91, p. 210.

<sup>175</sup> Lewis, note 145.

# 06. UNRAVELLING PRECAUTIONARY CULTURE

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*Every eye closed by a bruise  
Every player who just can't lose  
Every pop star hurling abuse  
Every drunk back on the booze  
All falling, falling at your feet, ...  
All the information  
All the big ideas  
All the radio waves  
On electronic seas  
How to navigate  
How to simply be  
To know when to wait  
Explain simplicity  
In whom shall I trust  
And how might I be still  
Teach me to surrender  
Not my will, thy will' (Daniel Lanois)*

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## CHAPTER'S STRUCTURE AND SCOPE

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*Exposure  
out in the open  
exposure'  
(Peter Gabriel  
Robert Fripp)*

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'... THIS LAND WE SHALL PLOUGH AND CULTIVATE ON ASSOCIATIVE PRINCIPLES, TURN INTO ONE BLOSSOMING GARDEN, WHERE OUR CHILDREN, GRAND-CHILDREN AND GREAT-GRAND-CHILDREN WILL LIVE AS IN A PARADISE. Time was when people believed in legends which told of a paradise. These were vague and confused dreams, the yearning of the soul of oppressed Man after a better life. There was the yearning after a purer, more righteous life, and Man said: "There must be such a paradise, at least, in the 'other' world, an unknown and mysterious country." But we say, we shall create such a paradise with our toiling hands **here**, in **this** world, upon **earth**, for all, for our children and grandchildren and for all eternity.'<sup>1</sup> These far-fetching words were spoken at the close of the Great War, not by a priest or bishop but by Leon Trotsky.

In the closing of this enquiry, we will try to probe for bedrock under the utopian experiment, of which the precautionary culture, as we have seen, is the newest manifestation. That bedrock is located in the life, words, and works of Jesus as found in the Gospels of the New Testament. It is shown that utopian history, indubitably, is at heart informed by the Gospels. The persistent failure of the utopian experiment is taken as a solid historical datum, and it is subsequently put forward that Utopia is the muddled reflection –understood in his failed human vocation- of Jesus. We will submit a consistent and theologically informed argument that principally is focussed on the life, death, *and* resurrection of Jesus that will be able to challenge intemperate Utopia to the full, if Jesus is to be understood at all. The position then attained gives leeway to an understanding of human life that is transcendent and hopeful in this world, generating perspectives on human action that will foster genuine stewardship of creation that is fully reliant on God.

## PROBING FOR BEDROCK

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*How does it feel  
The weight of  
the steel?  
The weight of  
the steel  
The flat of the blade  
How does it feel  
To kneel at defeat?  
(Massive Attack)*

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Scouring the landscape of Utopia, which Trotsky describes in such glowing words, it is utterly surprising that his description is so intensely monotonous. Even more surprising is that its proponents find this acceptable, whether Marxist old school or sustainably modern. In the final analysis, compulsion and regimentation delineate these model commonwealths, contrasting all that Trotsky envisions. The inflexibility of all Utopias, their authoritarianism and intrusive flawlessness, are incomprehensible against the backdrop of human imagination and creativity.<sup>2</sup>

In *The Human Condition*, Hannah Arendt puts forward that action as a human activity has the potential to initiate something new, that is that human action carries the freedom to instigate something unique. ‘The work of our hands, as distinguished from the labor of our bodies ... fabricates the sheer unending variety of things whose sum total constitutes the human artifice.’<sup>3</sup>

Small wonder that within Utopia there is no need for poetry, prose, or any human originality. If Utopia represents the best of all possible worlds, then innovative originality would only result in the degeneration of Utopia. Discipline and harmonisation are therefore pivotal to maintain Utopia. Nevertheless, utopian writings inspired men and women all over the globe. Trotsky’s prose exemplifies how utopian words and ideas shaped our modern history.

Everything we have discussed so far leaves the grounds wide open for a theological discourse critical of Utopia as the foremost undercurrent of modern society and the *raison d’être* of this enquiry. However, utopian traits can be found within theology as well, for instance in the myth of certainty. Leslie Newbiggin views this as ‘part of the deep sickness of our culture that, ever since Descartes, we have been seduced by the idea of a kind of knowledge which could not be doubted, in which we would be absolutely secure from personal risk. And has not this seduction taken two forms which, even if they disclaim all

relationship with each other, are really twin brothers? One is biblical fundamentalism which supposes that adherence to the text of the Bible frees me from the risk of error and therefore gives me a security which does not depend on my own discernment of the truth. The other kind is a kind of scientism which supposes that science is simply a transcript of reality, of the “facts” which simply have to be accepted and call for no personal decision on my part, a kind of knowledge which is “objective” and free from all the bias of subjectivity.<sup>4</sup>

At first, silence would be appropriate. In that silence, Ivan’s poem of the *Grand Inquisitor* in Fyodor Dostoevsky’s *The Brothers Karamazov* might be an excellent point of departure. The legend of the Grand Inquisitor is laid in Seville in the time when the Inquisition controlled Spanish life. One day Jesus in His infinite mercy ‘deigned to appear for a moment to the people, to the tortured, suffering people, sunk in iniquity, but loving Him like children’.

His presence is a menace to a contemporaneous culture where the clergy ruled the church. They are lord and master of the country and Jesus’ arrival clashes with their power. By order of the Grand Inquisitor, He is arrested and put behind bars. He visits Jesus after dark in prison. “Is it Thou? Thou?” but receiving no answer, he adds at once. ‘Don’t answer, be silent. What canst Thou say, indeed? I know too well what Thou wouldst say. And Thou hast no right to add anything to what Thou hadst said of old. Why, then, art Thou come to hinder us? For Thou hast come to hinder us, and Thou knowest that. ...’<sup>5</sup>

The unexpected confrontation with Christ is an infringement on the Inquisitor’s authority and the power of the church. “[To]-morrow I shall condemn Thee and burn Thee at the stake as the worst of heretics.” But after a long and reproachful monologue the Grand Inquisitor snarls at Him: “Go, and come no more, come not at all, never, never!” The cardinal only wishes to remember Him living in the early decades of the first century and leave Him there forever, as perhaps most people of power would like him to be.

It seems utterly gratuitous to start theological reflections with Dostoevsky’s Grand Inquisitor. The legend of the Grand Inquisitor in *The Brothers Karamazov*, however, is the quintessential critique of Utopia, the confrontation of Jesus’ ostensible failure ironically



counterpointed by the bankruptcy of human utopianism, whether socially or scientifically construed. *It is a story of Gospel and Utopia crucially intersecting.*

While not explicitly anti-utopian in itself, it is the single most important text of the genre.<sup>6</sup> Time and again, the dungeon confrontation between Jesus and the Grand Inquisitor was to be re-enacted in literature, trying to capture the essence of Dostoevsky's thought or build thereon into new directions. It is found in the conversation between D-503 and the Benefactor in Yevgeny Zamiatin's *We*, between the rebels and the Controller in Aldous Huxley's *Brave New World*; between Rubashov and Gletkin in Arthur Koestler's *Midnight at Noon*, between Winston Smith and O'Brien in Orwell's *1984*. What is repeated in these dystopias is not just the form but also the content with its images and details. Dostoevsky's picture of a feeble and childishly happy people playing under the authoritarian but benevolent eyes of outwardly all-powerful, yet incurably fallible, human rulers is irresistible.

Rowan Williams observes that Dostoevsky in his work 'is not presenting to us a set of inconclusive arguments about "the existence of God", for or against, but a fictional picture of *what faith and the lack of it would look like in the political and social world of his day* ... we have to trace so far as possible the inner movement and coherence ... of the way he treats questions about how life of faith is to be imagined – about the diabolical, about the kind of life that is able to resist the diabolical, about how what we encounter can be understood as a representative or vehicle of the holy. ...'<sup>7</sup>

As he concludes his book, Williams proposes that 'the difference between the self-aware believer, the self-aware sinner and the conscious and deliberate atheist is not a disagreement over whether or not to add one item to the total sum of really existing things. It is a conflict about politics and possibilities for a human life: between someone who accepts the dependence of everything on divine gratuity and attempts to respond with some image of that gratuity, someone who accepts this dependence but fails to act appropriately in response, and someone who denies the dependence and is consequently faced with the unanswerable question of why any one policy for living is preferable to any other. ...'<sup>8</sup>

These three approaches are an appropriate précis of the issues we will tackle at the close of this enquiry. The 'policies of living' that lie, as it were, before us will be moulded by the confrontation between Utopia and the one who crucially informed its history. The central notion that we will develop is that Jesus Incarnate has conclusively shaped the *anticipatory* character of life and the cosmos. In order to form an understanding thereof, we need to understand the breakdown of Utopia first. That breakdown, in a sense, releases the persona of Jesus from the current mechanistic (scientific) understanding of our world, its history, and ourselves.

## A WANING PERSPECTIVE

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*'Don't believe  
in excess  
Success is to give  
Don't believe  
in riches  
But you should  
see where I live  
...  
Don't believe in  
rock 'n' roll  
Can really  
change the world  
As it spins in  
revolution  
It spirals and  
turns ...'  
(U2)*

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### Discarding harmony

'Secular myths reproduce the narrative form of Christian apocalyptic, and if there is a way of tempering the violence of faith it must begin by questioning these myths. ... A central task of government is to work out and enforce a framework whereby they [*religions*] can live together. A framework of this kind cannot be the same for every society, or fixed for ever. It embodies a type of toleration whose goal is not truth but peace. When the goal of tolerance is truth it is a strategy that aims for harmony. It would be better to accept that harmony will never be reached.'<sup>9</sup>

John Gray makes a two-sided assertion at least. First, he underscores the close link between secular myth, such as Utopia, and Christianity. Questioning both the myth of religion and secularism as a means to mitigate its violence, for Gray, is *the way forward*. He regards an overarching secularism just as dangerously monolithic as the religions at the point where they assert *the truth* about humanity and reality. Second, societies and its governments should render the quest for truth obsolete. Peace should be its goal, not truth. The notion that harmony is unattainable and therefore should be abandoned, Gray sees as the inevitable consequence

of his analysis. However, he does not see religion disappear and he does not require it.

Gray is far too optimistic in his assertions. Precautionary culture seems the latest attempt to instate once more the truth of the good society. This brings us back to Dostoevsky and the history of Jesus. We need not wonder whether the Grand Inquisitor experiences that Jesus had touched his church. He had. In the confrontation between the two, his assertion that the church is solely dependent on the clergy falls flat as only Jesus shows real power over life and death in the healing of the blind man and the raising of the deceased child. 'But we shall say to them that we are Thy servants and rule them in Thy name. We shall deceive them again, for we will not let Thee come to us again. That deception will be our suffering, for we shall be forced to lie. ... Peacefully they will die, peacefully they will expire in Thy name, and beyond the grave they will find nothing but death.'

#### A failed vocation

Dostoevsky closely portrays modern society's 'ontology of death'. John Haught emphasises that this ontology is now regarded as the basic structure of the cosmos, which leaves (human) life far less 'real' than the overwhelmingly astronomical lifelessness we are surrounded with.<sup>10</sup> What once was regarded as the rule –life- is now the exception in a lifeless cosmos destined for the entropy-death: '... beggar or king, death is the end of all things. Why, life might be seen as a virus infecting the perfect organism of death.'<sup>11</sup>

Or as Hans Jonas puts it: 'To take life as a problem is here to acknowledge its strangeness in the mechanical world which is the world; to explain it is -in this climate of a universal ontology of death- to negate it by making it one of the possible variants of the lifeless. Such a negation is the mechanistic theory of the organism, as the funeral rites of prehistory were a negation of death. L'homme machine signifies in the

modern scheme what conversely hylozoism<sup>1</sup> signified in the ancient scheme: the usurpation of one, dissembled realm by the other which enjoys an ontological monopoly. Vitalistic monism is replaced by mechanistic monism, in whose rules of evidence the standard of life is exchanged for that of death.'<sup>12</sup>

Observe what Carl Sagan has to say on the *Pale Blue Dot* photograph; that is the colour image of the Earth taken in 1990 by *Voyager 1* at a distance of some 6 billion km:<sup>13</sup>

'Look again at that dot. That's here. That's home. That's us. On it everyone you love, everyone you know, everyone you ever heard of, every human being who ever was, lived out their lives. The aggregate of our joy and suffering, thousands of confident religions, ideologies, and economic doctrines, every hunter and forager, every hero and coward, every creator and destroyer of civilization, ever king and peasant, every young couple in love, every moth and father, hopeful child, inventor and explorer, every teacher of morals, every corrupt politician, every "superstar," every "supreme leader," every saint and sinner in the history of our species lived there—on a mote of dust suspended in a sunbeam.

The Earth is a very small stage in a vast cosmic arena. Think of the rivers of blood spilled by all those generals and emperors so that, in glory and triumph, they could become momentary masters of a fraction of a dot. Think of the endless visited by the inhabitants of one corner of this pixel the scarcely distinguishable inhabitants of some other corner, how frequent their misunderstandings, how eager they are to kill one another, how fervent their hatreds.

Our posturings, our imagined self-importance, the delusion that we have some privileged position in the Universe, are challenged by this point of pale light. Our planet is a lonely speck in the great enveloping cosmic dark. In our obscurity, in all this vastness, there is no hint that help will come from elsewhere to save us from ourselves. ...'

<sup>1</sup> The viewpoint that all matter is in some sense alive.

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'And a lion, a lion  
roars would you  
not listen?  
If a child, a child  
cries would you  
not forgive them?'  
(London Grammar)

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Figure 3 *Pale Blue Dot* (see [https://solarsystem.nasa.gov/multimedia/display.cfm?Category=Planets&IM\\_ID=2148](https://solarsystem.nasa.gov/multimedia/display.cfm?Category=Planets&IM_ID=2148)).

It is no wonder then that regarding the life of Jesus, the common perspective is that his arrest, conviction and subsequent execution on the cross left him a failed political visionary (i.e. a deceased member of 'confident religion') not unlike many other revolutionary messiahs, then and now. In the context of the ontology of death, Jesus' failure is nothing other than run of the mill. His alternative vision of society, human relations, and God, is usually regarded as commendable, inspirational, and worthy of emulation yet in essence inaccessible and thereby, perhaps, better left to its distant history. His solidarity with the poor and his mission is idealistic, and all the supreme hopes Jesus spoke of (e.g. Matthew 4: 23 – 25) seem to be a fiasco. Jesus' message of the Kingdom of God got nowhere, as the Herodian dynasty and the Roman Empire were firmly in place many years after his death.<sup>14</sup> As Sean Freyne laments:<sup>15</sup>

'... Jesus' vision of shared goods and rejection of the normal securities, including money ..., which, apart from land, was the most important commodity in the market economy, though utopian in its intention, did provide an alternative vision. This vision viewed the world of human relations, based on status maintenance, in a very critical light and allowed instead for oppressors and oppressed to relate as equals. In proposing such an ideal Jesus was not seeking to revert to a *status quo ante* for Israel as stated in the Pentateuch, but was operating within a genuinely prophetic framework of adapting the tradition to the demands of a new situation, and doing so in the name of God's final prophetic word to Israel. ... The relative failure of the Jesus movement as an inner-Galilean Jewish renewal movement must be judged not only in terms of the absence of clear archaeological or literary evidence for a Christian presence there in the first century, but also by the extent to which the Herodian and the theocratic system, each vying with the other for control of the resources, were still in place in 66 CE.'

Freyne, perhaps inadvertently, sees in Jesus' words and works a failed (proto)-utopian agenda that after his death would be replicated time and again throughout human history. This compels Freyne, and many others with him, to conclude that Gospel-sayings that imply continuity of Jesus' person and work (such Luke 24: 13 – 35) cannot be other than secondary and redactional. The early church thus, out of necessity in terms of coherence and mission, must be responsible for this continuity.<sup>16</sup> Subsequently, the crucifixion routine of the Romans apparently leaves no room for the burial stories as found in Matthew 27, Mark 15, Luke 23, and John 19, and by implication eliminates the likelihood of some kind of resurrection in the material sense.<sup>17</sup> As Martin Hengel explains:<sup>18</sup>

'5. By the public display of a naked victim at a prominent place – at a crossroads, in the theatre, on high ground, at the place of his crime– crucifixion also represented his uttermost humiliation, which had a numinous dimension to it. With Deuteronomy 21: 23 in the background,<sup>19</sup> the Jew in particular was very aware of this. This form of execution, more than any other, had associations with the idea of human sacrifice, which was never completely suppressed in antiquity. ...

6. Crucifixion was aggravated further by the fact that quite often its victims were never buried. It was a stereotyped picture that the crucified victim served as food for wild beasts and birds of prey. In this way the humiliation was made complete. What it meant for a man in antiquity to be refused burial, and the dishonour which went with it, can hardly be appreciated by modern man.'

Jesus, considering Freyne's and Hengel's observations straightforwardly, utterly disappears into death and dissolution as an offender, prophet, revolutionary, and so on, leaving at most a dualistic understanding of his historically enduring words. Jesus appears nothing other than one of the many famous teachers crowding history.<sup>20</sup> The words Jesus spoke are left hanging in the balance of human imagination and the attempt to live up to these

words alone, that is as long as human life is sustained by the planet. The Gospels appear to be testimony to that attempt. In *Jesus: A Revolutionary Biography*, for instance, John Dominic Crossan underscores this with reference to the Passion narratives. These do not convey historical information concerning Jesus' death, burial and resurrection, he argues, but rather echoes the perplexing struggle of Jesus' followers to rationalise his crucifixion and death while at the same time experiencing continuing empowerment by him.<sup>21</sup> This impenetrable contradiction, as Crossan and others emphasise, gave rise to the Gospels as we know them now.<sup>22</sup>

In the debate with Thomas Wright on the resurrection, Crossan states that 'to the extent that we Christians do not display an eschatological life of justice-as-the-body-of-love and love-as-the-soul-of-justice, we lose the right to speak of Christ's earthly resurrection and have at best a right to speak of his heavenly exaltation.'<sup>23</sup> Christians, thus, should materialise, in their lives and work, the life of Jesus embodied so many centuries ago, and leave behind any talk about bodily resurrection.

But this is an impossible task to accomplish, as history testifies.

In a nutshell, Crossan unwillingly and unwittingly epitomises the looming and persistent internal contradiction of striving for, yet not being able to fulfil Jesus' 'alternative vision' of a society built on love and justice.<sup>24</sup> This intrinsic instability, this fundamental conflict, is with us since the early decades of the first century, and has been aggravated by the wide-spread scientific perspective that nature is an 'atomic, molecular and historical continuum in which each level of being is reducible to its historical antecedents and physical constituents.'<sup>25</sup>

Precautionary culture with its sustainable longings is nothing new with regards to the invariable contradictions of yesteryear. Human rule, ultimately in human hands, can only persevere by proclaiming it to be the absolute and final good, leaving aside the monumental reality of death. To all intents and purposes, the utopian experiment *must* be brought to a close, again, by the next decisive Utopia. This painstaking quest is a contradiction in terms in its endlessness.

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'... and at once I  
knew I was not  
magnificent'  
(Bon Iver)

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## Readdress

The burden of Utopia, which in some way or another we construed from Jesus works and words in modernity, is insupportable historically.<sup>26</sup> It is either being aware of divine gratuity yet unable or unwilling to respond thereto – Williams second reflection on Dostoevsky – or to live willingly in the void of an apparently godless world and to be faced with the unanswerable question of why any one policy for living is preferable to any other – the final of the three reflections Williams put forward.<sup>27</sup>

Ivan Karamazov is on target when he lets the Inquisitor say that 'Thou didst crave for free love and not the base raptures of the slave before the might that has overawed him for ever. But Thou didst think too highly of men therein, for they are slaves, of course, though rebellious by nature. Look round and judge; fifteen centuries have passed, look upon them. Whom hast Thou raised up to Thyself? I swear, man is weaker and baser by nature than Thou hast believed him! Can he, can he do what Thou didst? By showing him so much respect, Thou didst, as it were, cease to feel for him, for Thou didst ask far too much from him – Thou who hast loved him more than Thyself!'<sup>28</sup> The Christian message, in Ivan's view, is simply incompatible with ordinary human beings. An impossibly confident perspective on the human potential to emulate Jesus in his absence is carried over.

Iris Murdoch is instructive here. What she puts forward is not unlike what Flaubert speaks of in his *La Tentation de Saint Antoine* where a veritable excess of gods pass into nothingness before the eyes of Antoine, including the God of Israel. What remains is science (scientism in fact), which according to Antoine is the devil himself: 'How recognizable, how familiar to us, is the man so beautifully portrayed in the *Grundlegung*, who confronted even with Christ turns away to consider the judgement of his own conscience and to hear the voice of his own reason. Stripped of the exiguous metaphysical background which Kant was prepared to allow him, this man is with us still, free, independent, lonely, powerful, rational, responsible,

brave, the hero of so many novels and books of moral philosophy. The *raison d'être* of this attractive but misleading creature is not far to seek. He is the offspring of the age of science, confidently rational and yet increasingly aware of his alienation from the material universe which his discoveries reveal; and since he is not Hegelian ... his alienation is without cure. He is the ideal citizen of the liberal state, a warning held up to tyrants. He has the virtue which the age requires and admires, courage. It is not such a very long step from Kant to Nietzsche, and from Nietzsche to existentialism and the Anglo-Saxon ethical doctrines which in some ways closely resemble it. In fact Kant's man had already received a glorious incarnation nearly a century earlier in the work of Milton: his proper name is Lucifer.<sup>29</sup>

## JESUS

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*'What no man can  
own, no man can  
take  
Take this heart  
Take this heart  
Take this heart  
And make it break'  
(U2)*

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### Utopia mirrored

Now, it looks attractive to dive further into the theological debate and choose one of the many 'Jesuses' on offer that subsequently would approximately match the arguments of this enquiry. Scholars of widely varying denominations offer a broad range of options.<sup>30</sup> However, this enquiry will take its queue from a Christology from below, roughly any method in Christology that starts with historical data directly or indirectly referring to Jesus in which the history of Utopia is to be used as a solid datum.

The question of who Jesus was and what his objectives were in his life is a matter of continuing academic debate. The Cynic wisdom teacher,<sup>31</sup> the apocalyptic prophet,<sup>32</sup> pursuing either political or non-political objectives;<sup>33</sup> Jesus is portrayed in a wide-ranging spectrum of conceptions of who he was and what he did.

