Worldviews and the transformation to sustainable societies

An exploration of the cultural and psychological dimensions of our global environmental challenges

Annick Hedlund-de Witt

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Cover art by Raymond van Mil (www.raymondvanmil.nl).
The image depicts the iris of a human eye, symbolizing the *view* wherein many possible different *worlds* are revealed: the earth seen from space; a painting representing a Tibetan Buddhist cosmology; an ancient Greek perspective embodied in the image of Atlas standing on the earth and holding the sky on his shoulders (to prevent the two from resuming their primordial embrace); 'mother earth' signified by a nature-Goddess in worship; a world dominated by money and material interests symbolized by the Great Seal of the United States as depicted on the one-dollar bill; a vision of planetary care as expressed in two hands lovingly holding the earth; a geocentric view on the earth; the earth in indigenous Mayan art; a visionary painting of the living Gaia or world-soul; an apocalyptic perspective envisaged as an earth on fire, et cetera. The image aims to colorfully and artistically convey the richness and diversity of how humans interpret, enact, and co-create the world.

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Contents

Chapters published in academic journals and books

The chapters in this dissertation are largely based on—though not identical to—publications that have appeared (or will appear) in different academic journals and books.

Chapter 2: Hedlund-de Witt, Annick (2013). Worldviews and their significance for the global sustainable development debate: A philosophical exploration of the evolution of a concept. *Environmental Ethics, 35(2),* 133-162.

Chapter 3: Hedlund-de Witt, Annick (2012). Exploring worldviews and their relationships to sustainable lifestyles: Towards a new conceptual and methodological approach. *Ecological Economics, 84,* 74-83.

Chapter 4: Hedlund-de Witt, Annick, De Boer, Joop, & Boersema, Jan J. (2014, in press). Exploring inner and outer worlds: A quantitative study of worldviews, environmental attitudes, and sustainable lifestyles. *Journal of Environmental Psychology.*

Chapter 5: Hedlund-de Witt, Annick (2013). Pathways to environmental responsibility: A qualitative exploration of the spiritual dimension of nature experience. *Journal for the Study of Religion, Nature and Culture, 7(2),* 154-186.

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Parts of chapter 8 (and parts of sections 1.3.1 and 9.1.2): Hedlund-de Witt, Annick, & Hedlund-de Witt, Nicholas H. (2014, in press). Towards an integral ecology of worldviews: Reflexive communicative action for climate solutions. In S. Mickey, S. M. Kelly, & A. Robbert (Eds.), *Integral ecologies: Culture, nature, knowledge, and our planetary future*. New York: SUNY Press.

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[1] In the Netherlands a pair of paranymphs ('paranimfen') are present at the doctoral thesis defense. This ritual originates from the ancient Greek concept of the bride and bridegroom being attended by paranymphs, since obtaining a doctorate was seen as a de facto marriage to the university. In the defense, the paranymphs would also act as a physical shield in case the debate became too heated, or as a backup for the doctoral candidate to ask for advice when answering questions. Today their role is symbolic and seen as a position of honor similar to a best man at a wedding.

Marida de Boer, and my sweet dad, *Frans de Witt*, for all your support and love throughout all these years. I love you very very much! My thanks also go to *Freek Steppe, Stijn de Witt, Suzanne Jansen, Celeste de Witt,* and *Claartje de Witt*. I'm also grateful to my beautiful parents in law, *John Hedlund* and *Beatrice Hedlund*, who have always shown interest in, and support for my work.

My sincere gratitude and love goes out to all of you.

List of tables and figures

List of used abbreviations

CBS: Statistics Netherlands (Centraal Bureau voor de Statistiek)

DSP: Dominant Social Paradigm

EU: European Union

FAO: Food and Agriculture Organization of the United Nations

GMO's: Genetically Modified Organisms

IPCC: Intergovernmental Panel on Climate Change

LEI: Netherlands Economic Agriculture Institute (Landbouw Economisch
       Instituut)

NEP: New Environmental Paradigm

PBL: PBL Netherlands Environmental Assessment Agency (Planbureau voor de
       Leefomgeving)

IWF: Integrative Worldview Framework

SDT: Self-Determination Theory

UNESCO: United Nations Educational, Scientific, and Cultural Organization

USA: United States of America

WCED: World Commission on Environment and Development

WVS: World Values Survey

WWF: World Wide Fund

Chapter 1

Introduction: Worldviews and the transformation to sustainable societies

Our world view is not simply the way we look at our world. It reaches inward to constitute our innermost being, and outward to constitute the world. It mirrors but also reinforces and even forges the structures, armorings, and possibilities of our interior life. It deeply configures our psychic and somatic experience, the patterns of our sensing, knowing and interacting with the world. No less potently, our world view – our beliefs and theories, our maps, our metaphors, our myths, our interpretive assumptions – constellates our outer reality, shaping and working the world's malleable potentials in a thousand ways of subtly reciprocal interaction. World views create worlds.

> \- Richard Tarnas[2]

We don't see things as they are; we see them as we are.

> \- Anaïs Nin

1.1   Worldview: A concept whose time has come

Many of us sense that we live in an unprecedented time. Our contemporary predicament is characterized by a vastly pluralistic, increasingly interconnected, and in many cases intensely polarized, cultural landscape (Benedikter & Molz, 2011; Giddens, 2009; C. Taylor, 1989). Simultaneously, the sustainability-issues that are now threatening the very basis of our human civilization are highly complex, increasingly interdependent, multifaceted, and of a planetary scale and nature (see e.g. L. R. Brown, 2008; Held, 2006; Kelly, 2010; Morin & Kern, 1999)—therefore demanding the coordination of, and cooperation between, these polarized cultural perspectives for their resolution (see e.g. Hedlund, 2010; Hulme, 2009). Moreover, as several philosophers have argued, the contemporary *Zeitgeist* seems to be characterized by a profound sense of purposelessness among many, due to the lack of overarching narratives or frameworks of meaning. This is so, as Taylor (1989) argues, because overarching frameworks are that in virtue of which we make sense of our lives morally and spiritually (see also Spretnak, 1999). Some authors therefore argue that the multiple crises that we currently face—next to being environmental, technological, economic, and political-institutional—are also philosophical-existential, psychological, cultural, and even spiritual in nature (see e.g. Hulme, 2009; Morin & Kern, 1999; O' Brien, St. Clair, & Kristoffersen, 2010).

As I will argue in section 1.3, the concept of *worldview* appears to be particularly relevant in our contemporary, late postmodern period, and the specific set of challenges and issues it is accompanied by. In my eyes, worldview is a concept 'whose time has come,' and its increasing appearance in the contemporary climate change and global sustainability debates (e.g. Beddoe et al., 2009; Hulme, 2009; O' Brien et al., 2010; Vonk, 2011) can be understood as both response to, and reflection of, the challenges of our time and the solutions they demand. One of the main arguments and premises of this dissertation is, consequently, that an understanding of worldviews has a major role to play in addressing our highly complex, multifaceted, interwoven, planetary sustainability issues. As Mike Hulme (2009) argues in his widely lauded book 'Why we disagree about climate change,' debates about climate change are disputes about ourselves—about our dreams, our fears, our assumptions, our identity—that is, about our worldviews. As Anaïs Nin famously phrased it, 'we

don't see things as they are, we see them as we are'—and that also appears to be true for the issues of climate change and sustainable development.

As will be discussed in more detail below, there are several distinct reasons for exploring worldviews in the context of our global environmental and sustainability issues. In the first place, there is a need articulated by environmental philosophers, who, despite diverging positions on the subject, generally tend to see worldviews (and frequently the Western worldview) as 'root-cause' of our sustainability issues, and a profound change in them (or it) therefore as crucial to the process of forging solutions. Secondly, as many voices have argued, a change of individual lifestyles is an essential element in the transition towards more sustainable societies, and an understanding of worldviews appear to be of crucial importance in this process (see e.g. Du Nann Winter & Koger, 2004; Gifford, 2011; World Watch Institute, 2010). Moreover, as sociological research indicates (Inglehart, 1995; Inglehart & Welzel, 2005), profound shifts in worldview are already taking place, informing social and grassroots movements, environmental initiatives, democratic functioning, and societal change. Lastly, there are arguments from the perspective of environmental policy-making, as a critical reflection on the—often implicit— worldviews that policies are based on potentially helps to intercept less sustainable policy strategies and may form the starting point for more *reflexive* forms of governance (see e.g. Huitema et al., 2011; Voß & Kemp, 2006), as well as creative processes for the seeking of new syntheses in policy-making (PBL, 2004, 2008). Thus, worldviews are increasingly—and from a host of different perspectives and disciplinary angles, such as philosophy, psychology, sociology, and political science—considered to be of vital importance in our timely quest for more sustainable societies.

Theoretical and empirical insight into worldviews therefore appears to be an essential element in approaches aiming to design and support more sustainable development paths for society. However, despite their apparent importance, worldviews tend to be underemphasized in the sustainability field (Hulme, 2009). Generally speaking, both academic and public environmental efforts have tended to approach environmental issues without much awareness or appreciation of the role played by *interior* perspectives—such as aesthetic experience, emotional responses, psychological dynamics, religious meaning,

ethical issues, and cultural values (Esbjörn-Hargens, 2010a). In the words of climate researcher and IPCC author Karen O'Brien (2010), "an emphasis on understanding climate change from an objective, systems perspective has downplayed the importance of subjective, interior dimensions of climate change, when in fact the integration of both aspects is needed" (p. 66).

Moreover, also as an academic field of study, the concept or construct of worldview is still very young. As Koltko-Rivera (2004) observes, there is to date no formal general theory of worldview available, and fundamental questions concerning the concept abound:

> What sort of construct is worldview? […] How are worldviews structured? […] Worldview theorists generally agree that worldviews affect behavior, but how precisely does this happen? […] Do worldviews affect basic processes of concept formation? Perception? Sensation? Or are worldviews farther "downstream" in the processes of cognition? […] Where does one *go* with worldview? What research is worth doing with the worldview construct? (p. 22)

Although discussions of worldview-related subjects permeate the literature in the social sciences, notably in philosophy, sociology, psychology, and anthropology (see e.g. Kearney, 1975), this lack of formal, scientific theory challenges the systematic study and investigation of worldviews. An integrative, cross-disciplinary framework for understanding and exploring the comprehensive concept of worldview therefore appears to be highly useful, yet is still largely absent (see e.g. K. A. Johnson, Hill, & Cohen, 2011). Besides that, although worldviews have been investigated in the context of environmental and sustainability issues from a range of different disciplinary and theoretical perspectives, few approaches exist that empirically explore worldviews systematically and comprehensively. For example, as I will argue more extensively in chapter three, the New Environmental Paradigm scale—globally the most widely used metric to empirically explore worldviews and their interface with environmental issues (Dunlap, 2008)—falls short of this complex task for a number of reasons. Additionally, while a substantial amount of (longitudinal) research is conducted into how values and beliefs change across

different nations and societies (such as the World Values Surveys), the implications of these changes for our contemporary sustainability issues are generally not the object of study, nor are worldviews systematically explored in these efforts.

Finally, many authors argue that a profound change in the direction of a more reflexive, contemporary spiritual, re-enchanted, or integrative worldview is currently taking place in the contemporary West—a change that is likely to inform how the larger public understands, appreciates, and enacts sustainability-issues (see e.g. Benedikter & Molz, 2011; Campbell, 2007; De Hart, 2011; Heelas & Woodhead, 2005; Inglehart & Welzel, 2005; Partridge, 2005; B. Taylor, 2010). However, despite its frequently argued great potential for sustainability, few studies actually explore the interface of such newly emerging worldviews with goals and issues of sustainable development.

The purpose of this dissertation, then, is to contribute to social-cultural transformation in the direction of more sustainable societies, by generating insight into the nature and structure of worldviews in the contemporary West and their interface with goals and issues of sustainable development.

In this chapter, I will first expand and clarify the central argument that worldviews are essential in the quest for sustainable societies, from the four major disciplinary angles used in this dissertation (see section 1.2). Then, I will formulate and define some of my key-terms, such as worldviews and sustainable development, as well as articulate the 'research worldview' or philosophical foundation that undergird this study (see section 1.3). In section 1.4 I will make the above-formulated aim more specific, by delineating it into five sub-aims, as well as formulating the research questions that need to be answered in order to fulfill these aims. In section 1.5, I will clarify my research design. I finish with a reading guide for the dissertation as a whole.

1.2   Why worldviews are essential in the transformation to sustainable societies

I will now discuss in detail why worldviews are considered essential in the quest for more sustainable societies, from four different, disciplinary vantage points: philosophy, psychology, sociology, and political science. At the same time, these

perspectives can be seen as representing different levels of aggregation, from the reflection on the whole in philosophy, to the individual psychological and behavioral, the collective cultural and societal, to the institutional/political. Each of these perspectives plays an important role in this dissertation.

1.2.1   A philosophical perspective

Environmental philosophers have for decades contended that in order to foster a more sustainable relationship with our planet, a change in worldview is urgently needed. In this line of reasoning, it is frequently the 'materialistic,' 'reductionist,' 'disenchanted,' and 'dualistic' Western worldview that is frequently understood to be at the very heart of environmental problems. Such ideas became widespread with the work of the historian Lynn White, who initiated this line of thinking in 1967 with his well-known but controversial article in *Science*, 'The Historical Roots of Our Ecologic Crisis'.[3] In this article White (1967) claimed the root-cause of environmental devastation to be Judeo-Christian theology, with its exploitative attitude towards nature and its influential imprint on the development of science and technology:

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[3] Long before environmental pollution and devastation were widely recognized societal problems and White articulated his ideas, the Romantic Movement of the nineteenth century criticized modern civilization for being opposed to and in conflict with nature—as well as with the 'natural human being' himself, in a sense. This movement was the first broadcast expression of an ecological impulse. It was a reaction to the Enlightenment and the crude, dislocative, early years of the industrial revolution. The Romantics criticized mechanistic science, in which the all-powerful human being stood apart from—and above—nature, manipulating it for its own interests. They often reached back to an earlier, pre-industrial time that was not beset with the social and physical disruptions the Romantics found so disturbing in their own day, and which allowed for human sensitivity and individual spiritual fulfillment in a way in which the new world of industrial and political ferment did not. Important expressions of the movement were Goethe's *naturphilosophie*, English Romantic poetry (e.g. Wordsworth and Coleridge), and the American Transcendentalists (e.g. Emerson and Thoreau). For most of them, nature was an aspect of God. Although 'the call of nature' was a commonly shared principle within the movement, the Romantics were in the first place individualists: "the immersion in nature was primarily a process of elevation of the *human* spirit" (Hay, 2002, p. 7). These Romantic ideas are still powerful in the cultural landscape of today, and have important implications for ecological issues and sustainable development (C. Taylor, 1989), as will be explored in more detail in particularly chapters four and five.

Christianity inherited from Judaism not only a concept of time as nonrepetitive and linear but also a striking story of creation. In gradual stages a loving and all-powerful God had created light and darkness, the heavenly bodies, the earth and all its plants, animals, birds, and fishes. Finally, God had created Adam, and as an afterthought, Eve, to keep man from being lonely. Man named all the animals, thus establishing his dominance over them. God planned all this explicitly for man's benefit and rule: no item in the entire physical creation had any purpose save to serve man's purposes. And although man's body is made of clay, he is not simply part of nature: he is made in God's image (p. 1205).

White's ideas set off an extended debate about the role of religion and culture—and in a more encompassing sense worldviews—in generating and sustaining the West's anthropocentric and destructive attitude towards the natural world. Although his ideas were controversial and intensely debated, the central themes he put on the agenda—such as dominance over, and dualism with nature, an attitude of exploitation and objectification, a linear understanding of progress—have appeared in most of the philosophical analyses of environmental issues since then (see e.g. Calicott, 2011; Devall & Sessions, 1985; Duintjer, 1988; Lemaire, 2002; Naess, 1989; Plumwood, 1993; Wilber, 1995; Zweers, 2000). From this perspective, the dominant worldview—however precisely analyzed and characterized—is seen as a central barrier for the transition to a more sustainable society. Therefore, if we are to find solutions for our planetary challenges, we need to develop a different relationship to the natural world as well as a new conception of what it means to be human. Thus, these philosophers not only identified worldviews as important cause of our planetary issues, but a change in them also as crucial to sustainable solutions. Calicott (2011) refers to this needed change in worldview as a project of *worldview remediation*.

More generally, many authors emphasize the need for and value of a 'paradigm-shift,' a fundamental shift in the way humans interpret and give shape to their role in the larger whole (Benedikter & Molz, 2011; Berry, 2009; Laszlo, 2006; O' Brien et al., 2010; Tucker & Grim, 1994; Wilber, 2001). Some authors stress in this context the need for a new, more sustainable, *social imaginary*. A social imaginary is a broad understanding of the way a given people imagine

their collective social life (C. Taylor, 2004), which can be seen as a vital part of any worldview. The social imaginary appears to be particularly relevant, because a shared vision can facilitate and inspire the needed technological, institutional, political, economic, and cultural innovations (e.g. De Geus, 1996). That is, in order to realize a sustainable society and lifestyle, it first must become a real social imaginary (Frank, 2010). A compelling vision of what a sustainable society would look like, and how it would be experienced by the individuals participating in it, also appears to be essential to the important task of public communication and large-scale mobilization for sustainable solutions to our global issues (see e.g. Futerra, 2005, 2009; Moser, 2007; Moser & Dilling, 2007; Schösler & Hedlund-de Witt, 2012). In addition, a critical reflection on worldviews may be instructive for the potential for innovation. As Boiral et al. (2008) point out, operating from outside the confines of the dominant paradigm, one may prove to be more creative and innovative in the solutions one comes up with. Less embedded in the prevailing practices, traditions, beliefs, and institutions, one has the capacity to reflect on and question the dominant social paradigm, and may also be more inclined to develop original and creative environmental solutions.

1.2.2   A psychological perspective

A change of behaviors in a more sustainable direction is generally considered to be of vital importance for realizing the urgently needed transition to a more sustainable society (Buenstorf & Cordes, 2008; World Watch Institute, 2008). Sustainable behaviors include pro-ecological, frugal, altruistic, and equitable behaviors, and involve aspects of individual lifestyles, such as consumer and dietary choices, use of energy and transportation, political priorities, support for policy measures, and contributions to societal change. However, such everyday choices are generally understood to be difficult to alter. Not only are there many structural (e.g. economic, infrastructural, institutional, social-practical) barriers for changing lifestyles, they also tend to be deeply embedded in worldviews, values, cultural associations, and habits (Gifford, 2011; Schösler & Hedlund-de Witt, 2012; Sorin, 2010). Worldviews appear to be particularly relevant in this context, as they not only tend to shape how individuals perceive ecological issues and their potential solutions, but also tend to influence individuals' willingness to

partake in solutions themselves, including (political) support for addressing the issue societally (Kempton, Boster, & Hartley, 1995; C. Taylor, 1989).

For understanding the differences between a variety of worldviews and their interface with sustainable lifestyles, several major branches of psychology appear to be of particular interest, including environmental psychology, positive psychology, and developmental-structural psychology.[4] The field of *environmental psychology* attempts to generate understanding into the determinants of pro-environmental behaviors, by studying individual differences in attitudes, values, beliefs, and worldviews.[5] Where the emphasis in this field used to be on construing environmental behavior as emerging from altruistic values and self-sacrifice, researchers seem to increasingly explore how psychological, individual well-being can mutually benefit ecological, collective well-being, rather than being incompatible with it (see e.g. K. W. Brown & Kasser, 2005; Jacob, Jovic, & Brinkerhoff, 2009). Such approaches make connections with, among others, the insights of *positive psychology*—a branch of psychology aimed at empirically investigating, understanding, and facilitating positive human functioning (Seligman & Csikszentmihalyi, 2000). For example, Corral Verdugo (2012) understands sustainable actions to originate from positive dispositional factors such as capacities, positive emotions, virtues, and strengths, rather than being instigated by negative antecedents such as fear, shame, and guilt. Similarly, according to him, sustainable behaviors are maintained by psychological benefits such as satisfaction, well-being, and happiness—instead of primarily being associated with negative consequences such as discomfort, inconvenience, and sacrifice. Also positive psychology's *Self-Determination Theory* (SDT) is increasingly used to understand sustainable behaviors and lifestyles (see e.g. J. I. M. De Groot & Steg, 2010; Schösler, 2012; Schösler, De Boer, & Boersema, 2013; Weinstein, Przybylski, & Ryan, 2009), as studies indicate that people high in *eudaimonic* (i.e. intrinsically motivated) living tend to behave in more pro-

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[4] While I use multiple studies from the field of environmental psychology for the formulation of my conceptual and methodological approach for exploring worldviews vis-à-vis sustainable development (in chapter three) and the formation of my questionnaire and interview-study (in chapters four and five), the fields of positive psychology and developmental psychology are mainly used as frames for interpreting my data.

[5] A literature review of some of the central approaches in this field is discussed in chapter three.

social and sustainable ways, while people high in *hedonic* (i.e. extrinsically motivated) living tend to behave in less pro-social and sustainable ways (Ryan, Huta, & Deci, 2008). The surge of studies into 'connectedness with nature' can potentially also be understood in the context of such more positive approaches, which connect individual and ecological well-being (see e.g. Dutcher, Finley, Luloff, & Johnson, 2007; Mayer & McPherson Frantz, 2004).

Next to environmental psychology and positive psychology, also the field of *constructivist developmental psychology* or *developmental structuralism* may be relevant for understanding worldviews and their interface with sustainable development (see e.g. Kahn, 1999, who, in his study of the human relationship with nature, followed developmental psychologists Jean Piaget and Lawrence Kohlberg). Constructivist developmental psychology conceptualizes individuals as constructing knowledge through their interaction with the world, actively interpreting and trying to make sense of their ever-changing experience of reality—which naturally aligns with a worldview perspective as offered in this dissertation. Constructivist developmental theorists (e.g. Jean Piaget, Lawrence Kohlberg, Jane Loevinger, Robert Kegan, Michael Commons) argue that (ethical) reasoning and understanding change qualitatively over time, potentially evolving the ways in which humans know and relate to the world. They generally postulate that these qualitative stages form an invariant, irreversible, hierarchical sequence with each posterior stage integrating the previous stages, and each anterior serving as the necessary condition for the emergence of the next stage (for an overview of these theories, see P. Marshall, 2009; Mc Adams, 1994). Moreover, most developmental theories and models point in the direction of an increasing care and complexity with further growth, thus conceptualizing development to be generally beneficial to both the individual, in terms of greater inner freedom, awareness, and autonomy, as well as to the community or collective, in terms of an expanded circle of care (Cook-Greuter, 1999; Kegan, 1982; P. Marshall, 2009). The connections between this field and environmental psychology and positive psychology are to date little studied,[6] but seem to have

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[6] Marshall (2009) explores the potential for integrating the fields of positive psychology and developmental structuralism, emphasizing, among others, the similarities in terms of their underlying conceptions of human nature. Both are positive and progressive and see the development of human nature as the unfolding of inner structures and potentials.

considerable potential.

1.2.3   A sociological perspective

As sociological research indicates, profound shifts in worldview are taking place, informing social and grassroots movements, environmentalism, democratic functioning, and societal change (e.g. Inglehart, 1997; Inglehart & Welzel, 2005). According to the results of the *World Values Survey* (WVS)—the largest worldwide, cross-cultural, longitudinal database on worldviews, values, and beliefs—lasting economic growth in postindustrial societies results in a widespread and pervasive sense of material security among its citizens. This makes the priorities of the individual gradually shift from survival to *self-expression values*, resulting in an increased emphasis on individual autonomy, free choice, and creativity. Another way to understand this change is as a gradual shift from an emphasis on wealth and material prosperity to an emphasis on well-being and post-material concerns. These value changes thereby give rise to a new type of humanistic society, in which the new societal movements, emerging on a large scale since the 1960's, play a central role.[7] Sociologists have described these movements—including environmentalism, peace and anti-nuclear efforts, the quest for emancipation of women, minorities, and gays—as new, because they cannot be explained only on the basis of material self-interest, but rather seem to express larger ('postmaterial') concerns with quality of life in a broad sense. Moreover, these movements tend to use new organizational structures (e.g. loose network-organizations instead of hierarchical structures) and new

Constructivist developmental psychology conceives individuals as developing through stages or structures of ever-greater complexity, differentiation, and integration, towards greater internal freedom, awareness, and self-actualization (and self-transcendence in some models). Positive psychology, combining Aristotelian and humanistic psychology notions of human nature, sees individuals as possessing innate 'virtues' or potentials that can be cultivated and expressed or actualized—an innate constructive developmental tendency that leads to well-being when given expression and pathology when thwarted. Constructivist developmental psychology has mapped some of these structures and positive psychology concerns itself with the study of what conditions, interventions, and institutions best facilitate healthy growth towards developmental fruition.

[7] The author and entrepreneur Paul Hawken (2007) documents this large-scale, broadly supported, bottom-up societal movement in his book "Blessed Unrest: How the largest movement in the world came into being and why no one saw it coming."

action-repertoires (e.g. generally non-violent, symbolical, and media-oriented), and tend to be supported by the 'new middle class' (Giddens, 2009). Sociologists and social scientists have therefore frequently used the theory of postmaterialist values to account for environmentalism, green political parties, and citizen concern for the environment.[8] As Inglehart and Welzel (2005) explain the deeper value- and worldview changes undergirding this societal change:

> Industrialization gives humans increasing control over their
> environment, diminishing their deference to supernatural powers and

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[8] However, some authors have criticized this analysis and understanding. According to them, although the theory of postmaterialism provides a clear and in many respects persuasive explanation for the development and popularity of the environmental movement in the North, it appears that it does not allow for the expression of environmental concern in the less developed world. As the critics demonstrate (e.g. on the basis of the Health of the Planet Surveys, as well as the World Values Surveys), widespread citizen concern for environmental problems and support for environmental protection is not confined to wealthy nations, and in some cases (dependent on the measured items) even appears to be stronger in the developing world. However, differences in the nature of the concern were observed: for example, citizens of poorer nations were significantly more likely to rate the quality of their national environments as poor, and perceive environmental problems as health threats now and in the future, while citizens of wealthier nations were more likely to rate the quality of the world environment as poor, and express a preference for environmental protection over economic growth (Dunlap & York, 2008, p. 534). As the citizens from poorer nations tend to be more directly (materially) dependent on and subject to their environments for their livelihoods and health, the concern of these citizens for their local and national environment seems defendable from a postmaterialist framework. Moreover, I do not think that the postindustrialism hypothesis of environmental concern aims to, in the words of Dunlap and York (2008), "blame residents of poor nations (or their leaders) for the lack of progress in the global environment" (p. 551), but rather aims to give insight into the nature and motivations for environmental care and concern, as well as generate insight into the circumstances that may undergird these differences. Additionally, in my eyes, these critical perspectives seem frequently based on a simplistic understanding of the theory, as the analyses tend to distinguish between 'rich' and 'poor' countries, rather than between traditional/pre-modern societies, modern/industrialized societies, and postmodern /postindustrial societies. It may for example be that the citizens of both more traditional and more postmodern societies tend to show more concern for the environment, in contrast with citizens from societies closer to the modern ideal-type. This would not negate the post-materialist values understanding of environmentalism, but rather demand a more complex, dialectical (as opposed to more linear) understanding of it.

encouraging the rise of secular-rational values. But industrialization does not nourish a sense of human autonomy or lead people to question absolute authority, which persists in secular ideologies. By contrast, postindustrialization gives people a sense of human autonomy that leads them to question authority, dogmatism and hierarchies, whether religious or secular. And because survival comes to be taken for granted, people become increasingly critical of the risks of technology and appreciative of nature. Spiritual concerns about humanity's place in the universe regain prominence. This does not bring a return to dogmatic religiosity, but it does bring the emergence of new forms of spirituality and non-material concerns (pp. 29-30).