Here, we will pit Utopia and its history as the overarching critique against those multifaceted images of Jesus that deny, implicitly or explicitly, certain aspects of Jesus we will focus on and discuss subsequently. We will submit a consistent and

theologically informed argument that principally is focussed on the life, death, and resurrection of Jesus that will be able to challenge Utopia to the full, if Jesus is to be understood at all. Utopia is the muddled reflection of Jesus merely understood in his failed human vocation. Overall, the actuality of utopian history seems to require Jesus to be genuinely in touch with us here and now, not just linguistically or nostalgically.<sup>34</sup>

The parable of the prodigal son (Luke 15), in which Jesus retells Israel's (Jacob's) story with critical differences, is a thoroughgoing self-explanatory story Jesus conveyed with which we can take the next step. However, to understand Jesus in utopian history is one thing; to unearth a portrayal of Jesus (of whatever numerical order) that could challenge Utopia with full historical conscience, is quite another.

This portrait of Jesus I will present concisely below is not new, far from it, but not many have tackled the modern (anti-) utopian consequences thereof that simultaneously informs our understanding of Jesus in our day and age. Below, the work of Kenneth Bailey will function as a point of reference.<sup>35</sup>

### Parables

Through storytelling, Jesus in Luke 15 enters a scholarly debate with the belligerent intellectuals of his day. Two stories precede the all too familiar parable of the prodigal son, namely the parable of the lost sheep and the parable of the lost coin. The three stories, which are intimately entwined, are prompted by the remark made by unnamed Pharisees and teachers of the law muttering that 'this man welcomes sinners and eats with them.'<sup>36</sup> Consequently, each of the three stories ends with a celebratory meal with friends and neighbours. Now, when Pharisees sat down to eat, they were quite careful to maintain ceremonial purity. As a result, they refused to eat with the populace who were less stringent about maintaining this purity, which is quite contrary to what Jesus openly did, namely have meals with 'known' sinners. This primer of Jesus storytelling returns in every conclusion of the three parables.

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*'Let not another search  
be made in vain  
Let not another  
child be slain'  
(Massive Attack)*

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The final story is the retelling of Jacob's story, the story of Israel.<sup>37</sup> Through contrasts and comparisons, Jesus builds a new saga both for the children of Jacob and Adam. Jesus thus transcends the Israelite story and universalises his parable. It becomes a story of the human condition we have analysed in relation to the fundamental human desire to recover individual and corporate humanity without God: 'Jesus is not talking about two particular ethnic communities but instead is referring to well-known types of people within any language and culture.'<sup>38</sup>

The focal aspect in both stories that is intimately related to Jesus' self-understanding is the notion of divine visitation/incarnation. Jacob wrestles with a man, who is identified with God.<sup>39</sup> With tenacity Jacob wins the struggle, is blessed, and is given the name Israel, 'he who strives with God'. At the close of the parable, conversely, the father, as a portrayal of God, leaves the house and runs down the street and embraces and kisses his dirty son returning. Here the roles are reversed: the son surrenders to the father, but not to physical strength but to costly love. Both Jacob and the wayward son come into direct contact with the divine, with the latter receiving reconciliatory love to which he surrenders: 'That love becomes incarnate on the road at the edge of the village.'<sup>40</sup>

The errant son, however, starts his homeward journey without remorse. He is seeking to work the system in order to fill his stomach. His planned introduction to his well-prepared speech – 'Father, I have sinned against heaven and against you' – likely is a reference to Pharaoh's statement in Exodus 10: 16 when he is trying to manipulate Moses into lifting the plagues sent by God to Egypt. The fact that reconciliation nevertheless *is* achieved at all is entirely dependent upon the father, running down the street, against all first-century Middle Eastern protocol, to welcome his son. Sinners who accept Jesus in their homes to share dinner with him receive reconciliation and forgiveness freely given by the father.

Here, Jesus expands his portrayal of the patriarch further, and in less than a subtle manner. The opening of the story is scandalous: the son desiring his father's death in order to usurp his future inheritance here and now, and the father obliging, against all reason and protocol. As a result, the property of the father is divided between *both*

sons. The reunion at the end of the story is even more scandalous. Bailey touches the heart of the matter when he states that:<sup>41</sup>

'... the father knows full well that the prodigal violated the customs and traditions of the village when he demanded his inheritance, sold it and left. The father also knows that if and when his son returns in failure he will be treated badly. From his side, the prodigal understands all of this. As he returns, he grits his teeth and steels his nerves for the gauntlet he is obliged to run on entering the narrow village street. The prodigal arrives at the village during the day when his father is able to see him while he is "still far off" (NRSV). If the father can see him, so can the people of the village. On arrival at the edge of the village, to his surprise and shock, the prodigal witnesses his father *running the gauntlet for him!* Thus the action of "going out" from the home to meet the exhausted, humiliated son is transformed from a manoeuvre for some kind of advantage (military?) into a willingness of the father's part to accept upon himself the shame due the wayward son. Jesus' redefinition of repentance/salvation, begun in the first two stories, now unfolds to its fullest extent.'

The image Jesus sketches of the patriarch, as imagery for God, is contrary to all custom and ritual of his days, surpassing it infinitely: in the parable, the *Pater familias* would be sitting in his house in ostentatious isolation waiting for some form of explanation from his rebellious progeny.

The counterpoint of the oldest son's reaction strengthens Jesus' parable further. The older son publicly humiliates the father. The son-who-is-near refuses to join the celebratory dinner, which he misconstrues as in honour of his younger brother. This is emphatically not the case. The *father* is honoured for his abundant grace. The gravity of the insults the older son hurls at his father sinks in when one is reminded of the fact that Middle Eastern villagers 'kill each other over public accusations this strong.'<sup>42</sup> The older son demonstrates himself to be as 'lost' as his brother was in the far country.<sup>43</sup> Both are in exile.



Again, contrary to all protocol and custom of honour, the father makes the profoundly humiliating move towards his oldest son by leaving the banquet and his guests, in order to accomplish reconciliation, as he did with his youngest son.

In the final analysis, both sons are seen as rebels needing a visible display of love to bring them from serventhood to sonship. The oldest son's response is not heard in the story as it contains a question directed at his learned Pharisaic audience that scolded Jesus for his eating with sinners: the listening Pharisee is urged to see himself in the older son and invited to respond by accepting reunion.<sup>44</sup>

The older son's understanding of the reason for the banquet is mistaken, just as the understanding of the Pharisees of Jesus' socialising and eating with sinners is mistaken. Jesus does not eat with sinners to celebrate their sins; he does so to celebrate his grace. The Pharisaic audience does not lose the privileges and rights before God when sinners are welcomed into the kingdom of God, just as the rights and privileges of the older son are not violated when the younger son is forgiven and taken into the house once more.<sup>45</sup>

The father's dealings with his two sons are expressions of a love and compassion that surpasses earthly images. Jesus in Luke 15 makes clear that God is not like *a* father but rather like *this* father: loving, compassionate, and surrendering self-emptying love. The father in the parable publicly surrenders to both his sons to achieve reconciliation, *which both require*. No other action can accomplish this. Jesus answers the challenge why he eats with sinners to the full and confronts the Pharisaic audience with the challenge of the older son: if law-breakers accept reconciliation and forgiveness as is clearly visible to all, will law-keepers, who require no less reconciliation and forgiveness, do the same?

Unassertively, the imagery of God Jesus portrays becomes imagery for himself. *Jesus* is the one who eats with sinners (like the Father plans to do) and in so doing pronounces himself to be the divine presence in the community and the world. Luke 15 contains a portrayal of Jesus as he sees himself; the imagery of God is knowingly and willingly transferred onto himself. 'The father, a symbol for God, evolves into a symbol for Jesus, who at great cost offers reconciliation separately to each type of sinner.'<sup>46</sup> It is

progressively clear that what Jesus creates in the Gospels in general and in Luke 15 in particular, from the framework of first-century Jewish faith, is a worldview in which he himself features centrally.

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## Messiah

The means to further acquire insight into Jesus' self-understanding revolves around Old Testament language for God that Jesus applies to himself, and not merely in the parables such as the one we discussed above. Luke 11: 20 is perhaps the most imposing exposition of Jesus' use of Old Testament language: 'But if I drive out demons by the finger of God, then the kingdom of God has come to you.' This phrase echoes Deuteronomy 9: 10 wherein the law is given to Moses inscribed in stone by God's finger. God alone performs such an act; no human representative of God is said to do so. Jesus suggests a close association between himself and God. The ubiquitous 'son of man' sayings in the Gospels, especially those that speak of his authority and his enthronement (e.g. Mark 2: 8 – 12; Luke 22: 28 – 30),<sup>47</sup> are clear expressions thereof and echo the son of man saying in Daniel 7.<sup>48</sup> Jesus interprets his acts as a demonstration of the breaking through of the kingdom of God specifically through him, with the double meaning of 'already' and 'not yet'. Herod, Pilate, and Caiaphas are still holding court; but there is a different enemy who has already borne a devastating blow, and who will soon be conquered completely. Jesus is already acting as the sovereign through whom YHWH is even now defeating the enemies of his people.<sup>49</sup> Or as Larry Hurtado states:<sup>50</sup>

'He both announces the coming "kingdom of God" as a future event and also manifests it by way of anticipation in his own actions such as his exorcisms, healings, and welcome sinners (e.g., Luke 1:20/Matt 12:28). That is, Jesus is himself an eschatological "event" and figure.

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*'See the teachers  
Are representing you  
So badly  
That not many  
can see you'  
(Massive Attack)*

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Eschatological hopes find in him specific confirmation, and in his historical activity their partial and initial fulfilment. This gives the story of Jesus a keen edge of excitement and drama. He is not simply a powerful wonder-worker, an impressive teacher and debater, and/or a heroic leader of his followers; he is the special vehicle of the purpose of God, which involve (ultimately) the transformation of the world, the judgement of evil, and the vindication of those who ally themselves with God's purposes.

The term *messiah* is appropriate at this juncture. John Barton sees messianism as a forthright aspect of Jewish eschatological expectations, but allows that in different forms of Judaism, including early Christianity, the Messiah may appear in different guises. A Messiah in a Judaism is a man who at 'the end of history, at the eschaton, will bring salvation to the Israel conceived by the social group addressed by the way of life and world view of that Judaism. Judaisms and their Messiahs at the age of the beginning of Christianity therefore encompass a group of religious systems that form a distinct family, all characterized by two traits: (1) address to 'Israel' and (2) reference to diverse passages of the single common holy writing ('Old Testament', 'written Torah').<sup>51</sup> At the dawn of the Christian era, most Jews awaited the Messiah. Kingship and messianism are historically related, Barton emphasises. Had there never been a monarchy in Israel, and had it not taken on the prominent ideological stance, often sharply criticised by Israel's prophets, messianism could most likely not have taken root.<sup>52</sup> Lines of continuity subsist between ancient Jewish religious-political ideas and messianic hopes of Jews and Christians alike. One such line is that God is envisioned to have an intimate interest in political reality. Kingship in Israel, both through its proponents and opponents, expresses this notion: God cares deeply about how human society is organised. This care is epitomised in Israel and its relation to the world. Life within this people and before YHWH must be recognizable by something special for all to see.<sup>53</sup>

The belief that one day God will instate his *own* eschatological rule

through a human being, the Messiah, is in accordance therewith. Here, the Christian belief that God has entered the world through a man called Jesus surfaces. Andrew Chester gives insight into the messiahship of Jesus. In Mark (15.2), Pilate is portrayed putting the 'king of the Jews' charge directly to Jesus, and the strength of Jesus' reply is to acquiesce in this. At Mark 14.61 – 62, and parallels, the implication is that Jesus is prepared to accept a messianic designation, while at the same time wanting to point beyond these specific titles to the way that he would choose to characterise himself.<sup>54</sup> Luke 4: 16 – 21 underscores Jesus' self-understanding.<sup>55</sup> Jesus has quite a lucid and intimate affinity with a messianic profile that needs to be recognised in its own right.<sup>56</sup>

Then again, on his entry into Jerusalem, Jesus portrays himself implicitly as a royal messiah, but *not* according to the paradigm of the one who would bring deliverance to God's people in any *military* fashion. As a response to the question of the disciples of John the Baptist in Luke 7: 21 – 23,<sup>57</sup> Jesus represents his mission as fulfilling not only the role of the prophet 'anointed with the Spirit' (Isaiah 61: 1, 2), but also with visions of the new age God Himself will inaugurate, and the transformation that this will entail as portrayed in the Beatitudes in Matthew 5. The *manner* in which this transformation will be brought about is not mentioned, contrary to revolutionary messiahs before and after Jesus' time. So, no 'eschatological blueprint' is given. Indeed, in Luke 7: 22 Jesus does not mention that 'the Lord ... frees captives from prison' as Isaiah 42 does to which he refers. Although Jesus alludes to texts such as Psalm 72 with its portrayal of the king who achieves divine justice for the poor, deprived, and oppressed, the implications of a militant role for him are excluded by him, and deliberately so.<sup>58</sup> Subsequently, not some socio-political blueprint for a better world is pivotal, but Jesus himself stands at the centre. The Beatitudes, as one of the high-points of Jesus ministry, are true *not* as observations of reality missed by most, but are true on the basis of the authority of the one who speaks, as expressed e.g. in Matthew 8.<sup>59</sup> It carries an implicit Christological claim that calls for taking a stand with regard to the speaker, Jesus, as the anointed one as spoken of in Isaiah 61.<sup>60</sup> Jesus thus by his own reckoning

transcends kingship and messiahship: God Himself has returned to his people and the world. Wright is spot on when he states that:<sup>61</sup>

'Jesus did not ... 'know that he was God' in the same way that one knows that one is male or female, hungry or thirsty, or that one ate an orange an hour ago. His 'knowledge' was of a more risky, but perhaps more significant, sort: like knowing one is loved. One cannot 'prove' it except by living it. Jesus' prophetic vocation thus included within it the vocation to enact, symbolically, the return of YHWH to Zion. His messianic vocation included within it the vocation to attempt certain tasks which, according to scripture, YHWH had reserved for himself. He would take upon himself the role of messianic shepherd, knowing that YHWH had claimed this role as his own. He would perform the saving task which YHWH had said he alone could achieve. He would do what no messenger, no angel, but only the 'arm of YHWH', the presence of Israel's god, could accomplish. As part of his human vocation, grasped in faith, sustained in prayer, tested in confrontation, agonized over in further prayer and doubt, and implemented in action, he believed he had to do and be, for Israel and the world, that which according to scripture only YHWH himself could do and be. He was Israel's Messiah; but there would, in the end, be 'no king but God.'

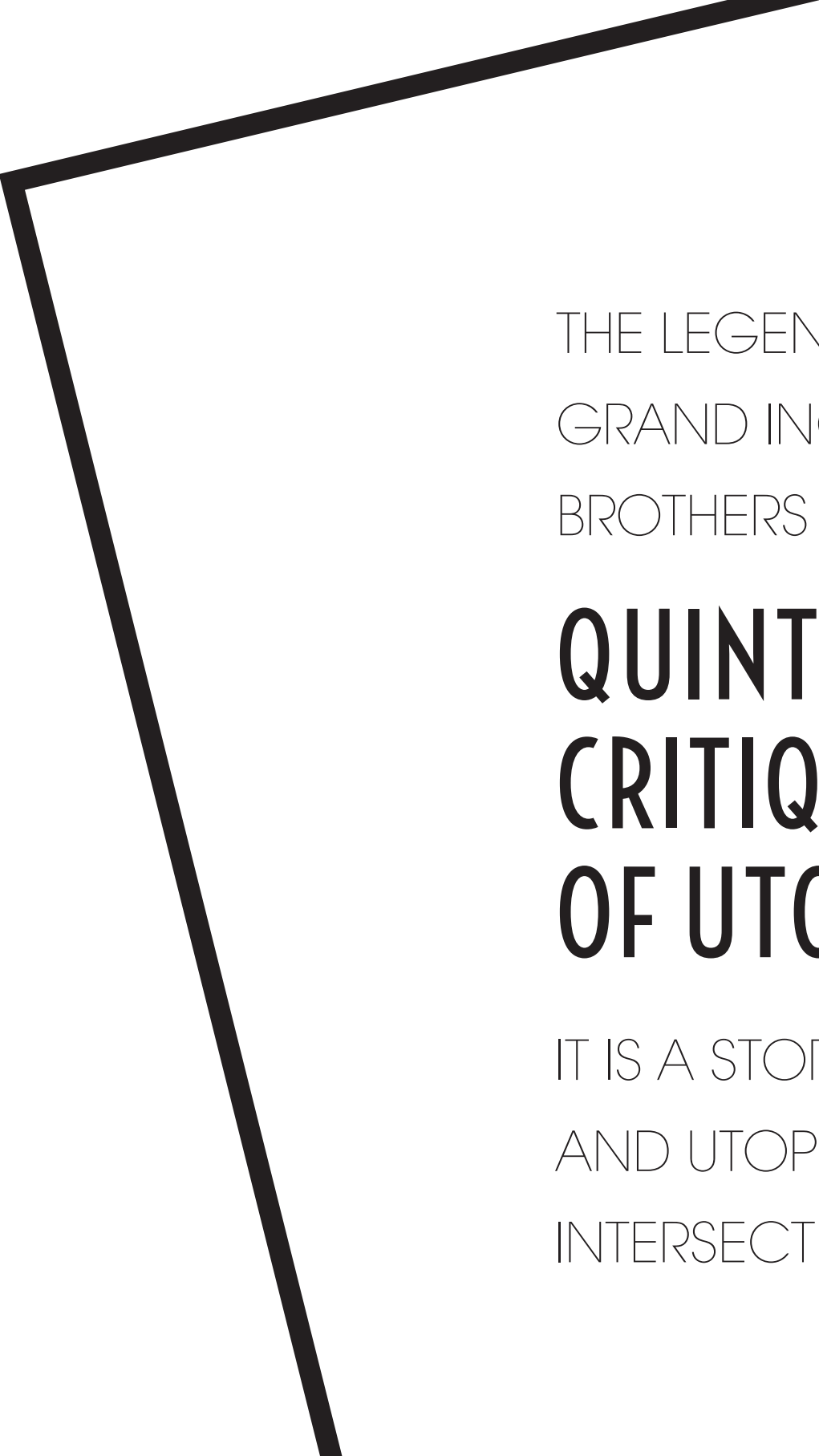
This takes Jesus' vocation to an entirely different level, that is beyond what a 'mere' wisdom teacher, prophet, or even a human messiah could accomplish. It is abundantly clear that New Testament writers include Jesus in the unique identity of the one God. 'They do so carefully, deliberately, consistently and comprehensively by including Jesus in precisely those divine characteristics which for Second Temple Judaism distinguished the one God as unique. All New Testament Christology is in this sense very high Christology, stated in the highest terms available in first-century Jewish theology.'<sup>62</sup>

What then are we to make of this high self-awareness Jesus, if it is his own self-understanding at all? Undeniably, references to the

ostensible high self-awareness are generally not regarded as deriving authentically from Jesus. A high self-esteem, both with regard to one's personal and one's religious standing, is regarded to be absent in Second Temple Judaism.

Nevertheless, Wright drives the point home that in Jesus' life, death, and resurrection he had accomplished the new exodus, had done in person what Israel's God had said he would do in person. He had inaugurated God's kingdom on earth as in heaven. Scholars, according to Wright, have spent too long looking for pre-Christian, Jewish ideas about human figures, angels or other intermediaries. What matters are the pre-Christian Jewish ideas about Israel's God. '*Jesus' first followers found themselves not only (as it were) permitted to use God-language for Jesus, but compelled to use Jesus-language for the one God.*'<sup>63</sup> The language, so to speak, was present for the first Christians to uphold Jewish monotheism that included Jesus to the full.

David Flusser compares Jesus to rabbi Hillel one generation before Jesus: 'It may be assumed that Hillel's high consciousness about himself had some influence on Jesus' personal experience. But there is a great difference between the two. Hillel's high self-awareness is not limited to his person, but is paradigmatic for everyone. Jesus' consciousness of his exalted value –though, as in Hillel's case, connected with personal meekness, and though he was opposed to any "cult of personality"– was connected with the knowledge that his person was not interchangeable with any other man. As the Son, he considered himself to have a central task in the divine economy: "He who is not with me is against me, and who does not gather with me, scatters".'<sup>64</sup> Jesus then is portrayed in the Gospels as the Incarnate, instating God's rule on earth. Incarnation is central to fulfil God's unitive aims in creation.<sup>65</sup> If this is correct, then Utopia is the dark repoussoir thereof. Nonetheless, how is this understanding of Jesus in any way related to the tragedy of Utopia? In other words, how does this understanding of Jesus as sketched above challenge Utopia, if at all?



THE LEGEND OF THE  
GRAND INQUISITOR IN THE  
BROTHERS KARAMAZOV IS

**QUINTESSENTIAL  
CRITIQUE  
OF UTOPIA;**

IT IS A STORY OF GOSPEL  
AND UTOPIA CRUCIALLY  
INTERSECTING.

## ENDURANCE

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*Doch die Welt vor  
mir ist für mich  
gemacht!  
Ich weiß sie wartet  
und ich hol sie ab  
Ich hab den Tag  
auf meiner Seite,  
ich hab Rückenwind  
Ein Frauenchor am  
Straßenrand der für  
mich singt!  
Ich lehne mich  
zurück und guck  
ins tiefe Blau  
schließe die Augen  
und lauf einfach  
geradeaus'  
(Peter Fox)*

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### History iterated

Does the understanding of Jesus as summarised above challenge the modern history of Utopia in any way? Perhaps the Gospels were never meant to be historical sources for Jesus' life and death as such, and have been construed only to try to instate belief in its readers. David Brown remarks: 'Wrede's contention that the Marcan notion of the Messianic secret is pure invention, the result of a Messianic belief of the early Church which was not held by Jesus himself, is a thesis accepted in one form or another by the majority of New Testament Scholars. ... Given such a situation, it does, of course, remain important for specialists to continue their efforts to establish once and for all what the historical situation really was, but the philosophical theologian cannot help but suspect that apologetic reasons lie behind much of the energy devoted to the question ...'<sup>66</sup> Luke 15, thus, purportedly cannot give us information about Jesus self-understanding. Yet, it is not at all obvious that the fact that the Gospels are the products of early Christian communities entails that these documents by default distort or overstate particular claims about Jesus and his mission, or to facilitate certain theological presuppositions these communities had about the person and work of Jesus.<sup>67</sup> The genetic fallacy<sup>68</sup> looms large here, that is the confusion of questions of validity and logic with questions of origin. The idea that the meaning of the words of Jesus was quickly lost or distorted by his followers, to be recovered only by the apparatus of contemporary historical-critical scholarship is comparable to the belief that the 'study of Plato was obscured or occluded by scholars prior to his discovery by nineteenth-century idealists: 'One was brought up to believe that the real meaning of Plato had been misunderstood by Aristotle and widely travestied by the neo-Platonists, only to be recovered by the moderns. When recovered it turned out (most fortunately) that Plato had really been all along an English Hegelian, rather like T.H. Green.'<sup>69</sup>

It might be that the early Church had a vested interest in ensuring that the teaching of Christ was preserved largely intact. If Christ was and is the Incarnate Word and made claims to that effect, then this would count as such a reason. So, it is not obvious that the early Church's representation of Christ in the canonical Gospels is to be doubted because these Gospels are the work of the early Church. These notions are important on reflection of the questions we posed earlier. Therein we need to take a step back. The 'good' Utopia tried and tries to bring, as we have seen, fails at the fundamental level of human existence. Then again, it is not at all suggested here that progress in terms of wealth, health, safety, security, and longevity, are mere illusions, or worse, irrelevant. They are not, and emphatically so. Equally, the contributions of science and technology to progress of societies worldwide are not trivial, irrelevant, or manifestly dangerous.

In light thereof, it is therefore quite peculiar that, as Hans Achterhuis remarks, fear of science and technology is much more abundant than the fear of social engineering, although the latter proved to be much more destructive than the former.<sup>70</sup> We cannot discuss the progress we have witnessed the last 200 years as such here,<sup>71</sup> but Karl Popper gives some insights that might be helpful:<sup>72</sup>

'Work for the elimination of concrete evils rather than for the realization of abstract goods. Do not aim at establishing happiness by political means. ... But do not try to realize these aims indirectly by designing and working for a distinct ideal of a society which is wholly good. However deeply you may feel indebted to its inspiring vision, do not think that you are obliged to work for its realization, or that it is your mission to open the eyes of others to its beauty. Do not allow your dreams of a beautiful world to lure you away from the claims of men who suffer here and now. Our fellow men have a claim to our help; no generation must be sacrificed for the sake of future generations, for the sake of an ideal of happiness that may never be realized. In brief, it is my thesis that human misery is the most urgent problem of a rational public policy and that happiness is not such a problem. The attainment of happiness

should be left to our private endeavours. It is a fact, and not a very strange fact, that it is not so very difficult to reach agreement by discussion on what are the most intolerable evils of our society, and on what are the most urgent social reforms. Such an agreement can be reached much more easily than an agreement concerning some ideal form of social life. For the evils are with us here and now. They can be experienced, and are being experienced every day, by many people who have been and are being made miserable by poverty, unemployment, national oppression, war and disease. Those of us who do not suffer from these miseries meet every day others who can describe them to us. This is what makes the evils concrete.'

David Stove is even harsher in his words: 'Of course benevolence ... is a desire for the happiness, rather than the misery, of its object; but the fact simply is that its actual effect is often the opposite of the intended one. ... To Christians of (say) 130 AD, the idea that the maximum of human happiness requires only better housing, education, laws, and the like would have seemed as perfectly ridiculous as ... as it really is. They did more than anyone had ever done before to relieve the misery of the homeless, the sick, the "despised and rejected." But happiness was something different altogether. So far as they acknowledged the possibility of it at all on earth –at any rate until the "second coming"- they held that it depended, not on cheap rents or free false teeth from the National Health Service, but on a mysterious, and in any case entirely inward, process of conversion. This is a view of human happiness which, despite the absurd metaphysics in which it is embedded, is a great deal more realistic than that of most Christians of the present day ...'<sup>73</sup> Evil, suffering, and death, either 'natural' or man-made, are alarming aspects of life that are recognisable to all, and will be experienced by all, but cannot be tackled for all administratively from 'above'.<sup>74</sup> The 'good', the society that will be 'good' for all and to all in the present and the future, is impossible to define and consequently stifles all creativity in this world. Karl Jaspers is close to the mark when he defines the *condition humaine* as the condition that a human being 'can never fulfil himself truly and purely, never completely, never so

as to leave him content'.<sup>75</sup> This is the utopian impossible. When confronted with the remark 'Good teacher, what must I do to inherit eternal life?', Jesus quipped 'Why do you call me good? No one is good – except God alone.'<sup>76</sup> These words echo the opening of the Decalogue –'I am the Lord your God, who brought you out of Egypt, out of the land of slavery'–<sup>77</sup> in which God is revealed as the *only* One capable of leading His people out of worldly exile into, for lack of a better term, the 'good society' of His kingdom.<sup>78</sup> We simply do not have the terms of reference, eschatological or otherwise, to describe such a society.

### Purity

Nevertheless, the evils Popper speaks of in modern terms are just as clear-cut as they were for first-century Jews, and were fiercely resisted, symbolically and literally. The eschatological fervour we have discussed in its modern secularised guise and which we linked ultimately to the eschatological disappointment of Jesus' death, brewed under Jewish society in Jesus' time. The evils they perceived and experienced then came forth from the foreign rule by Roman gentiles, the worldly leaders appropriating God's genuine rule of justice and love to ruin. Symbolic actions –keeping the Torah, celebrating the weekly Sabbath and festivals such as Passover– kept the story of Israel alive in the face of the worldly oppressor. Concisely, for first-century Jews, Temple, Torah, Land, and Jewish identity upheld and underpinned the narrative of hope for God decisively acting in history, albeit delaying to do so. Nonetheless, Israel *would* finally return from exile, evil (internal and external) *would* at last be vanquished, and God *would* return to Zion instating His reign. Here, basic Jewish eschatological concepts –the world to come; the resurrection of the body; the coming of the Messiah– steadily surface.<sup>79</sup> Hengel sees messianic hopes and fervent eschatological expectations –that is the hope for the imminent advent of the divine kingdom– as fundamental and principal to the Jewish

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*'Yahweh, Yahweh  
Always pain before  
a child is born  
Yahweh, tell me now  
Why the dark  
before the dawn?'  
(U2)*

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freedom movements that existed throughout the first century.<sup>80</sup> The notion of the true God of Israel being or becoming king was closely related to the aspirations of holy revolution. Political, social, and economical aspects Hengel sees as integral to the religious thrust of these freedom movements. Movements of revolt thus are part and parcel of Jewish history, beginning with the Maccabees in 164 BC. They set the contours for a tradition of movements of almost three centuries (ending with the ill-fated revolt between 132 – 136 A.D. in which Simeon ben-Kosiba, hailed as Bar Kochba –Son of the Star–figured as the messiah) that sought to oust tyranny and bring about the divinely intended kingdom of Israel. Fidelity to Torah, readiness for martyrdom, resistance to concession, and unwavering military or paramilitary action would prove to be the hallmarks of Jewish resistance to foreign rule and religion.<sup>81</sup>

The question often debated is whether revolutionary tendencies in the first century were widespread across Israel and include a sizeable range of the then-existing social spectrum.<sup>82</sup> Hengel painstakingly argues that there was unity of development and ideology fuelling a broad resistance against Roman rule.<sup>83</sup> Richard Horsley and John Hanson believe that to be the case as well when they remark that ‘opposition to the Roman rule of Jewish Palestine may have been far more widespread and spontaneous ... than previously imagined when opposition was believed to be concentrated in the one organized zealot movement that was supposedly attempting to provoke revolution for sixty years before it succeeded. Nearly all of the movements and events were anti-Roman in orientation, and especially the more organized movements led by popular prophets or messiahs were consciously seeking a particular liberation. ... nearly all of the separate movements were popular groups directed against the Jewish ruling elite as well as against Roman rule.’<sup>84</sup> Equally, Martin Goodman remarks that there was ‘no separate anti-Roman movement in first-century Judaism; rather, anti-gentile attitudes which originated long before A.D. 6, perhaps in Maccabean times, inspired many different groups, permeating the whole Jewish population and varying only in their intensity. For most Jews before A.D. 6 ... such attitudes naturally found only symbolic expression in the form of purity and pollution taboos. But when trouble loomed

and once the revolt was under way it was this aspect of Judaism that instilled religious fervour into the masses who rose against Rome.’<sup>85</sup> Returning to the reflections of Popper, the actions Jesus undertook were most certainly related to the recognizable evils of human suffering, disease, and death, which he alleviated and healed in abundance, as for instance described in Luke 4: 38 – 44. However, these were not just alleviating deeds as such; they were above all else unequivocal signs of the coming of the kingdom of God. ‘I must preach the good news of the kingdom of God to the other towns also, because that is why I was sent.’<sup>86</sup> The term ‘kingdom’ as Jesus portrays it was more or less a way of speaking of God as Lord of the world *and* God’s decisive intercession to free sinful and suffering women and men from the hold of evil and give them a new and ultimate age of salvation.<sup>87</sup>

Jesus thereby introduces a tension in his preaching between the present kingdom and the future to-be-expected kingdom. Gerald O’Collins points out that this particular eschatological tension has no clear parallel in Judaism Jesus must have been familiar with.<sup>88</sup> As Wright stresses:<sup>89</sup>

‘On the one hand, Jesus clearly believed that with his own work something dramatically new was already happening. The days of preparation were over; Israel’s god was now acting in the way he had prophesied of old. On the other hand, Jesus’ work was straining forward for something that was about to happen, that would come to pass so soon that if his hearers were not careful it would burst upon them like a thief in the night.’

The present and coming kingdom was at the heart of Jesus’ message encapsulated in miracles and parables, the latter being one of the most distinctive forms of Jesus’ kingdom proclamations. However, these went beyond the expectations of his listeners, as they were *doubly* revolutionary. Not only did the kingdom Jesus portrays confront the rule of Herod Antipas (± 20 B.C. – 39 A.D.), Caiaphas, and Rome politically, which any first century Jewish (messianic) revolutionary would do, it also challenged specifically the revolutionaries themselves, that is those who strove by any

means necessary to instate the kingdom of God with their own bare hands. So Jesus, as a first-century Jew, directed his criticism both at the outside *and* the inside of Jewish culture and nationality. Indeed, in Luke 4 (24 – 30), Jesus' observation that God's blessings are not limited by historical or ethical boundaries was met with rage.<sup>90</sup> A society that insists on its own cleanliness towards outsiders by necessity perpetuates economic, social, and other injustices within.<sup>91</sup> This impulse by no means is limited to this particular period in history, but tragically underlies human existence all the way through the 21<sup>st</sup> century, as Eagleton so aptly emphasises. Striving for perfection would endanger the whole of Jewish society.<sup>92</sup> Any revolutionary movement striving for purity, the truth, and the good will corrupt itself in the end *proportionally* to the devoutness of its flag-bearers. As Hengel remarks: 'The words spoken in George Büchner's play *Danton's Death* can certainly be applied to them [the Zealots; *author*]: 'Revolution is like Saturn – it eats its own children'.<sup>93</sup> Those who did not (and do not) embrace Jesus' explicit way of peace *and* reconciliation (e.g. Matthew 5: 43 – 45) would (and will) be courting disaster in no small manner, socially and politically.<sup>94</sup> This is the anomaly of Jesus' messianic claims we touched upon previously: while he embraces messiahship (of both prophetic and royal connotations),<sup>95</sup> he rejects the implications of the militant role of the messiah and proposes a different route, that of endurance, suffering, and, in his case specifically, eventually death. There is little if anything in the Gospels that accords with the Jewish expectations of a militant messiah, as John Collins observes.<sup>96</sup> Sigmund Mowinckel goes even further to suggest that the 'Jewish Messiah, as originally conceived, and as most of Jesus' contemporaries thought of him, was pushed aside and replaced by a new redeemer and mediator of salvation, 'the Man', who comes from God to suffer and die as God's Servant, in order to save men from the power of sin, Satan, and death. For Jesus, the Jewish Messianic idea was the temptation of Satan, which he had to reject.<sup>97</sup> Now, this appears unduly harsh, but the history of Utopia seems to vindicate Mowinckel's position. All three temptations Jesus encounters (like in Luke 4: 1 – 13) are related to power. Jesus could exert this power, yet he refuses, and for good reason, as history shows.

To overcome the destructiveness of power in this world, God in Jesus needs to fully defer power when confronted with power. *That* no ordinary man could do. This struggle is not to be understood in the abstract –that is ahistorical (in part feeding off of some alleged anti-Semitic notions in the Gospels)–<sup>98</sup> but intimately connects to the story of Israel and their temptations in the desert after the exodus from Egypt (Exodus 16: 15; 17: 1 – 2; 32).<sup>99</sup> Jesus' struggle and initial and final victory affects the whole of humanity till this very day. The kingdom of God is not the Utopia built by human hands, not even Jesus' who nevertheless could wield that power in his earthly lifetime. Here, Jesus challenges Utopia to the full by laying down his power, only taking it up after his resurrection (we will discuss below).

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*'My body is bent  
and broken  
By long and  
dangerous sleep  
I can't work the  
fields of Abraham  
And turn my  
head away  
I'm not a stranger  
in the hands  
of the Maker'  
(Daniel Lanois)*

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## Beatitudes

Jesus then, on the face of it, does *not* appear to be the average failed political revolutionary we began this theological reflection with. He saw beyond the political and military forces of his day, and positioned his eschatological perspective within the confines of specifically the Beatitudes. His real offense to the religious-political rulers was that, going outside the temple, he 'was offering forgiveness to all and sundry, out there on the street, without requiring that they go through the normal channels.'<sup>100</sup> The Sermon on the Mount (Matthew 5: 1 – 12) epitomises the eschatological stance of Jesus, that is his challenge to Israel to be Israel.<sup>101</sup> The nine pronouncements in the sermon are not expressions of human virtues, describing nine different 'good people who get to go to heaven'.<sup>102</sup> They are nine declarations of blessedness of the eschatological community living in anticipation of God's final reign. They are not to mean that if you *do X*, you will *receive Y*. It is the other way around: "Look at the authentic spirituality and joy of these people who have or will be given X." ... *Bless-ed* refers to a spiritual condition of divinely gifted joy already present, not a requirement to be fulfilled in order to receive a reward.<sup>103</sup> This is the total

opposite of utopian understanding of the Beatitudes.

Jesus, surpassing Jewish custom and ritual, welcomed sinners into fellowship with himself precisely as part of his kingdom announcements. He was proclaiming that this welcome as such established those invited as members of the kingdom.<sup>104</sup> He invited people in rather than keeping people out, creating a kinship group above and beyond nationality, family, and custom. It has long been well recognised that open commensality -Jesus' opening his table fellowship to all, even (or especially) to the outcast sinners- is a firm datum of the Gospel tradition and one charged with symbolic meaning.<sup>105</sup>

In so doing, he embodied and extended a communal life that stands for peace and justice, offered even to 'the enemy'. Jesus 'renounced the battle that his contemporaries expected a Messiah to fight, and that several would-be Messiahs in that century were only too eager to fight. He faced, instead, what he conceived as the battle against the forces of darkness, standing behind the visible forces (both Roman and Jewish) ranged against him.'<sup>106</sup>

This is the eschatological tension Jesus lived by and invited his followers to do the same. John the Baptist's movement would have survived, but probably not for more than a generation. John could still be regarded as a prophet after his death. It is conceivable that after Jesus' death some of his followers would have continued to see him in the same way, however much that would have represented a shrinking of the aspirations and expectations they had cherished during his lifetime. But the more we recognize the messianic nature of Jesus' actions and words, and the messianic expectations of his followers, the more it becomes exceedingly strange to imagine such a movement, with such messianic emphasis, continuing after his death.<sup>107</sup>

As a first-century Jew, Jesus combined his uncompromising doubly revolutionary stance with a categorical restraint in action in a religious age with a revolutionary outlook not wholly unlike our own. Was Jesus a revolutionist? We can answer it with a *sic et non*, with *yes and no*. He cannot be party to those who -then and now- seek to improve the world by violence, a violence which begins with a hate-filled defamation and escalates to bloody terror, to torture

and mass murder, where each party shifts all the blame on the opponent. ... Jesus pointed a quite different way with *agape*: the way of nonviolent protest and willingness to suffer, a way which deserves more fully the designation "revolutionary" than does the old, primitive way of violence. ... World power is neither justified nor condemned; it is deprived of its power, ... True freedom from the powers *begins* with an *inner freedom*; an inner freedom, in the sense of the New Testament, only he achieves who has grasped in faith the nearness of the love of God, which leads him away from himself to his fellow man.<sup>108</sup> Overall, Jesus is understood to endure imperfect life wherein he opposed the moral revolutionary fervour of his day. This endurance was the constraint he deliberately lived by, and through which he criticised both Roman rule and Jewish revolutionary eschatological expectations. In contrast, he offered another life for his followers with him at the centre. Summarising, Jesus, as seen through the parables in Luke 15, regarded himself as having a unique relationship with God. Accepting him meant accepting God; one's future standing with God hinged on how one reacted to Jesus' ministry.<sup>109</sup> "This is my Son, whom I love. Listen to him!"<sup>110</sup>

## THE POSSIBILITY OF PRESENCE

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*I dreamed I did a  
good job and I  
got well paid  
Blew it all at the  
penny arcade  
A hundred dollars  
on a kewpie doll  
I guess no white  
chick is gonna  
make me crawl  
On a TWA, to*

Jesus' death implies the end of his own program for Israel and the world, regardless of the previous. Three aspects at least of Jesus's crucifixion and death underline this: (I) Jesus had died, and first-century Jews did not have any anticipation of a dying, much less rising, Messiah; (II) According to Jewish law, Jesus' execution as a criminal showed him to be guilty of a capital offense (Deut 21: 22, 23); (III) Jewish beliefs about the afterlife seem to preclude anyone rising from the dead before the general, eschatological resurrection of the dead.<sup>111</sup> As with first-century Jews, how can we speak today of resurrection of a dead person, either killed or died from natural causes and what would such a resurrection of this one

*the promised land  
Every woman,  
child and man  
Gets a Cadillac  
and a diamond ring  
Don't you know we're  
riding with the king?  
(John Hiatt)*

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person, Jesus, mean?<sup>112</sup> Shouldn't we just deal with death as the irreversible end, and get on with living in terms of, say, the atheist bus campaign in the UK.<sup>113</sup> Did Jesus raise Lazarus from the dead? Did he himself come alive again, three days after being crucified? 'There is an answer to every question, whether or not we can discover it in practice, and it is a strictly scientific answer. ... When pressed, many educated Christians today are too loyal to deny the virgin birth and the resurrection. But it embarrasses them because their rational minds know it is absurd, so they would much rather not be asked. ...'<sup>114</sup> Incontrovertibly, the doubts or downright disbelief we might have with respect to resurrection from death (if at all part of human history) are no different than those we find in the days after the first reports of Jesus' resurrection that are expressed in the Gospels. However, the position posed here divulges ontological scientism we found to be fallacious.<sup>115</sup> The world we live in is so much larger than science can unearth, no matter how advanced our scientific knowledge will become. So this particular obstacle need not detain us. Another facet of scientism that is referred to frequently is interpreting 'faith' as blind trust. The story of Doubting Thomas is usually referred to so that we can admire the other apostles in comparison.<sup>116</sup> Still, Thomas' refusal to accept the disciples' claim of meeting the resurrected Jesus in his absence (John 20) is wholly understandable and is highly commendable. Thomas did the right thing. He would be convinced of the reality of Jesus presence in this world after his death *only when* he was presented with the essential evidence: meeting Jesus in 'the flesh'.<sup>117</sup> This is just what the other disciples had done. They believed when the presented evidence was compelling. Jesus' resurrection is thus understood, for lack of a better descriptor, in material terms. Luco van den Brom explains this bodily (material) transformation, as firmly embedded in the Christian tradition from early on (1 Corinthians 15),<sup>118</sup> in multi-dimensional terms, making certain biblical stories (e.g. Luke 24: 36 – 43) of Jesus appearing amongst his disciples, apparently out of nowhere, intelligible and realistic:<sup>119</sup>

'The risen Jesus suddenly appears in the midst of His disciples and acquaintances: only to vanish as suddenly as He appears. ... Such sudden appearances and disappearances could be interpreted existentially as stories which invite belief in God: as Bultmann does, for example, when he suggests that the genuine Easter Faith does not imply belief in a tangible, empirical manifestation of the Risen Christ but, rather, symbolizes the new awareness that those who believe in Him have now become children of God. But it is also possible to construe such passages in the light of the higher-dimensional space. After the Crucifixion of Jesus during the Feast of Passover, Jesus rose again and now lives in a higher-dimensional space. But, in order to manifest Himself to His disciples, Jesus vacates the domain of higher dimensional space in order to meet his disciples: and then returns via one of the higher dimensions. Because the higher-dimension of Jesus lies beyond the disciples' restricted horizon of observation, His departure begins to resemble some kind of disappearing trick from the disciples' point of view. Furthermore: when the writer of the Fourth Gospel tells us that Jesus manifested Himself in an enclosed room when the doors were actually shut, it is equally possible to explain this by invoking a multi-dimensional conception: because a three-dimensional enclosed space is not enclosed at all in a higher dimension.'

Unless I see the nail marks in his hands and put my finger where the nails were, and put my hand into his side, I will not believe it<sup>120</sup> expresses the continuity of Jesus Thomas sees as essential for the validity of the resurrection claim as expressed by his fellow-disciples. As Bailey fittingly observes: 'When "the Word became flesh and dwelt among us" (John 1: 14) *matter itself was affirmed as an adequate vehicle for the ultimate revelation of God.* Yes, the mind of God can be partially understood through creation, through the "things that were made." Beyond creation, the word of God, spoken through the prophets, brought a higher level of revelation. When, however, the Word of God entered our world in the birth of a child, matter was demonstrated to be worthy of receiving and communicating the

fullness of God. Theology calls this “the incarnation”, and from that point on matter and spirit were uniquely bonded. ... Death itself is conquered by the resurrection of the *body*, affirmed by Paul (1 Cor 15: 42 – 50), not through the transmigration of the soul.<sup>121</sup>

Within the first-century context then, resurrection denotes something essentially concrete, not something arcane.<sup>122</sup> One of the merits of Wright’s study of ancient texts concerning resurrection from the dead is his demonstration that the notion of resurrection inherently involved the renewal of life in the realm of space and time.