According to multiple sociologists, Western society is becoming increasingly "self-reflexive" (see e.g. Giddens, 2009). One of the empirical indicators of this reflexivity is that during the past twenty years the publics of postindustrial societies have spent more time thinking about the meaning and purpose of life than they used to in the recent past (Inglehart and Welzel, 2005). This growing interest in philosophical and ideological questions among the larger public suggests an intellectual openness that makes changes in terms of worldviews possible and increases the likelihood of sensitivity towards sustainability strategies that appeal to more profound, paradigmatic or cultural changes. For example, results from the Eurobarometer studies show that with respect to tackling climate change, across Europe, respondents in all countries (except Latvia and Malta) favour changes in ways of living over technological solutions, even if this means reduced economic growth. In eight of the wealthier European countries support for changing life styles is even above 70 per cent (Gaskell et al., 2010). Additionally, the 1995 World Values Survey found dramatic differences in technological optimism between rich and poor countries: asked whether "new technologies will resolve most of our environmental challenges requiring only minor changes in human thinking and individual behavior," 62% of respondents from low-GDP countries agreed, whereas 55% from high GDP countries disagreed (Leiserowitz, Kates, & Parris, 2006). Thus, the process of postindustrialization and the changes of worldview associated with it not only seem to correlate with increased sustainability concerns, but also

seem to bring an orientation towards different kinds of solutions to these concerns.

Moreover, the observed reflexivity and questioning of the dominant worldview appears to correlate with potentially newly emerging worldviews. For example, several social scientists claim that the culture of contemporary spirituality is a pivotal part of the gradual but profound change taking place in the Western worldview, both reflecting the larger cultural development, as well as giving shape and direction to it (see e.g. Aupers & Houtman, 2006; Campbell, 2007; De Hart, 2011; Giner & Tábara, 1999; Hanegraaff, 1996; Heelas & Woodhead, 2005; Houtman & Aupers, 2007; Inglehart & Welzel, 2005; B. Taylor, 2010). Also Ray and Anderson (2000) observed a similar shift in worldview, emphasizing the creative and sustainability potential of what they call "the cultural creatives."[9] Taylor (2010) speaks of a contemporary nature spirituality that is quickly spreading around the world and becoming increasingly important in global environmental politics. According to him, it motivates a wide array of individuals and increasingly shapes the worldviews and practices of grassroots social activists and the world's intelligentsia: "it may even inspire the emergence of a global, civic, earth religion" (p. x). Moreover, other researchers emphasize the importance of a newly emerging integral or *integrative worldview*, which has affiliations with contemporary spirituality, an enhanced appreciation of nature, and a concern with sustainability issues in general, while simultaneously being characterized by an attempt to bring together and *integrate* spirituality and transcendence with rationality and science, rather than reducing one to the other, or cultivating one at the expense of the other (Benedikter & Molz, 2011; Esbjörn-Hargens & Wilber, 2006; Esbjörn-Hargens & Zimmerman, 2009; Laszlo, 2006; Van Egmond & De Vries, 2011; Wilber, 2001, 2007). These broad changes in worldview, taking place in the contemporary West and beyond, are thus not to be neglected in attempts to create more sustainable societies, and appear to be of substantial importance for the formation and formulation of sustainability strategies, policies, and practices.

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[9] These 'cultural creatives' are, according to the researchers, turning away from materialism, hedonism, and status display, and are creating their own culture, based on ecological and planetary perspectives, emphasis on relationships and woman's point of view, and commitment to spirituality and psychological development.

1.2.4 A political science perspective

While global environmental protection has been on the international political agenda since the 1972 United Nations Conference on the Human Environment, these efforts have not been sufficiently effective in altering the trends of human-induced environmental degradation (Biermann et al., 2012). As many now recognize, the failure to alter these fundamental trajectories is largely due to widespread disagreement and gridlock in the global debate on contemporary sustainability challenges such as climate change (Hulme, 2009; Nisbet, 2009; Victor, 2011). It is therefore becoming increasingly clear that the lack of agreement and the often intensely polarized perspectives this lack is based on, is itself a major, if not *the* major obstacle to forging robust, effective solutions and building a secure, sustainable, and flourishing 'planetary civilization' in the twenty-first century. As Hulme (2009) has argued, differences in *worldview* and culture often underlie the ubiquity of such diverging and polarized perspectives in stakeholder negotiations and public opinion, thereby hampering the cooperation and communicative action that is so urgently needed. For example, several voices have pointed out how intractable political conflicts in the U.S. are the result of 'culture wars,' or clashes in worldviews. It has also been asserted that diverging worldviews are at play in international conflict (see e.g. Koltko-Rivera, 2004).

Worldviews not only inform how we conceptualize the issues that we are dealing with, but also our potential responses to them (Douglas & Wildavsky, 1982; Kahan et al., 2012). Different worldviews depart from fundamentally diverging assumptions concerning the nature of reality and the position of the human being in the larger whole, and as a result propose distinct and to some extent opposing solutions for responding to our sustainability issues. For example, for some individuals, solutions are to be found in the workings of the free market and the development of technology; other perspectives emphasize the need for public institutions, arrangements, and regulations (see e.g. Milfont & Duckitt, 2004; PBL, 2004). And while for example climate change is seen from one perspective as an urgent threat to human civilization, from another perspective it is a hype created by environmentalists (Hulme, 2009). However, although the divergence in perspectives and cultures clearly leads to misunderstanding, conflict, and inertia, some voices have also emphasized the

value of such diversity for addressing our global issues (Calicott, 2011; UNESCO, 2002b). Precisely because of the diverse range of solutions, strategies, and perspectives that different worldviews tend to bring forth, cultural diversity can be seen as having the potential to enhance our overall capacity for adaptation and transformation (see also O' Brien, 2009).

Moreover, generally speaking environmental policy is intimately connected with, and largely dependent upon, the larger worldview-dynamics in society. That is, policies, technologies, and measures can only to a limited extent be successfully implemented without some degree of support and agreement of the larger public. Such support is largely a function and reflection of the predominant worldviews and values held by the varying cultural strands within the public sphere, as research shows that worldviews, values, and beliefs are strong predictors of policy opinion and support (Shwom, Bidwell, Dan, & Dietz, 2010). Moreover, as Inglehart and Welzel (2005) demonstrate on the basis of the WVS, the democratic institutions and responsible forms of governance that are critical components of any sustainable solution are themselves a product of cultural changes and the emergence of certain values and worldviews. That is, the empirical data of the WVS suggest that the causal arrow runs from the widespread emergence of what the researchers call 'self-expression values' to effective democracy, and not the other way around. Therefore, without societal support, which itself appears to be substantially informed by the worldviews prevailing in society, implementing environmental policies and strategies is likely to be stymied.

Additionally, as several authors have argued, global environmental challenges tend to become *scientized*, thereby concealing the ways that differences in worldviews, values, and normative frameworks fuel and inform the political disagreements surrounding these issues (Hansen, 2013; Hulme, 2009; Sarewitz, 2004). Those who advocate a certain line of political action (e.g. to act on climate change, or not, or to allow genetically modified organisms (GMO's) on the market, or not) are likely to claim a scientific justification for their position, while those opposing the action will invoke scientific uncertainty or competing scientific results. Sarewitz (2004) refers to this situation as an *excess of objectivity*: rather than science enabling actors to resolve political disagreements, it tends to exacerbate them, as it is frequently possible to compile supporting sets of

scientifically legitimated facts for different—and even mutually opposing—value-based positions in an environmental controversy. This is not so because of a lack of scientific understanding, or because 'science is not doing its job well,' but rather because of a lack of coherence among competing, frequently equally legitimated, scientific understandings. That is, in this view, reality is sufficiently rich and complex to support a science enterprise of vast methodological, disciplinary, and institutional diversity, allowing researchers to operate within a range of different assumptions, to rely on different methods, and to use different scales of analysis. For example, based on a case-study of the Danish biofuels debate, Hansen (2013) demonstrates how two distinct scientific perspectives on biofuels originate in different disciplines and can be affiliated with different political positions. The 'reductionistic biorefinery perspective,' grounded in biochemistry and neighboring disciplines, works upward from the molecular level, and envisions positive synergies in the use of biomass. In contrast, the 'holistic bioscarcity perspective,' grounded in life-cycle analysis and ecology, works downwards from global scope conditions, and envisions negative externalities from an increased reliance on biomass (Hansen, 2013). Because the 'scientization' of environmental discourse tends to conceal the interests and worldviews undergirding the conflict and disagreement, bringing the value-disputes "into the foreground of political process is likely to be a crucial factor in turning such controversies into successful democratic action" (Sarewitz, 2004, p. 399). Thus, Sarewitz emphasizes the importance of openness on how worldviews interface with the preferred positions of political actors, thereby freeing the enterprise of science itself (which currently is, according to Sarewitz, frequently concerned with "the meaningless task of reducing uncertainties pertinent to political dispute, rather than addressing societal problems as identified through open political processes" (p. 399) as well as creating a more reflexive policy-process.

Some political scientists also contend that institutions themselves are to be understood as a result of, what Mert (2012) refers to as "sedimentation of discourses through social practices" (p. 26). Or in other words, as a result of dominant beliefs and worldviews becoming embodied and institutionalized through collective practices and norms. An awareness of the underlying, frequently implicit assumptions and value-orientations—that is, the

worldviews—that undergird and guide these discourses and policy-strategies, enable one to scrutinize and reflect upon them, thereby enacting more reflexive forms of governance (see e.g. Huitema et al., 2011; Voβ & Kemp, 2006) as well as increasing their democratic and deliberative quality (Hajer & Versteeg, 2005). As PBL Netherlands Environmental Assessment Agency has argued, thinking from the perspective of diverging worldviews may help to intercept less sustainable policy strategies and detect (sometimes unexpected) transverse connections—for example between national and international stakes. Through such an approach, the perils of a single worldview can more easily be identified, supporting a more robust policy strategy and potentially bridging the differences between the diverse worldviews. The confrontation of worldviews then may form the starting point of a creative process for the seeking of syntheses and new ways of policymaking (PBL, 2004, 2008).

1.3 Philosophical foundations and discussion of key-terms

1.3.1 *Worldviews and the research worldview guiding this dissertation*
Based on an extensive exploration of the philosophical literature, as will be described in detail in chapter two, worldviews are in this study defined as the "inescapable, overarching systems of meaning and meaning-making that to a substantial extent inform how humans interpret, enact, and co-create reality." This definition highlights the enactive and co-creative dimension of worldviews, and emphasizes their complex, reciprocal relationships with the world(s) that they bring forth, as well as are being brought forth by. Simultaneously, this definition emphasizes that worldviews are not a patchwork of loosely related phenomena, but a coherent pattern or *system* that integrates seemingly isolated ideas into a common holistic structure (see also Dewitt, 2004; Inglehart & Welzel, 2005). Although a comprehensive understanding of the worldview-concept is used in this dissertation, I primarily study worldviews as *interiors,* that is, on the level of ideas and assumptions, affects and perceptions, orientations and intentions, rather than analyzing how worldviews come to concrete expression in, for example, artefacts, art, music, or architecture, which can be

understood as the *exterior* forms in which worldviews can come to manifestation. That is, any artifact or cultural expression can potentially be understood to embody worldview-beliefs and religious or cultural ideas and ideals in a material form.[10] While my focus is on the intangible, interior dimensions of sustainable development, I do explore how they come to expression in, and interface with, the more exterior and concrete dimensions, such as in sustainable behaviors, consumer choices, and political preferences. Moreover, in this dissertation worldviews are explored both from 'within,' that is, in the inner experience and perception of individuals themselves (in the in-depth interviews), and from 'without,' through analyzing the statistical patterns as found in individually scores items (in the survey-method).[11]

The concept of worldview may appear to be similar or even interchangeable with concepts such as ideology, paradigm, religion, and discourse, and they indeed possess some degree of referential overlap. However, worldviews can nonetheless be clearly distinguished from these concepts—a task I feel is worth taking up, in an effort to clarify the concept and articulate the philosophical foundations undergirding my understanding and usage of the term. The concept of *ideology*, while elusive, can be defined broadly as a set of beliefs, values, and goals of a social or political group that explain or *justify* the group's decisions and behaviors.[12] While the concept of worldview conveys that the

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[10] While exterior forms simultaneously also inform interiors such as worldviews, as the causal arrow is more likely to be mutual rather than one-sided (see also C. Taylor, 1989).

[11] The survey-method is used to construct worldviews on the basis of statistical, quantitative analyses of individual's own perceptions and descriptions of their views and values. In that sense, the analyses of the survey-results could be seen to describe and disclose worldviews from the outside, as the observed worldview-patterns are as such not described by individuals themselves; in fact, the found worldview-factors are the result of statistical analyses grouping items together that correlate with each other.

[12] It is worth noting that, while defined in a variety of ways across a number of contexts, the notion of ideology often evokes Marxist connotations. For the Marxist tradition, ideology is a fundamentally distorted way of viewing the world that essentially functions to serve (and mask) the interests of the dominant class while maintaining various oppressive and alienating dynamics for the subordinate classes (that is, the ideas of the dominant class are the dominant ideas) (Edgar, 2008a). However, beyond this more critical deployment of the notion of ideology, it is possible to define ideology more neutrally. For example, ideology can be defined as "a fairly coherent and comprehensive set of ideas that explains and evaluates social conditions, helps people understand their place in society, and provides a program for

world is viewed differently by different viewers, thus giving expression to a certain intrinsic relativism and denoting a standpoint that is more or less open to recognizing and honoring other standpoints (Wolters, 1989), an *ideology* is often defined as *favoring* one point of view above all others—adhering to and asserting the dominance of this perspective (Benedikter & Molz, 2011).

The notion of *paradigm* comes from the Greek *paradeigma*, meaning 'pattern, example, sample.' Thomas Kuhn (1996 [1962]) gave the term its contemporary meaning when he adopted the word to refer to the set of practices that provide model problems and solutions ("exemplars") for a community of researchers, thereby governing a scientific discipline at any particular period of time. While a paradigm tends to *define* what is valid and what not for the whole of the ideological constellation of a given time and place, the worldview concept, in contrast, potentially aims to explicate and acknowledge the existence of different viewpoints, even if they are in conflict with each other—thus, optimally, being 'contradiction-capable' and paradoxically constituted (Benedikter & Molz, 2011, p. 34).

There has been much debate about the origin, definition, and utility of the concept of *religion* (Aldridge, 2002; B. Taylor, 2010)—a debate that I will not reproduce here. The concept of religion in many ways overlaps with the notion of worldview, as it can essentially be seen as a cultural system that gives meaning to human existence. For example Smart (1989) argues that both secular and religious worldviews are characterized by seven major dimensions, including ritual, experiential, narrative (or mythic), doctrinal, ethical, social, and material ones. However, other authors argue that religion, beyond being a framework of meaning and meaning-making, deals with the invisible, supernatural, and/or divine aspects of reality (see e.g. Vonk, 2011). The term worldview is then seen as an umbrella term covering both religious and nonreligious frameworks of meaning. This is the understanding I will use here. Furthermore, since the trend in the West is of *the rise of the nones*, as the Pew Research Forum (2012) colloquially refers to the growing number of individuals without religious affiliation, my focus in this study is not on religious worldviews. The Pew

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social and political action" (Ball & Dagger, 1991, p. 8, quoted in Luftig, 2009, p. 48). Thus, one might say that ideologies are principally about translating ideas into social and political action—they are sets of ideas used for mobilizing the masses.

Research Forum's latest results show that now even in the USA—in comparison with other advanced (post)industrial democracies a highly religious country—one fifth of the public, and a third of adults under thirty, are religiously unaffiliated, the highest percentages ever in their polling. However, while these individuals are not affiliated with any religion in particular, many of them are religious or spiritual in some way. Two thirds (68%) of them say they believe in God; more than half (58%) say they often feel a deep connection with nature and the earth; and more than a third (37%) classify themselves as "spiritual" but not "religious" (2012).[13] Thus, while religion, and particularly the Judeo-Christian tradition, is of central importance in the formation and evolution of Western worldviews, my focus in this study is not on religious worldviews as such,[14] although I do explore religious and spiritual ideas, feelings, and commitments as an integral part of worldviews. The most important reason for this choice is that the trend in the West is towards less institutionalized and formalized, as well as less traditional and literalistic understandings of religion,[15] while non-institutionalized and more contemporary forms and understandings of spirituality are growing (see e.g. Houtman & Mascini, 2002; Inglehart & Welzel, 2005; Kronjee & Lampert, 2006; Pew Forum, 2012).

Discourses, according to Foucault (1972), are "practices that systematically form the objects of which they speak" (p. 49). Others have defined the concept as "an ensemble of ideas, concepts and categories through which meaning is given to social and physical phenomena, and which is produced and reproduced through an identifiable set of practices" (Hajer & Versteeg, 2005, p. 175). Discourse analysis therefore "sets out to trace a particular linguistic regularity that can be found in discussions or debates"

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[13] The religiously unaffiliated are also found to be about twice as likely to describe themselves as political liberals than as conservatives, and solid majorities support legal abortion (72%) and same-sex marriage (73%). The 'rise of the nones' thus appears to be associated with the trend of postmaterialization and the rise of self-expression values as observed in the World Values Survey (Inglehart, 2008; Inglehart & Welzel, 2005).

[14] For a study focused on religious worldviews and their interface with environmental issues, see for example Vonk (2011).

[15] For example, the percentage of Americans who say that the Bible should be taken literally has fallen in Gallup polls from an average of about 38% of the public in the late 1970's and early 1980's to an average of 31% since (Pew Forum, 2012).

(ibid), thereby aiming to *reveal* the underlying ideas, assumptions, power structures, and/or interests that often implicitly guide these debates—as well as those that it precludes. Discourses thus define and constitute objects as well as the boundaries of what is taken to be socially acceptable or deviant (Mert, 2012). Although there is overlap between the concept of worldviews and the concept of discourse, I argue that discourse analysis is generally focused on specific *content* (such as the debate around sustainable development, or ecological modernization), while the concept of worldview aims to clarify and explicate the ontological, epistemological, and axiological foundations, or deep structures, undergirding any such content.[16]

Moreover, looking at both concepts from a historical perspective, one could argue that the concept of discourse is closely associated with postmodernity and can only be adequately understood as a response to the problematics of modernity. It is in this light that I tend to understand discourse theory's interest in 'dethroning' and deconstructing what is generally seen as the oppressive meta-narratives of modernity—such as that of 'progress' and the 'triumph of science'—and revealing their underlying power dynamics and hidden interests (see e.g. Bentz & Shapiro, 1998; Butler, 2002; Hacking, 1999). In contrast, I understand the concept of worldview, at least in its contemporary meaning,[17] to be necessitated by the particular predicament and life-conditions of

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[16] However, within discourse theory, discourses are also understood as having different levels of abstraction or depth, or as Wæver (2007) puts it, "*degrees* of sedimentation" (p. 37). As Mert (2012) observes, "the more a discourse structures (or governs) our understanding and articulations, the deeper it lies in the consciousness of the society and the more normal it feels" (p. 63). Potentially, it is at these most 'solidly sedimented' levels of understanding where the notions worldviews and discourses begin to converge. Notably, Foucault's concept of "episteme" comes close to my notion of worldviews, as it is generally understood to refer to the historical *a priori* that grounds discourses and knowledge within a particular cultural milieu and historical epoch (see e.g. Naugle, 2002). An episteme can thus be seen as the (epistemological) foundation of any discourse or idea.

[17] While the concept of worldview (*Weltanschauung*) was coined by Immanuel Kant in 1790, referring to the universal human structures that inform our cognition and perception, the concept in its contemporary meaning—emphasizing notably the diversity between human beings and their cultures, as well as their own (individual) volition and agency with regards to it—is much newer (Naugle, 2002). As several authors have argued, "the construct is inherently postmodern in its implicit position that reality is, at least to some extent,

our late postmodern time, which is characterized by a plurality of competing and frequently intensely polarized worldviews, a profound loss of meaning and purpose among many due to the loss of overarching narratives, and urgent, multifaceted, and increasingly interconnected planetary issues that demand the coordination of these polarized perspectives (see also Benedikter & Molz, 2011; Hedlund, 2010; C. Taylor, 1989). While the concept of worldview, like the concept of discourse, reflects the constructed nature of our positions and emphasizes the responsibility and empowerment that that can bring, it at the same time tends to acknowledge the inevitability and even usefulness of overarching frameworks for human cognition and functioning (see notably Koltko-Rivera, 2004; Naugle, 2002; C. Taylor, 1989). This stands in sharp contrast with a primary impulse in postmodernity, which arguably tends to discard overarching frameworks and narratives—Lyotard (1984) famously defined postmodern as "incredulity towards metanarratives" (p. xxiv). Moreover, while postmodern discourse theory has frequently been criticized for its extreme relativism and even 'anti-realism' (Alvesson & Sköldberg, 2009; Butler, 2002), the concept of worldview conveys a critical realist commitment to a world 'out there,' which is to some extent independent of, and thus not completely subject to, our human constructions. This comes to expression in the word worldview, which emphasizes *world* equally to *view*, and integrates them into a larger, or higher-order, whole. As I am employing it, the concept thus reflects a *research worldview*, which aims to integrate the most important insights of both positivism—emphasizing a *world* that can be objectively investigated by a researcher external to its object of study—and social constructivism—emphasizing our *view* as human construction and product of historical, political, and cultural contingencies. This research worldview is informed by contemporary (research) philosophies such as Bhaskar's critical realism (Bhaskar, 2008 (1975)) and Wilber's integral theory (Esbjörn-Hargens & Wilber, 2006; Wilber, 1995), which will be discussed in sections 1.5.1 and 2.3.7.

Additionally, while discourses tend to be conceptualized as somewhat arbitrary constructions rooted in the power interests of the dominant or privileged classes, I tend to see worldviews as much more non-arbitrary,

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subjectively constructed rather than objectively universal in its totality" (Koltko-Rivera, 2004, p. 8; see also Wolters, 1989).

structured phenomena, rooted in a broader logic and patterning that cannot be reduced to historical, cultural, and political contingencies alone. That is, I tend to maintain a generally *developmental view* of culture and society, in line with some of the main thinkers and researchers that I draw on in this dissertation, such as Charles Taylor, but for example also Ronald Inglehart, who both defend the idea that some form of gradual, non-linear development *can* be—but not necessarily always is—observed in history and society. This position contrasts in important ways with the notion of development in its modernist connotations—that is, of a uni-linear, deterministic, triumphalist developmental progression from 'primitive' levels of social evolution towards the 'civilized' status represented by the modern West[18]—and ascribes to a much more complex, dialectical, open-ended, and unpredictable process of change.[19] In this understanding, development is de-coupled from the notion of 'progress' (i.e. one can also speak of negative

[18] Such an approach has, in my eyes, rightfully been deconstructed by (notably) postmodern philosophers, anthropologists, and sociologists alike, mainly because of its Eurocentric, neocolonial, and derogatory implications, and its commitment to an oversimplified ontological parsimony that is out of step with the complexities of the empirical evidence (e.g. De Mul & Korthals, 1997; Ferguson, 2002; G. Marshall, 1998). As De Mul and Korthals (1997) argue, "although postmodernism is difficult to define and […] many of the philosophers associated with it even deny that such a definition is possible, the critique of the typical modern notion of "development" is without doubt one of the most striking characteristics of this heterogonous group of thinkers. Surely, postmodernism is right in pointing at some problematic and sometimes dangerous aspects of traditional theories of development" (p. 245). Indeed, a strength of postmodern critique is its underscoring of the constructivist dimension of the phenomenon of development, and the ways it has been distorted into an ideology that functions to legitimize dynamics of cultural and institutional-systemic oppression. These criticisms are therefore highly relevant for any philosophy of development that wants to avoid these problems and dangers, but they do not hold for the notion of development per se. In contrast, as also De Mul and Korthals (1997) argue "when it is *so* [complex, dialectical] understood, philosophy of development is in many respects more able than postmodernist theories to give a fruitful interpretation of changes in the conceptual frameworks of individuals and collectives" (p. 245).

[19] For example, the critical realists tend to refer to a process without a pre-ordained goal, endpoint, or formal trajectory, yet having a "tendential rational directionality" (Hartwig, 2011, p. 501) to describe this kind of non-linear development. Also Inglehart and Welzel (2005) argue that "modernization is not linear. It does not move indefinitely in the same direction but reaches inflection points at which the prevailing condition of change, changes" (p. 5). This notion is based on the empirical finding that over time also the *direction* of change changes.

developments), while some form of *qualitative* or structural change can
nonetheless be observed. This means that not only do certain qualities increase
or decrease according to one or more specific criteria, but also that different
criteria are appropriate for an adequate description of a new developmental
stage. Thus, in a developmental movement two or more qualitatively different
stages can always be distinguished (Van Haaften, 1997a). Moreover, new stages
do not randomly arise, but they evolve out of and are in some sense 'produced'
by the antecedent stage. In the words of Van Haaften (1997a), the later stages
"depend on the earlier ones in the sense that the prior stages are necessary
(though of course, not sufficient) conditions for the coming about of the later
ones. It is in this sense that several stages can be identified as causally and
conceptually connected parts of a single developmental sequence" (p. 18). Since
I am not comparing different moments in time with each other, I do not
investigate development in this dissertation. However, I do draw on theorists
who ascribe to such an understanding—such as Charles Taylor, Ronald
Inglehart, Jürgen Habermas, and Ken Wilber—and use their ideas for the
interpretation of my data.

As I will argue in the next section, how development is conceptualized
will profoundly inform one's understanding of sustainable development.

1.3.2   *Sustainable development, the idea of growth, and quality of life*

Sustainability and sustainable development are complex, often used, and
passionately debated concepts. The Brundtland Commission—the UN-
sponsored World Commission on Environment and Development (WCED), led
by Gro Harlem Brundtland—coined the notion of *sustainable development* in 1987
in 'Our Common Future,' a publication that marked a turning point in the
thinking on environment, development, and governance (Sneddon, Howarth, &
Norgaard, 2006). Their definition quickly became classic: "Sustainable
development is development that meets the needs of the present without
compromising the ability of future generations to meet their own needs"
(WCED, 1987). Although this definition has been widely debated and criticized
(e.g. as container concept, oxymoron, cover-up), and many alternatives have
been proposed, it is still the most widely accepted starting point for scholars and
practitioners concerned with environment and development dilemmas.

Sustainable development speaks at least to environmentally, socially, and economically sustainable development, also referred to as the three different dimensions of 'planet, people, and prosperity' (Söderbaum, 2007). Next to ecological and economic dimensions, sustainable development as a concept thus also has strong social-ethical dimensions, particularly because it involves issues of distributive and procedural justice, and has profound implications for notably future generations (intergenerational equity) and for the poor (interregional equity) (see also Wardekker, Petersen, & Van der Sluijs, 2009). Although sustainable development includes social and economic dimensions, the focus in this dissertation is principally on the environmental dimensions. While introduced more than 25 years ago, sustainable development—as guiding institutional principle, as concrete policy goal, and as focus of political struggle—appears to remain salient in confronting the multiple challenges of our new global context (see e.g. Sneddon et al., 2006).

Generally speaking, sustainable development is a broad concept that speaks to a wide range of issues, ranging from what are sometimes referred to as 'grey issues,' such as climate change, energy, pollution, and resource management, to 'green issues,' such as nature conservation, biodiversity, and ecosystem health. In this dissertation, I draw on both these fields and the (sometimes distinct) literatures associated with them, even though the relationships between these fields are not always unambiguous or unproblematic. That is, a certain tension between more environmental (frequently instrumental, managerial) and more ecological (nature-oriented) approaches is sometimes discerned. An example is the complex debate about agriculture, fuelled by competing claims in different fields of science: according to some, large-scale, industrial agriculture, often aided by genetic modification, will feed the planet's growing population most sustainably. In sharp contrast, others emphasize the need for small-scale, agro-ecological (e.g., organic) agricultural strategies in order to reach goals of global sustainable development (see e.g., Levidow, Birch, & Papaioannou, 2012a). As I will argue more extensively below, next to environmental, social, and economic dimensions, sustainable development thus also has *cultural* dimensions, which shape how the concept is understood (see also Burford et al., 2013). Moreover, while sustainable development in practice is frequently operationalized and implemented in a rather technical way (e.g.,

referring to sustainability indicators), in this dissertation I engage the concept more as societal and cultural ideal. Instead of focussing on technocratic solutions and approaches, I concentrate more on what *moves* and *inspires* individuals to act sustainably, or not. For example, in chapter seven this comes to expression in my exploration of the worldviews of a number of leaders in the (mainly Dutch) sustainability-field, whom are widely experienced to be inspirational.

The Brundtland definition of sustainable development is generally seen as an attempt to unite worlds that are frequently in conflict with each other, particularly the expanse and growth associated with (economic) development and the limitations associated with sustainability and ecological conservation. *Our Common Future* (WCED, 1987) explicitly argues for the necessity of a new era of economic growth "that is forceful and at the same time socially and environmentally sustainable," (chairman's foreword) in order to address global poverty and the population growth, environmental degradation, inequality, and suffering associated with it. At the same time, the report displays an acute awareness of the generally devastating impacts of economic development upon the environment, and therefore talks of *a new development path*, one that sustains "human progress not just in a few pieces for a few years, but for the entire planet into the distant future" (p. 12). The report thus can be interpreted to argue for a different kind of economic development—one that is socially just and environmentally sustainable—as well as for a generally interdisciplinary approach that recognizes the interdependent and interlocked nature of the different global crises.[20]

Up to today many sustainability debates are concerned with the notion of 'growth' and its (un)desirability (Boersema, 2002). According to some authors, the notion of sustainable development has—with its colonial, developmentalist roots and modernist connotations—predominantly been used to co-opt or

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[20] In the words of the report: "There has been a growing realization in national governments and multilateral institutions that it is impossible to separate economic development issues from environment issues; many forms of development erode the environmental resources upon which they must be based, and environmental degradation can undermine economic development. Poverty is a major cause and effect of global environmental problems. It is therefore futile to attempt to deal with environmental problems without a broader perspective that encompasses the factors underlying world poverty and international inequality" (WCED, 1987, p. 11).

marginalize eco-political movements and further the agenda of the Western, capitalist society, while selling a green story (Mert, 2012). The critics of the concept generally advocate more radical societal changes, and have comprehensively and incisively deconstructed sustainable development's basic contradictions and its power-laden, problematic assumptions (e.g. Fairhead, Leach, & Scoones, 2012; McGregor, 2004). Despite the validity of many of these critiques, the critics have, in the words of Sneddon et al. (2006), "left little more than ashes in its place" (p. 260). Moreover, this (critical) understanding appears to, at least partially, depend on the enactment of the notion of development. Some authors argue that instead of narrowly identifying development with aggregate economic growth, the concept of development itself can evolve towards a more broadly defined understanding (Sneddon et al., 2006).

Such a wider notion of development could, for example, be informed by the notion of *development as freedom*, following Amartya Sen (2000), who argued that development can be seen as a process of expanding the real freedoms that people enjoy, for which the growth of GNP can be (but not always is) an important means. With that, Sen questions the narrower views of development (e.g., modernization theory), and analyzes the myriad ways in which economic and social debates about development have failed to struggle with fundamental issues regarding ethics, human rights, and individual freedom. Also relevant in this context are Ronald Inglehart's empirical observations (on the basis of the WVS) that economic development is a foundation though not an endpoint of a larger process of *human development*, which can be characterized by a widening of human choice and increasing tolerance and emancipation (e.g. Inglehart, 2008; Inglehart & Welzel, 2005; Welzel, Inglehart, & Klingemann, 2003). According to for example UNESCO (2002b), development should be understood "not simply in terms of economic growth, but also as a means to achieve a more satisfactory intellectual, emotional, moral and spiritual existence." Moreover, developmental psychologists and positive psychologists frequently tend to associate *psychological development* with psychological health and maturation, overall well-being, and increasing levels of care and compassion for others (e.g. Cook-Greuter, 1999; Kegan, 1982; Kohlberg, 1984; P. Marshall, 2009). Thus, the concept of development—though in the context of sustainable development generally narrowly constructed as material or economic growth—*can* clearly also signify

and invoke other human aspirations, including psychological, moral, spiritual, and intellectual development. Additionally, as some authors have argued, the thinking around sustainable development has initiated a move away from neoclassical economics to other forms of economics, such as ecological economics (the field that aspires to contribute to the integration of ecology and economy), and offers an attractive alternative to conventional material growth-oriented development thinking (see e.g. Sneddon et al., 2006; Söderbaum, 2007).

Both the genius and pitfall of the Brundtland definition is that it does not articulate what needs to be sustained, or how, nor what the nature of the development involved is. According to some, sustainability is therefore essentially concerned with the quality of life and the possibilities to maintain that quality in the future—that is, *sustainability of quality of life* (PBL, 2004). The concept of sustainable development is thus necessarily intersubjective and intercultural, and in effect demands a reflection on and exploration of the (cultural) worldviews undergirding one's usage of the concept, such as one's notions of development and quality of life (see also Söderbaum, 2007). Different worldviews—different views on, for example, knowledge production and research design (epistemology and methodology), basic value orientation and perspective on 'quality of life' (axiology), political preferences (societal vision), notions of development (ontology), and the nature of the individual (anthropology)—are thus likely to have strongly informative roles vis-à-vis positions on sustainable development. As for example Sneddon et al., (2006) argue, proponents of a mainstream version of sustainable development tend to demonstrate tendencies towards (post)positivism, exemplified in "a great deal of faith in quantitative representations of complex human-environment relations" and "individualism, economism and technological optimism," (p. 260, 261) while critics of sustainable development appear to be, for the most part, social constructivist in perspective, emphasizing the mediated nature of knowledge and the historical contingency of development processes, and frequently using qualitative rather than quantitative research designs. These authors themselves argue for a "pragmatic and middle path," emphasizing an integrative pluralist approach, an evolving notion of development beyond its more narrow material-economic construction, and a more explicit emphasis on the normative aspects of research (p. 260). From an epistemological perspective it appears that Sneddon

et al. discuss the three major research worldviews—post-positivism, social constructivism, and pragmatism or critical realism (Alvesson & Sköldberg, 2009; Creswell & Plano Clark, 2011)—and their interplay with the concept of sustainable development. See section 1.5 and table 1 for an overview of these three major research worldviews.

This intersubjective nature of the concept of sustainable development highlights another reason for exploring worldviews in the context of our global environmental issues: as long as the undergirding worldviews are not explicated, it is not unambiguous what sustainable development means or may mean. The concept thus by definition necessitates a reflection on and explication of worldviews (see also PBL, 2004; Söderbaum, 2007). This reflexivity is also relevant in terms of environmental policy-making in the broadest sense, as notions of development and quality of life will inform which solutions to sustainability-issues are proposed as well as how sustainability-policies and initiatives are shaped, implemented, and communicated (see e.g. De Boer, Wardekker, & Van der Sluijs, 2010; Nisbet, 2009).[21]

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[21] For example, if our notion of quality of life (or development) is based on the liberal resource perspective with GNP per capita as main indicator for 'welfare,' the demands of sustainability tend to be perceived as constraints upon the pursuit of (a high) quality of life: sustainability is then seen as being in conflict with social progress. As Boersema (2002) puts it, "the associations that we have nowadays with the expression "the good life" are everything but green, and the associations that we have with green are everything but good" (p. 16). On the other hand, the relationship between sustainability and quality of life can also be seen as mutually interdependent. A more sustainable society and lifestyle is then perceived as a contribution to, and prerequisite for, a high quality of life (Boersema, 2002; PBL, 2004). Thus, to what extent one understands the concept of sustainability in terms of limitations or life-enhancement appears to, at least partially, depend on one's notions of what quality of life is and the worldview one is embedded in. This is likely to impact policy-making and communication processes in both profound and concrete ways. For example, although the perspective of sustainability as life-enhancing appears to be less common in the public debate, not including it into our understanding of sustainability will likely result in excluding—and thereby discouraging—the satisfaction that people may gain from living a sustainable life (and according to psychological research, there are a host of psychological benefits associated with sustainable lifestyles, such as satisfaction, well-being, and happiness; see e.g. K. W. Brown & Kasser, 2005; Corral Verdugo, 2012; Jacob et al., 2009). As multiple communication studies have demonstrated, this exclusion may be detrimental to public engagement with goals and issues of sustainable development (see e.g. Futerra, 2005, 2009; Moser, 2007; Moser & Dilling, 2007).

In this dissertation, I use the Brundtland definition of sustainable development in a general sense, referring to the aspiration for the socially just, ecologically sustainable, and economically viable world that most likely both proponents and critics would agree on. However, central to my understanding of the concept is the recognition that a further reflection and articulation of the worldviews—notably in terms of views on development and quality of life—is essential to the debate on sustainable development, and that its cultural dimensions thus need to be included.[22] Moreover, the assumption in this dissertation is that in our contemporary world a plurality of views on the matter is to be expected and embraced, following the kind of integrative pluralism as argued for by, for example, Sneddon et al., (2006) and Söderbaum (2007). While sustainable development points in a specific ideological and ethical direction, such an approach honors the multiple dimensions and stakeholders involved in any decision situation, attempting to as much as possible respect, include, and integrate their (sometimes competing or polarized) perspectives and visions of development and quality of life.

1.3.3 Environmental attitudes and sustainable lifestyles

Next to sustainable development, I frequently refer to environmental attitudes and sustainable lifestyles. In earlier research, *environmental attitudes* have been defined as "the collection of beliefs, affect, and behavioral intentions a person holds regarding environmentally related activities or issues" (Schultz, Shriver, Tabanico, & Khazian, 2004, p. 31). This definition makes clear that environmental attitudes, in contrast with the more comprehensive concept of worldview, are positions or orientations that pertain specifically to environmental issues or activities rather than to life and reality in general. While environmental attitudes are interior and intangible (e.g. feelings, opinions, ideas, orientations), environmental or sustainable *behaviors* are exterior and concrete or measurable (e.g. pro-ecological, frugal, altruistic, and equitable actions (Corral

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[22] Interestingly, indigenous peoples have, through various international forums (such as the United Nations Permanent Forum on Indigenous Issues and the Convention on Biological Diversity), also argued for integrating the cultural dimension in the notion of sustainable development. In this vision, cultural diversity is, next to the sociopolitical, environmental, and economic (also referred to as people, planet, and profit), the fourth policy area of sustainable development.

Verdugo, 2012)). Such behaviors thus involve aspects of individual *lifestyles*—such as consumer and dietary choices, use of energy and transportation, political priorities, support for policy measures, and contributions to societal change. I have chosen for a general focus on *sustainable lifestyles* rather than on sustainable behaviors, as the lifestyle concept is more inclusive (referring to a manifestation of more sustainable behaviors across the board), and more likely to capture intentional instead of coincidental behaviors (Stern, 2000), and therefore probably more useful in the context of the attempt to understand how worldviews interface with sustainable development. Moreover, there is empirical evidence showing significant interrelationships among different types of sustainable behaviors (Corral Verdugo, 2012; De Young, 1993; Schultz, 2001), suggesting that there is empirical support for the concept of sustainable lifestyles.

1.3.4 *Contemporary spirituality*

Many authors have observed an increased attention to and affinity with 'spirituality' and a diminished cultural presence of traditional religious institutions in contemporary society (e.g. Heelas & Woodhead, 2005; Houtman, Aupers, & Heelas, 2009; Houtman & Mascini, 2002). In social science terminology, spirituality tends to represent the more functional, experiential, intrinsic, and frequently mystical dimensions of religion, whereas religion represents the more substantive, formalized, extrinsic, and frequently institutionalized ones (e.g. Dawson, 1998; Marler & Hadaway, 2002). However, on the basis of survey-research it can be concluded that for most people the relationship between 'being religious' and 'being spiritual' is not a zero-sum proposition. Rather, people tend to see religiosity and spirituality as distinct but interdependent concepts (Marler & Hadaway, 2002).

Nonetheless, as multiple authors have argued, contemporary spirituality is in many ways to be distinguished from more traditional forms of religion, and is for example associated with a decline of tradition (Heelas & Woodhead, 2005; Houtman & Aupers, 2007), profoundly informed by processes of secularization and globalization (Campbell, 2007; Hanegraaff, 1996), and frequently characterized by, in the words of Aupers and Houtman (2006), "a basically Romanticist conception of the self that is intrinsically connected to an immanent

conception of the sacred" (p. 202)—albeit not necessarily exclusively immanent conception of the sacred (e.g. B. Taylor, 2010). Although contemporary spirituality as discussed in this dissertation is clearly distinct from more traditional religions, there are also ways in which contemporary spirituality converges with, and can potentially form a common ground between, multiple religions—notably in the ways it asserts a larger, frequently transcendental, meaning to life, and recognizes a sacred dimension to existence (see e.g. Berry, 2009; Giner & Tábara, 1999; B. Taylor, 2010; Tucker & Grim, 1994). However, while traditional religious ideas tend to be associated with a more traditional morality, contemporary spirituality appears to be associated with the rise of postmaterial concerns, and in that sense tends to coincide with a more post-traditional (and postconventional) humanistic morality, in which the value, freedom, and self-expression of the individual is central, supporting for example the emancipation of women, minorities, and gays (see also Inglehart & Welzel, 2005; Ray & Anderson, 2000).

In this dissertation, the term contemporary spirituality is used somewhat loosely, generally referring to post-traditional, non-dogmatic, frequently non-institutionalized, more individualistic forms of religious, inner-growth, or meaning-oriented practices, beliefs, and experiences. In chapter six, the general features of this cultural movement are discussed from a sociological vantage point, for example emphasizing that it is characterized by an epistemological shift of ascribed authority, from 'without' to 'within' (Heelas, 1996; Heelas & Woodhead, 2005). In chapters five and seven the concept of spirituality is explored as defined, conceptualized, and experienced by individuals themselves, through giving an insiders-perspective into what spirituality is understood and experienced to be by carefully selected groups of 'nature lovers/ environmentalists' and 'spiritual practitioners,' and 'integrative environmental leaders.' These personal and frequently intimate disclosures are intended to give the reader a more palpable sense of such practices, beliefs, and experiences. Although contemporary spirituality is certainly associated with a constellation of beliefs, ideas, aspirations, values, and practices that potentially can be analyzed as a *worldview*, in this dissertation I treat the highly eclectic and diverse phenomenon of contemporary spirituality as a cultural movement that is likely to

be associated with various worldviews, including more postmodern (e.g. Campbell, 2007, 2010) and more integrative ones (see e.g. Wilber, 2007).

1.3.5 *Multiple uses of the term 'integrative'*

In this dissertation I use the term 'integrative' in three distinct, though related, ways. In the first place, I use the term 'integrative' in the context of the newly emerging worldview that I explore and describe most explicitly in chapter seven. I focus on this *integrative worldview*, because it appears to be characterized by both a particular potential for sustainability, as well as an attempt to integrate spirituality and transcendence with rationality and science, rather than prioritize one over the other (see section 1.2.3). It thereby potentially overcomes some of the pitfalls associated with the New Age culture (e.g. irrationalism and rejection of science and technology, as will be explored in more detail in chapter six and section 8.2.2). This worldview appears to be of particular relevance as it searches "for inclusion of the largest number of possible viewpoints on one and the same issue or question, even if those viewpoints may be conflicting with each other" (Benedikter & Molz, 2011, p. 34). As will be argued in chapter eight, this tendency and attempt to include as many viewpoints as possible is highly relevant in our contemporary, global cultural landscape of polarized perspectives, culture clashes, and paradigm wars. Moreover, also in the context of goals and issues of sustainable development—which demand the integration of a plurality of domains, disciplines, and perspectives—this appears to be of great importance (see e.g. Esbjörn-Hargens, 2010a; Laszlo, 2006; O' Brien, 2010; Van Egmond & De Vries, 2011; Wilber, 1995).

The notion of a newly emerging "integral," "integrative," or "integrated" worldview has been observed and described by multiple academics and researchers, and from a variety of different disciplinary angles. For example, where the philosopher Jean Gebser (1985) described the emergence of the "integral age," the ego-psychologist Jane Loevinger (1977, 1987) described the emergence of an "integrated stage" of ego-development. The meta-theorist and philosopher Ken Wilber (e.g. 1995) developed an "integral theory," a philosophy seeking a synthesis of the best of pre-modern, modern, and postmodern thought, and aspiring to offer an approach that draws together an already existing number of separate paradigms into an interrelated network of approaches that

are mutually enriching (Esbjörn-Hargens, 2010b).

Additionally, according to some authors, this emerging worldview, although still far from mainstream or widespread, appears to quickly become more relevant in terms of its salience for understanding the worldview-changes in the larger publics of (notably postindustrial) societies:

> When some of the important results of the [Global Consciousness Change Report, the World Values Surveys, Ray and Anderson's American Values study, and the European Values studies] are considered, it becomes apparent that value-sets espoused by major sections of the populations are undergoing transformation towards integration and inclusion (Benedikter & Molz, 2011, p. 53).

Because I aim to explore and describe this worldview ethnographically, I approach it with an *exploratory* and open approach, rather than departing from a narrowly defined understanding of what an integrative worldview is. Hereby I build forth on the broad definition as offered by Benedikter and Molz (2011, who use the term "neo-integrative") of a worldview that attempts "to reconcile spirituality with rationality, with the goal of building a more balanced worldview at the heart of Western civilization than the ones we have had so far." I choose the label *integrative* over terms like integral and integrated, as this worldview appears to be characterized by a central aspiration and concern to integrate different (and what are frequently perceived as opposing or even mutually exclusive) aspects or domains of reality, rather than necessarily perfectly succeeding at this. In other words, the term integrative—in contrast with integral and integrated—explicates that this worldview is characterized by the *aspiration* to integrate rather than the achievement of doing so, while simultaneously conceptualizing the project and process of integration as a moving target that is potentially never fully finished or fulfilled (e.g. there is always more to integrate in our complex, multidimensional reality).[23] I also

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[23] In the words of Boersema (2009): "…statements on environmental issues often suggest that that the word 'integrated' means 'covering all aspects'—although this is in fact usually a hollow pretence. In practice, it is rarely possible to integrate *all* relevant aspects in a project or method, if only because time or manpower restrictions make choices inevitable. On closer

prefer the term integrative above the term holistic, as it emphasizes the process of differentiation-integration in contrast with potential connotations of an emphasis on wholeness achieved through a reversing of the differentiation process (e.g., of the secular and religious spheres, which, as Campbell (2007) has argued, may be one of the foremost negative implications of the 'New Age' movement becoming increasingly dominant in postmodern society, as I discuss in detail in chapter six).

Next to using the term integrative in the context of this newly emerging worldview, I also use the term in the context of describing my methodology, which I refer to as an 'integrative, mixed methods' approach. This approach, as will be described in detail in section 1.5, is associated with integrative research worldviews and philosophies (such as pragmatism, critical realism, integral theory), which explicitly attempt to integrate and synthesize (post)positivism and social constructivism, and quantitative and qualitative research methods.

Third, I use the term in the context of the 'Integrative Worldview Framework' (IWF), which can be seen as an evolving worldview-theory and framework that runs as a common thread through this dissertation. I use the term integrative here because the IWF is directed toward the inclusion and coordination of a pluralism of worldview-structures and their constitutive aspects into a unified framework, thus aspiring to understand worldviews in themselves as well as the societal worldview-dynamics they necessarily interface with in a rather comprehensive manner.

The ways these three distinct uses of the term integrative are interrelated is as follows: both methodology ('integrative, mixed methods-approach') and theory-development ('Integrative Worldview Framework') are logically related to my research worldview as described in section 1.3.1, which is inspired by integrative philosophies such as critical realism and integral theory (and can thus be said to bear resemblance to the emerging, integrative worldview as described notably in chapter seven). The multiple uses of the term integrative thus reflect my aspiration for logical coherence and consistency between research

inspection, then, 'integrated' approaches usually turn out not to be 'fully integrated' in the absolute sense of the phrase, but 'more integrated', usually signifying that the analysis includes a few more factors than earlier approaches. This process may repeat itself, leading to greater and greater 'integrative' scope, but the concept may well lose some of its meaning along the way" (p. 335).

worldview, methodology, and theory development. The possible 'worldview-bias' potentially resulting from this is discussed in section 9.1.3.

1.4 Focus and scope of the study: Research aim and questions

Having introduced the larger background, context, and key terms, I will now elaborate on the focus and scope of this study, outlining the central research questions that inform the inquiry. The main research question is formulated as follows: *How can worldviews and their interface with goals and issues of sustainable development be conceptualized, investigated, and understood, and how can these insights be applied to policy and practice aimed at more sustainable societies?* This question can be broken down in five major sub-aims, which I will discuss below.

1.4.1 Understanding the nature of worldviews

First, the aim of this study is to generate understanding into the nature of worldviews. Although the concept of worldview seems to be increasingly appealed to in the climate change and sustainable development-debates (see e.g. Hulme, 2009; O' Brien et al., 2010), its nature remains controversial: the notion is debated and used in a variety of ways and contexts, and its connotations change over time and along with the evolving content of worldviews (Naugle, 2002). Moreover, it is still unclear how the concept can best be systematically thematized and operationalized. This is important for the (mostly social-scientific) research that is being conducted into worldviews, as well as in the context of more practical concerns, for example *how* to take up the task and challenge of the worldview reflection, exploration, and remediation that is frequently argued for. Thus, there appears to be a conceptual, empirical, and practical need for more clarity on the nature of worldviews. I have chosen to approach this aim by offering a historical perspective on the concept (see chapter two). Since the notion of worldview originated in the field of philosophy (Naugle, 2002), the first question this study addresses is how worldviews have been understood and conceptualized in the history of philosophy. In this inquiry, special attention is paid to the different features and aspects that characterize worldviews, according to the investigated philosophers. Related to that is the

question of why worldviews are important in the context of global environmental issues. Or, in other words: what in the nature of worldviews makes them relevant in the context of sustainable development?

1.4.2   *Empirically researching the structure of worldviews*

Another important aim of this study is to generate insight into how to empirically investigate the somewhat abstract and comprehensive concept of worldview, notably in the context of a lack of scientific theory with respect to the concept (Koltko-Rivera, 2004). As some authors have argued, precisely because of its overarching nature, the concept of worldview may have the potential to function as an integrative framework with which to investigate the interaction of beliefs, values, attitudes, and potentially lifestyles and behaviors (K. A. Johnson et al., 2011; Koltko-Rivera, 2004). In the first place, it is useful to know how worldviews have been explored by existing approaches. In chapter three I therefore conduct a literature review, summarizing and analyzing multiple survey-approaches from a range of disciplinary and theoretical traditions that explore worldviews vis-à-vis sustainable behaviors and lifestyles. On the basis of this meta-analysis, I draw conclusions about how to (more) optimally investigate worldviews, emphasizing the need for a more comprehensive and systematic operationalization of worldviews exploring structural worldview-beliefs, as well as for a dynamic (rather than binary) understanding of the different co-existing worldviews. In the study of worldviews, Koltko-Rivera (2004) distinguishes between *dimensional approaches*, which emphasize the aspects or dimensions within worldviews, and *categorical approaches*, which emphasize the categories of, or content-differences between, worldviews. I attempt to address worldviews comprehensively by including both: that is, the different aspects (dimensions) of worldviews, as well as the ways different worldviews give shape and meaning to these aspects (categories). Although the conceptual and methodological foundation for empirically investigating worldviews is laid in chapter three, insights about how to understand and investigate worldviews iteratively emerge and are further explored and developed throughout the different phases of this dissertation, resulting in an evolving worldview-heuristic: the *Integrative Worldview Framework (IWF)*.

1.4.3 Exploring various worldviews and their relevance for sustainable development

A third aim of this dissertation is to explore existing worldviews, and the extent to, and ways in which, they are relevant for goals and issues of sustainable development. In this way, I hope to give a basic overview of the major worldviews in the current cultural landscape in the contemporary West, and their interface with sustainability-issues.

Using the IWF and its operationalization of the construct of worldview into five aspects as described in chapters two and three, I develop in chapter four a survey that explores individuals' worldviews, environmental attitudes, and sustainable lifestyles. On the basis of the analysis of the data generated through this survey (based on a representative sample of the Dutch public at large), distinct clusters of worldviews were found, which fairly consistently correlated with environmental attitudes and sustainable lifestyles. These result show that certain worldviews indeed correlate significantly with pro-environmental attitudes and sustainable lifestyles, whether others display much less sustainable tendencies across the board. The eminent contemporary philosopher Charles Taylor's theorizing about the post-Romantic cultural current in our contemporary cultural landscape, in combination with the empirically grounded Self-Determination-Theory (SDT) of positive psychology, provide an analytical frame for understanding the different worldviews and their tendencies in terms of environmental attitudes and sustainable behaviors.

1.4.4 Deepening insight into worldviews with particular potentials for sustainable development

After having formed a broad overview of the existing worldviews in the Netherlands and their interface with sustainable development, a fourth aim of this study is to gain in-depth insight into worldviews that appear to have particular potential for sustainable development. Building forth on the quantitative survey-data, I now 'zoom in' on the worldviews that are likely able to contribute to social-cultural change in the direction of more sustainable societies and lifestyles, attempting to generate a more detailed, in-depth understanding of these worldviews and their affinity with, and potential for, sustainability-issues. As the results of the survey demonstrated, several cultural

phenomena—such as the culture of contemporary spirituality, the contemporary emphasis on inner growth and self-exploration, and the emphasis on nature experience and connectedness—appear to be of particular interest in this context. In chapter five, I therefore report in-depth interviews with individuals conducive to a more 'spiritual' experience of nature, illuminating their understanding and experience of both nature and spirituality, and offering an intimate insiders-perspective into it. In this way, I generate ethnographic insight into contemporary nature spirituality and its positive relationship to sustainable development. In chapter six, I aim to generate insight into the culture of contemporary spirituality and investigate both its potentials and its pitfalls for sustainable development. This question is engaged by a review of the sociological literature on the "New Age," and shows that there appear to be more 'monistic' or 'de-differentiative' as well as more 'integrative' tendencies within this widespread, eclectic, cultural movement. The more integrative tendencies seem to point at, and push for, the emergence of a more integrative understanding of the role of spirituality in contemporary life as well as of reality in general, and appear to be related to a more *integrative worldview*. In chapter seven, I focus on the central beliefs, feelings, and practices associated with this integrative worldview. I do this through in-depth interviews with 'integrative environmental leaders,' exploring the different aspects of these individuals' worldviews. I also aim to clarify how the premises of this worldview appear to translate into a social imaginary of a sustainable society, that is, a (new) vision on how to understand and approach sustainability issues, potentially resulting in new practices and policies.

1.4.5 *Applying insights into worldviews to sustainability policy and practice*
Lastly, this study aims to translate the generated insights into worldviews to sustainability policies and practices. While the former chapters demonstrate that worldviews are relevant for sustainability goals, practices, and policies, so far no insight is given into how to pragmatically use these understandings. This task is therefore taken up in chapter eight, where I synthesize the gathered insight into an expanded articulation and understanding of the IWF. This heuristic framework is then applied to policy-making and communication, with the aim of unpacking how it can serve as a 1) heuristic for cultural and psychological self-

reflexivity; 2) analytical tool for understanding worldview-dynamics in society; and 3) scaffolding for effective climate communications and solutions. In this, I use the literatures on, particularly, reflexive policy-making, climate communications, and framing.

1.4.6. Summing up: The research questions

Thus, one can translate these five sub-aims to the following research questions:

1. What is the nature of worldviews? (See chapter 2)
   a) How have worldviews been understood and conceptualized by philosophers over the ages?
   b) Which features and aspects characterize worldviews, according to these philosophers?
   c) What in the nature of worldviews makes them relevant in the context of goals and issues of sustainable development?

2. How can worldviews and their interface with goals and issues of sustainable development be empirically investigated? (See chapter 3)
   a) How have worldviews been explored in the past, in the context of goals and issues of sustainable development?
   b) What are the strengths and weaknesses of these approaches?
   c) What would be a more optimal approach to exploring worldviews in the context of goals and issues of sustainable development?

3. Which worldviews currently exist in the Netherlands, and how do they interface with goals and issues of sustainable development? (See chapter 4)
   a) Which worldviews currently exist in the Netherlands?
   b) Are there significant differences between these worldviews and their interface with environmental attitudes and sustainable lifestyles?
   c) Are there worldviews that appear to have significant potential for sustainable development (e.g. in terms of environmental attitudes and sustainable lifestyles)?