The possibility of Jesus’ presence is not confined to a few people somewhere in Israel way back then, but has become, using van den Brom’s perspective, limitless in both time and space. Crucial to the Christian faith and the Christian life is to acknowledge that Jesus was restored to life after his actual death on the cross and has continued his life, not similar yet not wholly different from our life, from then on. He is, he needs to be, in touch with us.<sup>123</sup>

Eventually, this debate centres on the notion whether Jesus, uncontroversially, is nothing other than a historical utopian vapour trail we should ignore to our present and future benefit (irrespective of whether he was misunderstood, misquoted, deceived or a liar), or whether he concretely imposes his presence in the world we live in, here and now, and not just linguistically and nostalgically. At least we can state with ample historical confidence that exactly at this juncture the New Testament is a brutal destroyer of human illusions, relating to our own flawed capabilities to create, in the end, a faultless world, including the subjugation of injustice and death.<sup>124</sup> Jesus’ vision of the kingdom of God and his intimate link to God can *never* be ours directly (emphasising that he could have been terribly mistaken).<sup>125</sup>

In light thereof, C.S. Lewis, although sometimes typified as an amateur-theologian for less than charitable reasons, is close to the mark when he famously commented that ‘I am trying to prevent anyone saying the really foolish thing that people often say about Him: ‘I’m ready to accept Jesus as a great moral teacher, but I don’t accept His claim to be God.’ That is the one thing we must not say. A man who was merely a man and said the sort of things Jesus said would not be a great moral teacher. He would either be a lunatic or

else he would be the Devil of Hell. You must make your choice. Either this man was, and is, the Son of God: or else a madman or something worse. You can shut Him up for a fool, you can spit at Him and kill Him as a demon; or you can fall at His feet and call Him Lord and God. But let us not come with any patronising nonsense about His being a great human teacher. He has not left that open to us. He did not intend to.<sup>126</sup> Through Jesus, God is intimately involved with the fate of the world and human beings.<sup>127</sup> He raises the anticipatory perspective on life that is expressed in life itself as His creation, and which is fundamentally underlined by the flesh-and-blood human being that was resurrected and exalted to the right hand of God. That constitutes the true power of the early Christian Gospel.<sup>128</sup>

## THE ANTICIPATORY PERSPECTIVE – POINTS AND COUNTERPOINTS

### Reflections ...

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*‘Once I thought I knew  
Everything I needed  
to know about you  
Your sweet whisper,  
your tender touch  
But I didn’t really  
know that much  
Joke’s on me, It’s  
gonna be okay  
If I can just get  
through this  
lonesome day’  
(Bruce Springsteen)*

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Nagel is adamant in his assessment of the deficiencies of a materialist understanding of everything there is,<sup>129</sup> especially and particularly with respect to (self)consciousness, rationality, and value: ‘This, then, is what a theory of everything has to explain: not only the emergence from a lifeless universe of reproducing organisms and their development by evolution to greater and greater functional complexity; not only the consciousness of some of those organisms and its central role in their lives; but also the development of consciousness into an instrument of transcendence that can grasp objective reality and objective value.’<sup>130</sup>

Nevertheless, an anticipatory perspective of sorts has flourished since the beginning of the 20<sup>th</sup> century that is indebted to the worldview Nagel criticises namely the human attempt to surpass history towards a utopian society that contains everything there is and needs to be, the good and the harmonious for everyone everywhere, now and in the future. The critique I offered is unfeasible without giving



Jesus its Christological status in human and cosmic history liberated from its padlocked mechanistic crucible. Accepting the dependence of everything in life and life itself on divine gratuity and trying to respond with some image of that gratuity reveals a future that is, paradoxically, already looked after. This reverts to divine eschatology of the kingdom of God here-and-now in opposition to a Utopia of a distant man-made future.<sup>131</sup> Below we will give this voice of dissent context with the aid of some familiar counterarguments.

... on a barren universe

A well-known aspect of 21st century life, derived from at least two centuries of Western history, is that we have declared ourselves to be living in an empty universe, without purpose, goal, or God. This is the scientific worldview we have discussed and criticised earlier. 'From a naturalistic perspective, there are no *causally privileged* agents, nothing that causes without being caused in turn'.<sup>132</sup> Or as Jacques Monod famously asserts: 'Cold and austere, proposing no explanation but imposing an ascetic renunciation of all other spiritual fare, this idea could not allay anxiety; it aggravated it instead. It claimed to sweep away at a stroke the tradition of a hundred thousand years, which had become assimilated in human nature itself. It ended the ancient animist covenant between man and nature, leaving nothing in place of that precious bond but an anxious quest in a world of icy solitude. ... The ancient covenant is in pieces; man at last knows that he is alone in the unfeeling immensity of the universe, out of which he emerged only by chance. Neither his destiny nor his duty have been written down. The kingdom above or the darkness below; it is for him to choose.'<sup>133</sup> With Jesus crucifixion as a stable historical datum, the death of God is the closing ceremony that ostensibly left our intellectual house sterilised, without improving upon our human potential to ultimately define and do good.

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*I don't know  
where I am  
And I don't  
really care  
I look myself  
in the eye  
There's no-one there  
I fall upon the earth  
I call upon the air  
But all I get is the  
same old vacant stare'  
(Keane)*

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Although Monod surpasses contemporary atheistic thinkers by far,<sup>134</sup> the scientific fallacies we came across in texts we have discussed previously are also to be found in his book. The *a priori* adherence to ontological scientism –S<sub>o</sub>; the view that the only reality that exists is the one science has access to– and existential scientism –S<sub>e2</sub>; that is the view that science alone can explain and replace religion and thereby answer relevant existential issues– is unmistakable. In contrast, Simon Conway Morris sees no need whatsoever to be overwhelmed by Monod's or any other perspective of the same savour. With incisiveness, he describes, from a biological angle, the common position on meaninglessness from which he openly dissents:<sup>135</sup>

'It is well known that significant quantities of DNA, at least in the eukaryotic cell (that is a cell with a defined nucleus and organelles such as mitochondria), are never employed in the process of coding. Pejoratively labelled as 'junk DNA' or 'parasitic DNA', it may be just that, silent and surplus DNA churned out by repeated rounds of duplication of genetic material, like an assembly line commandeered by lunatic robots. Such a view fits well with the notion that evolution is a process of blind stupidity, a meaningless trek from primordial pond to glassy oceans dying beneath a swollen Sun.

... there is a uniform consensus that vitalism was safely buried many years ago, and the slight shaking of the earth above the grave marking the resting place of teleology is certainly an optical illusion. But is it an illusion? ... Could it be that attempts to reinstall or reinject notions of awe and wonder are not simply delusions of some deracinated super-ape, but rather reopen the portals to our finding a metaphysic for evolution? And this in turn might at last allow a conversation with religious sensibilities rather than the more characteristic response of either howling abuse or lofty condescension.

... the complexity and beauty of 'Life's Solution' can never cease to astound. None of it presupposes, let alone prove,



the existence of God, but all is congruent. For some it will remain as the pointless of the Blind Watchmaker, but others may prefer to remove their dark glasses. The choice, of course, is yours.'

But, in what manner does Jesus' death, resurrection, and continuing presence matter to us and the cosmos we live in right now? First, the universe, regarded as no more than a dying entity (as we are) in the ontology of death, nonetheless holds a promissory, anticipatory note and thereby an infinite future if the resurrection of Jesus is to be taken seriously. Eagleton is close to target here: 'It is because Jesus is at one with the law of the Father –is, as they say, the 'son' of the Father– that he is first tortured and then murdered. ... In this narrative, it is the Father who rebels against injustice, angrily defying the powers of this world by raising up his murdered child.'<sup>136</sup>

The resurrection of Jesus at least counteracts this all-embracing ontology of death. This implies a second point, namely liberation. But liberation from what: death, evil, sin, perfection? A rescue in which the rescuer perishes in order to save the rescuee is a genuine sacrifice (although death will come for the latter as well). The link is direct. But what is the difference between the death of Jesus and John the Baptist? Clearly, of the former it is said uniquely that he 'died for our sins'.<sup>137</sup> The infinite anticipatory perspective is thus bought at a price.

Atonement is the term often used for Jesus' death and resurrection. 'At-one-ment' intimates a state of affairs in which two parties are ultimately reconciled resulting in a new state of affairs between both parties. Also, it refers to the act or process by which atonement has come about.<sup>138</sup> Bailey explicates atonement in his analysis of John 8: 1 – 11 in which Jesus is debating the nature of justice. When confronted with more than just an argument about adultery, the accusers quote Moses and then directly challenge Jesus, in public, to agree or disagree with the lawgiver:<sup>139</sup>

'Jesus' first response was to bend down and write with his finger in the dust. By doing this he made it clear to his accusers

that he was not only familiar with the written law but also well versed in the developing oral interpretation of that law. ... What does he write? ... I am convinced that he wrote, "death" or "kill her" or "stone her with stones." His following words presupposes that he decreed the death penalty. He opted for a strict observance of the law of Moses.

... Jesus then announced the method of execution: "Let him who is without sin among you be the first to throw a stone at her" .... With so many people involved, there is no one to arrest. In a mob, individuals can escape accountability for their behavior. ...

But when Jesus says, "Let him who is without sin among you be the first to throw a stone at her", he puts a name and a face on everyone in the crowd. He asks each individual to acknowledge responsibility for participation in the act. When the Roman guards step forward to "break the crowd," their first question will be "Who started this?" The second question "Who ordered it?" would likely come later.

With this challenge Jesus says to his opponents, "Gentlemen, you clearly want *me* to go to jail for the law of Moses. I am willing to do so. I have ordered that she be killed. But I want to know which one of *you* is willing to volunteer to accompany me into that cell?" Furthermore, the Middle East is a "shame-pride culture." ... In this story, if a person steps out of the crowd claiming to be sinless, such an act will be remembered to his shame because Isaiah wrote, "All we like sheep have gone astray" (Is 53: 6). Ecclesiastes 7: 20 says, "Surely there is not a righteous man on earth who does good and never sins." With such texts in the tradition, would any religious teacher dare claim to be sinless?

Suddenly and dramatically the entire scene is changed. Jesus' opponents are now under pressure, and each of them must make a decision. ... From the oldest to the youngest his opponents withdraw, humiliated. As this is happening Jesus bends down and writes a second time in the dust. ... he chooses not to watch the public humiliation of his opponents. He does not crowing and refrains from "twisting the knife." It is a nice

touch that fits perfectly with the larger Gospel picture of Jesus. He takes no pleasure in humiliating them – he simply wants to save the woman.’

After Jesus has led his audience to the core of the law, which he upholds to the letter yet reciprocally individualises, he humiliates his public deeply, and deliberately so, by humbling them before the very same law they seek to uphold with respect to the adulterous woman. As a result, the teachers of the law are not angry with the woman anymore, but with Jesus. At great personal and public cost he has shifted the hostility of the crowd from her to himself. She is the recipient of a costly expression of unexpected love that saves her life, literally. This scene provides an insight into Jesus’ understanding of the significance of his own suffering. A core aspect of ‘his’ doctrine of the atonement is here displayed. In his words to the woman Jesus neither condemns her nor overlooks her self-destructive lifestyle. ‘Looking at the larger picture, Jesus accepts the sexual code of the Old Testament tradition, but *removes its penalty*. The lady is not for stoning!’<sup>140</sup>

Obviously, the notion of penal substitution is expounded here despite our modern repugnance thereof.<sup>141</sup> This is not the place to start a full-fledged debate focussed on Jesus’ atoning labour, but left to our own devices atonement is reduced to flawed human efforts. Somebody who teaches is quite distinct from someone who saves. If something must be said here, how can human beings, without any apparent cost to themselves, be absolved of their guilt by the death of an innocent Jesus, as Bailey proposes? Gordon Graham gives a line of thought, which is worthwhile to consider here as a philosophical clarification of Bailey’s exegesis. He proposes a thought experiment in which I justly incur a financial penalty that I am unable to pay, and so you pay it for me, thereby expunging my criminal status. Justice will have been done if I pay you back eventually. It is not necessary that the perpetrator of the crime is the person who first pays it back; it is only necessary that I *become* the person who pays the fine, which I do when I have taken over the loss that temporarily you bore on my behalf. In such a case, it is your action that restores my civil status, but my later action that

makes this restoration just. ‘The historical Jesus was able to pay the price of sin in a way that ordinary human beings cannot. ...there is no obvious way in which we can pay him back, but there is, nonetheless, a way in which we can *become* the person who has paid the price of sin – namely by self-sacrifice in the strict sense; that is to say, submerging our “selves” in the person of Christ. ... This implies a willingness to sacrifice “self” for life in Christ, and by doing so, to become the person who pays the price of sin. Moreover, because unity with Christ is unity with the second person of the Trinity, Atonement and Incarnation thus work together to secure a perfect reconciliation between God and humanity.’<sup>142</sup>

This is what makes atonement central: we are liberated to do justice, not as a tool to bring heaven on earth, but as a foreshadowing of the kingdom of God that Jesus will instate. We are atoned for our failings, which will remain a part of our being in this life, and simultaneously we are freed to do justice out of love for this world of the Creator. It is not enough, but it *will* be enough through God’s work in Jesus as his passion works its effect of saving human beings from their penchant to (future) sin.<sup>143</sup> Atonement then is, in a sense, the opposite of inaction.

Eschatologically, as is outlined in the story of Jesus and the Samaritan woman at the well (John 4), only Jesus can provide the drink that conquers time.<sup>144</sup> As Eliade puts it: ‘Christianity affirms the historicity of the person of Christ. The Christian liturgy unfolds in *a historical time sanctified by the incarnation of the Son of God*. ...’<sup>145</sup>

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*‘There’s a river of  
grief that floods  
through our lives’  
(T Bone Burnett)*

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... on a world full of suffering

If anyone would ask why one would refuse to believe in God, answers can be found in abundance. Something like the following can easily be construed: earth existed without life for many millions of years and may exist for millions more when all life has left her. Almost all forms of life live only by preying upon another. In the lower forms, this process entails only

death, yet in the higher forms a new quality called consciousness emerges, which enables it to be connected to pain. In man, yet another quality appears, reason, whereby he is endowed to foresee his own pain, preceded by mental suffering, and to foresee his own death while intensely desiring permanence.

Their history is largely a record of crime, war, disease, and terror, with just sufficient happiness and peace interposed to give them, while it lasts, an agonised foreboding of losing it. And when it is lost, the poignant misery of remembering lingers. Ultimately, all 'stories will come to nothing: all life will turn out in the end to have been a transitory and senseless contortion upon the idiotic face of infinite matter. If you ask me to believe that this is the work of a benevolent and omnipotent spirit, I reply that all the evidence points in the opposite direction. Either there is no spirit behind the universe, or else a spirit indifferent to good and evil, or else an evil spirit.'<sup>146</sup>

Friedrich Nietzsche, very much like Lewis, is relentless in concluding that to 'talk of 'just' and 'unjust' as such is meaningless, an act of injury, violence, exploitation or destruction cannot be 'unjust' as such, because life functions essentially in an injurious, violent, exploitative and destructive manner ...'<sup>147</sup>

Lewis and Nietzsche, next to many others, have expressed an irresistible counterpoint. The rebellion of humanity against the imperfection of this world –the moral inversion we discussed earlier- is perhaps all that is left. This goes to show that our approach to the problem of evil is a consequence of our attitude toward much larger issues, such as the nature of human happiness and the goal of human life.<sup>148</sup> Ivan Karamazov, although convinced that knowledge of God's wisdom is utterly beyond our knowing, accepts God's wisdom and His purpose for this world. Yet, it's the world created by Him as such he cannot and will not accept.<sup>149</sup>

The force of Ivan's arguments comes down to the conundrum that every human being, who progressively considers the worst of human suffering, is challenged by the *practical* problem of how to go on living in accordance with their ethical/religious views concerning suffering and their deepest moral impulses in response to it. Ivan seems to be saying that a Christian life cannot be honestly

lived, because it is in some sense incompatible with having basic human sympathies towards the oppressed and afflicted: What do I understand the Christian message concerning suffering to be? And: Can I internalise it and integrate it into my *behaviour*, viewing every episode of intense suffering I encounter through its lens, without becoming morally hardened in a way that, from my present perspective, would be profoundly repugnant?<sup>150</sup>

Ivan declares that he doesn't want to have his outlook transformed (to become 'sanctified') in such a way that he comes to terms with human suffering, accepting it as something that God has somehow ordained en route to a final harmony of all things. The only way this transformation of outlook could occur, he is implying, is for him to cease to have the appropriate sympathy for and solidarity with victims of oppression.<sup>151</sup> Or as Weinberg remarks: 'Remembrance of the Holocaust leaves me unsympathetic to attempts to justify the ways of God to man. If there is a God that has special plans for humans, then He has taken very great pains to hide His concern for us. To me it would seem impolite if not impious to bother such a God with our prayers.'<sup>152</sup> Then again, Weinberg does not side with scientific optimism either, as he does not think for a minute that science will ever provide the consolations that have been propounded by religion in facing death.<sup>153</sup> His naturalism is thus of a sombre kind.

Before we can continue, four notes of clarification are needed.

*Firstly*, discussions on evil, suffering, and God not in a few instances suffer from the lack of distinction between looking at the supposed problem through the eyes of the *participant*, that is *existentially*, and to see it through the eyes of the *spectator*, that is *ontologically*.<sup>154</sup> The latter cannot do without the former, as all will suffer evil at some point in life and certainly at death, but both must not be confused. *Secondly*, the fact that, as Lewis, Nietzsche, Ivan, and Weinberg do, we *can* characterise evil *as* evil, tells us something about our noetic capabilities naturalism cannot account for. For instance, despite Nietzsche 'brave' attempts to purge language of moral connotations that make suffering and evil intelligible, his actual use of the terms clearly shows that that is incoherent. This brings us to the *third* notion, that is that there

must be some substantial continuity between what we mean by good and evil and what God means thereby.

Equally, it is a sign of immaturity to think of oneself as possessing unblemished moral vision to epistemically determine what sorts of reasons might or might not warrant God in tolerating certain kinds of evil and suffering.<sup>155</sup> *Fourthly*, understanding evil as a straightforward counterargument against God (either logically or evidentially),<sup>156</sup> appears to suffer from the Aristotelian logic of the law of the excluded middle: either a proposition is true, or its negation is true. Thus, either God exists, or evil exists. However, it is this principle that frames the existence of evil as merely a theological problem of the ontological kind without consideration of the existential kind: 'If God exists, then evil does not exist. It is either a prelude to, or a preparation for, the good. Seen in full context, it is not evil after all. Alternatively, evil exists, therefore God does not exist. This is a philosophical, detached, disengaged, analytical, left-brained way of thinking about facts. But faith does not operate by the logic of the left brain and the law of the excluded middle. It feels both sides of the contradiction. God exists and evil exists.'<sup>157</sup> This we will try to capture anon, albeit in a truncated fashion.

At the outset, we need to admit that the epistemic distance between God and humans is insurmountable when considering evil. The magnitude or complexity of the question is such that our powers, access to data, theorising, and so on are radically insufficient. Our cognitions of the world and the suffering it contains, 'obtained by filtering raw data through such conceptual screens as we have available for the nonce, acquaint us with only some indeterminable fraction of what there is to be known.'<sup>158</sup> Suffering might have purpose, say, of the medicinal kind, despite the fact that this-worldly insight is not possible, or only in a very limited way.<sup>159</sup>

Viewed from another angle, the fact that we cannot really fathom evil might *itself* be an element of creational monotheism, and not *per se* its antagonist. It shows evil to be an intruder, a force not only set on warping and annihilating the good creation but also on resisting comprehension.<sup>160</sup> If one could understand it, if one could construe a framework within which it all 'made sense', it would no longer be the radical, anti-creation, anti-God force it actually is.<sup>161</sup>

My grandfather was an outstanding chess player, at one time even playing a draw against the only Dutch world champion Machgielis (Max) Euwe, 5th World Champion (1935 – 1937). Although being taught the basics of chess, I could never hope to beat my grandfather (or my father who is an excellent chess player as well). As a 'permanent beginner' in the game, my capabilities to fathom the chess moves of my grandfather were extremely limited, yet his incomprehensible moves did make sense to him, as his streak of winnings plainly showed.<sup>162</sup> In terms of the game of chess, the epistemic distance between my grandfather and myself was, for me, insuperable. How immeasurable greater the epistemic distance between God and us.<sup>163</sup> Most of the time we can't see how any reason we know of, or arguments combined, might give purpose to suffering.<sup>164</sup>

Conversely, dismissing suffering as pointless, usually with ample indignation and respect for the sufferers, is a less than successful strategy, particularly towards the recipients of this respect. Here, the ontological and existential perspective are profoundly confused. It is one thing to say that humans are not in a position to see a point or purpose in suffering; quite another to state that there is none. If *that* is so, then most who suffer will effectively be relegated to the scrapheap of human history, never to be retrieved again and ultimately forgotten.<sup>165</sup> The human good we care about is then nothing other than the monopoly of the upper classes of the industrialised nations, having the vast share of what human beings care about. We have, as a consequence, done no more than underlined a thoroughgoing materialistic understanding of life, depriving that life of its anticipatory elements.

That would imply that in the many deliberations on evil and God, the 'old' evidence of evil causes any argument from evil to give the impression that humans of the past who were faithful to God could never have contemplated their faith in the face of evil.<sup>166</sup>

'Any form of theodicy –including the assertion that God's ways are beyond understanding– involves some form of bad faith', Susan Neiman remarks.<sup>167</sup> But that is absurd, and at least confusing the ontological and existential perspective. As Eleonore Stump quips, there can be ideology in the promotion of despair as well as in the

raising of hope.<sup>168</sup> With her careful analysis of the stories of Job, Abraham, Samson, and Mary, hope can be maintained in a world full of suffering.<sup>169</sup>

‘The faith of Abraham requires a kind of willingness to be open to pain that neither Job nor Mary had until the end of their stories. Job protected himself against it by hanging on to his heart’s desire but rejecting God as not good. Mary [*in the story of Lazarus’ resurrection*] protected herself against it, not by anger of Job’s sort but by letting go of her heart’s desires and putting distance between herself and Jesus. ... Each is a kind of rebellion (a rebellion commended by God, in the case of Job, and wept over with compassion by Jesus, in the case of Mary). But, of the two, Job’s kind of rebellion is the better. In angrily calling God to account, Job was less willing to give up on what he wanted, either his heart’s desire or his relationship to God, than Mary was when she withdrew. And so, in the period of his sufferings, Job stayed closer to God than Mary did during hers. Mary reacts to her sufferings as she does because at the heart of it is her heartbreak over what she takes to be a broken personal relationship with Jesus, the Son of God in her view. And that may also be why her return to that relationship is so powerful. ... Mary is closer to God (in the person of Jesus) than Job was at the end of his story. Job’s saying to God “Now I see you, and I repent in dust and ashes” is totally eclipsed by Mary’s outpouring of love and devotion.’