4. What are the general contours of the emerging, 'integrative' worldview, which appears to have particular potential for sustainable development? (See chapter 5 - 7)

    a) What is the specific potential of nature experience and nature spirituality (which are associated with this worldview) for sustainable development? (See chapter 5)

    b) What are the potentials and pitfalls of the culture of contemporary spirituality (which is associated with this worldview) for sustainable development? (See chapter 6)

    c) What is the deeper logic and inner experience of the integrative worldview and its positive relationship to sustainable development? (See chapter 7)

    d) How are the premises of this worldview translated to a 'sustainable social imaginary'? (See chapter 7)

5. How can the gathered insights into worldviews be applied to policy and practice for goals and issues of sustainable development? (See chapter 8)

    a) How can insights into worldviews be applied to policymaking for goals and issues of sustainable development?

    b) How can insights into worldviews be applied to communication for goals and issues of sustainable development?

1.5 An integrative, mixed methods approach

In line with the interdisciplinary nature of my research questions and my research worldview as described above, I have chosen for an *integrative, mixed methods approach*. I will first concisely discuss the history and philosophy of mixed methods as a new research worldview, in order to clarify what this approach entails and why and how it is apt in the context of my objectives. Then I will discuss my chosen design more specifically.

1.5.1 A concise history of mixed methods as new research worldview

As argued by multiple advocates of mixed methods research (see e.g. Creswell & Plano Clark, 2011; Tashakkori & Teddlie, 1998), the emergence and evolution of

this more integrated way of understanding and approaching research can be understood as a response to the paradigm wars that broke out in the 1970's between the (post)positivists and the social constructivists in the social and behavioral sciences. The *paradigm wars* refer to a heated debate and sharp competition between two dominant 'research worldviews' or belief systems that guide researchers in their conceptualization, design, conduction, analysis, and interpretation of research (Creswell & Plano Clark, 2011; R. B. Johnson & Onwuegbuzie, 2004). While the (post)positivist paradigm tends to underlie the quantitative methods, the social constructivist paradigm is often associated with the qualitative methods. Whereas (post)positivists tend to assume a single reality, the independence of subject and object (or knower and known), and the possibility of value-free inquiry, the social constructivists, in contrast, argue for the existence of multiple, socially constructed realities, the inseparability of subject and object, and the value-bound nature of inquiry. Moreover, while (post)positivists emphasize cause-and-effect relations and deductive logic, social constructivists seek in-depth understanding and generally emphasize induction or grounded theory (Tashakkori & Teddlie, 1998).

Indeed, these two dominant research paradigms have resulted in two research cultures, "one professing the superiority of 'deep, rich observational data' and the other the virtues of 'hard, generalizable' … data" (Sieber, 1973, in: R. B. Johnson & Onwuegbuzie, 2004, p. 14). However, despite these different and in many ways opposing understandings of reality and research, from the 1960's and more commonly the 1990's onward, an approach to research started to emerge combining both of these paradigms and understanding them to be compatible and mutually enhancing rather than mutually exclusive: this approach is generally referred to as *mixed methods research*. Such an approach appears to be particularly relevant for addressing our contemporary sustainability-issues.[24] Such an integrative approach to research thus rejects the

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[24] As Hedlund (2010) argues, our "planetary problems are multifaceted, interwoven gestalts—thus demanding the coordination and integration of multiple disciplinary and methodological perspectives in order to generate effective solutions that account for their myriad dimensions. And yet a tremendous gap between the current capacity of our dominant traditions of inquiry and knowledge acquisition and the demands of our planetary problems remains: in very general terms, the methodological purview of our traditions of knowledge acquisition is either insufficiently inclusive (modern scientism/methodological monism) or

forced choice between (post)positivism and constructivism with regards to method, logic, and epistemology, and in fact embraces the essence of both points of view (Creswell & Plano Clark, 2011; Esbjörn-Hargens, 2006; R. B. Johnson & Onwuegbuzie, 2004; Tashakkori & Teddlie, 1998). That is, both quantitative and qualitative methods are considered important and useful, and generally a broader (methodologically and epistemologically) pluralistic, inclusive, and integrative approach is promoted. Mixed methods—also understood as 'the third research paradigm'—may therefore help to bridge the schism between the quantitative and qualitative research paradigms (R. B. Johnson & Onwuegbuzie, 2004).

Philosophically, mixed methods is most often associated with *pragmatism*, a philosophical approach that argues that the current meaning, instrumental, or provisional truth value of an expression is to be determined by the experiences of the practical consequences of the belief in or use of the expression in the world (see e.g. Creswell & Plano Clark, 2011; Tashakkori & Teddlie, 1998). This approach has many features in common with my research worldview as described above, inspired by, among others, critical realism, which also has been described as 'a third way' aspiring to synthesize the best of both (post)positivism and social constructivism (see e.g. Alvesson & Sköldberg, 2009). Like critical realism, pragmatism views knowledge as both constructed *and* based on the reality of the world we experience and live in. It aims to find a middle ground between philosophical dogmatisms and skepticism, and rejects traditional dualisms such as rationalism versus empiricism, facts versus values, and subjectivism versus objectivism. It endorses eclecticism and pluralism (and sees for example different and conflicting perspectives and theories as potentially useful), and aspires practical theory—that is, theory that informs effective practice. While it takes an explicitly value-oriented approach to research, it simultaneously argues that those values should be derived from shared, cultural values such as democracy, freedom, and equality, rather than reflecting a

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insufficiently integrated (postmodernism relativism/methodological pluralism). As a result, they appear to be largely inadequate in fostering a coherent coordination and integration across disciplinary and methodological boundaries, and thus in addressing our most vital global challenges in any substantive sense" (pp. 1-2). He goes on to discuss a systematic approach to conducting mixed methods research, grounded in integral theory, known as 'integral research.'

researcher's highly idiosyncratic opinions (R. B. Johnson & Onwuegbuzie, 2004).

In the mixed method approach the concept of *triangulation*—that is, the use of multiple methods or perspectives to illuminate a certain phenomenon—is central, because the understanding is that every method has its limitations and discloses certain aspects of a larger, more complex, multifaceted, and multidimensional reality. Thus, precisely through the combination and integration of multiple methods a closer approximation of reality becomes possible (Tashakkori & Teddlie, 1998). Through triangulation, research results gathered with different methods can converge, thereby increasing the validity of the research. At the same time, triangulation can generate complementary insights, as diverse methods may disclose different aspects of the same complex and multidimensional reality. While mixed methods sometimes tends to be seen as relevant to methods only, a *mixed models design* refers to combining both paradigms not only in the data generation and collection phases, but also in other phases of the research process, such as the framing of the research problem, conceptualization and theory construction, data analysis and interpretation, inference and application (R. B. Johnson & Onwuegbuzie, 2004). According to several authors, such an approach, which is integrative at all phases of the research process, is the growing trend in the social and behavioral sciences (Creswell & Plano Clark, 2011; Esbjörn-Hargens, 2006; Tashakkori & Teddlie, 1998). Moreover, according to some authors, an evolution in the social and behavioral sciences can be observed, from the use of monomethods to the use of mixed model-studies (Tashakkori & Teddlie, 1998). See table 1 for an overview of the different research worldviews, and their implications for research.

1.5.2   *A mixed models design*

In this dissertation, I use such a *mixed models-design* (Tashakkori & Teddlie, 1998). As such, I generate and analyze data quantitatively at the collective level in my representative survey in the Netherlands (chapter four), and then qualitatively at the individual level in my in-depth interviews (chapters five and seven). This study uses three different forms of triangulation: *data triangulation* (combining different sources of data; e.g. representative individuals in the Netherlands, selected individuals in North-America and the Netherlands), *theory*

triangulation (combining different theoretical perspectives, e.g. environmental psychology, history of ideas, revised modernization theory), and *methodological triangulation* (combining quantitative survey-research with qualitative interview-research).

	Post-positivism	Social constructivism	Pragmatism (and other integrative research philosophies, i.e. critical realism, integral theory)
Ontology	Singular reality, reductionism (e.g. researchers reject or fail to reject hypotheses)	Multiple realities, multiple meanings (e.g. researchers provide quotes to illustrate different perspectives)	Both singular and multiple realities (e.g. researchers test hypotheses and provide multiple perspectives)
Episte-mology	Distance and impartiality (e.g. researchers objectively collect data on instruments)	Closeness (e.g. researchers visit participants at their sites to collect data)	Practicality (e.g. researchers collect data by 'what works' to address research question)
Axiology	Unbiased (researchers claim and attempt to be unbiased, and use checks to eliminate biases)	Biased (researchers actively and reflexively talk about their biases and interpretations)	Multiple stances (researchers include both biased and unbiased perspectives)
Metho-dology	Deductive (e.g. researchers test an a priori theory); Empirical observation and measurement, aimed at theory verification	Inductive (e.g. researchers start with participants' views and build up to patterns, theories, and generalizations); Social and historical construction, aimed at theory generation	Combining / Mixed methods (e.g. researchers use both quantitative and qualitative methods and data); Pluralistic, integrative, aimed at real-world practice
Rhetoric	Formal style (e.g. researchers use agreed-on definitions and variables)	Informal style (e.g. researchers write in a literary, informal style)	Formal or informal (e.g. researchers may employ both formal and informal styles of writing)

Table 1: An overview of the main research-worldviews and their implications for practice, adapted from Creswell and Plano Clark (2011).

1.6   Reading guide and outline

After having introduced the research in this chapter, the next chapter traces the concept of worldview in the history of philosophy, by discussing the thinking on this concept of a range of extraordinarily influential philosophers—from Plato,

to Kant, Goethe, Hegel, Nietzsche, and Heidegger, to several contemporary philosophers and philosophical currents. On the basis of this inquiry, the concept of worldview is defined and the foundations for the IWF are expounded. The IWF facilitates the operationalization of the concept of worldview into five distinct, though interrelated, empirically researchable aspects: ontology, epistemology, axiology, anthropology, and societal vision (or social imaginary).

Chapter three reviews existing approaches that empirically explore (aspects of) worldviews and their relationship to environmental attitudes and sustainable lifestyles. I start with analyzing multiple survey-approaches stemming from different disciplinary and theoretical traditions, including widely used scales such as the *New Environmental Paradigm*. This results in a meta-analysis of their strengths and weaknesses. By arguing that the IWF is able to address the observed shortcomings, this chapter lays the foundation for an innovative conceptual and methodological approach to investigating worldviews in the context of goals and issues of sustainable development.

Chapter four is the first empirical chapter of this dissertation. With assistance of the IWF, a survey exploring worldviews, environmental attitudes, and sustainable lifestyles is developed and conducted in the Netherlands (n=1053). The statistical results generate three main clusters of worldviews, which potentially point at the existence of a more *traditional* worldview in Dutch society (labeled 'Traditional God'), a more *modern* worldview (labeled 'Focus on money' and 'Secular materialism'), and a more *postmodern* worldview (labeled 'Inner growth' and 'Contemporary spirituality'). Next to distinguishing them, these clusters were also found to have (statistically) significantly different tendencies in terms of environmental attitudes and sustainable lifestyles. This study thereby provides a preliminary overview of potentially important worldviews in the context of goals and issues of sustainable development, in a contemporary Western society such as the Netherlands.

Building forth on the findings of chapter four—which indicated that an orientation towards inner growth and contemporary spirituality tend to be related with pro-environmental attitudes (notably connectedness with nature) and more sustainable lifestyles—in chapters five, six, and seven I zoom in, both theoretically and ethnographically, on worldviews with a particular potential for

sustainable development. Chapter five reports a qualitative exploration of the spiritual dimension of nature experience as described in interviews with nature-lovers/environmentalists and spiritual practitioners in Victoria, Canada. The results give an insiders-perspective into contemporary nature spirituality, inviting the reader to explore and appreciate it from *within*. The research illuminates three potential pathways to a sense of environmental responsibility.

In chapter six, I review the sociological literature on the culture of contemporary spirituality and delineate its relevant potentials and pitfalls for goals and issues of sustainable development. This overview shows that this culture is both a potentially promising force, as well as a phenomenon posing specific risks. A developmental-psychological understanding is introduced in order to be able to distinguish between more monistic and more integrative tendencies in this culture.

In chapter seven, I qualitatively explore the newly emerging *integrative* worldview (which appears to coincide with the integrative tendency of contemporary spirituality as discussed in chapter six), as disclosed through in-depth interviews with carefully selected 'integrative environmental leaders.' This study also sheds light on how these leaders translate the ontological, epistemological, anthropological, and axiological presuppositions of their worldview into new approaches for sustainable development, resulting in a 'sustainable social imaginary' that may facilitate public communication and large-scale mobilization for sustainable solutions to our planetary issues.

In chapter eight, I synthesize many of the generated insights that have come forth through the earlier chapters, articulating an expanded understanding and articulation of the IWF—using my understanding of the worldview-concept and its operationalization into five aspects as an organizing scheme for differentiating four major, ideal-typical worldviews: a traditional, modern, postmodern, and integrative worldview. It is then demonstrated how this heuristic framework has value for further research into worldviews and sustainability, as well as how it can be applied for reflexive policy-making and sustainability communications, potentially serving as: 1) a heuristic for cultural and psychological self-reflexivity; 2) an analytical tool for understanding worldview-dynamics in society; and 3) a scaffolding for effective sustainability communications and solutions.

Chapter 9 starts with a discussion and reflection, articulating several limitations and considerations with respect to the dissertation as a whole. It then revisits the five-fold aim and the accompanying research questions as articulated in the present chapter, attempting to answer them and taking stock of the findings the research has generated. I conclude with sketching future perspectives by formulating the most central societal and policy implications of this study.

Chapter 2

Worldviews and their significance for the global sustainable development debate: A philosophical exploration of the evolution of a concept

One of the most precious pieces of sociological wisdom is the principle of historicism. It says that in order to understand any contemporary phenomenon, we must look back at its origins and the processes that brought it about.

      - Piotr Sztompka[25]

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[25] In: *The Sociology of Social Change* (1993), p. xiv.

2.1   Introduction

Environmental philosophers have for decades emphasized that the 'materialistic,' 'reductionistic,' 'disenchanted,' and 'dualistic' Western worldview is at the very root of environmental issues, and that a profound change in worldview is needed if we are to find solutions for our planetary challenges and make the transition to more sustainable societies (Devall & Sessions, 1985; Duintjer, 1988; Lemaire, 2002; Naess, 1989; Plumwood, 1993; Schlichting, 2011; White, 1967; Wilber, 1995; Zweers, 2000). Calicott (2011) therefore explains for example Aldo Leopold's lifelong writing and activism in terms of a project of *worldview remediation*. Other voices have argued that global environmental issues, such as climate change, are cultural phenomena that are reshaping understandings of humanity's place on earth, requiring a more reflexive framing that takes into account the different worldviews, values, and perspectives through which we view, enact, and respond to environmental problems (see e.g. Hulme, 2009; O' Brien et al., 2010). Worldviews thus tend to be seen as vital in both the origination of environmental problems as well as in the search for and implementation of sustainable solutions. Theoretical and empirical insight in worldviews is consequently an essential element in approaches aiming to design and support more sustainable pathways for society (M. De Groot, Drenthen, & De Groot, 2011; O' Brien, 2009).

However, the nature of worldviews remains controversial: the notion is debated and used in a variety of ways and contexts, and its connotations change over time and along with the evolving content of worldviews (Naugle, 2002). Moreover, it is still unclear how the concept can best be operationalized. This is especially important for the (mostly social-science based) research that is being conducted into worldviews and value orientations. As will be discussed in chapter three, the field of environmental psychology has brought forth a myriad of approaches, scales, and constructs aiming to empirically explore the relationship between worldviews and environmental behavior—with interesting but not entirely satisfying results. Additionally, although the importance of worldviews is increasingly being emphasized in the climate change and sustainable development-debates (see e.g. Hulme, 2009; O' Brien et al., 2010), little consideration tends to be given to *how* to take up this task and challenge.

Overall, there appears to be a conceptual, empirical, and practical demand for more clarity on what worldviews are and how they can be operationalized.

In order to understand the nature of worldviews and their complex relationship to issues and goals of sustainability, we need a historical perspective on the concept—we need to "look back at its origins and the processes that brought it about" (Sztompka, 1993). In this chapter, I therefore aim to offer a framework for the operationalization of worldviews, by investigating various understandings of the term in the history of philosophy. This narrative starts with the 'birth' of the *Kosmos* in ancient Greece, and gains more force and speed with Kant's coinage of the term *Weltanschauung*. However, exploring the *concept* of worldview, we inevitably also touch on its *content*. Comparing, for example, ancient Greek with contemporary ideas about worldviews shows how concept and content tend to be intimately related: while the Greek cosmology pointed to a unified understanding of the *Kosmos*, containing both physical and metaphysical dimensions and including questions of meaning, ethics, and aesthetics, cosmology nowadays generally (although not always) refers to the study of merely the physical universe (Kragh, 2007). The purpose of this enterprise is therefore twofold. In the first place, an exploration into the history of worldview-thinking helps us to fathom the complex, controversial, and much contemplated concept of worldview and do justice to its long history and evolution by offering a comprehensive and up-to-date understanding and operationalization. Secondly, through this historical exploration we also gain a rudimentary understanding of the evolution of thought itself—and with that, of contemporary worldviews, as they can be seen, in the words of Tarnas (1991), as the sum and consequence of a "long battle of ideas (p. xii)."

2.2   Methodology and justification

The concept of worldview has not only travelled through many brilliant philosophical minds, but also extends its influence in other domains, such as the natural and social sciences (Naugle, 2002). However, in this exploration I will limit myself to discussing the ideas of philosophers. Moreover, I do not attempt to treat all philosophers who mentioned or defined the concept, but will only include several 'big names,' whose views profoundly changed the spirit of an era,

and are to some extent symbolic and representative of the larger currents of change taking place in the Western worldview. However, mainly due to a lack of space, I do that at the expense of describing, for example, countercurrents in detail. Lastly, I do not aim to do justice to the complexity and richness of each of these philosophers and their thought, but I reflect on their work from the perspective of my central concern: the relationship between worldviews and their relevance for the sustainable development debate. In this manner, I will discuss Plato's notion of *Kosmos* (ancient worldview), Kant's coinage of *Weltanschauung* (Enlightenment), Goethe's *Lebenswelt* and Hegel's *Zeitgeist* (Romanticism), Nietzsche's *perspectivism* and Heidegger's thought on *die Zeit des Weltbildes* (initiating postmodernism). Since time will tell which contemporary philosophers will truly change 'the spirit of an era,' I conclude with a section on *contemporary currents*, briefly touching on Deconstructionism and Social Constructionism ('high postmodernism'), as well as on some of their (potential) successors—critical theory, integral theory, and critical realism.

In this exploration, I draw on established scholarly sources such as philosophical encyclopedias (notably the 2005 edition of *The Oxford Companion to Philosophy* and the German *Historische Wörterbuch der Philosophie*) as well as on primary and secondary sources concerning the specific philosopher in case. In addition, I have used three major works that give an overview of the history and evolution of the Western worldview. These works have helped me to 'weave the thread,' turning a collection of philosophers and their thoughts on the worldview-concept into a coherent narrative with a beginning and end, leading to arguably profound insights about the concept, especially in light of our planetary environmental challenges. David K. Naugle's "*Worldview: The History of a Concept*" (2002) is probably the most comprehensive and rigorous historical examination of the worldview-concept available. However, Naugle reflects on the concept from an explicitly Christian, rather than an environmental, perspective. Charles Taylor's "*Sources of the Self: The Making of the Modern Identity*" (1989)[26] and Richard Tarnas' "*The Passion of the Western Mind: Understanding the*

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[26] *Sources of the Self* articulates a history of the "modern identity" by exploring some of the major transformations that Western thought went through, from Plato to present-day. Taylor received both the prestigious Kyoto Prize and the Templeton Prize, in addition to widespread esteem among fellow philosophers.

Ideas That Have Shaped Our World View" (1991)[27] provide a solid background in, and overview of, Western intellectual history. Both of these acclaimed works make a case for a complex but generally progressive development in the history of thinking and allowed me to better comprehend the evolution of the worldview-concept by contextualizing it in its changing content throughout time.

2.3   The philosophical exploration of the evolution of a concept

In this section I discuss the different understandings of the concept of worldview in the history of philosophy, starting with Pythagoras' and Plato's notion of *Kosmos*.

2.3.1   *The birth of the Kosmos in Greece*

For the concept of worldview to be born, first the idea of "world" needed to become a theme. According to scholar of philosophy and philology Rémi Braque[28] (2003) the emergence of the concept of "world" first appeared in ancient Greece: "It was only at the halfway point of history that there appeared a word capable of designating all of reality in a unified way. Humanity was able to do without the idea of "world" for half of its history—not to mention the immensity of prehistory" (p. 11). Although Egyptian and Mesopotamian civilization used notions approaching the same meaning—by making references to the world either by more or less exhaustively enumerating its different components or by using terms that designate the idea of totality—these notions of world were, according to Brague, different from how "world" has been understood from the Greeks onward. While these civilizations did not make a clear differentiation between self and world, precisely that became the basis of the *Kosmos*:

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[27] *The Passion of the Western Mind* provides a narrative history of Western thought. The book became a bestseller and continues to be a widely used text in colleges. Tarnas is the founding director of the 'Philosophy, Cosmology and Consciousness' program at the California Institute of Integral Studies.

[28] Rémi Brague is a professor of medieval philosophy at the Sorbonne in Paris. In 1988 he wrote a book on the concept of world as used by the Greeks: Brague, R., 1988, *Aristotle et la question du monde. Essai sur le contexte cosmologique et anthropologique de l'ontologie,* Paris: Presses Universitaires de France.

The world is constituted as a totality because it unfolds before a subject, before which reality is firmly established, as if independent of it. The world swells up from the absence of the subject in it. It is necessary, for the world to appear, that the organic unity that linked it to one if its inhabitants – man – be broken (p. 13).

The term Kosmos denotes order and beauty, and more specifically the beauty resulting from order. This "peculiarly Greek combination of order, structural perfection, and beauty" (Tarnas, 1991, pp. 46-47) is also reflected in the two different meanings of the word: order or harmonic whole as well as jewelry or ornament (Runes, 1983). Probably Pythagoras was the first to call Kosmos the encompassing of all things, *because of* the order that reigns in it: it is the order that connects the different aspects and makes them into a harmonic, beautiful whole. The Greeks tended to believe that the world and its human subjects were primarily connected through the existence of laws that governed them all: universal moral laws (Brague, 2003). Moral ideas were thus part of the very structure of reality; they were in fact the very source of the world order, that which justified a global view of that reality as constituting a Kosmos (Cornford, 2000 (1973)).

Cosmology in ancient times also typically encompassed a *cosmogony*, or origin story: an account of how the universe came into being (Freeland, 2006). In his *Timaeus*, Plato offers a "likely account" of the generation of the world. This world is a living organism produced by a Divine maker, the Demiurge. Using the eternal and perfect world of Forms or Ideas as a template, he set about creating our world, which formerly only existed in a state of disorder. In order to make a living and intelligent whole, "he put intelligence in soul, and soul in body" (Cornford, 2000 (1973), p. 33). Then, since the part is imperfect compared to the whole, the world had to be one and only. Therefore, the Demiurge did not create several worlds, but *one and unique* world" (ibid, p. 42). Finally, he created the soul of the world, placed that soul in the center of the world's body and diffused it in every direction. Having been created as a perfect, self-sufficient, and intelligent being, "the world he brought into being was a blessed God" (ibid, p. 58). The Kosmos itself was thus regarded as a living, divine being, animated by the same principle or substance that brought life to the

animals within it—the *anima mundi*, the living soul of the universe (Inwood, 2005 (1995)-a). This ancient idea recently resonated in the scientific Gaia hypothesis of James Lovelock, which proposes the entire world as one vast, living, self-regulating organism—a notion embraced by several strands in contemporary environmental thought (Hay, 2002). In his account, Plato portrays the universe as a purposively constructed and beautifully arranged cosmos, in which the macrocosm is analogous to the microcosm. Human morality was based on this cosmic order, which was revealed in the visible architecture of the heavens. The *Timaeus* thus lays out a cosmology in which a metaphysical Theory of Forms is integrated with a general physical theory (Cornford, 2000 (1973)). As Tarnas (1991) notes:

> While for other contemporary cultures the heavens remained, like the overall world view, principally a mythological phenomenon, for the Greeks the heavens became linked as well to geometrical constructions and physical explanations, which in turn became basic components of their evolving cosmology. The Greeks thereby bestowed to the West a tradition which demanded that a cosmology not only must satisfy the human need to exist in a meaningful universe—a need already served by the archaic mythological systems—but must also delineate a coherent physical and mathematical structure of the universe accounting for detailed systematic observations of the heavens (pp. 49-50).

Both 'science' and 'philosophy' were thus vital constituents of the Greek cosmology. Complementary to the mythical approach and worldview, these first philosophers and scientists considered the world thus also intelligible in a rational way, and the human being, with his higher intellectual faculties, well prepared to understand that world (Boersema, 2001). As Taylor (1989) emphasizes, reason in this context is understood as the capacity to see the order that is there, that is, to be ruled by the correct vision or understanding: "Reason reaches its fullness in the vision of the larger order, which is also the vision of the Good" (p. 123). Precisely because of the order reigning over all—the universal, moral laws that connected the celestial with the terrestrial realms, and humanity with the larger world—the human being was considered to be able to

understand and have knowledge of the world. The belief that the universe is governed according to a comprehensive regulating intelligence, and that this same intelligence is reflected in the human mind, rendering it capable of knowing the cosmic order, was characteristic of Hellenic thought (Tarnas, 1991). So although there is in this conception a clear differentiation between the self and things, there is also a *correspondence* between mind and world (Brague, 2003) — an assumption that would be critically questioned, about two thousand years later, by Immanuel Kant.

2.3.2   Kant and his introduction of 'Weltanschauung'

Immanuel Kant (1724-1804), a towering figure in the culturally fertile period of the latter half of the 18th century, coined the term *Weltanschauung*, which later on would be translated into the English 'worldview.' He did this in his *Kritik der Urtheilskraft* (Critique of Judgment), published in 1790, in a "quintessential Kantian paragraph that accents the power of the perception of the human mind" (Naugle, 2002, p. 58). Or, in other words, in a paragraph that shifted the balance from the world to its viewer:

> If the human mind is nonetheless to be able even to think the given infinite without contradiction, it must have within itself a power that is supersensible, whose idea of the noumenon cannot be intuited but can yet be regarded as the substrate underlying what is mere appearance, namely, our intuition of the world [Weltanschauung]. For only by means of this power and its idea do we, in a pure intellectual estimation of magnitude, comprehend the infinite in the world of sense, entirely under a concept, even though in a mathematical estimation of magnitude by means of numerical concepts we can never think in its entirety (English translation in Naugle, 2002, pp. 58, 59).[29]

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[29] In Kant's words: „Das gegebene Unendliche aber dennoch ohne Widerspruch auch nur denken zu können, dazu wird ein Vermögen, das selbst übersinnlich ist, im menschlichen Gemüthe erfordert. Denn nur durch dieses und dessen Idee eines Noumenous, welches selbst keine Anschauung verstattet, aber doch der Weltanschauung, als bloßer Erscheinung, zum Substrat untergelegt wird, wird das Unendliche der Sinnenwelt in der reinen intellectuele Größenschäßung unter einem Begriffe ganz zusammengefaßt, obzwar es in der

Kant speaks here of the attempt of human reason to form a comprehensive outlook on the totality of empirical things. That is, he articulates the relationship between the human subject and the objects surrounding him, into a framework of understanding: a *Weltanschauung*. That outlook explicitly is a total view, covering 'everything.' He also states that this outlook, comprehending the infinite sensible world into a non-contradictory whole, itself can only be supersensible, and therefore no conclusions can be drawn from it about the noumenon: the universe and the connections between things in themselves (Ritter, Gründer, & Gabriel, 2004, p. 453). This is called Kant's *transcendental Idealism*: the idea that the mind constitutes the known universe because we can only know things within the framework of our own creation (Allison, 2005 (1995)). With that, Kant elevates the human mind, because it is the power and magnitude of the human mind that is able to creatively organize the infinite, contradicting and often chaotic world of sense into a comprehensive and orderly whole (Naugle, 2002).