Subsequently, ‘making sense’ of evil, as far as we can comprehend at least a fraction of it, cannot be achieved *without* the deeply loving presence of the God Himself. If God as Creator is the reason for everything that is, ‘there can be no actual being which does not have the creator as its centre holding it in being. In our compassion we, in our feeble way, are seeking to be what God is all the time: united with and within the life of our friend. We can say in the psalm ‘The Lord is compassion’ but a sign that this is metaphorical language is that we can also say that the Lord has no need of compassion; he has something more wonderful, he has his creative act

in which he is ‘closer to the sufferer than she is to herself’.<sup>170</sup> God is capable of instilling belief and trust in Him despite of *and* in the face of evil we all will be, in the end, confronted with. Put differently, the stronger the experience of the existence of God, the stronger the protest against the existence of evil. Neiman’s discussion of Abraham confronting God over the destruction of Sodom and Gomorrah we came across previously (chapter 4) misses the deep point that God *invites* Abraham to challenge God (Genesis 18: 17 – 19).<sup>171</sup> Zvi Kolitz’s *Yosl Rakover Talks to God* portrays this challenging, this protest, as follows: “God of Israel,” he said, “I have fled to this place so that I may serve You in peace, to follow Your commandments and glorify your name. You, however, are doing everything to make me cease believing in You. But if you think that You will succeed with these trials in deflecting me from the true path, then I cry to You, my God and the God of my parents, that none of it will help You. You may insult me, You may chastise me, You may take from me the dearest and the best that I have in the world, You may torture me to death – I will always believe in You. I will love You always and forever – even despite You.” ... “*Sh’ma Yisroel!* Hear Israel! The Lord is our God, the Lord is one. Into Your hands, O Lord, I commend my soul.”<sup>172</sup>

This is an absurd and perhaps even repugnant response –praising God as a means to protest against evil and death– when viewed with the utopian eye filled with moral fervour to radically improve upon this desperate life. However, that ignores the inner life of the sufferer,<sup>173</sup> and the infinite anticipatory quality life holds. Suffering is the dark side of any universe that remains unfinished and in which anticipation remains alive.<sup>174</sup>

The God of Abraham, Isaac, and Jacob is infinitely more present in all that is created than we can hope to emulate in our attempts to improve upon the human condition. The dissolution of evil, once and for all, is something that is accomplished by and expected of God alone, and we are invited to protest against evil and suffering in prayer and in action. Prayer and action uncover the absurd nature of evil as a *rejection* of the dissolution of evil freely offered by God.<sup>175</sup> We see here the eschatological tension of a world in which evil exists, the responsibility people carry for this evil, and God who



offers a solution we have found to be operative in the life, death, and resurrection of Jesus. In the atoning life of Jesus we have found the ultimate historical critique and resolution of evil and death. Simultaneously, he extends his hands to all and sundry to follow him into his kingdom of God here and now.<sup>176</sup>

## ON HUMAN LIFE - MATERIALISM ABANDONED

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*'And where are  
you now  
Without a sound  
Are you there  
And a face in  
the crowd  
Feet over harsh  
ground  
Are you there  
somewhere  
Maybe, maybe,  
maybe  
Maybe, darling  
Maybe, maybe,  
maybe  
Maybe, darling'  
(London Grammar)*

---

In the counterpoint reflections above, we have started at the highest level –the cosmos- and gradually moved into the human sphere. Now, we have entered into the final sphere of investigation, human life itself and the inevitable Darwinian biology thereof: '[y]ou," your joys and your sorrows, your memories and your ambitions, your sense of personal identity and free will, are in fact no more than the behavior of a vast assembly of nerve cells and their associated molecules. As Lewis Carroll's Alice might have phrased: "You're nothing but a pack of neurons."<sup>177</sup> The consequences of such scientism we are now familiar with:<sup>178</sup>

That is the sting of it, that in the vast driftings of the cosmic weather, though many a jewelled shore appears, and many an enchanted cloud-bank floats away, long lingering ere it be dissolved- even as our world now lingers, for our joy- yet when these transient products are gone, nothing, absolutely nothing remains, to represent those particular qualities, those elements of preciousness which they may have enshrined. Dead and gone are they, gone utterly from the very sphere and room of being. Without an echo; without a memory; without an influence, on aught that may come after, to make it care for similar ideals. This utter final wreck and tragedy is of the essence of scientific materialism as at present understood.

Stump's analysis in her phenomenal *Wandering in darkness* can only come to fruition if life in general and human life in particular carry a truly infinite anticipation that cannot be of the illusory sort. In short, human life, in view of its basic characteristics, must transcend its material basis. And already in chapter 4 we have seen that that is the case illustrated with the discussion on the human mind we need not reiterate here. Overall, the contention must be that the mind (qualia,<sup>179</sup> consciousness, thought, rationality, intentionality)<sup>180</sup> is irreducible to the brain or body.<sup>181</sup> Lewis, with his usual eloquence, summarises the issue as follows, from which the conclusions we drew earlier follow with relative ease:<sup>182</sup>

'We are compelled to admit between the thoughts of a terrestrial astronomer and the behaviour of matter several light-years away that particular relation which we call truth. But this relation has no meaning at all if we try to make it exist between the matter of the star and the astronomer's brain, considered as a lump of matter. The brain may be in all sorts of relations to the star no doubt: it is in a spatial relation, and a time relation, and a quantitative relation. But to talk of one bit of matter as being true about another bit of matter seems to me to be nonsense. It might conceivably turn out to be the case that every atom in the universe thought, and thought truly, about every other. But that relation between any two atoms would be something quite distinct from the physical relations between them. In saying that thinking is not matter I am not suggesting that there is anything mysterious about it. In one sense, thinking is the simplest thing in the world. We do it all day long. We know what it is like far better than we know what matter is like. Thought is what we start from: the simple, intimate, immediate datum. Matter is the inferred thing, the mystery.'

It seems fair to say that no serious materialistic bid to show that consciousness, intentionality and rationality are just physical features of the brain is forthcoming. That being said, this is not the time or place to discuss other more inclusive theories of mind,



which *do* justice to the immaterial qualities of consciousness, intentionality and rationality, to the 'what-is-it-like' first-person qualities we are endowed with.<sup>183</sup>

From a perspective that is embraced by a Creator God, the ostensible mysteriousness of the mind evaporates into thin air. The hope as found in the life, work, death, and resurrection of Jesus is fully consistent with the mind's unrestricted anticipation of meaning and truth. Perhaps Thomas Aquinas formulated this most appropriately when he stated that the 'sole conclusion to be drawn from all this, then, is that the intellectual principle, by which man understands, is a form having its act of existing in itself. Therefore this principle must be incorruptible. ... the intellect is something divine and everlasting.'<sup>184</sup>

Truth and the search thereto can endure for no more than a brief moment in time if our own minds are materialistically understood only. And a truth that cannot last, say a patina on transient material minds, is without value, without significance. Truth can only be cherished to the full if it is judged, known, to be imperishable. We are *only* at home in a world whose horizons are limitless.<sup>185</sup> That we will consider in the final chapter together with a *précis* of this enquiry.

## References

- <sup>1</sup> Trotsky, L. 1957. *A paradise in this world. Speech to a workers' audience, April 14<sup>th</sup>, 1918*. A Lanka Samasamaja Publication, Ceylon. Bold in original. His speech shows that he borrowed his political vision, perhaps inadvertently, from the Torah. In Exodus 3: 8 YHWH said to Moses: 'So I have come down to rescue them from the hand of the Egyptians and to bring them up out of that land into a good and spacious land, a land flowing with milk and honey ....' These words were read while the family was at the table to celebrate the Passover Seder. More than once, Lev Davidovich Bronshtein must have heard the story of the liberation of the Israelites from slavery in ancient Egypt under the regime of Pharaoh. It seems that Trotsky had taken this story to use it for his own political vision, that is to deliver the Russian people from the regime of Tsar Nicolas II. Trotsky, perhaps some sort of Moses Redivivus, advocated and promoted scientific atheism, an alternative to Judeo-Christianity. It became the underpinning of the utopian society Soviet style. (Thanks to dr. J.C. Hanekamp sr.)
- <sup>2</sup> Lasky, M.J. 1976. *Utopia and Revolution: On the Origins of a Metaphor, or Some Illustrations of the Problem of Political Temperament and Intellectual Climate and How Ideas, Ideals, and Ideologies Have Been Historically Related*. University of Chicago Press, Chicago.
- <sup>3</sup> Arendt, H. 1998. *The Human Condition*. Chicago University press, Chicago, p. 136.
- <sup>4</sup> Newbiggin, L. 1989. *The Gospel in a Pluralist Society*. Wm. B. Eerdmans Publishing Co., Grand Rapids, Michigan, p. 48 – 49.
- <sup>5</sup> Dostoevsky, F. 1912. *The Brothers Karamazov*. Book 5, chapter 5. (Translation by Constance Garnett.)
- <sup>6</sup> See for some reflections thereon Wanner, A. 1997. The underground man as Big Brother: Dostoevsky's and Orwell's anti-utopia. *Utopian Studies* **January 1<sup>st</sup>**.
- <sup>7</sup> Williams, R. 2008. *Dostoevsky. Language, Faith, and Fiction*. Baylor University Press, Texas, p. 4 – 5. Italics added.
- <sup>8</sup> Williams, note 7, p. 227.
- <sup>9</sup> Gray, J. 2007. *Black Mass. Apocalyptic Religion and the Death of Utopia*. Allen Lane, London, p. 207, 208.
- <sup>10</sup> Haught, J.F. 2006. *Is Nature Enough? Meaning and Truth in the Age of Science*. Cambridge University Press, Cambridge, p. 61.
- <sup>11</sup> Spoken in the 2013 Terry Gilliam-film *The Zero Theorem*.
- <sup>12</sup> Jonas, H. 1966. *The Phenomenon of Life. Toward a Philosophical Biology*. Harper & Row, Publishers Inc., New York, p. 11.
- <sup>13</sup> Sagan, C. 1997. *Pale Blue Dot. A Vision of the Human Future in Space*. Ballantine Books Edition, p. 12 – 13. See [https://solarsystem.nasa.gov/multimedia/display.cfm?Category=Planets&IM\\_ID=2148](https://solarsystem.nasa.gov/multimedia/display.cfm?Category=Planets&IM_ID=2148) (last accessed on the 15<sup>th</sup> of November 2014).
- <sup>14</sup> Schnabel, E.J. 2004. *Early Christian Mission. Jesus and the Twelve*. InterVarsity Press, Downers Grove, Illinois, p. 209.
- <sup>15</sup> Freyne, S. 2000. *Jesus and the Urban Culture of Galilee*. In: *Galilee and Gospel: Collected Essays*. Brill Academic Publishers, Inc., Boston, Leiden, p. 205 – 206.
- <sup>16</sup> See for discussions and reflections thereon Bartholomew, C., Evans, C.S., Healy, M., Rae, M. (eds.) 2001. *"Behind" the Text: History and Biblical Interpretation*. Zondervan, Grand Rapids, Michigan.
- <sup>17</sup> Matthew 28, Mark 16, Luke 24, and John 20.
- <sup>18</sup> Hengel, M. 1977. *Crucifixion in the ancient world and the folly of the message of the cross*. Fortress Press, Philadelphia, p. 87 – 88.
- <sup>19</sup> Deuteronomy 21: 22 – 23: If a man guilty of a capital offense is put to death and his body is hung on a tree, <sup>23</sup> you must not leave his body on the tree overnight. Be sure to bury him that same day, because anyone who is hung on a tree is under God's curse. You must not desecrate the land the Lord your God is giving you as an inheritance.
- <sup>20</sup> See e.g. Campbell, J. 2008. *The Hero with the Thousand Faces*. New World Library, California.
- <sup>21</sup> Crossan, J.D. 1994. *Jesus: A Revolutionary Biography*. HarperCollins San Francisco.
- <sup>22</sup> Similarly, Crossan, in an interview, states that he is 'willing to say the second coming will not be soon. The second coming will not be violent. The second coming will not be literal. The second coming is what will happen when we Christians accept that there was only one coming and get with the program.' See [www.findingmywaymovie.com/johndominiccrossan.html](http://www.findingmywaymovie.com/johndominiccrossan.html) (last accessed on the 15th of November 2014).
- <sup>23</sup> Stewart, R.B. (ed.) 2006. *The Resurrection of Jesus. John Dominic Crossan and N.T. Wright in Dialogue*. Fortress Press, Minneapolis, p. 186.
- <sup>24</sup> Surely, he is not the only theologian to do so, but he seems the most outspoken and eloquent on these matters.

<sup>25</sup> Haught, note 10, p. 63.

<sup>26</sup> Eagleton is ruthlessly uncompromising in his judgement about Jesus –in his self-emptying love, his focus on justice, and his inevitable suffering at human hands– as the crux of human history:

[t]he New Testament is a brutal destroyer of human illusions. If you follow Jesus and don't end up dead, it appears you have some explaining to do. The stark signifier of the human condition is one who spoke up for love and justice and was done to death for his pains. The traumatic truth of human history is a mutilated body. Those who do not see this dreadful image of a tortured innocent as the truth of history are likely to adopt some bright-eyed superstition such as the dream of untrammelled human progress .... There are rationalist myths as well as religious ones. Indeed many secular myths are deguttled versions of sacred ones.'

Eagleton, T. 2009. *Reason, Faith, and Revolution: Reflections on the God Debate*. Yale University Press, New Haven, p. 27 – 28.

<sup>27</sup> Williams, note 7, p. 227.

Or, as the famous Dutch comedian Freek de Jonge brilliantly quipped in his 2010 New Year's Day show: 'A do-gooder is someone who through the death of God is forced to believe in a heaven on earth.' ['Een wereldverbeteraar is iemand die door de dood van God gedwongen wordt te geloven in een hemel op aarde. ... een wereldverbeteraar zit in het probleem van gelijk hebben en het gelijk krijgen. Dat is het probleem; tussen berusten in je gelijk of radicaliseren in het feit dat je het niet krijgt; tussen de Bhagwan en de Baader-Meinhof groep.']

<sup>28</sup> Dostoevsky, note 5.

<sup>29</sup> Murdoch, I. 1971. *The Sovereignty of Good*. Routledge, London, p. 78.

<sup>30</sup> Not to mention supposed linkages, we cannot explore in any depth here, between 'the myth of Jesus' and non-Jewish religions such as Osirianism, for example in relation to the concept of resurrection. See thereon e.g. Bostock, D.G. 2000. Osiris and the Resurrection of Christ. *The Expository Times* **111**: 265 – 271.

See for a critical reflection Perrin, N. 2007. On Raising Osiris in 1 Corinthians 15. *Tyndale Bulletin* **58(1)**: 117 – 128.

Davies (Davies, J. 1999. *Death, Burial and the Rebirth in the Religions of*

*Antiquity*. Routledge, London, p. 39) points out that the Egyptians had 'totally integrated the world of the living with the world of the dead. There were no boundaries between these worlds, no social or individual changes which were not managed in an endless ritual of reciprocity between life and death. Other cultures 'got on with life', acknowledging death at the end: Egypt got on with death, as being in and of life. There was no eschatology, no apocalypse, no collective cataclysm, because there was no crisis. Death was life.'

Koester (Koester, H. 1995. *History, Culture, and Religion of the Hellenistic Age. Introduction to the New Testament, Volume 1*. Walter de Gruyter & Co., Berlin, p. 182) is quite adamant, when reflecting on the initiation rites in the Isis mysteries and the pre-Christian notion of resurrection, that 'Osiris died and became lord of the realm of the dead, and Osiris himself can be called "initiate", but it is never said that he rose from the dead.'

<sup>31</sup> See e.g. Crossan, J.D. 1991. *The Historical Jesus: The Life of a Mediterranean Jewish Peasant*. HarperSanFrancisco, San Francisco.

<sup>32</sup> See e.g. Sanders, E.P. 1985. *Jesus and Judaism*. Fortress Press, Philadelphia.

<sup>33</sup> See e.g. Borg, M. 1998. *Conflict, Holiness and Politics in the Teachings of Jesus*. Trinity Press International, Harrisburg, Pennsylvania.

<sup>34</sup> See further Alston, W.P. 1997. *Biblical Criticism and the Resurrection*. In: Davis, S., Kendall S.J., O'Collins S.J., G. (eds.) *The Resurrection*. Oxford University Press, p. 148 – 183.

<sup>35</sup> Bailey, K.E. 2003. *Jacob & the Prodigal. How Jesus Retold Israel's Story*. InterVarsity Press, Downers Grove, Illinois.

To be sure, when considering the Gospels overall, they passed through various stages of oral and written tradition. Each evangelist was not an independent oral collector of some sort. Sources and redactions are part of the equation. 'The interplay between oral and written transmission of the Jesus tradition was an extraordinarily complex phenomenon which will probably never be satisfactorily unravelled.' (Wright, N.T. 1992. *The New Testament and the People of God*. Fortress Press, Minneapolis, p. 423. Wright refers to: Aune, D.E. 2004. *Oral Tradition and the Aphorisms of Jesus*. In: Wansbrough, H. *Jesus and the Oral Gospel Tradition*. T & T Clark, London, p. 211 – 265.) What needs to be taken seriously is the probability of oral traditions interacting with emerging literary traditions during the whole process of its materialisation. This makes research of sources, forms and redactions, let alone the conjectures about what happened in between

them, scarcely precise. Jesus-study and Gospel-study, or to put it differently history and theology, continue to be closely intertwined.

Moreover, despite the modern misgivings about ancient sources, keeping in mind the issues of commitment we have discussed previously, it seems without question that the Gospels do give us insight into the life and times of Jesus. This then I will take as a starting point.

See further e.g. Bailey, K.E. 1995. *Informal Controlled Oral Tradition and the Synoptic Gospels*. *Themelios* 20(2): 4 – 11.

Bauckham, R. 2006. *Jesus and the Eyewitnesses. The Gospels as Eyewitness Testimony*. Wm. B. Eerdmans Publishing Company, Grand Rapids.

Flusser, D., Notley, R.S. 2007. *The Sage from Galilee. Rediscovering Jesus' Genius*. Wm. B. Eerdmans Publishing Company, Grand Rapids.

See also Alston, W.P. 2001. *Historical Criticism of the Synoptic Gospels*. In: Bartholomew *et al.*, note 16, p. 151 – 179.

<sup>36</sup> Luke 15: 2.

<sup>37</sup> Genesis 27 – 36: 8. Jacob's exile, is of concern here.

<sup>38</sup> Bailey, note 35, p. 148.

<sup>39</sup> Genesis 32: 22 – 32.

<sup>40</sup> Bailey, note 35, p. 165.

<sup>41</sup> Bailey, note 35, p. 168.

<sup>42</sup> Bailey, note 35, p. 182.

<sup>43</sup> Bailey, K.E. 1983. *Poet & Peasant and Through Peasant Eyes. A Literary-Cultural Approach to the Parables of Luke. Combined Edition*. William B. Eerdmans Publishing Company, Grand Rapids, Michigan, p. 206.

<sup>44</sup> Bailey, note 43.

<sup>45</sup> Bailey, note 35, p. 186.

<sup>46</sup> Bailey, note 35, p. 215.

<sup>47</sup> Mark 2: 8 – 12: 'Immediately Jesus knew in his spirit that this was what they were thinking in their hearts, and he said to them, "Why are you thinking these things? Which is easier: to say to the paralytic, 'Your sins are forgiven,' or to say, 'Get up, take your mat and walk'? But that you may know that the Son of Man has authority on earth to forgive sins." He said to the paralytic, "I tell you, get up, take your mat and go home." He got up, took his mat and walked out in full view of them all. This amazed everyone and they praised God, saying, "We have never seen anything like this!"

Luke 22: 28 – 30: You are those who have stood by me in my trials. And I confer on you a kingdom, just as my Father conferred one on me, so

that you may eat and drink at my table in my kingdom and sit on thrones, judging the twelve tribes of Israel.'

<sup>48</sup> Evans, C.A. 2009. *Jesus' Self-Designation 'The Son of Man and the Recognition of His Divinity*. In: Rea, M. (ed.) *Oxford Readings in Philosophical Theology. Volume I. Trinity, Incarnation, Atonement*. Oxford University Press, Oxford, p. 151 – 165.

Daniel 7: 13 – 14: "In my vision at night I looked, and there before me was one like a son of man, coming with the clouds of heaven. He approached the Ancient of Days and was led into his presence. He was given authority, glory and sovereign power; all peoples, nations and men of every language worshiped him. His dominion is an everlasting dominion that will not pass away, and his kingdom is one that will never be destroyed."

<sup>49</sup> Wright, N.T. 1996. *Jesus and the Victory of God*. SPCK, London, p. 469 – 470.

<sup>50</sup> Hurtado, L.W. 2003. *Lord Jesus Christ. Devotion to Jesus in Earliest Christianity*. William B. Eerdmans Publishing Company, Grand Rapids, Michigan, p. 268 – 269.

<sup>51</sup> Barton, J. 2007. *The Old Testament: Canon, Literature and Theology. Collected Essays of John Barton*. Ashgate, Hampshire, p. 263.

<sup>52</sup> Barton, note 51, p. 264.

<sup>53</sup> Zimmerli, W. 1976. *The Old Testament and the World*. SPCK, London.

<sup>54</sup> Chester, A. 2007. *Messiah and Exaltation*. Wissenschaftliche Untersuchungen zum Neuen Testament 207, Mohr Siebeck, Tübingen, Germany, p. 312.

Mark 15: 2: "Are you the king of the Jews?" asked Pilate. "Yes, it is as you say," Jesus replied.'

Mark 14: 61 – 62: 'But Jesus remained silent and gave no answer. Again the high priest asked him, "Are you the Christ, the Son of the Blessed One?" "I am," said Jesus. "And you will see the Son of Man sitting at the right hand of the Mighty One and coming on the clouds of heaven."

<sup>55</sup> Luke 4: 16 – 21: 'He went to Nazareth, where he had been brought up, and on the Sabbath day he went into the synagogue, as was his custom. And he stood up to read. The scroll of the prophet Isaiah was handed to him. Unrolling it, he found the place where it is written: "The Spirit of the Lord is on me, because he has anointed me to preach good news to the poor. He has sent me to proclaim freedom for the prisoners and recovery of sight for the blind, to release the oppressed, to proclaim the year of the Lord's favor." Then he rolled up the scroll, gave it back to the attendant and sat down.

The eyes of everyone in the synagogue were fastened on him, and he began by saying to them, “Today this scripture is fulfilled in your hearing.”

<sup>56</sup> Chester, note 54.

<sup>57</sup> Luke 7: 21 – 23: ‘At that very time Jesus cured many who had diseases, sicknesses and evil spirits, and gave sight to many who were blind. So he replied to the messengers, “Go back and report to John what you have seen and heard: The blind receive sight, the lame walk, those who have leprosy are cured, the deaf hear, the dead are raised, and the good news is preached to the poor. Blessed is the man who does not fall away on account of me.”

<sup>58</sup> Chester, note 54, p. 319 – 320.

<sup>59</sup> Matthew 8: 5 – 9: ‘When Jesus had entered Capernaum, a centurion came to him, asking for help. “Lord,” he said, “my servant lies at home paralyzed and in terrible suffering.” Jesus said to him, “I will go and heal him.” The centurion replied, “Lord, I do not deserve to have you come under my roof. But just say the word, and my servant will be healed. For I myself am a man under authority, with soldiers under me. I tell this one, ‘Go,’ and he goes; and that one, ‘Come,’ and he comes. I say to my servant, ‘Do this,’ and he does it.”