Although Kant used the term *Weltanschauung* only once, it is, in retrospect, not surprising that the history of this central concept starts with his 'Copernican Revolution in philosophy'—which was profoundly influenced by the startling and in many ways disorienting discoveries of the scientific revolution. In the words of Tarnas (1991), "as Copernicus had explained the perceived movement of the heavens by the actual movement of the observer, so Kant explained the perceived order of the world by the actual order of the observer" (p. 347). In a response to the conflicting, but in themselves convincing, claims from natural science and skeptical philosophy, Kant introduced the notion of the *a priori* structures of the mind—such as space, time, and causality. These a priori forms and categories of understanding shape the *noumenon* (*das Ding an sich*), or the world in itself, into the *phenomenon*, the world as it appears to the human subject (Reill & Wilson, 2004). The world natural science describes is therefore a world ordered by the mind's cognitive apparatus: man knows reality precisely to the extent that reality conforms to the structures of his mind, and causality and the necessary laws of science are thus built into the framework of his cognition, his *Weltanschauung*. The mind does not conform

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mathematischen durch Zahlenbegriffe nie ganz gedacht werden kann" (see Kant, 1968 (1790)).

to things, rather things (that is, the things as we know them) conform to the mind (Tarnas, 1991).

According to Taylor, this transformation is uniquely distinctive for the development of the Western worldview. The order that in Greek thought had been ascribed to the world, was now *internalized*, to use Taylor's term: it became a function of the human mind itself. In this development, the emphasis gradually shifts from the content of thought to the activity of thinking; from a found or given order to a self-constructed order. In many ways, this decisive turn was prepared for by Rene Descartes (1596-1650), who, by doubting everything, came to the conclusion that there was one datum that could not be doubted: the fact of his own doubting, and therefore thinking. At least the "I" who is conscious of one's own doubting exists. Thereby Descartes established as the bedrock of all human knowledge the certainty of individual self-awareness (Tarnas, 1991). According to Taylor (1989):

> We could say that rationality is no longer defined substantively, in terms of the order of being, but rather procedurally, in terms of the standards by which we construct orders in science and life. For Plato, to be rational we have to be right about the order of things. For Descartes rationality means thinking according to certain canons. The judgment now turns on the properties of the activity of thinking rather than on the substantive beliefs that emerge from it (p. 156).

This revealed an essential hierarchy and division in the world: rational man knows his own awareness to be certain, and entirely distinct from the external world of material substance, which is epistemologically less certain and perceptible only as object (Tarnas, 1991, p. 277). This resulted in the *Cartesian dualism*—between human and nature, consciousness and matter, subject and object, mind and body—that much green literature has identified as ultimately responsible for the current ecological malaise (Hay, 2002; Plumwood, 1993). This 'turn to the subject' necessitated the *objectification* of the world, or, in Max Weber's famous term, "the disenchantment of the world" (*die Entzauberung der Welt*). According to Taylor (1989), "we could also call it neutralizing the cosmos, because the cosmos is no longer seen as the embodiment of a meaningful order

which can define the good for us. … We demystify the cosmos as a setter of ends by grasping it mechanistically and functionally as a domain of possible means" (p. 149). This differentiation between subjective self and objective world generated a new notion of individual independence and emancipation, because "the disengaged subject is an independent being, in the sense that his or her paradigm purposes are to be found within, and not dictated by the larger order of which he or she is part" (pp. 192-193).

By his differentiation between noumenon and phenomenon and his assertion that we cannot have knowledge of the world in itself, Kant affirms Descartes' ontological cleft between *res cogitans* (thinking substance; subject) and *res extensa* (extended substance; object), even as he complexifies it. The immediate consequence of Kant's limitation of knowledge was that it virtually ruled out traditional metaphysics (Allison, 2005 (1995)). While science could claim certain knowledge of appearances, it could no longer claim knowledge over all of reality. And it is precisely this differentiation that allowed Kant to reconcile scientific determinism with religious belief and moral freedom: science and religion described different worlds and were thus no longer in contradiction. By restricting science to appearances, room is left for morality with respect to things in themselves. Though everything in the realm of appearance, including human action, is causally determined, it remains conceivable that human beings, considered as noumena, are free. The project of justifying morality for Kant thus turned crucially on the establishment of our noumenal freedom (Allison, 2005 (1995)). Kant thereby initiates a more radical notion of freedom: "The moral law is what comes from within; it can no longer be defined by any external order. But it is not defined by the impulse of nature in me either, but only by the nature of reasoning, by, one might say, the procedures of practical reasoning…." (C. Taylor, 1989, p. 364). Therefore, rational beings have a unique dignity. In contrast with everything else in nature, which conforms to laws blindly, rational beings are potentially free and self-determining.

From its coinage in Kant, the term 'Weltanschauung' evolved quickly and the term prospered in the following decades, especially under the influence of a number of key thinkers mostly in the German Idealist and Romantic traditions (Ritter et al., 2004). By the century's midpoint, *Weltanschauung* had infiltrated a number of other disciplines, and started to penetrate other

languages. Throughout the 19th century the notion of *Weltanschauung* became immensely popular, and by its end it had made its way into virtually every speech community in the Western world, either as a loan translation ('worldview') or a loanword ('weltanschauung'), or in both ways, as in the English language (Wolters, 1989).

2.3.3 Goethe's 'Lebenswelt'

Although he is not a philosopher in the formal sense, Johann Wolfgang von Goethe (1749-1832) is an interesting figure for the history of worldviews. With his *Naturphilosophie* he articulated an alternative to the dominant worldview and science of his days, which still resonates within environmental thought. Goethe is often considered as part of the Romantic Movement, which can be seen as the first broad expression of an ecological impulse (Hay, 2002). With Goethe, the concept of *Weltanschauung* evolved into the capacity of the individual—who is formed by personal, embodied experience, and is thus not a transcendental subject, as with Kant—to constitute, give shape to, his own experiential life world, or *Lebenswelt* (Ritter et al., 2004). With that, Goethe prepared for the *individualizing* of the worldview concept. In his view, each individual develops a conception of the world in accordance with his own potential and requirements. As Simmel (2007) remarks about Goethe's thought:

> This is shown most clearly by a statement that is initially a self-confession but announces, quite generally, his thought on knowledge acquisition: "Had I not already carried the world within me through its anticipation, I would have remained blind while seeing, and all research and experience would have been nothing more than a lifeless and vain effort." Here it is thus not just the form but the whole of existence, the unity of form and content, which in a mysterious way, are derived from within (p. 169).

Although it may appear as if this 'within' through which Goethe feels enabled to see the world resembles Kant's a priori principles, Kant's structures are alienated from the world in itself (which they do not give access to), while for Goethe this inner experience, especially in its more pure and mature form, is an *expression* of the world in itself, of Nature. For him, cognition is an immediate,

organic function of *Leben*, the divine life of Nature, which is adequate and true to the extent to which it arises from the unitary ground and the mode of being in the world of this very *Leben* (Goethe, 1950 (1782)). Both Kant and Goethe tried to rescue the integrity of the moral. However, while Kant proposes a radical break with nature (which is part of the phenomenal domain described by deterministic science), Goethe and the Romantics propose that morality is "to be discovered in the élan of nature itself, from which we have cut ourselves off" (C. Taylor, 1989, p. 382). As Tarnas (1991) observes,

> In Goethe's vision, nature permeates everything, including the human mind and imagination. Hence nature's truth does not exist as something independent and objective, but is revealed in the very act of human cognition. The human spirit does not simply impose its order on nature, as Kant thought. Rather, nature's spirit brought forth its own order through man, who is the organ of nature's self-revelation (p. 378).

Romanticism, or as Taylor (1989) frames it, "the family of views in the late eighteenth century that represent nature as an inner source," (p. 368) rebels against the sharp dualism between humanity and nature that became dominant with the Enlightenment's forging of a disengaged reason. In contrast, the Romantics assert the need of a *deeper engagement*, as it was precisely through our emotional, spiritual, and imaginative participation in nature that one could come to an understanding of reality and its order. The Romantics thus make a plea for "a return to nature, but a return to nature specifically as a source of *heightened imaginative sensibility*" (Hay, 2002, p. 9). It was, thus, individualist rather than collectivist, and included intuitive or mystical modes of knowing rather than merely rational ones. As our access to nature is within, we can only come to knowledge through articulating what we find within; and this making manifest involves a creation. In the words of Taylor (1989), "it is no longer some impersonal 'Form' or 'nature' which comes to actuality, but a being capable of self-articulation" (p. 375). The Romantics thus tend to highlight the creative and self-enactive dimension of life and emphasize the unique particularity of each individual, thereby calling each individual to live up to one's originality. According to Taylor (1989),

Something fundamental changes in the late eighteenth century. The modern subject is no longer defined just by the power of rational control but by this new power of expressive self-articulation as well … This works in some ways in the same direction as the earlier power: it intensifies the sense of inwardness and leads to an even more radical subjectivism and internalization of moral sources. But in other respects these powers are in tension. To follow the first all the way is to adopt a stance of disengagement from one's own nature and feelings, which renders impossible the exercise of the second. A modern who recognizes both these powers is constitutionally in tension (p. 390).

It is these two large currents of Enlightenment and Romanticism that came to a large extent to determine the Modern sensibility (Frisina, 2002; C. Taylor, 1989). Tarnas (1991) speaks of *the divided worldview* in this context, a worldview in which the sensitive human psyche is situated in a world alien to (human) meaning: "The modern experience was still vexed by a profound incoherence, with the dichotomies of the Romantic and scientific temperaments reflecting the Western Weltanschauung's seemingly unbridgeable disjunction between human consciousness and unconscious cosmos" (p. 377).

2.3.4   Hegel's 'Zeitgeist'

In a similar unifying spirit, Georg Wilhelm Friedrich Hegel (1770-1831) set forth a conception of reality that sought to relate human being and nature, spirit and matter, time and eternity. While in Kant's analysis of consciousness there is one set of determining categories for all rational minds, making a single human view of the world possible, for Hegel there are a variety of forms of consciousness, which he systematically examined in his *Phenomenology of Mind* (Naugle, 2002). With that, Hegel offers a historical perspective in which the succession of worldviews is seen as the continuing development of *Geist,* gradually coming to a true understanding of its absolute nature (Ritter et al., 2004). One of Hegel's most important contributions is his grasp of the historically and socially conditioned nature of thinking (Singer, 2005 (1995)). What at any moment was seen as certain was constantly overcome by the evolving mind, thereby opening up new possibilities and greater freedom. Each

phase of being contains within itself a self-contradiction, which serves as the motor of its movement to a higher and more complete phase. Through a dialectical process of opposition and synthesis, the world is always in the process of completing itself. Every era's worldview was thus both a valid truth unto itself and also an imperfect stage in the larger truth of absolute truth's self-unfolding (Tarnas, 1991, pp. 379-380). With that, Hegel argued that what appeared to be contraries in philosophy—such as mind/body, freedom/determinism, idealism/materialism, universal/particular, state/individual, or even God/man— appeared incompatible only because of the undeveloped and thus incomplete perspective within which these oppositions were formulated. Although highly influential, this attempt at a dialectical resolution of traditional oppositions has been the most severely criticized in Hegel's controversial philosophy (Pippin, 1999).

Another important contribution is Hegel's metaphysical concept of *Geist*, which refers to some kind of collective subject, mind, or 'spirit,' progressively coming to self-consciousness. With this concept, he suggests an overarching collective mind or spirit that is an active force through history, of which all individual minds are part (Singer, 2005 (1995)). To advance this perspective, Hegel had to argue against a powerful and deeply influential assumption in modern thought, that is, the priority of the individual, self-conscious subject. Hegel tried to show that the formation of what might appear to an individual to be his or her own particular intention, desire, or belief reflected a complex social inheritance that could itself be said to be evolving, with a "logic" of its own (Pippin, 1999). *Zeitgeist*, the experience of a dominant cultural climate that defines an era in the dialectical progression of a people, or of the world at large (Naugle, 2002), is for Hegel thus a necessary stage in a larger development: the unfoldment of *Geist* itself. Whereas for Plato the immanent and secular was ontologically dismissed in favor of the transcendent and spiritual, for Hegel the world itself was the very condition of the Absolute's self-realization (Inwood, 2005 (1995)-b; Tarnas, 1991).

2.3.5 Nietzsche's perspectivism
Friedrich Nietzsche (1844-1900) was, in Tarnas' (1991) words, "by all accounts, the central prophet of the postmodern mind" (p. 395). With his recognition of

both the liberating and catastrophic consequences of the disenchantment of the modern worldview, his zealous attack on the Christian value-system, his bold attempts to formulate alternatives for the looming crises of nihilism and positivism, and his radical perspectivism, Nietzsche has significantly contributed to the evolution of the concept of worldview, and still has a profound influence on contemporary culture. Although he did not spend much time reflecting upon the nature of *Weltanschauung* per se, a sketch of its understanding is possible in light of the ethos of his philosophy (Naugle, 2002).

In his work, Nietzsche shows a deep concern with issues relating to the quality of life in the culture and society of his time. He saw the Western worldview as fundamentally flawed, and was determined to come to grips with the profound crisis he believed to be impending as this comes to be recognized. He not only prophesied the collapse of the Christian worldview, but he also sought to provide humanity with a new perspective on life, beyond what he called 'the death of God' and the 'advent of nihilism' following in its wake (Honderich, 2005 (1995); Schacht, 2005 (1995)). A complete reevaluation of our values, an *Umwertung aller Werten*, was a plain necessity for him. However, he deemed traditional forms of religious and philosophical thought to be inadequate to the task and indeed to be part of the problem: Platonism, Christianity, and German Idealism all aimed to transcend and sublimate the worldliness of existence by constructing a world of Ideas, an after-life, or a pure Spirit. In contrast, Nietzsche therefore calls us, in the words of Zarathustra, to 'stay faithful to the earth,' affirming and enhancing its worldly, sensual existence in spite of, and even eagerly embracing, its transitory, unpredictable, and elusive nature (Lemaire, 2002). Perhaps surprisingly, this call, as well as his philosophical work in more general, has only to a limited extent resonated in environmental thought (Drenthen, 2003). However, according to the Dutch environmental philosopher Ton Lemaire, Nietzsche can, in certain respects, even be compared to Henry David Thoreau: he was a 'backcountry man' with a clear scenic dimension to his thinking (many of Nietzsche's ideas appeared to have arisen during long walks in the mountains), and his philosophy is revitalizing, life-embracing, and natural, rehabilitating the senses and sensuality (Lemaire, 2002).

Nietzsche's philosophy offers a radically immanent perspective on life, inviting us to say 'yes' to life without holding back and fully embracing the worldliness of our existence. Despite his anti-religious, anti-metaphysical, and anti-pessimistic perspective on life, Nietzsche cannot be seen as a naturalist with an unyielding trust in the (natural) sciences. In fact, his position on 'truth' was much more paradoxical and complex (M. Clark, 1990). Nietzsche was highly critical of traditional and commonplace ways of thinking about knowledge, maintaining that as they are usually construed there is and can be nothing of the kind (M. Clark, 1990). The alleged "truth" of a worldview is merely an established convention, the product of linguistic customs and habits, an artificial construct necessary for human survival (Naugle, 2002). In the words of Tarnas (1991), "every way of viewing the world was the product of hidden impulses. Every philosophy revealed not an impersonal system of thought, but an involuntary confession" (p. 370). The notion of a factual reality accessible prior to interpretation was a self-deception, covering up processes of knowing that ruled out for all any objective grasp of reality (Small, 2006). However, although critical and skeptical towards 'truth,' Nietzsche simultaneously manifested a passionate commitment to 'truthfulness' and pursued philosophical tasks that quite clearly supposed to have something like knowledge as their aim (Schacht, 2005 (1995)). For Nietzsche, the world is always understood within the perspective of some point of view, thus allowing for different and even contradictory truths. According to Tarnas (1991), radical perspectivism as developed by Nietzsche and articulated in various forms by many other thinkers of the (late) modern era, lies at the very heart of the postmodern sensibility:

> In this understanding, the world cannot be said to possess any features in principle prior to interpretation. The world does not exist as a thing-in-itself, independent of interpretation; rather it comes into being only in and through interpretations. The subject of knowledge is already embedded in the object of knowledge: the human mind never stands outside the world, judging it from an external vantage point. […] All human knowledge is mediated by signs and symbols of uncertain provenance, constituted by historically and culturally variable predispositions, and influenced by often unconscious human interests.

Hence the nature of truth and reality, in science no less than in philosophy, religion, or art, is radically ambiguous. The subject can never presume to transcend the manifold predispositions of his or her subjectivity. One can at best attempt a fusion of horizons, a never-complete rapprochement between subject and object (p. 397).

Nietzsche also rejected the notion of a *Kosmos* as a rationally knowable order, but instead affirmed the world as chaos without goal, nature being unfathomable and opaque (Small, 2006). In this chaotic world without prescribed meaning and order, it is the heroic individual, the *Übermensch,* who takes his fate in his own hands and endows life with forms of meaning and value that it may not have in the first place, but is capable of attaining. According to Tarnas (1991), "then the God who had long been projected to the beyond could be born within the human soul. … Truth was not something one proved or disproved; it was something one *created*" (p. 371). With his bold and highly creative ideas about the potential development of the emancipated, unique individual, Nietzsche forged a new ideal of the free spirit (Dohmen, 1994). Therefore, as Small put it, "a cosmology in any traditional sense is irrelevant to Nietzsche's Dionysian mode of thought. The philosophers have only interpreted the world in various ways, he might have said, but the point is to *affirm* it" (pp. 203-204).

2.3.6   *Heidegger and die Zeit des Weltbildes*

The ideas of Martin Heidegger (1889-1976) about worldviews, or more precisely, world *pictures*, cannot be adequately understood distinct from his analysis of the worldview of his age, which he coined, in an essay in 1938, "Die Zeit des Weltbildes," or 'the age of the world picture.' By studying the phenomena brought forth by a certain age, Heidegger thought it possible to uncover the metaphysical underpinnings they are based on. He therefore studied the phenomenon of science, as one of the most characteristic features of the modern time. Rather than embracing worldviews as necessary phenomena rooted in the essential psychology of human beings, Heidegger believed that a world picture originates when humans are conceived as subjects and the world is presented as on object for interpretation and representation—the objectification

(*Vergegenständlichung*) of being that is so distinctive for science, and modernity at large (Naugle, 2002).

Although there is a potentially pathological or dangerous aspect to Heidegger's outspoken anti-modernism (as may have become manifest in his involvement with National Socialism in Nazi Germany, see e.g. Hay, 2002; Zimmerman, 1993), the virtue of his thought lies in its profound questioning of the epistemological revolution of Kant, which established human consciousness as the foundation for true and secure knowledge. According to Heidegger (1983), this put man center stage and subjectivized and anthropocentrized the modern worldview, in a dynamic interplay with the objectification of the world and nature. In this process, "the very essence of man itself changes, in that man becomes subject" (p. 45). That is, humanity becomes the ground and locus of all that is—the measure of all things, including what the world itself is and how it is viewed. The world, then, is conceived and grasped as object of knowledge and representation, as object of exploitation and disposal (Naugle, 2002). Thus, for Heidegger (1983), "world picture, when understood essentially, does not mean a picture of the world but the world conceived and grasped as picture. What is, in its entirety, is now taken in such a way that it first is in being and only is in being to the extent that it is set up by man, who represents and sets [it] forth" (p. 44).

Heidegger's ideas have been highly influential in environmental thought (Hay, 2002; Kennedy, 2011; Zimmerman, 1993). This is not surprising, as his entire philosophical edifice can be seen as critiquing the Enlightenment tradition of progressive modernity—particularly in its human-diminishing and nature-obliterating tendencies—and, from that critique, trying to establish a basis for living 'authentically' (Hay, 2002; Zimmerman, 1993). Heidegger's lifelong project was to answer the "question of being" (*Seinsfrage*), thereby shifting the dominant preoccupation at the time with questions of epistemology to questions of metaphysics or ontology (Guigon, 1999). While traditional metaphysics tended to conceptualize being as a property, substance, or essence enduringly present in things ("the metaphysics of presence"), Heidegger emphasized being as the *self-manifesting* or *presencing* by virtue of which an entity reveals itself as such (Zimmerman, 1993). Instead of being universal, unchanging, and transcendent, this presencing was understood to be temporal—and thus cultural-historical, linguistic-interpretative (hermeneutic), and emergent, unfolding.

Rather than a superior or absolute type of entity (such as God or the absolute), Being is a self-disclosive event, a dynamic embodied process through which entities manifest themselves. Being, thus, is 'in-the-world' and inseparable from the world (Honderich, 2005 (1995); Inwood, 2005 (1995)-b).

Heidegger sought recovery of Being, but saw 'the world as picture' to be blocking the experience. In the 'age of the world-picture,' people understand nature as little more than raw material that is valuable solely because it can be used to enhance human power, thereby profoundly cutting them off from other experiences of nature. However, Heidegger simultaneously envisioned a postmodern era in which people would "let things be"—instead of treating them merely as instruments or objects (Zimmerman, 1993).

2.3.7   *Contemporary currents: High postmodernism and beyond*

While the ancient or pre-modern period tended to be characterized by confidence in the human being's capacity to obtain a singular and comprehensive view of the universe (either in the form of a Platonic correct vision of the great order, or the Christian vision of creation as revealed in the Bible), in the modern period a more cautious approach came to dominate the philosophical-cultural climate, shifting the center of gravity from world to viewer, from God to man, from scripture to science, from revelation to reason. Although generally more cautious, the belief was still that human beings, beginning with themselves and their own methods of knowing, could gain an understanding of the world, at least its facts, if not its values (Naugle, 2002).[30] This self-questioning turn was taken to an extreme in postmodernism, where skepticism tended to replace confidence altogether, destroying any hopes of ascertaining the truth about the universe. Figures like Nietzsche and Heidegger—with their multi-perspectivism, emphasis on the embodied, particular, and temporal nature of life, and their criticisms of objectivist science—nourished the seeds of postmodernism that were originally planted during Kant's epistemological revolution. However, thinkers like Jacques Derrida (1930-2004), Michael Foucault (1926-1984), and

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[30] However, a substantial amount of practicing modern and contemporary scientists are not necessarily Kantian—that is, they have not absorbed and integrated the fundamental epistemological revolution that Kant brought about. As a whole, mainstream science is thus not necessarily reflexive.

Jean-Francois Lyotard (1924-1998) could be said to made them come to full bloom.

Lyotard famously proclaimed an era of "incredulity towards meta-narratives," referring to a fundamental disbelief that any worldview or overarching interpretation of reality is true and ought to be believed and promulgated (Naugle, 2002). The two main narratives Lyotard attacked are those of the progressive emancipation of humanity—from Christian Redemption to Marxist Utopia—and of the triumph of science (Butler, 2002). Derrida undertook a 'program of deconstruction,' casting doubt about the ability of language to represent reality accurately and objectively—and more than that, even about whether there is anything beyond linguistic constructions, as his famous "there is nothing outside of the text" points to (Butler, 2002). Worldviews, then, are reduced to a self-referential system of linguistic signifiers dispossessed of any metaphysical, factual, or moral import (Naugle, 2002). Foucault emphasized the dimension of power, and the profound ways in which power and knowledge imply another: "In skeptical Foucaultian terms, worldviews are merely the linguistic constructions of a power elite. They are the facades of an absentee reality, and function as an effective means of social oppression" (Naugle, 2002, p. 184). The use of deconstruction, subverting our confidence in logical, ethical, cultural, and political commonplaces, has the potential to be revolutionary and liberating: for once we see our frameworks this way, we can also see that—even though we have attributed them to the natural order of things—the world, its social systems, and human identity are not *givens*, but are constructed and reified by us (Hacking, 1999). We are thus the architects of our world, the craftsmen of our reality (Naugle, 2002, p. 184).

Although the larger public does not partake in the highly academic, philosophical understanding of postmodernism, a convergence with the contemporary tendency to pluralism, relativism, and skepticism, and emphasis on other modes of knowing than rational, has substantially contributed to its success and (political) appeal (Alvesson & Sköldberg, 2009; Butler, 2002). With their attacks directed to precisely those cultural narratives that are frequently understood to be generative of our ecological and planetary issues—notably the modern notion of progress and Enlightenment rationality as expressed in objectivist/positivist science—postmodernism potentially offers an important

contribution to (those with) environmental concerns. Simultaneously, the relationship between environmentalism and (academic) postmodernism is complex and in some sense antithetical, as "the fragmentation of experience, disorientation and loss of overarching perspectives … are threats to the efforts of environmentalists who are struggling to proselytize a global perspective on environmental destruction" (Gare, 1995, p.1-2, cited in Hay, 2002). Moreover, the complete 'deconstruction' of nature is problematic for environmental discourse, since it undermines notions such as the intrinsic value of nature and nature's integrity and autonomy. Lastly, the postmodern situation is often said to result in a profound loss of meaning, direction, and purpose, because an overarching framework is that in virtue of which we make sense of our lives morally and spiritually (See e.g. Spretnak, 1999; C. Taylor, 1989). Therefore, while appreciating the liberating and emancipating potential of postmodernism, many commentators have simultaneously emphasized its "performative" contradictions (Habermas, 1987), its self-destructive "anti-realism" (Alvesson & Sköldberg, 2009), and the "deep irrationalism at the heart of Postmodernism" (Butler, 2002, p. 11)—for example by pointing out that the claim that 'there are no universal truths' is itself formulated as a universal truth, and, similarly, that the deconstruction of all meta-narratives itself displays the structure of a meta-narrative.

Several approaches have emerged that seem to build forth on some of postmodernism's most important insights, while developing alternatives for its (widely perceived) shortcomings. *Critical theory* (that is, the Frankfurt School and its associated thinkers) poses the idea, similar to postmodernism, that societal conditions are not natural and inevitable, but historically created and heavily influenced by the asymmetries of power and special interests, which can—and should—be made subject of radical change (Alvesson & Sköldberg, 2009, p. 37). However, in contrast with the anti-hierarchical and nihilistic stance of postmodernism, critical theory tends to maintain a *dialectical* and generally *developmental* view of society. Notably in the person of Jürgen Habermas (1929 -), who conceptualizes worldviews in a historical-developmental sense, drawing explicit linkages between individual development and social evolution. At the level of worldviews, he distinguishes a number of stages of development, claiming that the pattern of development of individual identity is key to

uncovering these societal changes (Held, 1980). However, his understanding of development is dialectical rather than linear: "Evolutionarily important innovations mean not only a new level of learning but a new problem situation as well, that is, a new category of burdens that accompany the new social formation. The dialectic of progress can be seen in the fact that with the acquisition of problem-solving abilities new problem situations come to consciousness" (Habermas, 1976, p. 164).

The field of *integral theory* can be seen as a response to some of the major problems as brought forth by postmodernity, notably its cacophony, relativism, and lack of integration. In the words of Ken Wilber (1949 -), the primary founder of the field, *integral* means "comprehensive, inclusive, nonmarginalizing, embracing. Integral approaches … include as many perspectives, styles and methodologies as possible within a coherent view of the topic. In a certain sense, integral approaches are "meta-paradigms," or ways to draw together an already existing number of separate paradigms into a network of interrelated, mutually enriching perspectives" (Wilber, 2003, p. xii). In a postmodern fashion, he argues for a post-Kantian perspective that recognizes that what is being perceived is *enacted*, brought into being through the consciousness that perceives it: "reality is not a perception but a conception; at least in part" (Wilber, 2007, p. 231). However, while social constructionists have been criticized for investigating the constructions of others, yet leaving themselves and their constructions out of the picture (see e.g. Alvesson & Sköldberg, 2009), integral theory emphasizes the importance of illuminating the constructions of the researcher, through arguing for a *post-metaphysical* [31] approach. Such an approach replaces perceptions (ontic assertions) with perspectives (verifiable injunctions) and locates knowledge claims by explicating one's "Kosmic address" (Esbjörn-Hargens & Wilber, 2006)—that is, by disclosing one's epistemic structures, potentially through a process of "researching the researcher" (Hedlund, 2008). In this way, Wilber argues that we should attempt to integrate as many different perspectives and methodologies as possible, while

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[31] The term 'post-metaphysical' was coined by Habermas, who in 1988 published a book titled: "Nachtmetaphysisches Denken: Philosophische Aufsatze," which was translated as "Post-metaphysical Thinking."

simultaneously reflexively situating ourselves in the view of the world that we are collectively drafting.

Critical realism, originated in writings by the philosopher Roy Bhaskar, (1944 -) is more and more often suggested as a counterweight and alternative to both positivist (modern) and constructionist (postmodern) approaches (Alvesson & Sköldberg, 2009). Critical realism shares positivism's interest in the objective world, patterns, generalization, and in finding causalities; yet diverges from it in claiming that the study of the empirical is too superficial, as it disregards the unobservable mechanisms that produce the phenomena that positivists seek to measure and explain. Simultaneously, critical realism shares postmodernism's interest in context, synthesis, and qualitative research, but it also argues that a sole focus on social constructions is insufficient and misleading (Alvesson & Sköldberg, 2009). Critical realism therefore positions itself as an alternative to both, arguing for a critical, emancipatory perspective that simultaneously acknowledges ontological reality. Like critical theory and integral theory, critical realism holds a complex dialectical view of development: "While rejecting any view of geo-history that sees it as an inexorable process of development towards a pre-ordained goal, viewing it rather as a radically contingent, uneven and multiform process punctuated by regression and foldback, critical realism does hold that there is a certain 'tendential rational directionality' in history" (Hartwig, 2011, p. 501). The fundamental impetus of Bhaskar's philosophy is, in his own words, "the transcendence and healing of division and split in a reconciliation that sees an end to the blind domination of nature and humans by humans" (Bhaskar, 2002). Hereby he argues for a "(re-) enchanted view of the cosmos," in what seems like a dialectical return to and integration of Plato's *Anima Mundi*, resurrecting the living soul of the universe, yet this time in a more complex, critical, pluralist, reflexive, and co-creative fashion.

2.4   Summary and discussion

The evolution of the worldview-concept seems to be characterized first and foremost by a *reflexive turn*. In ancient Greece the predominant emphasis was on the correct vision of the larger order, as exemplified in Pythagoras and Plato's

Kosmos—a concept describing a living universe that is pervaded by spiritual intelligence, beauty, and structural perfection (Tarnas, 1991). However, profoundly informed by the Scientific Revolution of the time, the Enlightenment-thinkers—and notably Kant, who coined the term *Weltanschauung*—introduce a "Copernican Revolution in philosophy," emphasizing the constructive and creative power of the human mind, thereby shifting the emphasis from the vision of the world to the one who is viewing that world; from the content of thought to the activity of thinking, and from a found or given to a self-created order (Naugle, 2002; Tarnas, 1991; C. Taylor, 1989). Although Kant tended to see a *Weltanschauung* as timeless and fixed, with Hegel's *Zeitgeist* it became clear that worldviews are profoundly historically and culturally embedded. The concept therefore both reflects as well as invites a *profound reflexivity*—a reflexivity not only flowing forth from the acknowledgment of the existence of multiple worldviews and (thus) their cultural-historical and personal-idiosyncratically constituted natures, but also from a perspective on reality itself as *brought into being through participation*, that is, reality as fundamentally enactive and co-creative. This evolution climaxes in Nietzsche's celebration of the affirmative power this can bring, prophesying the liberated, self-authoring individual to be born. In a sense, this insight explains why environmental philosophers have frequently pointed at our worldviews as root-cause of the environmental crisis: according to them it was precisely through our scientific, objectified, and dualistic worldview that the environmental crisis could come into being. Thus, the concept of worldview not only conveys that the world is viewed differently by different viewers, but also that those different viewers tend to enact, co-create, and bring forth different worlds—thereby emphasizing the power, significance, and potential of one's worldview. A creative responsibility as well as a certain *gravitas* opens up when this insight is fully realized. The evolution of the worldview-concept thus seems suggestive of both an *increasing reflexivity*, and related to that, an *increasing acknowledgement of our own creativity and responsibility*.

Next to the reflexive turn, and partially inspired by it, the evolution of the concept seems to be characteristic of an *increasing inclusiveness*, and potentially (developmental) *integration*. While the Greek revolution consisted of a fundamental *differentiation* between man and world, as Brague (2003) has

emphasized, it is with Descartes and Kant that man and world become truly *separated*: ontologically with Descartes, and epistemologically with Kant (Tarnas, 1991). In Kant's understanding man could not have knowledge of the world in itself, but was always seeing his own construction of it, thereby forging the 'Kantian divide,' leaving humanity fundamentally split off from reality, dissociated from a disenchanted cosmos. Simultaneously, Kant opened up a new world to explore: the human mind and being through which the world is perceived, thereby further empowering what Taylor has called 'the inward turn.' While Kant conceptualized his "a priori structures" in a universal and transcendental way, the Romantics started to call attention to the individual, historical, cultural, and particular ways in which the human mind is co-creating the reality it is experiencing—-including the worlds of dreams and the imagination, emotions, expression, and intuition, participation in nature, and the unconscious (Hay, 2002; Tarnas, 1991; C. Taylor, 1989). In the philosophies of Goethe and Hegel, man and world are not ultimately separated, as Kant assumed, but instead Nature is coming to expression and self-revelation *through* man (Simmel, 2007; Tarnas, 1991), thereby voicing a new perspective on the relationship between humanity and nature. In contrast with the *disengaged reason*, the Romantics thus plea for a *deeper engagement* (Hay, 2002; C. Taylor, 1989).

In postmodernism these profoundly influential and in some sense contradictory cultural currents come together (Tarnas, 1991; C. Taylor, 1989), notably in Nietzsche's perspectivism, which asserts, in the words of Zarathustra, that we need "a hundred-faced mirror" to catch even a glance of life (Nietzsche, 1999 (1911), p. 76). Nietzsche thus emphasizes the need to include multiple perspectives and modes of knowing. Thinkers like Lyotard, Derrida, and Foucault, through deconstructing the 'totalizing narratives' of the powerful elite, further this process of liberation, emancipation, and inclusion of (marginalized) voices—among which potentially the voice of nature. While critical theory, integral theory, and critical realism share postmodernism's commitment to including multiple perspectives and dismantling the constructed nature of (social) phenomena, they simultaneously attempt to move beyond postmodernisms nihilist stance, re-vindicating the notions of human development and cultural evolution (though in a more complex, dialectical fashion than the modernist linear narrative) as well as the scientific project (though again, in a

more complex sense than the criticized positivist account of science). These currents may therefore be important to environmental discourse, as they potentially offer a new vision on the integration of humanity and nature, in a manner that is both critical and reflexive (as opposed to naïve) in its understanding of the human constructions of nature, yet realist (as opposed to nihilist) in its granting of some level of realness, autonomy, and value to nature in itself.

2.5   Conclusion and implications

To return to and fulfill the twofold aim that this chapter started out with, I will first present the *Integrative Worldview Framework (IWF)* for an understanding and operationalization of the worldview-concept. Secondly, I will demonstrate how the evolution of worldview-thinking seems to foster qualities that are crucial in the light of our global environmental challenges and the sustainable development debate.

2.5.1   *Founding the Integrative Worldview Framework (IWF)*

The IWF offers a working definition of 'worldviews' that aims to articulate the evolving understanding of the concept in the history of philosophy, while integrating the most central insights that have come forth through that (see summary and discussion). This working definition is as follows: *Worldviews are inescapable, overarching systems of meaning and meaning-making that to a substantial extent inform how humans interpret, enact, and co-create reality.* Additionally, the IWF offers an operationalization of the concept, by articulating and integrating the different aspects that worldviews are considered to consist of, as emphasized by the reviewed philosophers. Other disciplinary approaches have come up with comparable aspects (see notably K. A. Johnson et al., 2011). Of the five proposed aspects, the first three of ontology, epistemology, and axiology—which also can be seen as dominant subject-areas of philosophy—seem to be the most common, thus suggesting a fair degree of interdisciplinary agreement and overlap (see table 2; this list is not exhaustive).

In the first place, central to any worldview is an *ontology*, that is, a perspective on the nature of reality, being, or existence as such. Ontology deals

with questions concerning what entities exist and can be said to exist—the 'what is really there,' or in the words of Sire (2004) 'the really real.' An ontology is often related to a *cosmogony*, that is, an origin story or study of how the universe came to be what it is. All reviewed philosophers appear to be concerned with ontology, or metaphysics (even in their complete rejection of it, as in 'high postmodernism'), and the larger evolution of the worldview-concept seems to be characterized by a shifting emphasis between ontology and epistemology. *Epistemology* is a perspective on what knowledge is and how knowledge can come about, and is thus concerned with the nature, scope, and limitations of knowledge. The epistemological question is central to any worldview, and the concept of worldview came explicitly into being as a result of Kant's epistemological turn. Another vital aspect of a worldview is an *axiology*, or a perspective on what a *good life* is, both in terms of morals and quality of life, or ethics and aesthetics. Also this aspect is central in the philosophical literature, and ethics is considered to be one of the main branches of philosophy (Deigh, 1999). Especially since the individualizing of the worldview-concept after Goethe, philosophers tend to emphasize how individuals' ethical and aesthetic standpoints inform how they view the world.

Fourthly, worldviews consist of an *anthropology* or *human image*, that is, a perspective on who the human being is and what his role and position is in the universe surrounding him. In the evolution of the worldview-concept, the role of the human subject perceiving, conceptualizing, and (co-)creating the world has gradually become more central. While this aspect could be considered as part of ontology (as it concerns questions about the nature of the human being), for the sake of clarity and comprehensiveness, I prefer to differentiate it in the IWF. Lastly, there is a *societal vision* or social imaginary, which refers to fundamental assumptions on how society should be organized and how societal problems should be addressed, that is, a broad understanding of the way a given people imagine their collective social life. This often also includes a perspective on, or vision of, what the future might hold, and what a desirable future would look like. Notably Heidegger, Habermas, and Taylor emphasize how studying the phenomena brought forth by a certain age—e.g. science, or the legal, administrative and moral systems—reveal and express the metaphysical underpinnings underlying them. Although one could potentially consider this

aspect as a combination of axiology and anthropology, in the context of empirical research this further differentiation seems particularly helpful, as it supports researchers to investigate the societal dimensions and implications of worldviews, as well as perspectives on the appropriate relationship between individual and society. So even though distinctions can be drawn between these different aspects, neatly separating them is not always possible. Instead, they appear to complexly and interdependently hang together as truly "overarching systems" in which the different aspects are related to each other in a somewhat logically coherent manner.[32] A worldview can thus also be conceptualized as a complex constellation of ontological presuppositions, epistemic capacities, and ethical and aesthetic values that converge to dynamically organize a synthetic apprehension of the exterior world and one's interior experiences.[33]

For an empirical operationalization of the concept of worldview in the context of (social) scientific research, these five aspects may be taken as a starting point. As the empirical study of chapter four shows, employing the IWF is likely to support a (more) systematized, balanced, and encompassing operationalization of worldviews. The employment of the five aspects also stimulates the researcher to explore worldviews as truly "overarching systems of meaning and meaning-making," by investigating respondent's foundational assumptions in a variety of aspects, rather than as somewhat random or more

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[32] By "logically coherent" I refer to the different aspects of worldviews relating to each other in a consistent, interwoven manner, meaning that they are interrelated to the point of forming an emergent, structured whole or system (e.g. that a certain view of nature lines up logically with a certain human image). Thus, I am explicitly *not* referring to the idea that these worldviews would not contain any contradictions or paradoxical elements.

[33] It is important to note that of these five aspects, three can be considered *primary* (ontology, epistemology, and axiology), while two can be considered *secondary* (anthropology and societal vision). I view the primary aspects as essential components of a worldview, while the secondary aspects constitute expressions or applications that appear to flow from the primary aspects. As such, the number of secondary aspects included here is somewhat arbitrary, since there are myriad domains in which the primary \aspects can be expressed or applied. Thus, other secondary aspects could legitimately be included. For example, a category for *semiology* or rhetoric could be useful, as each worldview structure tends to confer certain distinct patterns of linguistic symbolism and communicative style in the process of describing and disclosing the world (see e.g. K. A. Johnson et al., 2011; Koltko-Rivera, 2004). I have omitted such other potential secondary aspects in an effort to avoid overly complexifying the framework.

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Working definition of worldview

Worldviews are inescapable, overarching systems of meaning and meaning-making that to a substantial extent inform how humans interpret, enact, and co-create reality. A worldview is thus a complex constellation of ontological presuppositions, epistemic capacities, and ethical and aesthetic values that converge to dynamically organize a synthetic apprehension of the exterior world and one's interior experiences.

The aspects of worldviews, including exemplary questions and concerns for each of them

1. **Ontology**: A perspective on the nature of reality, often enriched with a cosmogony.
   What is the nature of reality? What is nature? How did the universe come about? If there is such thing as the divine—what or who is it, and how is it related to the universe?

2. **Epistemology**: A perspective on how knowledge of reality can become about.
   How can we know what is real? How can we gain knowledge of ourselves and the world? What is valid knowledge, and what is not?

3. **Axiology**: A perspective on what a 'good life' is, in terms of morals and quality of life, ethical and aesthetic values.
   What is a good life? What kind of life has quality and gives fulfillment? What are our most cherished ethical and aesthetic values? What is life all about?

4. **Anthropology**: A perspective on who the human being is and what his role and position is in the universe.
   Who or what is the human being? What is the nature of the human being? What is his role and purpose in existence?

5. **Societal vision** or social imaginary: A perspective on how society should be organized and how societal problems and issues should be addressed.
   How should we organize our society? How should we address societal problems and issues? How do we collectively envision our social life?

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Table 2: The Integrative Worldview Framework (IWF) offers a working definition of worldviews, differentiates five major aspects to worldviews, and formulates exemplary questions for each aspect.

superficial opinions and beliefs. In that sense, the IWF seems to have the potential to support academic research in the timely topic of worldviews. Moreover, the IWF has the unique capacity to invite for the discovery and articulation of one's worldview, by supporting individuals to articulate the answers to these foundational worldview-questions. For example Taylor has emphasized in his discussion of 'inescapable frameworks' how worldviews are not necessarily our official views and ideologies, but tend to be more subtle–-often subconscious and unarticulated, even suppressed and resisted (C. Taylor,

1989). In order to live up to the creative responsibility that our worldviews bring, the task at hand is of contemplation, articulation, reflection, creation, and invention. The IWF could therefore also be used as a (practice-oriented) tool aiming to both generate awareness, responsibility, and reflexivity *within* individuals, as well as foster dialogue, exchange, and learning *between* individuals. This will be discussed more extensively in chapter eight, where I address policy and communicative implications of insight into and understanding of worldviews.

2.5.2   *Reflexivity, creativity, responsibility, and inclusiveness: crucial for sustainable development*

As the philosophical review shows, the concept of worldview, and the cultural evolution it is an expression of, appears significant and powerful, especially as it is associated with an increasing reflexivity, responsibility, creativity, and inclusiveness (see summary and discussion). These qualities seem to be of crucial importance in the context of our current planetary sustainability-issues.

In the first place, *reflexivity* appears to be significant for the sustainable development debate, as it opens a space for discussions in which addressing environmental issues can go hand in hand with an open investigation of the (often unconscious) ideas about modernization, development, and quality of life that have led to the environmental crisis, and to discussions of the role of alternative visions about the meaning of development (O' Brien et al., 2010). As argued in the introduction, the concept of sustainable development demands this kind of reflexivity, as it does not specify what kind of development or way of life is to be sustained (De Vries & Petersen, 2009). Moreover, because of the complex and imperfectly understood interdependencies in the systems affected, global environmental issues tend to be seen as *wicked problems*—that is, problems that are beyond the reach of mere technological knowledge and traditional forms of governance (Hulme, 2009). Therefore, the idea of climate change should be used, in the words of Hulme (2009), "to rethink and renegotiate our wider social goals about how and why we live on this planet" (p. 325), thereby enacting environmental issues as an opportunity to ask essential questions and invite for deep reflection on our worldviews, values, and vision for the future, on our relationships to nature and our fellow human beings. More generally speaking, in the literature on climate governance, reflexivity is regularly held up as something to aspire to (Huitema et al., 2011). The here presented IWF may

provide theoretical, empirical, and practical support for such reflection and exploration.

Moreover, for realizing the transitions to a (more) sustainable society, *creativity* may very well be the keyword. Starting to imagine different trajectories, different modes of production and consumption, a different way of living and being—that is, an altogether different future—may very well be the first step in bringing that world into being. Reflexivity and creativity therefore seem related capacities, as reflexivity opens up the space to consider other—and thus also new and creative—possibilities and potentials. O'Brien speaks in this context of the inner and subjective dimensions of adaptation, or *cultural adaption*, emphasizing how a society's capacity for adaptation (e.g. to climate change) is profoundly influenced by individual's values, worldviews, and cultural capital, including the potential for creativity, innovation, and imagination (O' Brien, 2009). Additionally, the emerging insight that the way we view the world also enacts and co-creates our world, tends to enhance one's sense of *responsibility*. This is obviously very important in addressing our current challenges. An interesting example is the idea that humans simply do not have the capacity to affect the climate—an idea that very likely obstructs a prompt and effective response to climate change. Simultaneously, several commentators have observed how the concept of anthropogenic climate change and its potentially catastrophic consequences for (human) life on earth may challenge certain worldviews and instigate a new sense of responsibility (Hulme, 2009)

Lastly, reflexivity and *inclusiveness* are necessary for (intercultural) communication and cooperation across different actors, stakeholders, partnerships, and networks, which are becoming increasingly important in the process of forging a more sustainable society (Glasbergen, Biermann, & Mol, 2007). Such (communication) processes ask for the inclusion of a plurality of value-perspectives, as represented by a diversity of stakeholders. Awareness of the nature and presence of worldviews has the potential to support such inclusion, as the process of reflection tends to break down the absoluteness of one's own worldview or (sub)culture and thereby increases the capacity to understand, empathize, and thus communicate and cooperate with individuals and institutions embedded in other perspectives. Additionally, for (environmental) policy-makers, politicians, and campaigners, a reflexive

understanding of, as well as a capacity to include and thus speak to, different worldviews is arguably critical, as their effectiveness appears to be greatly influenced by the extent to which their messages are able to resonate with the *Zeitgeist*. For example, several studies have shown that the same information or campaign can have an entirely different effect on different groups of people (Bronner & Reuling, 2002; Brook, 2011), thereby demonstrating the need for more attunement to how information is processed, interpreted, and valued among individuals with diverging value-orientations and worldviews. Hence, an understanding of a multitude of worldviews seems highly relevant in the context of facilitating processes of communication and collaboration for a more sustainable world.

The evolution of the worldview-concept and the reflexivity, creativity, responsibility, and inclusiveness that it fosters as well as expresses appears to be of crucial importance for the larger sustainable development debate. The IWF is developed in order to support the process of exploration of and reflection on our worldviews—individual as well as collective, in research and in practice— thereby aiming to contribute to a process of cultural and social change towards a more sustainable society.

Chapter 3

**Exploring worldviews and their relationships to
sustainable lifestyles: Towards a new conceptual and
methodological approach**

3.1   Introduction

A change of behaviors in a more sustainable direction is generally considered to be of vital importance for realizing the urgently needed transition to an ecological economy and society (Buenstorf & Cordes, 2008; World Watch Institute, 2008). Such sustainable behaviors include pro-ecological, frugal, altruistic, and equitable behaviors, and there is empirical evidence showing significant interrelationships among those different types of actions (Corral Verdugo, 2012; De Young, 1993; Schultz, 2001). Such behaviors thus involve aspects of individual *lifestyles*—such as consumer and dietary choices, use of energy and transportation, political priorities, support for policy measures, and contributions to societal change. However, such everyday choices, which can also be seen as important drivers of spending patterns and economic trends, are generally understood to be difficult to alter. Not only are there many structural (e.g. economic, infrastructural, institutional, social-practical) barriers for changing behaviors and lifestyles, they also tend to be deeply embedded in worldviews, values, and cultural associations and habits (Gifford, 2011; Schösler & Hedlund-de Witt, 2012; Shove, Pantzar, & Watson, 2012; Sorin, 2010). This has also been called 'the double embedding of attitudes' (Hernes, 2012).

 Worldviews, the inescapable frameworks of meaning and meaning-making that profoundly inform our very understanding and enactment of reality, appear to be particularly relevant in this context. Not only do they tend to shape how individuals perceive particular (ecological) issues and their potential solutions, they also tend to influence their willingness to partake in such solutions themselves, as well as their (political) support for addressing the issue societally (Gifford, 2011; Kempton et al., 1995). Worldviews thus profoundly influence perceptions of human-environment relationships, thereby informing environmental attitudes and sustainable lifestyles. Take for example the consumption of organic food. The origination of organic agriculture in the beginning of the 20th century has frequently been associated with shifting views on and feelings towards nature (Schösler et al., 2013; Verdonk, 2009; Vogt, 2007). Such changing perspectives on the human-nature relationship—e.g. from domination over nature towards participation with nature—may point at larger processes of changing worldviews in society (Campbell, 2007; Hedlund-de Witt, 2011; Van den Born, 2008), thereby supporting economic and political trends,

such as the global growth in the organic food industry (LEI, 209) and the emergence of political support for ecological agriculture. Therefore, in order to better understand the nature and structure of (more) sustainable lifestyles, insight into *worldviews* and how they function and change in society appears to be of substantial relevance (De Vries & Petersen, 2009; Hulme, 2009; O' Brien, 2009).

As a field of study, the concept or construct of worldview is still young, and to date, there is no formal (scientific) general theory of worldview available (Koltko-Rivera, 2004).[34] At the same time, and paradoxically so, as Kearney (1975) noted more than three decades ago, literature about worldview-related subjects permeates the social sciences, including sociology, psychology, and anthropology. In fact, the intangibles—that is, the worldviews, values, and attitudes—that seem to underlie and interact with (more) sustainable behaviors and lifestyles have been explored for decades. As a result, a large body of research has built up on the issue of what explains individual differences in such behaviors (see e.g. Kaiser, Wölfing, & Fuhrer, 1999; Milfont & Duckitt, 2004; Schultz & Zelezny, 1999). While *values* have been conceptualized as important life goals or standards (Rokeach, 1973), *environmental attitudes* have been defined as "the collection of beliefs, affect, and behavioral intentions a person holds regarding environmentally related activities or issues" (Schultz et al., 2004, p. 31).

The more encompassing concept of *worldview* is generally understood to consist of foundational assumptions and perceptions "regarding the underlying nature of reality, 'proper' social relations or guidelines for living, or the existence or non-existence of important entities" (Koltko-Rivera, 2004, p. 5). As argued in chapter two, worldviews are understood here as the inescapable, overarching systems of meaning and meaning-making that substantially inform how humans interpret, enact, and co-create reality, and thus contain, for example, values and environmental attitudes. Although the concept of worldview has not been a central focus in existing approaches in the field of environmental behavior and

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[34] Although one can find aspects of the worldview-construct under other names (e.g. schema's, values) in the literature of a number of psychological subdisciplines, there appears to be a neglect of the concept in the mainstream psychological literature. As Koltko-Rivera (2004) describes this situation: "One comes away with the impression that worldview is the most important construct that the typical psychologist has never heard of" (p. 4).

psychology, precisely because of its overarching nature it may be particularly suitable to come to a more comprehensive understanding of the explanatory mechanisms underlying individual differences in (more) sustainable behaviors, as well as generate insight into how existing approaches are related to each other. Also others have argued that the concept of worldview may have the potential to function as an integrative framework with which to investigate the interaction of beliefs, values, and attitudes (K. A. Johnson et al., 2011; Koltko-Rivera, 2004).

This study, then, aims to support research into worldviews and their relationships to (more) sustainable lifestyles, by analyzing and critically challenging existing measures as well as by developing a new conceptual and methodological approach that attempts to build forth on their strengths and surpass their identified limitations. First, a literature review is provided in which multiple survey-approaches, stemming from different disciplinary and theoretical traditions, are summarized and explored. Subsequently, a meta-analysis is presented that identifies several limitations to these measures, as well as potentially opportune directions for a new survey approach. On the basis of this analysis it is concluded that, optimally, an approach to exploring worldviews in relationship to sustainable behavior should be comprehensive and systematic, measure structural worldview beliefs and assumptions, and be able to account for human and cultural development. Then, the *Integrative Worldview Framework* (IWF) is proposed, aiming to support such a systematic, comprehensive, structural, and dynamic conceptualization of the worldview construct. This framework enables one to operationalize the somewhat abstract and complex concept of worldview in the context of empirical research (such as survey studies), highlighting that a worldview is not a patchwork of loosely related phenomena but a coherent pattern or *system* that integrates seemingly isolated ideas into a common whole (Campbell, 2007; Inglehart & Welzel, 2005; K. A. Johnson et al., 2011). Moreover, in contrast with existing measures that are frequently based on one or two central binaries (e.g. new environmental paradigm versus dominant social paradigm, intrinsic versus instrumental values of nature), this framework is based on a more dynamic, dialectical-developmental perspective (see e.g. Habermas, 1976; Kahn, 1999; Kegan, 1982; Wilber, 2000). The chapter concludes that this framework may have substantial

potential to support studies investigating the relationships between worldviews, environmental attitudes, and sustainable lifestyles. Finally, directions for potential future research are outlined.

3.2 Literature review: Research into worldviews and values

In this section, I discuss a sample of five, generally widely used and frequently cited approaches (e.g. Dunlap, Van Liere, Mertig, & Jones, 2000; Mayer & McPherson Frantz, 2004; Milfont & Duckitt, 2004; Schultz & Zelezny, 1999; S. C. Thompson & Barton, 1994) that stem from distinct disciplinary and theoretical traditions, such as social and environmental psychology, political science, environmental philosophy, and value theory. In this way, I aim to cover the most exemplary approaches to researching worldviews and values vis-à-vis sustainable behaviors and lifestyles, as well as insure some degree of diversity among them. Most of these approaches tend to be conceptually and methodologically formulated around one or two central binaries.[35] This section is therefore structured according to this observation.

3.2.1 *New Environmental Paradigm: Ecological interconnectedness versus human exemption*

The most widely used scale for exploring environmental worldviews in the past few decades is the *New Environmental Paradigm* (NEP; see e.g. Dunlap, 1980, 2008; Dunlap et al., 2000). The NEP aims to measure the adherence of individuals to an "ecological worldview," which, in contrast with the Dominant Social Paradigm (DSP), acknowledges "the fact that human societies depend on their biophysical environment for survival" (Dunlap, 1980, p. 5). According to the authors, the DSP starts from the assumption that, unlike other species, *Homo*

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[35] However, this binary structure does not characterize all existing approaches. An example is the *Human-and-Nature scale* (HaN-Scale), which differentiates several images of relationship between humans and nature, ranging from 'master,' 'steward,' 'partner,' to 'participant.' ((M. De Groot et al., 2011; Van den Born, 2008)). However, as has been noted by the authors themselves, these different images of relationship may be interpreted as a (binary) scale of degree of anthropocentricity. Moreover, the HaN-scale is primarily focused on the relationship between humans and nature, and is thus of limited use for investigating worldviews more comprehensively.