<sup>60</sup> Boring, M.E. 1994. *Matthew. Introduction, Commentary, and Reflections*. In: *The New Interpreter’s Bible. A Commentary in Twelve Volumes. Volume VIII. New Testament Articles. Matthew. Mark*. Abingdon Press, Nashville.

Isaiah 61: 1, 2: ‘The Spirit of the Sovereign Lord is on me, because the Lord has anointed me to preach good news to the poor. He has sent me to bind up the brokenhearted, to proclaim freedom for the captives and release from darkness for the prisoners, to proclaim the year of the Lord’s favor and the day of vengeance of our God, to comfort all who mourn, ....’

<sup>61</sup> Wright, note 49, p. 653.

<sup>62</sup> Bauckham, R. 1998. *God Crucified. Monotheism & Christology in the New Testament*. William B. Eerdmans Publishing Company, Grand Rapids, Michigan, p. 45.

<sup>63</sup> Wright, N.T. 2013. *Paul and the Faithfulness of God. Christian Origins and the Question of God*. SPCK Publishing, London, p. 655. Italics in original.

<sup>64</sup> Flusser, D. 1988. *Hillel’s Self-Awareness and Jesus*. In: *Judaism and the Origins of Christianity*. The Magnes Press, The Hebrew University, Jerusalem, p. 509 – 514.

<sup>65</sup> McCord Adams, M. 2009. *Christ as God-Man, Metaphysically Construed*. In: Rea, M. (ed.) *Oxford Readings in Philosophical Theology. Volume I*. Trinity,

*Incarnation, Atonement*. Oxford University Press, Oxford, p. 239 – 263.

<sup>66</sup> Brown, D. 1985. *The Divine Trinity*. Open Court Publishing, London, p. 107. See also Hick, J. 2006. *The Metaphor of God Incarnate: Christology in a Pluralistic Age*. Westminster John Knox Press, Louisville, Kentucky.

<sup>67</sup> See e.g. Hurtado, L.W. 2005. *How on Earth Did Jesus Become a God. Historical Questions about Earliest Devotion to Jesus*. William B. Eerdmans Publishing Company, Grand Rapids, Michigan.

<sup>68</sup> An example of the genetic fallacy: ‘The current Chancellor of Germany was in the Hitler Youth at age 3. With that sort of background, his so called ‘reform’ plan must be a fascist program.’ See [www.nizkor.org/features/fallacies/genetic-fallacy.html](http://www.nizkor.org/features/fallacies/genetic-fallacy.html) (last accessed on the 15th of November 2014).

<sup>69</sup> Crisp, O.D. 2007. *Divinity and Humanity. The Incarnation Reconsidered*. Cambridge University Press, Cambridge, p. 163.

See further Lewis, C.S. 1975. *Fern-seed and Elephants and other Essays on Christianity*. William Collins Sons & Co Ltd, Glasgow, p. 112.

<sup>70</sup> Achterhuis, H. 1998. *De erfenis van de Utopie*. Ambo, Amsterdam. [*The Legacy of Utopia*.]

<sup>71</sup> Mokyr, J. 2002. *The Gifts of Athena. Historical Origins of the Knowledge Economy*. Princeton University Press, Princeton.

<sup>72</sup> Popper, K.R. 1986. Utopia and Violence. *World Affairs* 149(1): 3 – 9.

<sup>73</sup> Stove, D. 2011. *What’s Wrong with Benevolence. Happiness, Private Property, and the Limits of Enlightenment*. Encounter Books, New York, p. 25; 31. Stove’s description of benevolence is as follows (p. 27, 28):

‘Since benevolence is sometimes, yet obviously not always, productive of misery, what is it that makes the difference between the two outcomes? How is one to tell in advance the dangerous kind of benevolence from the other? This question is not easy to answer; but there are certain features which, when they are all present at once, are a very strong indication of the dangerous kind.

One of these features is *universality*. Benign or harmless benevolence is typically local in its objects, or confined to a special class of people (the sick, for example); whereas dangerous benevolence typically has for its object all present and future human beings. A second warning feature is *disinterestedness*. When a Condorcet, a Bentham, or a Marx plans for universal happiness, there is “nothing in it” (as we say) for Condorcet, Bentham, or Marx himself. Whereas, of course, when a father plans

his child's happiness, or a teacher his pupil's, or a friend his friend's, there is something in it, should the plan succeed, for the father, teacher, or friend: there is the increased affection of the child, the gratitude of the pupil, strengthened friendship with the friend. The third warning sign of dangerous benevolence is *externality*. That is, it is proposed to bring about the happiness of others, not by changing them, but by changing their circumstances: by giving them money, for example, or better surroundings, or legal rights which they did not have before.'

- <sup>74</sup> See for an overview Schaafsma, P. 2006. *Reconsidering Evil. Confronting Reflections with Confessions*. Peeters, Leuven.
- <sup>75</sup> Derived from Schaafsma, note 74, p. 164.
- <sup>76</sup> Mark 10: 17 – 18.
- <sup>77</sup> Deuteronomy 5: 6
- <sup>78</sup> Donahue, J.R. 1982. A Neglected Factor in the Theology of Mark. *Journal of Biblical Literature* **101(4)**: 563 – 594.
- Donahue stresses in his article the importance in Mark of resolute devotion to God alone as unmistakably expressed in Mark 10: 17 and 18.
- <sup>79</sup> Novak, D. 2008. *Jewish Eschatology*. In: Walls, J.L. (ed.) *The Oxford Handbook of Eschatology*. Oxford University Press, Oxford, p. 113 – 131.
- <sup>80</sup> Hengel, M. 1989. *The Zealots. Investigations into the Jewish Freedom Movement in the Period of Herod I until 70 A.D.* T & T Clark, London.
- <sup>81</sup> Wright, note 35.
- <sup>82</sup> See further Wright, note 35.
- <sup>83</sup> Hengel, note 80.
- <sup>84</sup> Horsley, R., Hanson, J.S. 1999. *Bandits, Prophets, and Messiahs*. Trinity Press International, Harrisburg, p. xxvii.
- <sup>85</sup> Goodman, M. 1987. *The Ruling Class of Judea: The Origins of the Jewish Revolt against Rome A.D. 66 – 70*. Cambridge University Press, Cambridge, p 108.
- <sup>86</sup> Luke 4: 43.
- <sup>87</sup> O'Collins S.J., G. 2009. *Christology. A Biblical, Historical, and Systematic Study of Jesus*. Oxford University Press, Oxford, p. 55.
- <sup>88</sup> O'Collins, note 87.
- <sup>89</sup> Wright, note 49, p. 467.
- <sup>90</sup> Culpepper, R.A. 1995. *The Gospel of Luke. Introduction, Commentary, and Reflections*. In: *The New Interpreter's Bible. A Commentary in Twelve Volumes*.

*Volume IX. Luke, John*. Abingdon Press, Nashville, p. 1 – 490, p. 108.

- <sup>91</sup> See e.g. Mark 12: 38 – 43.
- <sup>92</sup> See e.g. Mark 13: 1, 2.
- <sup>93</sup> Hengel, note 80, p. 404.
- <sup>94</sup> Wright, note 49, p. 640 – 642.
- See Luke 22: <sup>49</sup> 'When Jesus' followers saw what was going to happen, they said, "Lord, should we strike with our swords?" <sup>50</sup> And one of them struck the servant of the high priest, cutting off his right ear. <sup>51</sup> But Jesus answered, "No more of this!" And he touched the man's ear and healed him. <sup>52</sup> Then Jesus said to the chief priests, the officers of the temple guard, and the elders, who had come for him, "Am I leading a rebellion, that you have come with swords and clubs?"
- <sup>95</sup> Chester, note 54.
- <sup>96</sup> Collins, J.J. 1995. *The Scepter and the Star. The Messiahs of the Dead Sea Scrolls and Other Ancient Literature*. The Anchor Bible Reference Library, Doubleday, New York, p. 204.
- <sup>97</sup> Mowinckel, S. 2005. *He that cometh. The Messiah Concept in the Old Testament & Later Judaism*. William B. Eerdmans Publishing Company, Grand Rapids, Michigan, p. 450.
- <sup>98</sup> See further Wright, N.T. 1997. Doing Justice to Jesus: A Response to J.D. Crossan, "What Victory? What God?" *Scottish Journal of Theology* **50(3)**: 359 – 379.
- <sup>99</sup> Exodus 16: 15: 'When the Israelites saw it, they said to each other, "What is it?" For they did not know what it was. Moses said to them, "It is the bread the Lord has given you to eat."'
- Exodus 17: 1 – 2: 'The whole Israelite community set out from the Desert of Sin, travelling from place to place as the Lord commanded. They camped at Rephidim, but there was no water for the people to drink. So they quarrelled with Moses and said, "Give us water to drink." Moses replied, "Why do you quarrel with me? Why do you put the Lord to the test?"'
- See further Culpepper, note 90.
- Exodus 32: The story of idolatry of the golden calf.
- <sup>100</sup> Wright, N.T., Borg, M. 1999. *The Meaning of Jesus*. SPCK, London, p. 39.
- <sup>101</sup> Wright, note 49, p. 605.
- <sup>102</sup> Boring, note 60, p. 178.
- <sup>103</sup> Bailey, K.E. 2008. *Jesus Through Middle Eastern Eyes. Cultural Studies in the Gospels*. InterVarsity Press, Downers Grove, Illinois, p. 68, 74.



<sup>104</sup> Wright and Borg, note 100, p. 38 – 39.

<sup>105</sup> Meyer, B.F. 1993. Book Review: The Historical Jesus: The Life of a Mediterranean Jewish Peasant. *Catholic Biblical Quarterly* 55(3): 575 – 576. As Mark portrays in chapter 3: <sup>31</sup> Then Jesus' mother and brothers arrived. Standing outside, they sent someone in to call him. <sup>32</sup> A crowd was sitting around him, and they told him, "Your mother and brothers are outside looking for you." <sup>33</sup> "Who are my mother and my brothers?" he asked. <sup>34</sup> Then he looked at those seated in a circle around him and said, "Here are my mother and my brothers! <sup>35</sup> Whoever does God's will is my brother and sister and mother."

<sup>106</sup> Wright, note 49, p. 605.

<sup>107</sup> Wright and Borg, note 100, p. 102.

<sup>108</sup> Hengel, M. 2003. *Was Jesus a Revolutionist?* In: *Victory Over Violence & Was Jesus a Revolutionist?* Wipf and Stock Publishers, Eugene, Oregon, p. 31 – 34.

<sup>109</sup> See further Witherington III, B. 1990. *The Christology of Jesus*. Fortress Press, Minneapolis.

<sup>110</sup> Mark 9: 7.

<sup>111</sup> See further Wright, N.T. 2003. *The Resurrection of the Son of God*. Fortress Press, Minneapolis.

<sup>112</sup> See for a critical reflection on resurrection for instance Van Inwagen, P. 2009. *The Possibility of Resurrection*. In: Rea, M. (ed.) *Oxford Readings in Philosophical Theology. Volume II. Providence, Scripture, and Resurrection*. Oxford University Press, Oxford, p. p. 321 – 327. Interestingly, he raises the problem of the decay of the human body after death, which God somehow has to reassemble using the same atoms at the resurrection in order to have the same person with the same body back again. As a chemist I found this argument rather strange, to say the least. The atoms of the body are continuously supplanted in life by the metabolism of the living body. The same person at, say, 40 years is the same at 50, yet other atoms have displaced most if not all of his or her atoms during that time. So, it seems the 'gummos kókkos (a naked kernel: 1 Cor. 15: 37), which will be sown in corruption and raised in incorruption' (p. 327) is indeed something more than the atoms from which the living body is constructed.

<sup>113</sup> The slogan of this campaign was: 'There is probably no God. No stop worrying and enjoy your life.'

<sup>114</sup> Dawkins, R. 2006. *The God Delusion*. Bantam Press, London, p. 59, 187.

<sup>115</sup> Stenmark, M. 2001. *Scientism. Science, Ethics and Religion*. Ashgate Publishing Limited, Aldershot, England.

<sup>116</sup> See e.g. Dawkins, R. 1989. *The Selfish Gene*. Oxford University Press, Oxford, p. 198.

<sup>117</sup> Davis, S.T. 1993. *Risen Indeed. Making Sense of the Resurrection*. William B. Eerdmans Publishing Company, Grand Rapids, Michigan, p. 174 – 175.

<sup>118</sup> See for an excellent and comprehensive commentary on 1 Corinthians 15 Thiselton, A.C. 2000. *The New International Greek Testament Commentary. The First Epistle to the Corinthians*. William B. Eerdmans Publishing Company, Grand Rapids, Michigan, p. 1169 – 1313.

<sup>119</sup> Van den Brom, L.J. 1993. *Divine Presence in the World. A Critical Analysis of the Notion of Divine Omnipresence*. Kok Pharos Publishing House, Kampen, The Netherlands, p. 306.

<sup>120</sup> John 20: 25.

<sup>121</sup> Bailey, note 103, p. 135 – 136. Italics added.

<sup>122</sup> See further Wright, note 111.

<sup>123</sup> See further Alston, note 34.

<sup>124</sup> Although seemingly far-fetched, quite a bit of scientific research is related to countering aging. Aubrey de Grey is one of the more vocal researchers in the field of aging research. De Grey is the co-founder and chief scientist of the Methuselah Mouse Prize, a contest designed to accelerate research into effective life extension interventions by awarding prizes to researchers who extend the lifespan of mice to unprecedented lengths. De Grey, at the helm of the multidisciplinary peer-reviewed journal *Rejuvenation Research*, seeks to understand and ultimately defy the mechanisms of aging.

<sup>125</sup> Wright, N.T. 2002. *Jesus' Self-Understanding*. In: Davis, S.T., Kendall S.J., D., O'Collins S.J., G. (eds.) *The Incarnation*. Oxford University Press, Oxford, p. 47 – 61.

<sup>126</sup> Lewis, C.S. 1952. *Mere Christianity*. In: C.S. Lewis. 2002. *The Complete C.S. Lewis Signature Classics*. Harper San Francisco, San Francisco, p. 1 – 118, p. 36. Obviously, this argument is now known as the Mad, Bad, or God argument (MBG) that still receives quite a bit of attention and scorn. I will not delve further into this argument other than refer to Davis' study thereon (Davis, S.T. 2002. *Was Jesus Mad, Bad, or God?* In: Davis, S.T., Kendall S.J., D., O'Collins S.J., G. (eds.) *The Incarnation*. Oxford University Press, Oxford, p. 221 – 245).

Davis proposes the following logical form:

1. Jesus claimed, either explicitly or implicitly, to be divine.
2. Jesus was either right or wrong in claiming to be divine.
3. If Jesus was wrong in claiming to be divine, Jesus was either mad or bad.
4. Jesus was not bad.
5. Jesus was not mad.
6. Therefore, Jesus was not wrong in claiming to be divine.
7. Therefore, Jesus was right in claiming to be divine.
8. Therefore, Jesus was divine.

Davis remarks that he proposes ‘a qualified defence of one version of the argument. I will claim that the MBG argument, properly understood, can establish the rationality of belief in the incarnation of Jesus. But a caveat is called for: I do not want to be interpreted as implying that any validation of Jesus’ divinity must rest solely on what Jesus himself (explicitly or implicitly) claimed to be. ...’ (p. 223) ‘My own view is that the last goal mentioned –to demonstrate the rationality of belief in the incarnation of Jesus– is the proper goal or aim of the MBG argument. And given what we have concluded in this chapter, I believe it succeeds in doing that very thing. ...’ (p. 245)

See further Crisp, O.D. 2009. *God Incarnate. Explorations in Christology*. T & T Clark, London.

See for a critical response to the MBG argument for instance Howard-Snyder, D. 2009. *Was Jesus Mad, Bad, or God? ... or Merely Mistaken?* In: Rea, M. (ed.) *Oxford Readings in Philosophical Theology. Volume I. Trinity, Incarnation, Atonement*. Oxford University Press, Oxford, p. 186 – 210.

<sup>127</sup> See e.g. Davis, S.T. 2006. *Christian Philosophical Theology*. Oxford University Press.

Davis describes the bodily transformation of Jesus at the resurrection as affirming that (p. 112.):

‘Jesus was genuinely dead and later genuinely alive and that the tomb was empty, but it denies that Jesus was restored to the kind of life he experienced earlier. In the resurrection, his earthly body was transformed into a new ‘glorified body that was indeed physical, but possessed strange new properties. There was continuity between the old body and the new body, but the new body was no longer as bound by certain of the laws of nature as was the old.’

See further Craig, W.L. 2002. *Assessing the New Testament evidence for the Historicity of the Resurrection of Jesus*. The Edwin Mellen Press, New York.  
Swinburne, R. 2003. *The Resurrection of God Incarnate*. Oxford University Press, Oxford.

Rea, M. (ed.) 2009. *Oxford Readings in Philosophical Theology. Volume II. Providence, Scripture, and Resurrection*. Oxford University Press, Oxford.

Davis, note 117.

Wright, note 111.

<sup>128</sup> Perkins, P. 1984. *Resurrection: New Testament Witness and Contemporary Reflection*. Doubleday Books, New York.

<sup>129</sup> See Nagel, T. 1974. What is it like to be a bat? *The Philosophical Review* **83(4)**: 435 – 450.

Nagel, T. 1997. *The Last Word*. Oxford University Press, Oxford.

<sup>130</sup> Nagel, T. 2012. *Mind and Cosmos. Why the Materialist Neo-Darwinian Conception of Nature is Almost Certainly False*. Oxford University Press, Oxford, p. 85.

<sup>131</sup> Porter, A.P. 2001. *By the Waters of Naturalism. Theology Perplexed among the Sciences*. Wipf and Stock Publishers, Eugene.

<sup>132</sup> See [www.naturalism.org/tenetsof.htm](http://www.naturalism.org/tenetsof.htm) (last accessed on the 15th of November 2014). Italics added.

Although a highly interesting subject, I will not delve into the subject of the *anthropic principle*. Very basically, this principle states that if sentient observers who have evolved within a certain universe observe its fundamental constants and quantities, it is highly probable that these observers will perceive them to be fine-tuned to their existence. If not, then sentient life could not evolve. Any observed property of that universe might look astonishingly improbable, but of course we need to take account of the fact that certain properties could not be observed by us that would be incompatible with the evolution of sentient life. Clearly, it seems obvious that we should not observe properties that would be incompatible with our existence. However, the fact that we do *observe at all* those properties compatible with our existence is astounding. The anthropic principle, as the theistic argument goes, profits only in explanatory power if it is adjoined with a certain metaphysical postulate, otherwise it seems to be stalled in circularity. For obvious reasons the anthropic principle is appealing to natural theologians and it seems to add to theism, but I will not discuss and develop this argument in relation to scientism here.

See e.g. for a brief explanatory overview Craig, W.L. 1997. *Theism and physical cosmology*. In: Quinn, P.L., Taliaferro, C. (eds.) *A Companion to Philosophy of Religion*. Blackwell Companions to Philosophy, Blackwell Publishing, Oxford, p. 419 – 425.

See further Barrow, J., Tipler, F. 1988. *The Anthropic Cosmological Principle*. Oxford University Press, Oxford.

Sharpe, K., Walgate, J. 2002. The Anthropic Principle: Life in the Universe. *Zygon* 37(4): 925 – 939.

See for a critical appraisal Penrose, R. 2005. *The Road to Reality. A Complete Guide to the Laws of the Universe*. Alfred A. Knopf, New York, p. 757 – 765.

See on causation Craig, W.L., Smith, Q. 1993. *Theism, Atheism, and Big Bang Cosmology*. Clarendon Press, Oxford, p. 267 – 268.

Smith, Q. 1994. Stephen Hawking's cosmology and theism. *Analysis* 54: 236 – 243.

Craig, W.L. 1997. Hartle-Hawking cosmology and atheism. *Analysis* 57: 291 – 295.

Smith, Q. 1997. Simplicity and Why the Universe Exists. *Philosophy* 72: 125 – 132.

Deltete, R.J. 1998. Simplicity and why the Universe exists: A Reply to Quentin Smith. *Philosophy* 73: 490 – 494.

Smith, Q. 1999. The Reason the Universe Exists is that it Caused Itself to Exist. *Philosophy* 74: 579 – 586.

Vallicella, W.F. 2000. Could the Universe Cause itself to Exist? *Philosophy* 75: 604 – 612.

Deltete, R.J. 2000. Is the Universe Self-caused? *Philosophy* 75: 599 – 603.

See further Stenmark, M. 2001. Evolution, Purpose and God. *Ars Disputandi* 2.

Feser, E. 2014. *Scholastic Metaphysics: A Contemporary Introduction*. Editiones Scholasticae, Heusenstamm.

<sup>133</sup> Monod, J. 1977. *Chance and Necessity. An Essay on the Natural Philosophy of Modern Biology*. Collins/Fount Paperbacks, Glasgow, p. 158 and p. 167.

<sup>134</sup> When reading *Chance and Necessity* one could surmise a scientists' conscientious reasoning, formulated in a literary style, towards an ontological naturalism, as does for instance Dawkins. However, Monod's words carry a perceptible and transfixing desolation that goes far beyond scientific reasoning. It seems to me (and that is of course a guess) that the abyss of war and his intimate involvement therewith through his doings in the French Resistance (rising to chief of operations for the French Forces

of the Interior, he was, as the Allied landing approached, intricately involved in planning for mail interceptions, railroad bombings, and parachute drops of weapons) influenced his perspective on reality and existence. As he died of leukaemia in 1976, his last words were 'Je cherche à comprendre' ('I seek to understand').

See [www.pasteur.fr/recherche/unites/REG/Journalist\\_more.shtml](http://www.pasteur.fr/recherche/unites/REG/Journalist_more.shtml) (last accessed on the 15th of November 2014).

<sup>135</sup> Conway Morris, S. 2003. *Life's Solution. Inevitable Humans in a Lonely Universe*. Cambridge University Press, p. 4 – 5, 330.

<sup>136</sup> Eagleton, T. 2005. *Holy Terror*. Oxford University Press, Oxford, p. 40.

<sup>137</sup> 1 Corinthians 15: 3.

<sup>138</sup> Graham, G. 2010. *Atonement*. In: Taliaferro, C., Meister, C. (eds.) *The Cambridge Companion to Christian Philosophical Theology*. Cambridge University Press, Cambridge, p. 124 – 135.

<sup>139</sup> Bailey, note 103, p. 235 – 236.

<sup>140</sup> Bailey, note 103, p. 236. Italics in original.

See further Porter, S.L. 2009. *Swinburnian Atonement and the Doctrine of Penal Substitution*. In: Rea, M. (ed.) *Oxford Readings in Philosophical Theology. Volume I. Trinity, Incarnation, Atonement*. Oxford University Press, Oxford, p. 314 – 327.

See also Davis, note 127.

<sup>141</sup> Lewis, D. 2009. *Do We Believe in Penal Substitution?* In: Rea, M. (ed.) *Oxford Readings in Philosophical Theology. Volume I. Trinity, Incarnation, Atonement*. Oxford University Press, Oxford, p. 308 – 313.

<sup>142</sup> Graham, note 138, p. 134 – 135.

To be sure, atonement encapsulates far more than we can discuss here. Eleonore Stump, in here work on Aquinas, portrays atonement as follows, which, I believe, in part overlaps with what is discussed in the main text:

Christ's passion and death, insofar as they serve to make satisfaction, are the solution to the problem of past sin; and, insofar as Christ merits grace by his passion and death, they are the solution to the problem of future sin. So, Aquinas says, Christ's suffering and dying have two principal effects: satisfaction for our past sins and salvation from our sinful nature. ... [T]he function of satisfaction for Aquinas is not to placate a wrathful God or in some other way remove the constraints which compel God to damn sinners. Instead, the function

of satisfaction is to restore a sinner to a state of harmony with God by repairing or restoring in the sinner what sin has damaged. ... [T]he point of making satisfaction is to return the wrongdoer's will to conformity with the will of the person wronged, rather than to inflict retributive punishment on the wrongdoer or to placate the person wronged, it is possible for the satisfaction to be made by a substitute, provided that the wrongdoer allies himself with the substitute in willing to undo as far as possible the damage he has done. So Aquinas thinks that one person can make satisfaction for another only to the extent to which they are united, or that one person can atone for another insofar as they are one in charity. ... The atonement is thus the means to salvation for human beings not in virtue of altering something about or for God, but rather in virtue of helping human beings to a new and better state of will towards their past sins and towards God and his goodness. ... But what is it that the past sin of human beings has ruined? In general, a person sins by preferring his own immediate power or pleasure over greater good. Human sin has pride and selfishness at its root, then, and it constitutes disobedience to God, whose will it contravenes. So what is most directly ruined by the sins human beings have committed is human intellect and will; a proud, selfish, disobedient mind and heart .... In Aquinas's terms, the immediate effect of sin is to leave something like a stain on the soul; and the cumulative stains of sin lessen or destroy the soul's comeliness, so that by sinning a person directly mars part of God's creation, namely, himself. The restoration involved in making satisfaction for human sinning, then, is a matter of presenting God with an instance of human nature which is marked by perfect obedience, humility, and charity and which is at least as precious in God's eyes as the marring of humanity by sin is offensive. But this is just what the second person of the Trinity does by taking on human nature and voluntarily suffering a painful and shameful death. By being willing to move from the exaltation of deity to the humiliation of crucifixion, Christ shows boundless humility; and by consenting to suffer the agony of his passion and death because God willed it when something in his own nature shrank powerfully from it, Christ manifests absolute obedience. Finally, because he undertakes all his suffering and humiliation out of love for sinful human beings, Christ exhibits the most intense charity.

So in his passion and death, Christ restores what sin has marred in human nature, because he gives God a particularly precious instance of human nature with the greatest possible humility, obedience, and charity. So one answer to the question why Christ had to suffer is that humility, obedience, and charity are present in suffering that is voluntarily and obediently endured for someone else's sake in a way in which they could not be, for example, in Christ's preaching or healing the sick. In this way, then, because of his divine nature and because of the extent of his humility, obedience, and charity, Christ made satisfaction for all the sins of the human race.'

Stump, E. 2003. *Aquinas*. Routledge, London, p. 430; 432; 435; 438; 439. Wright, in his extensive analysis of Pauline theology, remarks the following on atonement of which we can only mention a small portion (Wright, note 63, p. 897):

'... Paul's point is that Israel's vocation in election was never to be the automatically 'good' chosen people, always obedient and consciously and deliberately faithful. Strangely, since the creator God both called Israel to be the means of rescuing humankind (knowing, with the golden calf incident, with Deuteronomy 32, and with the great prophetic denunciations, that Israel was a nation of rebels) and since this God gave Israel the holy, just and good Torah (that affirmation of Torah's goodness is itself a striking affirmation both of Jewish-style monotheism and of Jewish-style election), it must be the case that the one God intended this Torah for a purpose, beyond that of merely stopping Israel going to the bad in the time between Sinai and the coming of the Messiah. Now, at one of the most profound moments anywhere in his writing, Paul sketches what that purpose was. Israel was called in order to be the place where sin would grow to full height, so that it might at last be fully and properly condemned. If sin was to be defeated, this was how it had to happen.

So how was sin to be condemned? Answer, once again: in Israel's representative Messiah. This is where election-including-Torah is redefined dramatically around the crucifixion. The line of thought that runs from 3.20 ('what you get through the law is the knowledge of sin') to 5.20 ('the law came in alongside, so that the trespass might be

filled out to its full extent') and then on to 7.13 ('It was sin ... in order that it might appear as sin ... in order that sin might become very sinful indeed, through the commandment') finds its proper conclusion in Romans 8.3: 'For God has done what the law (being weak because of human flesh) was incapable of doing. God sent his own son in the likeness of sinful flesh, and as a sin-offering; and, right there in the flesh, he condemned sin.'

This is near the heart of Paul's 'atonement-theology' – which is another way of saying that it is near the heart of his redefinition of election. Certainly this brief statement contains more elements of that abstract entity, 'atonement', than any other passage in Paul. ...'

... all this is precisely election-theology, reworked and rethought around the Messiah. It is about the covenant purpose which the one God had for Israel, as Paul now saw it, and the way in which this had been fulfilled, and thereby reshaped, in and through Jesus as Israel's representative. This is how, in Paul's mind and heart, the strange vocation of Israel, shaped by the one God not least through the giving of Torah, has worked out. Israel itself was to be the place where 'sin', the great deceit, the great infection of the human race, was to be overthrown, condemned, defeated. This purpose, Paul declares, has now been accomplished in the Messiah.

This means that we must hold firmly in our minds a conviction which remained central for Paul: that this divine purpose, though he (Paul) had rethought it around the Messiah, was the purpose the one God had had in mind all along, from the beginning, in calling Israel, and particularly in giving the Torah. Torah had, all along, been the divinely appointed means of tricking 'sin', luring it to come and do its worst so that it might be condemned at that point, much as 'the rulers of this age' had been tricked into crucifying the lord of glory and so signing their own death- warrants. ...'

<sup>143</sup> Stump, note 142, p. 446.

<sup>144</sup> Bailey, note 103, p. 206.

<sup>145</sup> Eliade, M. 1987. *The Sacred and the Profane. The Nature of Religion*. Harcourt, Inc., Orlando, p. 72.

<sup>146</sup> Lewis, C.S. 1940. *The Problem of Pain*. In: C.S. Lewis. 2002. *The Complete C.S. Lewis Signature Classics*. Harper San Francisco, San Francisco, p. 365 – 431, p. 373 – 374.

A better exposé of the 'problem of pain' cannot be found than in the work of Lewis, of which I have cited a small portion, showing a sublime literary monotony aggravating the perspective on the puzzle of evil. Evil, it is often stated, poses a major problem for theism, which is the view that there is an omnipotent, omniscient, and perfectly good Being, namely God. Lewis' approach, which is inspired by both the Augustinian (free will) and Irenean (soul-making) theodicies, predates the well-known work of Plantinga and of Hick, yet is not referred to in these works.

Plantinga, A. 1977. *God, Freedom, and Evil*. W.B. Eerdmans, Grand Rapids.

Hick, J. 1985. *Evil and the God of Love*. Palgrave Macmillan, New York.

See also Plantinga, A. 2000. *Warranted Christian Belief*. Oxford University Press, Oxford, p. 458 – 499.

<sup>147</sup> Nietzsche, F. (2006) *On the Genealogy of Morality*. Cambridge Texts in the History of Political Thought. Cambridge University Press, p. 50.

<sup>148</sup> Stump, E. 1996. *Aquinas on the Suffering of Job*. In: Howard-Snyder, D. (ed.) 1996. *The Evidential Argument from Evil*. Indiana University Press, Bloomington, p. 49 – 68.

<sup>149</sup> Dostoevsky, note 5, book V, chapter 3:

'And so I accept God and am glad to, and what's more, I accept His wisdom, His purpose which are utterly beyond our ken; I believe in the underlying order and the meaning of life; I believe in the eternal harmony in which they say we shall one day be blended. I believe in the Word to Which the universe is striving, and Which Itself was 'with God,' and Which Itself is God and so on, and so on, to infinity. There are all sorts of phrases for it. I seem to be on the right path, don't I? Yet would you believe it, in the final result I don't accept this world of God's, and, although I know it exists, I don't accept it at all. It's not that I don't accept God, you must understand, it's the world created by Him I don't and cannot accept. Let me make it plain. I believe like a child that suffering will be healed and made up for, that all the humiliating absurdity of human contradictions will vanish like a pitiful mirage, like the despicable fabrication of the impotent and infinitely small Euclidian mind of man, that in the world's finale, at the moment of eternal harmony, something so precious will come to pass that it will suffice for all hearts, for the comforting of all resentments, for the atonement of all the crimes of humanity, of all the blood

they've shed; that it will make it not only possible to forgive but to justify all that has happened with men— but thought all that may come to pass, I don't accept it. I won't accept it.'

- <sup>150</sup> From O'Connor, T. 2009. *Theodicies and Human Nature: Dostoevsky on the Saint as Witness*. In: Timpe, K. (ed.) *Metaphysics and God. Essays in Honor of Eleonore Stump*. Routledge, New York, p. 175 – 187.
- <sup>151</sup> From O'Connor, note 150.
- <sup>152</sup> Weinberg, S. 1993. *Dreams of a Final Theory*. Vintage Books, Random House, London, p. 250 – 251.
- <sup>153</sup> Weinberg, note 152, p. 260.
- <sup>154</sup> Thiselton, A.C. 2012. *Life after Death. A New Approach to the Last Things*. William B. Eerdmans Publishing Company, Grand Rapids, Michigan/ Cambridge, UK, p. 73.
- <sup>155</sup> Rea, M.C. 2008. Wright on Theodicy Reflections on *Evil and the Justice of God*. *Philosophia Christi* **10(2)**: 461 – 470.
- <sup>156</sup> The theoretical argument from evil against theism is usually presented in the following straightforward argument: (I) A perfectly good being always prevents evil; (II) an omnipotent and omniscient being can do anything possible; (III) if a perfectly good, omnipotent and omniscient being exists, he prevents evil entirely; (IV) if God exists, then He is perfectly good, omnipotent and omniscient; (V) if God exists, He prevents evil entirely; (VI) evil exists so God does not exist.
- Mackie, J.L. 1955. Evil and Omnipotence. *Mind* **64**: 200 – 212.
- Mackie, J.L. 1982. *The Miracle of Theism: Arguments for and Against the Existence of God*. Oxford University Press, Oxford.
- See for a defence of Mackie's arguments in the light of Plantinga's work
- Oppy, G. 2004. Arguments from moral evil. *International Journal for Philosophy of Religion* **56**: 59 – 87.
- The logical inconsistency of the reality of evil and the existence of God seems quite an extravagant claim. The *evidential* form, however, in which it is stated that the variety and plethora of evil in our world adds rational support for atheism, does constitute a strong argument against theism.
- See for an outstanding review Howard-Snyder, note 148.
- <sup>157</sup> Sacks, J. 2011. *The Great Partnership: Science, Religion, and the Search for Meaning*. Hodder & Stoughton Ltd, London, p. 225.
- <sup>158</sup> Alston, W.P. 1996. *The Inductive Argument from Evil and the Human Cognitive*

*Condition*. In: Howard-Snyder, D. (ed.), note 148, p. 97 – 125.

- <sup>159</sup> See for this line of thought Stump, E. 2010. *Wandering in Darkness. Narrative and the Problem of Suffering*. Clarendon Press, Oxford.
- It is interesting to note that Alan Moore in *V for Vendetta* presents (some form of) evil as accomplishing a greater good. In this (comic-book) story, a totalitarian and oppressive fascist government runs England in 1997, a decade after a nuclear war. On the fifth of November, a masked vigilante named V begins his attack on the regime by blowing up the Houses of Parliament. The same night, he rescues a sixteen-year old girl, Evey Hammond, who is very much afraid of the regime, as so many people are in this fictitious England. At one point, she is incarcerated and tortured, finding solace only in a note left by another prisoner, Valerie. Evey is eventually threatened with execution unless she tells her captors V's whereabouts. An exhausted Evey says she would rather die, and unexpectedly, is then released. Evey finds out that V has held her and that he staged the event in order to liberate her from the fear of her own death by juxtaposing this with the death of her principles. (p.171) She is, in the end, willing to give up the former as she cannot give up the latter. With this example I only want to draw the attention to the fact that humans can, in stories, conceive of situations in which evil does accomplish something good above and beyond the evil they are confronted with. Obviously, Evey is been given the opportunity, albeit only after her surrender to the virtual firing squad by refusing to cooperate, to look behind the veil. We are usually not granted that privilege in life.
- Moore, A., Lloyd, D. 2005. *V for Vendetta*. DC Comics, New York.
- <sup>160</sup> See further Rea, note 155.
- <sup>161</sup> Wright, note 63, p. 742.
- <sup>162</sup> Personal communication of Dr. J.C. Hanekamp sr.
- <sup>163</sup> Wykstra, S.J. 1984. The Humean Obstacle to Evidential Arguments from Suffering: On Avoiding the Evils of "Appearance". *International Journal for Philosophy of Religion* **16**: 73 – 93.
- See further Rowe, W.L. 1979. The Problem of Evil and Varieties of Atheism. *American Philosophical Quarterly* **16**: 335 – 341.
- Rowe, W.L. 1984. Evil and the Theistic Hypothesis: A Response to Wykstra. *International Journal for Philosophy of Religion* **16**: 95 – 100.
- See also Van Inwagen, P. 1991. The Problem of Evil, the Problem of Air, and the Problem of Silence. *Philosophical Perspectives (Philosophy of Religion)* **5**: 135 – 165.



See for a recent overview Pereboom, D. 2005. *The Problem of Evil*. In: Mann, W.E. (ed.) *The Blackwell Guide to the Philosophy of Religion*. Blackwell Publishing, Oxford, p. 148 – 170.

<sup>164</sup> Almeida, M., Oppy, G. 2003. Sceptical Theism and Evidential Arguments from Evil. *Australasian Journal of Philosophy* **81**: 496 – 516.

See in response Bergmann, M., Rea, M.C. 2005. In Defence of Sceptical Theism: A Reply to Almeida and Oppy. *Australasian Journal of Philosophy* **83**: 241 – 251.

See also Bergmann, M. 2001. Sceptical Theism and Rowe's New Evidential Argument from Evil, *Noûs* **35**: 278 – 296.

In developing his sceptical theist position, Bergmann relied on the following three claims: (I) we have no good reason for thinking that the possible goods we know of are representative of the possible goods there are; (II) we have no good reason for thinking that the possible evils we know of are representative of the possible evils there are; (III) we have no good reason for thinking that the entailment relations we know of between possible goods and the permission of possible evils are representative of the entailment relations there are between possible goods and the permission of possible evils.

<sup>165</sup> Stump, note 159, p. 456.

<sup>166</sup> Otte, R. 2000. Evidential arguments from evil. *International Journal for Philosophy of Religion* **48**: 1 – 10.

<sup>167</sup> Neiman, S. 2004. *Evil in Modern Thought: An Alternative History of Philosophy*. Princeton University Press, p. 114.

<sup>168</sup> Stump, note 159, p. 479.

See further Stump, E. 2004. *Narrative and the Problem of Evil: Suffering and Redemption*. In: Davis, S., Kendall S.J., O'Collins S.J., G. (eds.) *The Redemption*. Oxford University Press, p. 207 – 234.

See also Stump's personal reflection on evil and suffering Stump, E. 1994. *The Mirror of Evil*. In: Morris, T.V. (ed.) 1994. *God and the Philosophers. The Reconciliation of Faith and Reason*. Oxford University Press, Oxford, p. 233 – 247.

<sup>169</sup> Stump, note 159, p. 480.

<sup>170</sup> McCabe, H. 1987. *God Matters*. Continuum, London, p. 44 – 45.

In contrast to God, MacCabe argues that our 'only way of presence to another's suffering is by being affected by it, because we are outside the other person. We speak of 'sympathy' or 'compassion', just because we want to say that it is *almost* as though we were not outside the other, but living

her or his life, experiencing her or his suffering. A component of pity is frustration at having, in the end, to remain outside.' (p. 44)

<sup>171</sup> Sacks, note 157.

<sup>172</sup> Kolitz, Z. 2000. *Yosl Takover Talks to God*. First Vintage International Edition, New York (translated by C. Brown Janeway), p. 24 – 25.

See further Trakakis, N. 2003. Evil and the complexity of history: a response to Durston. *Religious Studies* **39**: 451 – 458.

See also Beaudoin, J. 2000. Inscrutable Evil and Scepticism. *The Heythrop Journal* **41**: 297 – 302.

Beaudoin states that sceptical theism entails theological scepticism.

Sceptical theists are not committed to radical scepticism: God does have the power to deceive, yet our faculties of reasoning and perceptions tell us that this is not the case (although this cannot be done in a non-circular fashion; see Alston, W.P. 1991. *Perceiving God. The Epistemology of Religious Experience*. Cornell University Press, Ithaca). Arguments along those lines require two conditions: (I) they neither entail or make likely that theism is false; (II) they are not based on the failure to imagine any good reasons God could have for misleading us. The latter condition, however, entails that we *are* in fact in a position to access and assess good reasons that God has not and will not deceive us. Indeed, it is difficult to imagine any overriding good reason God could have for deceiving us (e.g. telling lies through the prophets), but the sceptical theists' own contentions about the discoverability of God's reasons for allowing evil requires us to place no evidential weight on what we can or can't imagine *in this* context.

In this debate, God, as a matter of fact, seems to be left out of the picture. He seems a deist God, which we can assess from afar. The concept of a self-revealing God seems not to be part of the equation. In this context the book of Job (especially Job 38 and onward) seems a fitting reference. God does not provide direct answers in relation to Job's suffering, yet states His sovereignty over heaven and earth and his deep parental care for all that are part of His creation (both animate and inanimate). However, Job is restored in double measure, implying compensation for the *undeserved* loss Job had suffered (referring to Ex 22: 4, which reads (Italics added): 'If the stolen animal is found alive in his possession—whether ox or donkey or sheep—he must pay back *double*'). In a time of suffering, the book of Job shows that talk merely *about* God is folly; the friends of Job who only speak of God in the third person are the ones who need forgiveness granted by God only

after the prayer on their behalf of the righteous, yet still suffering, Job. However, this merges the theoretical and practical discussions about evil, which in life can never be observed separately. Job's example also shows that grace and truth cannot be separated.

See further Stump, note 159, for a revealing and innovative exegesis of Job.

<sup>173</sup> Stump, 2004, note 168, footnote 25, p. 233 – 234.

<sup>174</sup> Haught, note 10, p. 188.

<sup>175</sup> Schaafsma, note 74, p. 285.

<sup>176</sup> Some cautions are in order. As God and humans are not by any means on the same epistemic level as regards to the permission or production of suffering, different moral judgments apply to God and human beings. Oppression of the poor by the rich is an injustice whose evil is in no way mitigated by any considerations with regards to God allowing suffering in this world. Failure to prevent suffering within our means clearly is iniquitous.

Stump, note 159, p. 414.

<sup>177</sup> Crick, F. 1994. *The Astonishing Hypothesis: The Scientific Search for the Soul*. Charles Scribner's Sons, New York, p. 3.

<sup>178</sup> James, W. 1907. *Pragmatism: A New Name for Some Old Ways of Thinking*. Available at <http://ebooks.adelaide.edu.au/j/james/william/pragmatism/> (last accessed on the 15th of November 2014).

<sup>179</sup> See chapter 4, note 80.

<sup>180</sup> See chapter 4, note 81.

<sup>181</sup> Ned Block offers the précis that in the case of consciousness, 'we have nothing –zilch- worthy of being called a research programme, nor are there any substantive proposals about how to go about starting one. ... Researchers are stumped. ...'

Block, N. 1994. *Consciousness*. In: Guttenplan S.D. (ed.) *A Companion to the Philosophy of Mind*. Basil Blackwell Inc., Cambridge, U.S.A, p. 210 – 219.

<sup>182</sup> Lewis, C.S. 1967. *De Futilitate*. In: Lewis, C.S., Hooper, W. (ed.) 1995. *Christian Reflections*. William B. Eerdmans Publishing Company, Grand Rapids, Michigan, USA, p. 57 – 71.

<sup>183</sup> Some kind of dualism seems the best explanatory structure to tackle the ostensible mysteriousness of consciousness, intentionality and rationality. Usually, the term 'dualism' refers more or less exclusively to what is today generally regarded only as one version of dualism among others –specifically, to what Stump calls 'the Cartesian or Platonic sort

of dualism'. On this view of dualism, the real you is something entirely immaterial –your soul- and the body is merely something with which you are contingently associated, and not essential to you at all. Human beings are thereby effectively severed in two; the seamless unity of their material and immaterial aspects repudiated. As Stump clarifies:

'...On Cartesian dualism, (1) both the soul and the body are substances in their own right. Each can engage in acts independently of the other, and each can causally effect the other. Soul and body are somehow joined together in a human being; but (2) the soul is separate from the body in its functions, and that is why thinking goes on in the soul but cannot be in the body at the same time. ...'

Although Cartesian dualism ('the ghost in the machine') is generally regarded as false, 'Thomist' dualism (referring to Thomas Aquinas) has seen a revival. Aquinas maintains that the human intellect is immaterial and as a result, the human soul of which it is a power survives the death of the body. Again, Stump:

'... the human soul is the highest in the rank ordering of all the forms configuring material objects, because, unlike material forms, it has an operation (namely, intellective cognition) which surpasses the capacities of matter altogether, and the lowest in the rank ordering of subsistent forms able to exist independently of matter. Consequently, in the ranking of forms, the human soul is located right at the boundary between the material and the spiritual. For this reason, the soul partakes of some of the features of the spiritual world, but it is also able to be in contact with matter, so that the body informed by the soul is the highest in the order of material objects. ... his general idea may seem more plausible to us if we see that, in an analogous sort of way, we are also accustomed to the notion of an independently existing thing, configured in a certain way, that is nonetheless able to configure matter. So, for example, an enzyme catalyzing protein folding is an independently existing molecule with a complex configuration of its own. But it is also a configurer. When it is bound in the right way to a protein, it helps to fold the protein molecule, thereby reconfiguring that molecule in such a way as to make it

biologically active. So as a configured thing, it can exist apart from the thing it configures; but it can also configure the matter of the protein it folds into a different form with different causal capacities from those the protein had before being so configured. A protein-folding enzyme is therefore a kind of configured configurer.