Sapiens is exempt from ecological constraints. In contrast, the environmental paradigm calls attention to the fact that human beings are governed by the same physical laws that regulate the growth and development of all other species. This new paradigm thus rejects the "exemptionalist" perspective on human societies (Dunlap, 1980). The conceptualization of the NEP focuses on beliefs about humanity's ability to upset the balance of nature, the existence of limits to growth for human societies, and humanity's right to rule over the rest of nature, plus (in the updated version) the estimated likelihood of an ecological catastrophe, and a stance of anti-anthropocentrism. Although the NEP has proven to be, especially at the time of its conception, a highly innovative approach with fairly strong psychometric properties (e.g. strong internal reliability), the scale has been criticized for its lack of unidimensionality and its lack of predictive power concerning environmental behavior (see e.g. Dunlap, 2008; Scott & Willits, 1994). Moreover, other authors have argued that while the NEP emphasizes the instrumental and ecological interconnectedness between human beings and nature, the intrinsic and spiritual connection seems not-well captured (Lockwood, 1999; Van den Born, 2008). In the context of global environmental issues, environmental philosophers have frequently underscored the significance of such an intrinsic, spiritual, or metaphysical sense of interconnectedness. According to some, the natural world, when seen as devoid of an intrinsic or spiritual dimension, will be automatically perceived in an instrumental and materialistic fashion—even when human being and nature are understood as physically interconnected (see e.g. B. Taylor, 2010; White, 1967; Wilber, 1995; Zweers, 2000). And it is precisely this instrumental, materialistic position that has frequently been claimed to lead to the exploitation and destruction of nature (Duintjer, 1988; Lemaire, 2002; Leopold, 1949; Naess, 1989; White, 1967; Wilber, 1995; Zweers, 2000). Thus, failing to address the intrinsic, spiritual, and/or metaphysical dimension of the connectivity between humanity and nature, the NEP seems to be based on a somewhat conceptually deficient understanding of this relationship.

3.2.2 *Intrinsic versus instrumental value of nature, ecocentric versus anthropocentric attitudes*

The *intrinsic value* of nature is a central notion in the environmental debate, and its rejection or acceptance a recurring theme in research on the determinants of environmental attitudes and behavior. Van den Born, Lenders, De Groot, and Huijsman (2001) give an overview of the research on this topic, and conclude that "it appears that the general public in Europe and the USA has developed a strong general 'biophilia,' nature-friendliness. One indicator of this is that in quantitative research, 70 to 90% percent of the population recognizes the right of nature to exist, even when it is not useful to humans in any way" (p. 65). Furthermore, research supports the finding that people who 'believe' in intrinsic value—that is to say, who see nature as valuable in its own right, also when it is of no practical, economic, or even esthetical, or recreational use for human beings—are more inclined to pro-environmental behavior than those who reject the idea of nature's intrinsic value. Thompson and Barton (1994) therefore distinguish between what they call *ecocentric* and *anthropocentric* attitudes, a distinction based on the differentiation between spiritual and instrumental views of people-environment relations (see also Stokols, 2004). Ecocentric individuals value nature for its own sake and, therefore, judge that it deserves protection because of its intrinsic value or "the transcendental dimension" (S. C. Thompson & Barton, 1994, p. 150). In contrast, so-called anthropocentrics emphasize that the environment should be protected because of its value in maintaining or enhancing the quality of life for humans, which can be called *instrumental value*. Although both ecocentrics and anthropocentrics express environmental concern and an interest in preserving natural resources, their motives are different, as well as their concrete behaviors and initiatives towards (protecting) the environment: "Those who saw nature as valuable in its own right expressed less overall environmental apathy, were more likely to conserve and joined more environmental organizations. In contrast, a belief in preserving nature for humanity was associated with more apathy about the environment, less conserving behavior, and membership in fewer ecologically-oriented organizations" (p. 153).

   A similar theme was found in the work of Dietz et al. (1998), who found a link between viewing nature as sacred—either 'because it is created by God,'

or because it 'is spiritual or sacred in itself'—and the willingness to sacrifice and pro-environmental consumer behavior. This in contrast with those who supported the statement that 'nature is important, but not spiritual or sacred.' The reason for the sacredness of nature appeared to make an important difference: individuals who believed nature is sacred because it is created by God were more likely to sacrifice than either of the other groups, and pro-environmental consumer behavior was reported most frequently by those who saw nature as sacred in itself (Dietz et al., 1998). This research thus seems to suggest that viewing nature as sacred or spiritual is conducive to environmental behavior, but that the specific nature of the religious or spiritual beliefs are important in how that comes to expression.

3.2.3   Self-transcendence versus self-enhancement, openness to change versus conservation

Other studies showed specific sets of values to be positive predictors of environmental behaviors. Several studies have been based upon Schwartz' value-theory (1994; S. H. Schwartz & Bilsky, 1987, 1990), in which values are arranged along two dimensions, self-transcendence versus self-enhancement, and openness to change versus conservation. In any culture, individual values will fall along the dimensional continuum of self-enhancement to self-transcendence. This dimension reflects the distinction between values oriented toward the pursuit of self-interest (even at the expense of others) and values that relate to a concern for the welfare of others (close and distant, and of nature). In the environmental-psychological literature it has been argued that instead of the distinction between self and other, also the differentiation between the (human) other and the (non-human) environment may be relevant for understanding environmental beliefs and intentions. The three different value orientations are then *egoistic* (care for self), *social-altruistic* (care for others) and *biospheric* (care for nature and the environment) (Schultz, 2001). According to Snelgar (2006), these different value-orientations display a continuum ranging from self to otherness from self (comparable with Schwartz distinction between self-enhancement and self-transcendence). Although some studies have not supported the distinction between the biospheric and the social-altruistic value

orientation empirically (Stern, Dietz, & Gaugnano, 1998), others found the distinction into three value orientations to be of sufficient internal consistency (J. I. M. De Groot & Steg, 2008; Hansla, Gamble, Juliusson, & Gärling, 2008). The second dimension contrasts 'openness to change' with 'conservation,' arraying values in terms of the extent to which they motivate people to follow their own intellectual and emotional interests in unpredictable and uncertain directions versus to preserve the status quo and the certainty it provides in relationship with close others, institutions, and traditions (S. H. Schwartz, 1994).

Karp (1996) found that valuing self-transcendence/openness to change appeared to be a strong positive predictor of pro-environmental behavior, whereas valuing self-enhancement/conservation appeared to be a strong negative predictor. Grob (1995) generated similar results: "the most important effects on environmental behavior come from personal-philosophical values, i.e. post-materialistic values and openness to new thinking positively influence environmental behavior" (p. 215). Schultz and Zelezny (1999) confirmed self-transcendence and openness to change to be positively correlated with the NEP and ecocentrism, and found this pattern to be consistent across multiple countries. However, in their understanding self-transcendence reflects a broader, more *inclusive* orientation to self-benefit, rather than it being the result of self-sacrifice. In their view, people who score high on self-enhancement have a narrow definition of self that does not include other people or other living things. In contrast, self-transcendence reflects a broader cognitive representation of self, and measures the degree to which a person includes other people and other living things in their notion of self. It then follows that self-transcendence values are positively associated with biospheric concerns, while self-enhancement values are positively related to less biospheric concerns and more egoistic concerns. Schultz and Zelezny (1999) therefore suggest "that the New Environmental Paradigm, and more broadly biospheric environmental concerns, reflect the degree to which people define self as part of nature" (p. 263).

3.2.4   Connectivity with nature: Connectedness versus separateness

The idea that seeing nature as a fundamental part of one's identity will lead to a more respectful treatment of nature can be traced back to the work of ecologists

and philosophers like John Muir and Aldo Leopold (1949), and more recently Arne Naess (1989) and Joanna Macy (2007). Scholars writing about this topic use terms like 'ecological identity,' 'ecological self,' 'identification,' or 'oneness with nature' (Bragg, 1996; Naess, 1989; Schultz et al., 2004). Different measures of a sense of connectedness to nature have been developed, aiming to determine the extent to which an individual defines nature as part of oneself. Generally, connectedness to nature was shown to have positive correlations with biospheric concerns, and negative correlations with egoistic concerns (Dutcher et al., 2007; Mayer & McPherson Frantz, 2004; Schultz et al., 2004).

Inclusion of nature in self (INS) is a single analogue item measuring degree of overlap between nature and self (Schultz, 2001). The implicit association test (IAT) is a computer-based response-time test modified by Schultz et al. (2004) to measure implicit connections with nature, through testing automatic concept-attribute associations. Following up on these studies, two different Connectivity with Nature Scales (CNS) were developed, which both turned out to be significantly and positively associated with environmental behavior. As Mayer and McPherson Frantz (2004) state with respect to their scale, the findings support "Leopold's contention that connectedness to nature leads to concern for nature, as the CNS has also been shown to relate to a biospheric value orientation, ecological behavior, anticonsumerism, perspective taking and identity as an environmentalist. Lastly, the findings suggest that personal well-being is linked to a sense of feeling connected to nature" (p. 512). According to Dutcher et al. (2007), this sense of connectedness is not limited to a physical-material interdependence, but includes a 'spiritual' sense of oneness: "Although material interdependence is important, we believe that connectivity with nature arises not so much from knowledge of natural resource economics as from an intuitive sense of sameness with the world around (and within) us. … Connectivity attempts to describe the perception of a force or essence that holds the universe together – the same essence or force that runs through all creation" (p. 479). Connectedness with nature is explored more extensively in both chapter four (quantitatively) and in chapter five (qualitatively).

3.2.5   Environmental solutions: Public versus private, preservation versus utilization

A different worldview-approach was developed by PBL Netherlands Environmental Assessment Agency, focusing on the individual's perception of the most appropriate and effective organization of society and solutions to environmental problems. Based on extensive surveys among the Dutch population and combining Schwartz' value orientations with the IPCC future scenarios (IPCC, 2000), PBL aimed to analyze people's value orientations and relate it to the ways in which they interpret and understand sustainability problems (De Vries & Petersen, 2009; PBL, 2004). The four quadrant model of PBL is based on two continuums: the vertical axis runs from an orientation on market/efficiency to government/solidarity, while the horizontal axis runs from a local orientation to a global orientation, resulting in four *archetypal worldviews*, such as 'global market' and 'caring region.'[36] In this way, they distinguished between different preferred solutions to environmental problems, for example ranging from a belief in technology and free markets (private interests, market regulation) to an emphasis on institutions and behavioral change (public interests, governmental regulation).

A similar continuum was found in Milfont and Duckitt's meta-study (2004), in which they combined several environmental scales (including the above discussed NEP and Ecocentrism versus Anthropocentrism scales) and proposed a higher-order two-factor solution consisting of a *preservation* and an *utilization* factor. The preservation factor emphasized individual behavioral change and institutional enforcement (exemplified by the sub factors 'intent of support,' 'care with resources' and 'external control/effective commitment'). In contrast, the utilization factor stressed a belief in science and technology and the free operation of market mechanisms as the most viable solutions to the environmental crisis (exemplified by the sub factors 'rejection of exemptionalism/confidence in science and technology' and a negative loading on

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[36] A comparable analysis is found in *Cultural bias theory*, in which "myths of nature" are connected to environmental risk concerns and preferences for environmental management strategies, also based on two fundamental dimensions, ranging from group–oriented to individual-oriented (or from a high degree to a low degree of social contact), and from rule-oriented to not-rule-oriented (from a high degree to a low degree of social regulation) (Douglas & Wildavsky, 1982; M. Schwartz & Thompson, 1990).

'external control/effective commitment'). Self-reported ecological behavior was predicted by the preservation factor, and not by utilization, while attitudes toward economic liberalism were predicted by utilization, and not by preservation.

3.3   Meta-analysis: Strengths and weaknesses of current measures

Reviewing and analyzing these prominent approaches, which all investigate the relationships between worldviews and sustainable behaviors in different ways, has led to several key-observations. These are presented below.

First, there are indications that worldviews are not always investigated in a way that correlates with the construct that approaches purport to measure. Or, in other words, sometimes the construct validity is questionable. For example, several authors have emphasized that the NEP is measuring 'environmental concern' or 'awareness of consequences' rather than worldviews (Milfont & Duckitt, 2004; Poortinga, Steg, & Vlek, 2002; Stern, Dietz, & Guagnano, 1995). While the NEP purports to measure "worldviews" or "primitive beliefs" about the nature of the earth and humanity's relationship with it (Dunlap et al., 2000), some of its items seem to describe surface positions rather than worldview beliefs and assumptions—which are the deeper, foundational structures that underlie such positions. As Koltko-Rivera (2004) highlights this distinction: "Worldviews include beliefs that may be unproven, and even unprovable, but these assumptions are *superordinate*, in that they provide the *epistemic and ontological foundations* for other beliefs within a belief system" (p. 4, italics added). He continues on to state that:

> Not all beliefs are worldview beliefs. Beliefs regarding the underlying nature of reality, 'proper' social relations or guidelines for living, or the existence or non-existence of important entities are worldview beliefs. Other beliefs are not (p. 4).

For example, the NEP item "we are approaching the limit of the number of people the earth can support" seems to state a surface position concerning a

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scientific debate rather than describe one's deeper perspective regarding the nature of reality. In contrast, the item "humans were meant to rule over the rest of nature" (also from the NEP) expresses a perspective on 'proper' social relations or guidelines for living, thus pointing to a more structural worldview-belief. In this context it is noteworthy that Scott and Willits (1994) found that although the general acceptance of the items in the NEP was high, the support for the different ideas contained in the NEP was not univocal, with the notions of limits to growth receiving more consistent support than statements about the place of human beings in the ecological order. Their study therefore seems to support the idea that items stating a concrete surface position (e.g. concerning limits to growth) have less of a differentiating function than items stating one's deeper, or more structural, worldview assumptions (e.g. arguing for a more equal human-nature relationship; see also Nooney, Woodrum, Hoban, & Clifford, 2003). Although most other reviewed approaches do not claim to measure worldviews, in general they do appear to be fairly limited in scope—that is, they frequently investigate a single aspect of a worldview (such as the relationship with nature, or different societal visions), rather than worldviews comprehensively. Yet in terms of understanding what explains differences in environmental attitudes and sustainable lifestyles, such a more comprehensive understanding may turn out to be particularly useful. A framework operationalizing the construct of worldview for empirical research may therefore contribute to a more comprehensive and systematic exploration of worldviews, as well as support the measurement of structural assumptions and beliefs rather than surface positions and opinions.

Second, it is noteworthy that the reviewed survey-approaches all seem to be conceptually and methodologically built on one or two central *binaries*—that is, polar or dichotomous continuums that stretch from a certain conceptual qualification to its diametrically opposed (and frequently considered mutually exclusive) counterpart. For example, the NEP is contrasted with the DSP, with the NEP intending to articulate a worldview based on the *ecological interconnectedness* of humanity and nature and the DSP based on the belief in *human exemption*.[37] There thus seems to be a certain conceptual resonance and

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[37] The approaches based on Schwartz' values contrast *self-enhancement* with *self-transcendent* values, thus opposing an orientation towards self-interest with an orientation towards (the

potential alignment between these different approaches. However, while the observed uniformity in this basic binary structure may signify a theoretical or philosophical agreement undergirding these instruments, this has, at this point, not led to a more integrated understanding and investigation of worldviews. Instead, as argued above, the focus has typically been on single aspects and constructs, rather than on the larger whole they are potentially part of. Up to this date, there appear to be few instruments available that explicitly explore how these different aspects of worldviews are related to each other and in combination potentially make up overarching, logically coherent worldviews (see also Milfont & Duckitt, 2004). Therefore, making use of a unifying worldview-theory aimed at exploring the relationships between multiple measures, and potentially combining and integrating them into a more comprehensive worldview construct or measurement tool, may be important for a more inclusive understanding of worldviews and their relationship to sustainable behaviors.

Third, it is also significant that several of these central binaries appear to be asymmetrical or ambiguous—that is, while one side of the binary continuum tends to exclude the other side, the other possibly but not necessarily includes its 'opposite.' Take for example intrinsic versus instrumental values in relation to nature: while instrumental values tend to be operationalized in a way that excludes intrinsic values (e.g. nature has value *only* because humans are able to use or enjoy it), intrinsic values may—*possibly but not necessarily*—include and envelop instrumental values (e.g. nature has value *even* when it is of no use for human beings). In a similar vein, while self-enhancement values tend to be limited to the self and exclude taking into account others, self-transcendence values may transcend and include self-enhancement values. Schultz and Zelezny (1999) therefore explain self-transcendence values by talking about "a *broader* cognitive representation of self" (p. 263), emphasizing that people who adhere to these values do not necessarily negate their individuality and personal needs, but

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inclusion of) others, as well as an inclination of *openness to change* with a tendency towards *conservation*. Similarly, the Connectivity with Nature Scales contrast individuals who feel *connected to nature* with individuals who feel more *separate from nature*. Another approach opposes an emphasis on *private interests and market regulation* with an emphasis on *public interests and governmental regulation*, which seems to converge with the emphasis on *preservation* versus the emphasis on *utilization*, as found by Milfont and Duckitt.

rather tend to have a more *inclusive* representation or sense of self—one that is extended to incorporate others and nature, and thus includes rather than excludes self-enhancement values.[38] From a psychological-developmental perspective (see e.g. Kegan, 1982; Wilber, 2000), we may understand this as follows: While self-transcendence values may signify a negation or lack of differentiation of the self from the larger community or one's family (that is, one's values are prescribed by societal roles and/or family expectations), thus indicating an *undifferentiated* position or orientation, these values may also signify a more complex interpretation of the self, one that includes one's individuality as well as others and nature (one's values are a reflection of one's individuality, yet are reconciled with those in one's family and/or society), thus indicating a more *integrated* perspective. Although these two positions or orientations are very different, the construct of 'self-transcendence values' as presently operationalized may not be able to sufficiently capture this important distinction.

From a psychological-developmental perspective, the downside of the use of these asymmetrical or ambiguous binaries is therefore that no clear distinction can be made between an *undifferentiated* position or orientation, that is, the union or symbiosis before differentiation occurred (in any developmental process), and an *integrated* outlook, that is, a developmentally more complex synthesis of the two (or more) differentiated poles (see e.g. Kahn, 1999; Kegan, 1982, 1994; Kohlberg, 1984; Loevinger, 1977, 1987; Wilber, 2000).[39] This results

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[38] Also Milfont and Duckitt (2004, p. 300) emphasize, with regards to their findings, the necessity of complementarity between environmental preservation and utilization, as "humans need to use natural resources for human wellbeing, but also need to protect the environment at the same time, that is, a balance of utilization with preservation," rather than a mutually exclusive polarity between them. Their solution is a model of environmental attitudes in which preservation and utilization are two distinct, though related constructs, that is, independent rather than the opposite ends of a continuum (partially because this solution appeared to provide better fit to the data than a single bipolar structure, and partially because of the mentioned conceptual reasons).

[39] This understanding is in line with basic developmental insights: theorists like Piaget, Kohlberg, Loevinger, and Kegan (and more broadly speaking the school of cognitive developmentalism or developmental structuralism) conceive of development as progressing through hierarchical stages, in which each stage is shown to be more *differentiated* than the preceding one, while also being more *integrated*. While differentiation refers to the number of distinctions that exist in a given phenomenon, integration refers to the connections between the different parts—to integrate is to bring together or synthesize differentiated parts into a

in a tendency to conflate two positions—undifferentiated and integrated—that in reality are very distinct (Wilber, 1995, 2000). Therefore, introducing a psychological-developmental perspective may support investigating worldview-dynamics in a way that is able to account for the cognitive possibility of *integration*, instead of working with a binary framework based on mutual exclusiveness or a conflation of integrated with undifferentiated perspectives (Esbjörn-Hargens & Zimmerman, 2009; Kahn, 1999; see also Ryan, 1995).[40] Also several other theorists have linked collective, cultural worldviews to the psychological development of individuals' cognitive structures (see e.g. Cook-Greuter, 1999; Habermas, 1976; Kegan, 1982; Kegan, 1994).

Lastly, while much-used scales like the NEP tend to focus on the physical and instrumental interconnectedness of humanity and nature, empirical studies suggest that the spiritual or metaphysical connection between humans and their surrounding world may turn out to be substantial in explaining individual differences in sustainable behaviors and lifestyles (see e.g. Dietz et al., 1998; Dutcher et al., 2007; Frederickson & Anderson, 1999; Kaplan & Talbot, 1983; Stokols, 2004; S. C. Thompson & Barton, 1994; Williams & Harvey, 2001). Although approaches and concepts such as intrinsic values, ecocentric attitudes, self-transcendence values, and connectedness with nature seem to allude to what some theorists might call a more spiritual perception of nature and life in general, this dimension is generally not explicitly or systematically explored as such. Also Perkins (2010) observed that the arguably more spiritual emotions of love, awe, wonder, and deep reverence for nature have received little attention from researchers, especially with regards to quantitative measurement. Thus, because the spiritual dimension of the human relationship with nature may be an important determinant of environmental behavior, consistently and explicitly including this dimension in survey-research may turn out to be fruitful. More generally speaking, survey-measures could therefore benefit from an approach that is more comprehensive—not only in the sense of its *structure*, thus

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whole. Necessarily, integration builds on differentiation. More complex levels of functioning or development therefore involve greater levels of (cognitive) differentiation and integration (Mc Adams, 1994)

[40] Kahn has illustrated how children, through the tensions arising between anthropocentric and biocentric values at a concrete level, develop a more abstract and integrative ethical frame (Van den Born et al., 2001).

including more aspects of worldviews as argued above, but also in terms of its *content*, including a wider variety of understandings and valuations of life and reality, such as spiritual ones.[41]

3.4   Towards a new conceptual and methodological approach

According to the literature review and meta-analysis, survey-research aiming to explore worldviews and their relationships to sustainable behaviors and lifestyles may benefit from an approach that is comprehensive (in both structure and content) and systematic, measures structural worldview-beliefs, and is able to account for human and cultural development and the cognitive possibility of integration, instead of working with a binary framework based on mutual exclusiveness or conflation of integrated with undifferentiated perspectives. In this section, a conceptual framework is provided that aims to lay the foundation for such a conceptually and methodologically innovative approach, combining insights from notably philosophy and developmental psychology.

As extensively described in chapter two, the philosophical literature on the concept of worldview dates back to Immanuel Kant, who coined the term *Weltanschauung* in 1790. In this body of literature, there appears to be recurring attention for certain *aspects* of worldviews, such as ontology, epistemology, and axiology (see e.g. Brague, 2003; Naugle, 2002; Sire, 2004; C. Taylor, 1989; Wolters, 1989). The *Integrative Worldview Framework* (IWF), proposed in chapter two, attempts to contribute to a systematic and comprehensive worldview-operationalization that supports accurate construct-measurement through distinguishing and articulating different aspects of worldviews. Other disciplinary approaches have come up with comparable aspects (see notably K. A. Johnson et al., 2011). Of the five proposed aspects, the first three of

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[41] I distinguish between structure and content of worldviews, referring to *structure* to point at the different aspects that worldviews consist of (i.e., worldviews consist of ontological assumptions, epistemological assumptions, et cetera), and referring to *content* to point at the subject matter of these different beliefs and assumptions (i.e., while one worldview assumes reality to be ultimately of a material nature, another worldview presupposes the nature of reality to be ultimately transcendent or spiritual). In a similar vein, however using a different terminology, Koltko-Rivera (2004) speaks of the distinction between dimensional (structural) and categorical (content-based) approaches to worldviews.

ontology, epistemology, and axiology—which also can be seen as dominant subject-areas of philosophy—seem to be the most common, thus suggesting a fair degree of interdisciplinary agreement and overlap (see table 2; this list is not exhaustive).

The first aspect, *ontology*, refers to fundamental assumptions concerning the nature, constitution, and structure of reality—including nature, the cosmos, and the divine. Ontology is a central concept in philosophy dealing with questions concerning what entities exist and can be said to exist—the 'what is really there,' or in the words of Sire (2004) 'the really real.' An ontology is often related to a *cosmogony*, that is, an origin story or study of how the universe came to be what it is (Brague, 2003). Different worldviews conceptualize the nature and origins of the world differently—for example, as the creation of a transcendent God; as a material, mechanistically steered cosmos; or as a living, divine being or "Gaia." In the reviewed approaches, this aspect comes to expression particularly in the contrasting of intrinsic with instrumental values of nature, as these values explicate how nature is seen.

The second aspect, *epistemology,* is a perspective on what knowledge is and how knowledge can come about—for example through empirical science, art and poetry, intuition, nature experience, or divine revelation. Epistemology is thus concerned with the nature, scope, and limitations of knowledge. In the philosophical literature on the worldview-concept the aspect of epistemology is central, as the notion of worldview became widespread after Kant's coinage of the term *Weltanschauung*, reflecting the epistemological revolution taking place at the onset of Modernity (Naugle, 2002; see also Tarnas, 1991; C. Taylor, 1989). Reflecting on the reviewed research, it appears that the aspect of epistemology is generally not covered in these approaches, even though prominent worldview-theorists and philosophers tend to hold that *how* we know is intrinsically intertwined with, and thus of importance to, *what* we know (and value). For example, whether we ascribe to empirical science or to divine revelation as a valid source of knowledge will profoundly impact and interact with our views on the nature of reality.

The third aspect, *axiology*, concerns ideas about what a good life looks like—that is, what is valued in life, both in moral terms (ethics) and in terms of quality of life (aesthetics). Also this aspect is key in the (general) philosophical

literature, and many philosophers tend to consider individual's ethical and aesthetical standpoints to be definitive of who they are and how they view the world. According to Taylor (1989), "To know who you are is to be oriented in moral space, a space in which questions arise about what is good or bad, what is worth doing and what not, what has meaning and importance to you and what is trivial and secondary" (p. 28). In the reviewed research, this aspect is covered notably by the approaches building forth on Schwartz approach to values, as discussed in section 2.3.

The fourth aspect, *anthropology*, refers to assumptions about what kind of creature the human being is and what his role and purpose is in existence. Although one could also consider this aspect a subset of ontology (the ontology of the human being), for purposes of measurement-development this more refined differentiation may be helpful, as it explicitly stimulates researchers to investigate conceptions of the human being and human nature (in addition to their investigations of conceptions of nature, cosmos, and divinity).[42] In the philosophical evolution of the worldview-concept, the role of the human subject interpreting, enacting, and co-creating the world has gradually become more central (Naugle, 2002). Both the Connectivity with Nature Scales and the NEP seem to explore this aspect, as their statements articulate the relationship between the human being and his/her natural environment.

The fifth and last aspect, *societal vision,* refers to fundamental assumptions about how society should be organized and how societal problems should be addressed. Although one could potentially consider this aspect as a combination of axiology and anthropology, in the context of empirical research this further differentiation seems particularly helpful, as it supports researchers to investigate the societal dimensions and implications of worldviews, as well as perspectives on the appropriate relationship between individual and society. In the context of research concerned with environmental issues, the operationalization of this aspect may focus on views about how to respond to environmental problems specifically. In the reviewed approaches, this aspect

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[42] In the psychological literature, the notion of 'human agency' appears to resonate with elements of this aspect, while in the anthropological literature the 'human nature orientation' is emphasized (see Koltko-Rivera, 2004). Johnson et al. (2011) seem to include elements of this aspect in their aspect of 'teleology,' which refers to ultimate goals, beliefs about the afterlife, and consequences of actions.

comes notably to expression in the 'environmental solutions,' as they are based on different positions on how to solve environmental issues (e.g., through government or market, preservation or utilization).

In line with an understanding of worldviews as 'overarching systems of meaning and meaning-making,' these five aspects appear to be interrelated and interdependent. For example, an individual's anthropology will tend to be intimately related to his/her societal vision. This means that neatly separating these aspects is not always possible. However, the function of employing these five aspects is that it is likely to support a (more) systematized, balanced, and encompassing operationalization of worldviews into Likert-type items,[43] as well as a more structured data-analysis. See table 2 for an overview of this framework: the exemplary questions mentioned for each of the five aspects might function as a guideline for developing a comprehensive scale that measures structural worldview-beliefs. Systematically developing Likert-type items that reflect a diversity of positions in relation to each aspect will result in a generally (more) comprehensive investigation of worldviews, which also includes the spiritual dimension of the human-nature relationship. Take for example the questions as formulated for the aspect of ontology: *What is the nature of reality? What is nature? How did the universe come about? If there is such thing as the divine—what or who is it, and how is it related to the universe?* When developing different potential answers to these questions, the spiritual dimension of the human-nature relationship can readily be included.[44]

While the operationalization into five aspects illuminates the structure of worldviews, the five aspects do not shed light on the content of, and the variations between, different worldviews. As argued above, in terms of such content or categorization of worldviews, a binary framework may be suboptimal, as it is unable to account for the cognitive possibility of the integration of two

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[43] Likert-type items are the statements that participants are required to respond to in survey research, using a Likert-scale to structure participants' responses, e.g. ranging from 'completely agree' to 'completely disagree.'