Something analogous can be said about the human soul on Aquinas's view. Of course, there are also significant disanalogies between the case of the enzyme and the case of the soul. Here are just some of them. (1) What is a configured configurer in the case of the enzyme is a matter-form composite; in the case of the soul, it is only a form. (2) The enzyme configures something which is a matter-form composite itself; the soul configures only unformed matter. (3) When the enzyme configures a protein, the result of the configuration is not one substance – the enzyme and the protein bound together in the process of folding the protein do not constitute one super-molecule; but the soul and the matter it configures do form one substance, an individual human being. The example of the protein-folding enzyme thus cannot be taken as explanatory of everything perplexing in Aquinas's account of the soul; but it does perhaps serve as a heuristic example, helpful for making more plausible the notion of a configured configurer. . . . the human soul is different from all other forms that configure matter. It is created directly by God and infused into matter. . . . So because the form that is the human soul is a configured configurer, a subsistent form able to exist apart from matter but also able to configure matter, the soul has a double aspect. On the one hand, unlike the forms of other material objects, every soul is directly created by God, as an individual thing in its own right, with its own configuration. On the other hand, like the form of any material object, it exists in the composite it configures, and it comes into existence only with that composite, not before it.

On this way of understanding the form that is the human soul, it is also easier to see why Aquinas thinks that the soul makes matter be not just human but also this human being. The soul itself is an individual configured form, and each soul is as it were handcrafted by God to inform this matter.'

Stump, note 142.

<sup>184</sup> Aquinas, T. *Quaestiones disputatae de anima*. Translation by J.P. Rowan, 1949. See <http://dhsprory.org/thomas/QDdeAnima.htm> (last accessed on the 15th of November 2014).

<sup>185</sup> Haught, note 10.

# 07. SOME CONCLUDING NOTES

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*Det va sekkert risikabelt  
der e risiko I alt  
men kor lenge kan du fryse  
for du kjenn at det e kaldt  
Det va der han tok imot mæ  
det va dagen æ blei ny  
Vil du komme inn I varmen, sa han  
æ ska gje dæ ly' (Kari Bremnes)<sup>1</sup>*

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<sup>1</sup> For sure it is risky/Risk is everywhere/But how long can you endure the cold/Before you notice that you are freezing/There he welcomed me/The days I became anew/Do you want to come into the warmth?/I'll give you sanctuary' (Kari Bremnes). Translation Winie Hanekamp.

## ANSWERING UTOPIA - ABANDONING FEAR

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*I can hear you  
breathing  
Whispering in  
my ear, "There is  
nothing to fear"  
But when I turn  
around  
As I see the trees  
bow, I only hear  
the wind blow  
By mistake I felt  
alone, in my heart  
I've always known  
You'd be there to  
bring me home'  
(T Bone Burnett)*

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There is a glaringly obvious ground, reiterated ad nauseam, for repudiating any moral purpose or truth alive in our universe: that is the actual course of events in all its wasteful cruelty and apparent indifference, or downright enmity, to life. Ironically, that is precisely the ground we cannot stand on.

The more sincerely we ponder the charge of futility, the more we are committed to the implication that reality, in the final analysis, is not futile at all. That is what we tried to show in this enquiry. The moral fervour of Utopia, which, as we have seen, includes precautionary culture (and the sustainable outlook) as its newest developing branch, demands reality to be moral; it demands a point of reference for all to see. The ensuing dystopian corruption points towards the centre of utopian thought we have investigated in the previous chapter.<sup>1</sup>

That centre is the life of Jesus, his death and resurrection. The central tenet we submitted at the opening of this enquiry identifies Jesus as the resurrected God Incarnate, through which the general utopian character of precautionary culture specifically can both be exposed and critiqued. This understanding of Jesus will provide an anticipatory perspective on life that is transcending both suffering and death, the very borderlines the utopian precautionary/sustainable perspective cannot transcend, merely postpone. In the New Testament, this anticipation takes the form of hope. The following strata we have put forward in this enquiry that give body to this central tenet:

- (I) The Christologically informed anticipatory mind-set is a live alternative to Utopia;
- (II) Utopia is moulded by New Testament sayings of Jesus, his life and works;
- (III) Considering the history of Utopia, however, little justice is done to Jesus' life and works, his death and resurrection, as especially the latter gives actual and primary substance to the anticipatory

character of (human) life that simultaneously stands as a critique against Utopia.

That being said, answering current utopian developments is not easier than in any other time in the history of modernity. Precautionary culture is deeply engrained in our society and cannot be unravelled as a single entity of sorts. Of course, limitations can and should be set on what societies can do with respect to the (prospective) curtailment of hazards, risks, and uncertainties.<sup>2</sup> (The risk management of everything is an easily recognisable utopian delusion.) However, that will not take away the dominant frame of mind we have analysed, that is the culture of (future-focussed) fear underlying precaution and sustainability. Despite the ultimate failure of materialism and the concomitant Darwinian imperative that adds flesh and bone to the viability of the central tenet,<sup>3</sup> there is the prevalent ‘common sense’ that ‘... if you want more, if you wish that your life had prospects for transcendent meaning, ... then you are still in the grip of illusions. ... Don’t be greedy. Enough is enough.’<sup>4</sup> Nevertheless, the fear and restlessness found in precautionary culture seems to indicate that we cannot shed this ‘greediness’ in the face of certain death, ostensibly the end of all being, having, and hoping. There *is* the struggle against time, ‘the hope to be freed from the weight of “dead Time”, of the time that crushes and kills.’<sup>5</sup> This is the ‘time-uncertainty’ solidified in an inexorable future that will consume as all. The hope Mircea Eliade speaks of can never be realised within precautionary culture. This world thus is said to have run out of goals beyond its own existence. ‘Natural order and natural meanings are understood only as moments in the historical process. They are to be dissolved and reconstituted by that process, and their value lies not in any integrity of their own but in being raw material for transformation.’<sup>6</sup> The preservation of the *status quo* of current wealth, safety, security, and longevity, through precaution, seems the only sustainable option. Eliade points at ‘the terror of history’, if beyond the catastrophes and horrors of history man can glimpse ‘no sign, no transhistorical meaning; if they are only the blind play of economic, social, or

political forces, or, even worse, only the result of the “liberties” that a minority takes and exercises directly on the stage of universal history?’<sup>7</sup>

Fear, thus, seems the target of choice in countering Utopia. Fear strikes at the heart of what it is to be human before God: ‘What instruction, what order, is given, again and again, By God, by angels, by Jesus, by prophets, and apostles? What do you think – ‘Be good?’ ‘Be holy, for I am holy?’ Or negatively, ‘Don’t sin?’ ‘Don’t be immoral?’ No. The most frequent command in the Bible is: *‘Don’t be afraid.’ Don’t be afraid. Fear not. Don’t be afraid.*<sup>8</sup> In a culture that cherishes fear so profoundly that it builds entire political and regulatory structures thereon, shedding that fear seems impossible to do. What is more, as a Biblical command, *not to fear* is the hardest to do by any standards. Answering Utopia, nevertheless, requires first and foremost that fear (of life, death, disease, loneliness, shame, and etcetera) *is* abandoned, whereby a truly new way of life can emerge. Walter Brueggemann remarks:<sup>9</sup>

‘Jesus of Nazareth, a prophet, and more than a prophet, I argue, practiced in most radical form the main elements of prophetic ministry and imagination. On the one hand, he practiced criticism of the deathly world around him. The dismantling was fully wrought in his crucifixion in which he himself embodied the thing dismantled. On the other hand, he practiced the energizing of the new future given by God. This energizing was fully manifested in his resurrection, in which he embodied the new future given by God.’

It seems that leaving behind fear of lack, shame, suffering, and death opens the door to act in our own lifetime: <sup>11</sup> “The man with two tunics should share with him who has none, and the one who has food should do the same.” <sup>12</sup> Tax collectors also came to be baptized. “Teacher,” they asked, “what should we do?” <sup>13</sup> “Don’t collect any more than you are required to,” he told them. <sup>14</sup> Then some soldiers asked him, “And what should we do?” He replied, “Don’t extort money and don’t accuse people falsely –be content with your pay.”<sup>10</sup> The most humble and provincial of proposals to act for the benefit

of others seems incomparably more difficult than striving for the preconceived idea of the Ideal State of the utopian engineer. In modern terms, this is the collision between piecemeal engineering, that is adopting the method of searching for, and fighting against, the greatest and most urgent evils of society, *and* searching and fighting for its greatest ultimate good.<sup>11</sup>

What is more, the first Christians believed that God was going to do for the whole cosmos what he had done for Jesus in his resurrection at Easter. This is the life after life after death the universe and its inhabitants as a whole can and must look forward to.<sup>12</sup> At the end of history, God will renew creation, while in the meantime we are invited to give shape here and now to this eschatological future. The latter has crucial meaning versus the utopian developments in our culture.

In Matthew 25 (31 – 46), Jesus holds out an understanding of the eschaton that brusquely cuts short any preoccupation with the eschatological future for his fellow countrymen or the utopian expectations of 21<sup>st</sup> century citizens. The eschatological judge, Jesus, decides between righteous and unrighteous, not on the basis of some form of theological integrity, but of support to the needy and destitute. Ordinary acts of charity are given crucial and determinative eschatological significance. More to the point, humans are invited to leave the fear of an incomplete world behind; that is not being able to do enough. This is expressed in the parable –Matthew 25: 14 – 28- preceding the one considered here.

These human acts are in fact made possible through the *eucatastrophe* that J.R.R. Tolkien so aptly articulates in his *On Fairy Stories*:<sup>13</sup>

But the ‘consolation’ of fairy-tales has another aspect than the imaginative satisfaction of ancient desires. Far more important is the Consolation of the Happy Ending. Almost I would venture to assert that all complete fairy-stories must have it. At least I would say that Tragedy is the true form of Drama, its highest function; but the opposite is true of Fairy-story. Since we do not appear to possess a word that expresses this opposite – I will call it Eucatastrophe. The eucatastrophic tale is the true form of fairy-tale, and its highest function.

The consolation of fairy-stories, the joy of the happy ending: or more correctly of the good catastrophe, the sudden joyous “turn” (for there is no true end to any fairy-tale): this joy, which is one of the things which fairy-stories can produce supremely well, is not essentially ‘escapist’, nor ‘fugitive’. In its fairy-tale—or otherworld—setting, it is a sudden and miraculous grace: never to be counted on to recur. It does not deny the existence of dyscatastrophe, of sorrow and failure: the possibility of these is necessary to the joy of deliverance; it denies (in the face of much evidence, if you will) universal final defeat and in so far is evangelium, giving a fleeting glimpse of Joy, Joy beyond the walls of the world, poignant as grief.

It is the mark of a good fairy-story, of the higher or more complete kind, that however wild its events, however fantastic or terrible the adventures, it can give to child or man that hears it, when the “turn” comes, a catch of the breath, a beat and lifting of the heart, near to (or indeed accompanied by) tears, as keen as that given by any form of literary art, and having a peculiar quality.’

The Gospels contain a fairy story, a story of a larger kind, which articulates the very essence of fairy-stories. But *this* ‘fairy’ story has made an entrance into history, the primary world. As Tolkien points out, the birth of Christ is the eucatastrophe of man’s history; the resurrection is the eucatastrophe of the story of the Incarnation. Legend and history have met and fused undyingly. And in God’s kingdom ‘the presence of the greatest does not depress the small. Redeemed Man is still man. ... The Christian has still to work, with mind as well as body, to suffer, hope, and die; but he may now perceive that all his bents and faculties have a purpose, which can be redeemed.’<sup>14</sup> God’s infinite world has suffused our limited world visibly and permanently in Jesus, and thereby changed it in every vital sense.



## FINALLY

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*I was born in chains  
But I was taken  
out of Egypt  
I was bound to  
a burden  
But the burden  
it was raised  
Lord I can no longer  
keep this secret  
Blessed is the Name  
The Name be praised'  
(Leonard Cohen)*

---

This eucatastrophe embodied in Jesus' life, death, and resurrection opens wide the door to the risky business of acting in this life without fear. Following Jesus comes into its own by *doing things*, changing lives, breaking the bondage of sin,<sup>15</sup> offering peace to enemies, sharing food and goods with the less privileged, creating works of art, doing intellectual labour, teaching young children, and so on. It is by *doing things* in the light of Jesus' work that we draw on God's disclosures about reality and about ourselves, at the risk of being wrong. Defiance hurled at an apparently empty, ruthless, and idiotic cosmos is an unconscious homage to something in or behind that cosmos which is recognised as infinitely valuable and authoritative. Indignity cannot survive, as merely private quirks, without this realisation. In final analysis, what human beings are culpable of is not the weakness of their wills when it comes to willing the good and repudiating evil in their own lives and the lives of others, but rather something all together quite different, namely *the failure to seek help from God*. That failure is en lieu with the willed loneliness –the lack of internal integration in the human exluding closeness, love, and union-<sup>16</sup> we find to be ubiquitous in human life. As Augustine eloquently proposes:<sup>17</sup>

'But there *is* one, present everywhere throughout the Creation that serves Him as lord, who calls out in many ways to the person who has turned away; who instructs the person who believes; who comforts the person who hopes; who encourages the person who persists; who helps the person who strives; who gives heed to the person who prays for forgiveness. Accordingly, it is not counted as a fault of yours that you act in ignorance against your will, but rather that you do not search for what you do not know; nor that you do not bind up your wounded members, but rather that you reject the one willing to heal you – *these* are properly your sins.'

We have seen that the history of Utopia and its patent failures leave the world wide open for a reappraisal of the person and life of Jesus the Incarnate, distortedly and incompletely mirrored in utopian history. That we have tried to do in this enquiry. In the final analysis, we should '[f]ear not, little flock; for it is your Father's good pleasure to give you the kingdom.'<sup>18</sup>



ANSWERING UTOPIA  
REQUIRES FIRST AND  
FOREMOST THAT

**FEAR IS  
ABANDONED,**

WHEREBY A TRULY NEW WAY  
OF LIFE CAN EMERGE.

## References

- <sup>1</sup> Derived from Lewis, C.S. 1967. *De Futilitate*. In: Lewis, C.S., Hooper, W. (ed.) 1995. *Christian Reflections*. William B. Eerdmans Publishing Company, Grand Rapids, Michigan, USA, p. 57 – 71.
- <sup>2</sup> See e.g. Helsloot, I., Pieterman, R., Hanekamp, J.C. 2010. *Risico's en redelijkheid. Verkenning naar een rijksbreed beoordelingskader voor de toelaatbaarheid van risico's*. Boom Juridische Uitgevers, Den Haag. [Risks and reasonableness. Enquiry into a nation-wide format of appraisal for the permissibility of risks.]
- <sup>3</sup> We are not dealing here with the biological phenomenon of evolution.
- <sup>4</sup> Flanagan, O. 2002. *The Problem Of The Soul: Two Visions Of Mind And How To Reconcile Them*. Basic Books, New York, p. 319.
- <sup>5</sup> Eliade, M. 1963. *Myth and Reality*. Harper & Row, Publishers, Inc., Illinois, p. 193.
- <sup>6</sup> O'Donovan, O. 1994. *Resurrection and Moral Order. An Outline for Evangelical Ethics*. William B. Eerdmans Publishing Company, Grand Rapids, Michigan, USA, p. 59.
- <sup>7</sup> Eliade, M. 2005. *The Myth of the Eternal Return: Cosmos and History*. Princeton/Bollingen Paperbacks, Princeton, p. 151 – 152.
- <sup>8</sup> Wright, N.T. 1994. *Following Jesus. Biblical Reflections on Discipleship*. SPCK, London, p. 56.
- <sup>9</sup> Brueggemann, W. 2001. *The Prophetic Imagination*. Fortress Press, Minneapolis, p. 116.
- <sup>10</sup> Luke 3.
- <sup>11</sup> Popper, K.R. 1971. *The Open Society and Its Enemies. Volume I. The Spell of Plato*. Princeton University Press, Princeton, New Jersey, p. 158 – 159. Popper adds a stark warning in Volume II of his *Open Society*:

'I have criticized this Utopian and Romantic approach to social engineering in a previous chapter (chapter 9). But I wish to add here that economic intervention, even the piecemeal methods advocated here, will tend to increase the power of the state. Interventionism is therefore extremely dangerous. This is not a decisive argument against it; state power must always remain a dangerous though necessary evil. But it should be a warning that if we relax our watchfulness, and if we do not strengthen our democratic institutions while giving more power to the state by interventionist 'planning', then we may

lose our freedom. And if freedom is lost, everything is lost, including 'planning'. For why should plans for the welfare of the people be carried out if the people have no power to enforce them? Only freedom can make security secure.'

Popper, K.R. 1971. *The Open Society and Its Enemies. Volume II. The High Tide of Prophecy: Hegel, Marx, and the Aftermath*. Princeton University Press, Princeton, New Jersey, p. 130.

<sup>12</sup> Wright, N.T. 2007. *Surprised by Hope*. SPCK, London.

<sup>13</sup> Tolkien, J.R.R. 1997. *On Fairy Stories*. In: Tolkien, J.R.R. *The Monsters & the Critics and Other Essays*. Harper Collins, London, p. 153 – 154.

<sup>14</sup> Tolkien, note 13, p. 155 – 156.

<sup>15</sup> Wykstra, S. 1990. *Reasons, Redemption, and Realism: The Axiological Roots of Rationality in Science and Religion*. In: Beaty, M.D. (ed.) *Christian Theism and the Problems of Philosophy*. University of Notre Dame Press, Notre Dame, p. 118 – 161.

<sup>16</sup> See on this Stump, E. 2010. *Wandering in Darkness. Narrative and the Problem of Suffering*. Clarendon Press, Oxford.

<sup>17</sup> Augustine, *On the Free Choice of the Will*. Book 13, XIX. In King, P. 2010. *Augustine: On the Free Choice of the Will, On Grace and Free Choice, and Other Writings*. Cambridge University Press, The Edinburgh Building, Cambridge, p. 109.

<sup>18</sup> Luke 12: 32

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*'Just a little guiding light to tell wrong from right  
Just some answers to the questions that I'm asking you' (Fish)*

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THE EUCATASTROPHE  
(THE GOOD CATAclySM)  
EMBODIED IN

**JESUS' LIFE,  
DEATH, AND  
RESURRECTION**

OPENS WIDE THE DOOR  
TO THE RISKY BUSINESS  
OF ACTING IN THIS LIFE  
WITHOUT FEAR.

# EXECUTIVE SUMMARY

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This study focuses on precautionary culture in which human-induced damages to the environment, nature, and man must be foreseen and forestalled as to create a sustainable society. The following topics will be addressed across seven chapters, the first chapter giving the introductory ingredients:

1. Precautionary culture is nurtured by fear for a future that is uncertain and dangerous at the hands of human industry. This (dystopian) fear is primarily grasped in scientific terms. That is to say that scientific knowledge is regarded as capable of fathoming those future dangers unambiguously and exhaustively. This is rejected as scientific, that is the idea, amongst others, that science, as the only route towards knowledge, is capable of fully grasping reality.
2. Precautionary culture is typified as utopian whereby a sustainable society is unrealisable. This will be explicated through a number of examples of the application of the precautionary principle, logical analysis, and the discussion of 'green romanticism'.
3. Fear as the breeding ground of precautionary culture results in the loss of hope. This is analysed in the context of the source of Utopia: the life of Jesus as found in the New Testament. The failure of Utopia reflects

fundamentally on the understanding of the Gospel. That understanding takes Incarnation and resurrection as genuine facets of the reality of God's work in our world: the hope embodied in Jesus' life, death, and resurrection that transcends suffering and death, the ostensible dissolution of all human life.

In the second chapter, precaution, as the attempt to smooth the barrier between present and the uncertain future is examined. Precaution has emerged together with the modern conception of risk. Precaution signifies an action taken beforehand to protect against possible danger, failure, or injury. Precaution, as is understood nowadays, essentially takes prevention a critical step further, by deciding not to postpone physical, legal or political intervention to prevent potential damage on the grounds that scientific evidence of a potential causal hazard chain is limited or even absent. Here we will delve into that conception and render precaution in its legal framework and its real-world expression through the portrayal of a number of examples wherein precaution plays a crucial role. Furthermore we will examine precaution's link to sustainability, the term made famous by the Brundtland-commission in the 1980s.

The third chapter delves further into precaution, specifically with respect to the time-uncertainty aspect. The consequences this analysis has for the solidity of the concept of sustainability will be scrutinised as well. This analysis brings us to the historical roots of precaution and sustainability. When considering these historical roots, the so-called pastoral ideal as green romanticism emerges. This romantic ideal, it is argued, can be regarded as the primal mainstay of both concepts. In the remainder of the chapter, the concept of this ideal will be developed with the terms 'gnosis' and 'wisdom' we will define at the end of this chapter.

The fourth chapter examines scientism as one of the elements of precautionary culture. Scientism is the notion that the



scientific method is the sole path by which we can attain knowledge. This outlook has considerable implications regarding our understanding of the world and how to deal with the many hazards this world is beset with. We will see that the scientific perspective our (precautionary) culture is imbued with occasions an overestimation of our understanding of the world, supposedly required to tackle the many faceted hazards the future might hold. The viability of the scientific outlook has implications for the admissibility of the theological angle introduced in the final pages of this chapter to be re-joined in chapters six and seven.

It is proposed in the fifth chapter that precautionary culture is utopian in spirit. In order to establish this, a reflection on the societal domination of the theme of risk distribution and the connected permanence and omnipresence of anxiety and fear is offered. Concurrently, a concise overview of utopian history and key elements therein are discussed as to underscore the utopian qualities of precautionary culture. The successfulness of the utopian strategy is probed referring, amongst others, to the work of Michael Polanyi.

In the closing of this enquiry, chapters six and seven, we probe for bedrock under the utopian experiment, of which the precautionary culture, as we have seen, is the newest manifestation. That bedrock is located in the life, words, and works of Jesus as found in the Gospels of the New Testament. It is shown that utopian history, indubitably, is at heart informed by the Gospels. The persistent failure of the utopian experiment is taken as a solid historical datum, and it is subsequently put forward that Utopia is the muddled reflection –understood in his failed human vocation- of Jesus. We will submit a consistent and theologically informed argument that principally is focussed on the life, death, and resurrection of Jesus that will be able to challenge intemperate Utopia to the full, if Jesus is to be understood at all. In this context, answering Utopia requires first and foremost that fear (of life,

death, disease, loneliness, shame, and etcetera) is abandoned, whereby a truly new way of life can emerge. The position subsequently attained gives leeway to an understanding of human life that is transcendent beyond and hopeful in this world, generating perspectives on human action that will foster genuine stewardship of creation and fellow human beings that is fully reliant on God.

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