[44] This could result in, for example, the following hypothetical Likert-type items: "God stands far above life on earth," "It is pure coincidence that human life has developed on earth," "I see the earth and humanity as part of an ensouled or spiritual reality." In this way, the translation of each of the five aspects into Likert-type items illustrates an important way in which the IWF can be operationalized for conducting empirical research.

'opposite' perspectives. Instead, one could use a worldview-theory based on a dialectical-developmental perspective, for example distinguishing between traditional, modern, and postmodern worldviews (see e.g. Inglehart & Welzel, 2005; O' Brien, 2009; Ray & Anderson, 2000). Although the usefulness of such a worldview-theory needs to be empirically validated and most likely will need to be adapted and refined, the construction of such *ideal-typical* worldviews can serve as a heuristic device—that is, a method of investigation that supports the researcher to learn about the real world by comparing a rationally and logically constructed ideal-type with reality (G. Marshall, 1998). These ideal-typical worldviews could then be used to develop Likert-type items that reflect a variety of worldview-positions for each of the five aspects.

Such an approach would enable a more refined and generally dynamic differentiation of worldviews, and seems validated on the basis of the results of, for example, the World Values Survey—the largest existing worldwide, cross-cultural, longitudinal data-set on (changes in) cultural beliefs, values, and worldviews (Inglehart, 1997; Inglehart & Welzel, 2005). For example, individuals ascribing to a more traditional as well as individuals ascribing to a more postmodern epistemology will tend to believe that science is not the only valid form of knowing. However, while individuals ascribing to the more traditional epistemology will more likely adhere to 'religious authority,' individuals ascribing to the postmodern epistemology will tend to exhibit an 'internalized authority' (see e.g. Inglehart & Welzel, 2005). As one can see, then, inquiring into epistemological positions through a binary framework of pro-science versus anti-science/science-critical appears to be somewhat limited in light of the nuances that, for example, a psychological-developmental perspective might shed. In a similar vein, one could argue that one should distinguish between a more traditionally religious understanding of the divine and a more postmodern or contemporary spiritual understanding, as in postindustrial society "a shift from institutionally fixed forms of dogmatic religion to individually flexible forms of spiritual religion" is observed (Inglehart & Welzel, 2005, p. 31). A binary framework may thus not be sufficient in understanding the array of worldviews present in our complex and pluralistic society, therefore demanding a more dynamic perspective. Such a dialectical-developmental perspective would

thereby also serve a generally more comprehensive investigation in terms of the content of worldviews, as a wider variation of options tends to be explored.

3.5   Discussion and conclusion

The conceptual and methodological advances proposed in this study will be empirically validated in chapter four. Based on a literature review and an analysis of the strengths and weaknesses of current measures, I argue that the proposed framework has several benefits in terms of empirical research, in comparison with existing approaches.

Making use of the *Integrative Worldview Framework* (IWF) by systematically covering the five different aspects of worldviews may support the operationalization of the worldview-concept in a comprehensive manner. This is particularly significant as to date no approach has systematically and comprehensively investigated worldviews, and as such explored their significance in relationship to environmental and sustainability-issues. Moreover, the IWF may contribute to revealing gaps in existing research, thereby outlining directions for future research. For example, reflecting on the reviewed approaches it becomes clear that the epistemology-aspect tends to be under-emphasized in this field of research, as it does not seem to be covered by any of the reviewed approaches (see table 3). Similarly, the IWF can be used to reflect on the specific aspects that each of the existing measures cover, or fail to cover. For example, the NEP seems to be largely concerned with the anthropology and societal vision aspects, while the other aspects appear to be underemphasized. In this way, the proposed framework may advance existing research or stimulate new research, as well as contribute to illuminating how existing approaches are related to each other, thereby potentially supporting their integration. Furthermore, the employment of the five aspects of worldview organizes and systematizes the process of questionnaire-development, which contributes to the investigation of respondent's structural assumptions rather than their surface positions and opinions, as well as enhances the overall methodological transparency of the research. Simultaneously, the IWF may support researchers to explore beliefs and assumptions as a coherent pattern or system—that is, as truly 'overarching systems of meaning and meaning-making' rather than as

isolated ideas and disconnected beliefs. For example, the IWF can be used to explore spirituality by investigating spiritual assumptions, experiences, and understandings with regard to each of the five aspects, as well as in a way that can dynamically account for human and cultural development (e.g. by distinguishing between more traditional religious and more contemporary spiritual notions; see Fowler, 1981). Thus, instead of conceptualizing spirituality as an isolated phenomenon or separate aspect, employing the different aspects may facilitate exploring it as an integral part of an individual's worldview, coming to expression in his/her most fundamental assumptions concerning the nature of reality, knowledge acquisition, et cetera. For these reasons, employing the five worldview-aspects may engender a more systematic, structural, and comprehensive articulation and investigation of worldviews in survey- and other empirical research.

Moreover, as Koltko-Rivera (2004) has argued, an adequate understanding and operationalization of the worldview construct "may be useful in tying together questions and subfields into at least a relatively more unified psychology" (p. 46). Additionally, because the concept of worldview has penetrated multiple disciplines (e.g. anthropology, religious studies, sociology, philosophy, psychology), the use of the worldview-construct as an integrative framework could have the two-pronged benefit of encouraging greater interdisciplinarity as well as facilitate the further development of the insights that these disciplines have already generated (K. A. Johnson et al., 2011). As several authors have argued, in the context of our planetary issues of global environmental change, such interdisciplinary cooperation and integration across the social sciences is urgently needed (Biermann, 2007; Hedlund, 2010; O' Brien, 2010). Furthermore, such an integrated investigation should not be limited to the structure of worldviews (as operationalized in the five aspects of worldviews), but also address their content, through using more comprehensive, preferably interdisciplinary, worldview-theories that address the five aspects and their interrelationships in an overarching way. In this context, I have argued that it is important to move beyond the (ambiguous) binary frameworks that appear to be prevalent in many existing approaches, as they tend to conflate perspectives (or worldviews) that in reality are distinct, thereby leading to confusion and misunderstanding. Employing a more dynamic, dialectical-

developmental perspective to understand the worldviews present in our contemporary cultural landscape, may support one to avoid such conflations and account for more complexity and diversity. In this way, such interdisciplinary worldview-theories are given shape by building forth on—among others—the insights that have been generated through over a hundred years of empirical research in developmental psychology (Kegan, 1982), using it to understand the relationship between humanity and nature (see e.g. W. T. De Groot, 1999; Esbjörn-Hargens & Zimmerman, 2009; Kahn, 1999; O' Brien, 2009). In that sense, the proposed approach may also serve as a heuristic for both generating and interpreting data, thereby facilitating a generally more dynamic understanding of worldviews.

Summing up, the IWF appears to have empirical benefits notably for the process of survey design and development, generally supporting a more systematic, comprehensive, structural, and dynamic operationalization of the worldview-construct, as well as for the process of data-analysis and interpretation, offering a generally more dynamic and pluralistic framework for understanding worldviews. The analysis of current measures and the proposed framework therefore seem to have significant potential to support empirical research into the complex and controversial relationship between worldviews and (more) sustainable lifestyles—an important and timely undertaking in the context of our complex, pluralistic, contemporary culture, which is faced with an ever-increasing intensity of global ecological, societal, and economic challenges.

Worldview-aspects	A sample of approaches that explore worldviews and values vis-à-vis sustainable behaviors and lifestyles
Ontology	Intrinsic versus instrumental values of nature; Ecocentrism versus Anthropocentrism
Epistemlogy	-
Axiology	Approaches based on Schwartz-values: Self-transcendence versus self-enhancement values; Opennness to change versus conservation; Ecocentrism versus Anthropocentrism
Anthropology	New Environmental Paradigm versus Dominant Social Paradigm; Connectedness with Nature-Scales; Ecocentrism versus Anthropocentrism; (HaN-scale)
Societal vision	New Environmemtal Paradigm versus Dominant Social Paradigm; Public interests and government regulation versus private interests and market regulation; global versus local; preservation versus utilization

Table 3: The five aspects of the IWF facilitate one to see which worldview-aspects are explored by existing approaches and how they are interrelated.

Chapter 4

Exploring inner and outer worlds: A quantitative study of worldviews, environmental attitudes, and sustainable lifestyles

The permanent sign of enlightenment is domination over an objectified external nature and a repressed internal nature.

　　　- Jürgen Habermas[45]

We have yet to capture, I think, the unique combination of greatness and danger, of grandeur et misère, *which characterizes the modern age. […]. Briefly, it is that this identity is much richer in moral sources than its condemners allow, but that this richness is rendered invisible by the impoverished philosophical language of its most zealous defenders. Modernity urgently needs to be saved from its most unconditional supporters – a predicament perhaps not without precedent in the history of culture.*

　　　- Charles Taylor[46]

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[45] In: *The Philosophical Discourse of Modernity* (1987), p. 110.
[46] In: *Sources of the Self. The Making of the Modern Identity* (1996), preface.

4.1   Introduction

A change of individual behaviors and lifestyles is generally considered to be of vital importance for making the transition to a sustainable society (Leiserowitz et al., 2006; Steg & Vlek, 2009; World Watch Institute, 2010) However, as research and practice over several decades have shown, lifestyles are generally not becoming more sustainable, nor are changes in that direction easily made (Millennium Ecosystem Assessment, 2005; PBL, 2007). It has been frequently argued that *worldviews* play a fundamental role in shaping lifestyles and behaviors (De Vries & Petersen, 2009; K. A. Johnson et al., 2011; Koltko-Rivera, 2004; Tellegen & Wolsink, 1998). While values have been conceptualized as important life goals or standards (Rokeach, 1973), and environmental attitudes have been defined as "the collection of beliefs, affect, and behavioral intentions a person holds regarding environmentally related activities or issues" (Schultz et al., 2004, p. 31), the concept of worldview is generally understood to consist of foundational assumptions and perceptions "regarding the underlying nature of reality, 'proper' social relations or guidelines for living, or the existence or non-existence of important entities" (Koltko-Rivera, 2004, p. 5). As discussed in chapter two, worldviews are then understood as the inescapable, overarching systems of meaning and meaning-making that substantially inform how humans interpret, enact, and co-create reality , and contain, for example, values and environmental attitudes. Some authors have therefore argued that the concept of worldview can function as an integrative framework with which to investigate the interaction of beliefs, values, and traditions (K. A. Johnson et al., 2011; see also Koltko-Rivera, 2004). While worldviews have not been a central focus in the field of environmental psychology, precisely because of its wide-ranging nature, the concept may turn out to be particularly useful to come to a more inclusive understanding of individual differences in environmental attitudes and sustainable lifestyles . In order to better understand environmental attitudes and sustainable lifestyles, insight into the larger worldview they may be related to—as well as the worldview(s) they can be contrasted with—is of substantial relevance. It allows us to place environmental attitudes and sustainable lifestyles in a larger, historical-cultural context and understand them more holistically, that is, as part of how individuals perceive and value reality at large.

In his acclaimed *Sources of the Self: The Making of the Modern Identity*, Charles Taylor (1989) traces the roots of our contemporary cultural worldview(s), resulting in kind of a 'genesis of the modern identity.' In this context, Taylor argues that notably two historical-cultural currents—of the Enlightenment and Romanticism—powerfully inform our contemporary worldview. These currents are in conflict to this very day, coming to expression in the battle over environmental issues and how to respond to them:

> Although the Romantic religions of nature have died away, the idea of our being open to nature within us and without us is still a very powerful [aspiration]. The battle between instrumental reason and this [Romantic] understanding of nature still rages today in the controversies over ecological politics. […] One sees the dignity of man in him assuming control of an objectified universe through instrumental reason. If there are problems with pollution or ecological limits, they will themselves be solved by technical means, by better and more far-reaching uses of instrumental reason. The other sees in this very stance to nature a purblind denial of our place in things. We ought to recognize that we are part of a larger order of living beings, in the sense that our life springs from there and is sustained from there. […] The notion is that sharing a mutually sustaining life system with other creatures creates bonds: a kind of solidarity which is there in the process of life. To be in tune with life is to acknowledge this solidarity (p. 384).

In this quotation, Taylor suggestively outlines several aspects of these different worldviews, briefly sketching their ontologies (an objectified universe versus a larger order of living beings), epistemologies (instrumental reason versus being open to nature within and without), axiologies (an emphasis on instrumental versus intrinsic values), anthropologies (humanity assuming control versus humanity as part of the larger order), and societal visions (solving ecological issues through technical means versus through a different way of relating to nature, and life). According to Taylor, one of the most esteemed philosophers alive today, environmental attitudes and sustainable lifestyles can

thus not be adequately understood without considering their historical-cultural roots and the larger worldviews they are related to.

This study, therefore, aims to generate insight into how environmental attitudes and sustainable lifestyles are related to worldviews in individuals and (Western) society at large. I do this by developing a questionnaire that explores different aspects of individuals' worldviews—that is, their ontology, epistemology, anthropology, axiology, and societal vision—next to their environmental attitudes and sustainable lifestyles (i.e. intentionally benefitting the environment). In this way, I place environmental attitudes and sustainable lifestyles in a somewhat larger, cultural context, intending to illuminate if and to what extent these phenomena can be understood as part of larger worldview-dynamics in society—as the work of Taylor strongly suggests. I am thus interested in the cultural roots and larger context of environmental attitudes and sustainable lifestyles. Although this exploration takes place in a Western society where experiences of schooling and society are similar (that is, in the Netherlands), I still expect worldviews to vary substantially. Taylor (1989) has demonstrated that, in addition to worldview-differences between societies, also *within* a single society sharply contrasting worldviews co-exist, informing individual choices (e.g. concerning food, health, environment) and potentially leading to enduring political controversies, as the above quotation illustrates. Moreover, prior research has also *empirically* demonstrated such differences between, for example, conceptions of nature and value orientations within societies (e.g. S. H. Schwartz & Bilsky, 1987; Van den Born et al., 2001).

I will start with providing some background of contemporary worldviews, by sketching their historical-cultural origins (on the basis of Taylor's work), as well as understanding them in the context of Self-Determination Theory (SDT). SDT, like Taylor, distinguishes intrinsic from extrinsic (or instrumental) orientations and motivations. Despite being different academic fields, there thus appears to be a certain conceptual resonance between these two approaches, which may be useful in understanding how environmental attitudes and sustainable lifestyles interface with, and are embedded in, larger worldviews. These insights in turn inform the formulation of the Likert-type items for the questionnaire, as will be described in the methodological section. After describing the results as generated through the questionnaire, I use these

cultural-historical and psychological perspectives for discussing and reflecting on the results. I end with a conclusion.

4.2   Background

4.2.1   Historical-cultural context: Charles Taylor

Pro-environmental attitudes and more sustainable lifestyles appear to fit particularly well with the cultural movement of the post-Romantic, expressivist turn towards nature as (moral) source that Taylor describes. According to him, many of the inspirations from the Romantic era that are alive and potent today converge around the idea of *reunification*: "bringing us back in contact with nature, healing the divisions between people, and creating community" (1989, p. 384). In this vision, humanity is seen as set in a larger, frequently providential, natural order, with which humanity should be in harmony. However, in contrast with the Enlightenment's objective 'interlocking order,' which was organized on principles that could be grasped by disengaged reason, the Romantic order was an enigma—one could only understand it by *participating* in it (p. 380). This Romantic perspective is therefore accompanied by a powerful affirmation of the freedom, rights, and uniqueness of the individual, as well as of modes of knowing such as feeling, imagination, and creative expression. While nature in this vision tends to be depicted as a great current of life running through all things, the human being is the creature who can become aware of this—and bring it to expression. So while there is a strong emphasis on humanity as part of nature, simultaneously there is the sense of a specific role for the dignified individual.

Crucial to this conception is that our access to nature, to the larger order, to the essence of life, is primarily *inward*: "It is an inner impulse or conviction which tells us of the importance of our own natural fulfilment and of solidarity with our fellow creatures in theirs. This is the voice of nature within us" (C. Taylor, 1989, pp. 369-370). With this shifting epistemology—from a rationalist, objectified perspective on nature 'from the outside' to a more intuitive, subjectivized mode of knowing nature 'from the inside'—also the axiology changes. A central part of the good life comes to consist in being open to the

impulse of nature. Being attuned to nature, and not cut off from it, implies being in tune with how one feels, with one's emotions and intuitions. Such a perspective therefore places a value on human sentiments for themselves. In contrast with more traditional worldviews, yet in (partial) alignment with the worldview of Enlightenment materialism, sensuality itself becomes significant, thereby blurring the distinction between the moral or ethical and the sensual or aesthetic: "The good life comes to consist in a perfect fusion between the sensual and the spiritual, where our sensual fulfilments are experienced as having higher significance" (C. Taylor, 1989, p. 373). In our own era, we can see this notably in the 'flower power generation' of the 1960's and in the emphasis of the New Age movement on the wholeness, pleasures, and wisdom of the body (see also Van Otterloo, 1999).

As Taylor (1989) argues, if our access to nature is within, we can only know this nature through articulating what we find within. This connects to another feature of the philosophy of nature: the idea that its realization in each of us is also a form of creative *expression*. And this involves not only a making manifest—articulating something that was already there—but also a bringing of something to be, a creation, an invention. This notion of expression has become one of the cornerstones of contemporary culture:

> This is the idea which grows in the late eighteenth century that each individual is different and original, and that this originality determines how he or she ought to live. […] The differences are not just important variations within the same basic human nature; or else moral differences between good and bad individuals. Rather they entail that each one of us has an original path which we ought to tread; they lay the obligation on each of us to live up to our originality (p. 375).

In this vision, spiritual and moral authority is gradually internalized, thereby giving a central place to *self-discovery*. The inner domain that emerges truly has *depth*—that is, it reaches further than we can ever articulate; it is inexhaustible. Although the Greeks had already contended to 'know thyself,' what is new in the philosophy of nature as source, according to Taylor, is that the inexhaustible domain does not lead to a God above or a universal,

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transcendental order beyond, but is properly situated *within*. And, "to the extent that digging to the roots of our being takes us beyond ourselves, it is to the larger nature from which we emerge" (p. 390).

The Post-romantic focus on participation, different modes of knowing, inwardness, self-expression, the unique contribution of the individual to the whole, and the importance of self-discovery and depth, can all be found back in the formulation of the Likert-type items of the questionnaire, as will be discussed in section 4.3.1.

4.2.2   *Psychological context: Self-Determination Theory (SDT)*

Complementary to this cultural-historical perspective, environmental attitudes and sustainable lifestyles can also be understood in the context of Self-Determination Theory (SDT), using the distinction between intrinsic and extrinsic motivations, as environmental psychologists increasingly attempt to do (e.g. J. I. M. De Groot & Steg, 2010; Schösler, De Boer, & Boersema, 2012b; Weinstein et al., 2009). While intrinsic motivation refers to initiating an activity for its own sake, because it is interesting and satisfying in itself, extrinsic motivation refers to engaging in an activity to obtain an external goal—that is, the activity is a means rather than an end in itself. SDT suggests that the key difference between intrinsic and extrinsic aspirations—and the reason that the pursuit and attainment of these aspirations are differently related to psychological health and well-being[47]—is the degree to which they are linked to the satisfaction of the basic psychological needs for *autonomy*, *competence*, and *relatedness* (Ryan & Deci, 2000; Ryan et al., 2008). These needs are understood to be innate and universal, essential for an individual's psychological health, and when satisfied, allow optimal functioning and growth (Grouzet et al., 2005; Ryan, 1995). Thus, while self-determined (or 'eudaimonic') individuals fulfill these basic needs as a result of being guided by their intrinsic motivations, non-self-determined individuals appear to be less successful in fulfilling their basic psychological needs because they tend to be guided by extrinsic motivations, which tend to be instrumental and acquired instead of inherent. However,

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[47] Researchers found that *eudaimonic individuals*—individuals characterized by psychological well-being, construed as a set of outcomes of a life well lived—are driven by *intrinsic* rather than by extrinsic values and motivations (Ryan & Deci, 2000; Ryan et al., 2008).

intrinsic motivation is not the only type of self-determined motivation. Indeed, much of what people do is not, strictly speaking, intrinsically motivated. SDT therefore recognizes differing degrees to which the value and regulation of a requested or instrumental behavior have been internalized and integrated. Internalization refers to people's "taking in" a value or a regulation, and integration refers to the further transformation of that regulation into their own so that, subsequently, it will emanate from their sense of self (Ryan & Deci, 2000, p. 71).

Next to being associated with psychological health, subjective well-being, vitality, and a sense of meaning and purpose (Ryan & Deci, 2000; Ryan et al., 2008), intrinsic aspirations have also been found to be related to pro-social and other-focused value orientations, while extrinsic aspirations were found to predict self-focused value orientations (Weinstein et al., 2009). Moreover, Brown and Kasser (2005) found that people embracing the extrinsic goal of materialism consumed more and had bigger environmental footprints. However, this raises the question to what extent we can conceive of sustainable behaviors as intrinsically motivated, as environmental impact is frequently an unintended consequence of a behavior that, defined from the actor's standpoint, may have nothing to do with the environment (e.g. individuals generally do not cook, or transport themselves *for* the environment, but because they are hungry, or need to get somewhere). In our eyes, sustainable behaviors can be understood as both intrinsically or extrinsically motivated, depending on the circumstances and the intention (e.g. to benefit the environment; see Stern, 2000). Therefore, while specific sustainable behaviors may be motivated by extrinsic goals such as saving money or enhancing one's status, we expect that sustainable *lifestyles*, which are characterized by more sustainable behaviors across the board, generally will tend to be intrinsically motivated. Perhaps such lifestyles are experienced to be intrinsically satisfying as they may support individuals to meet their psychological needs for *competence* (e.g. through cultivating qualities that are needed for certain sustainable behaviors), for *autonomy* (e.g. through the sense of living in accordance with one's own, self-determined principles), and for *connectedness* (e.g. as engaging in these behaviors make one feel in harmony with others and the larger order).

In the development of the questionnaire, which will be discussed below, several of these insights come to expression by including both intrinsic and extrinsic motivations in the worldviews-orientations, as well as in the motivations for sustainable behaviors.

4.3   Methodology

As stated in the introduction, this study aims to generate insight into how environmental attitudes and sustainable lifestyles are related to worldviews, both in individuals and society at large. In section 3.1 I describe the development of the questionnaire, in 3.2 I elaborate on the selection of participants and other procedures, and in 3.3 I describe the techniques used to analyze the generated data.

4.3.1   Development of the questionnaire

Although it is impossible to cover all potential worldviews in the Netherlands comprehensively through developing a limited amount of Likert-type items, I have attempted to measure worldviews broadly by covering the (in the introduction discussed) five aspects of ontology, epistemology, axiology, anthropology, and societal vision of worldviews. In line with an understanding of worldviews as overarching systems of meaning and meaning-making, these five aspects appear to be interrelated and interdependent. For example, an individual's anthropology will tend to be intimately related to his/her societal vision. This means that neatly separating these aspects is not always possible. However, the function of employing these five aspects is that it is likely to support a (more) systematized, balanced, and encompassing operationalization of worldviews into Likert-type items, as well as a more structured data-analysis and interpretation. In terms of the content of these items, several existing scales have informed us—including the Connectivity with Nature scales—as well as Taylor's more general insights in the cultural-historical dynamics of worldviews.

The development of the questionnaire was a result of several major steps:
1) In the first place, Likert-type items were developed for exploring *worldviews*, by spanning the five aspects of worldview: ontology, epistemology, axiology, anthropology, and societal vision . Although the

list of items that emerged from this exercise is clearly not comprehensive or exhaustive in any way, it is fairly wide-ranging in comparison with most of the existing scales that explore beliefs, values, and attitudes in relationship to environmental behaviors (ibid), and goes beyond the more narrow exploration of, for example, environmental attitudes or value-orientations. Moreover, researching worldviews in such an open-ended and explorative way may contribute to generating either more focused or more comprehensive scales in future research.

2) Then, Likert-type items were developed for exploring *environmental attitudes,* such as connectedness with nature. All items developed in step 1 that pertained to nature and the environment (which were mostly societal vision items, but also several ontological, anthropological, and axiological ones), were included in this group (see appendix I). Even though the distinction between worldviews and environmental attitudes is somewhat arbitrary and inconsistent with my discussion of worldviews as containing environmental attitudes (on page 3-4), separating these items has the *analytical advantage* of enabling one to investigate environmental attitudes exogenous to worldviews, and explore their relationship to it, rather than as part of it. Thus, even though conceptually I tend to consider nature- and environmentally-oriented positions as an integral part of worldviews, for purposes of analysis I have distinguished all worldview-items that speak to nature or the protection of the environment. In this way, potential relationships between worldview-factors and environmentally significant behaviors are clarified and cannot be reduced to (endogenous) worldview-items that refer to nature or the environment. In this study, then, environmental attitudes signify those elements of worldviews that explicitly position themselves vis-à-vis nature and/or the environment, in line with my definition of environmental attitudes as given in the introduction: "the collection of beliefs, affect, and behavioral intentions a person holds regarding environmentally related activities or issues."

3) Lastly, a measure was constructed that explores *sustainable lifestyles*, by exploring environmentally significant behaviors in different domains: food consumption, domestic energy use, mobility, general consumer

behavior, and contributions to societal change. As articulated above, my understanding is that while specific sustainable behaviors may be more coincidental and less intentional, sustainable lifestyles are characterized by a more consistent manifestation of environmentally significant behaviors across the board.

For the development of the Likert-type items of step 1 and 2, variations on statements from different existing scales were used, including the *Connectivity with Nature Scale*, the *Human and Nature Scale* (HaNscale), *the World Values Survey*, and research in the field of sociology of religion (see Appendix I). Different statements were formulated to be logically opposite of each other, in an attempt to develop well-discriminating statements and include a wide range of responses. Participants were invited to respond on a 7-point scale, ranging from strongly agree to strongly disagree. This resulted in strongly opposing pairs of statements, stretching across the entire continuum (e.g. "I don't feel a personal bond with nature" versus "I have a deep feeling of connectedness to nature").

Subsequently, a measure was developed to explore sustainable behaviors in different domains: food consumption, domestic energy use, mobility, general consumer behavior, and contributions to societal change (step 3, see Appendix II). In this way, I attempt to measure a relatively wide range of environmentally relevant behaviors. Moreover, I have attempted to investigate sustainable behaviors positively, through including potential elements of positive antecedents and consequences of sustainable behaviors in the Likert-type items, as well as by measuring sustainable behaviors themselves in a more broad sense, including for example positive contributions to societal change (see e.g. the idea of a 'positive psychology of sustainability,' Corral Verdugo, 2012).

Lastly, the questionnaire was pre-tested for clarity, consistency, and shared understanding by sitting down with about ten different respondents (including some with low education levels, and of varying cultural backgrounds) and requesting them to give their responses to, and explain their interpretations of, the Likert-type-items and behavioral questions. Through this process, several statements were modified, 'difficult' words were taken out, and ambiguous questions were simplified. This extensive process resulted in a questionnaire consisting of 53 Likert-type items and a set of behavioral questions covering different domains in life. The questionnaire was structured into three different

sections, consisting of 17 till 19 items, which were alternated with a few open, and various single- and multiple-response questions exploring sustainable behaviors and opinions. The questionnaire started with a short introduction (see Appendix II), aiming to neutrally introduce all subjects to the participants: namely worldviews ('your attitude towards life in general'), environmental attitudes ('your perspective on nature in particular'), and sustainable lifestyles (sustainability). The explanation of the concept of sustainability was necessary since I use the term in the survey, and thus needed to ensure that different participants have a similar understanding of it. Since the introductory text was the same for all participants, I do not expect this explanation to inform the relationships between the different variables.

4.3.2 Participants and procedures

The questionnaire was conducted between 2 and 10 March 2009 by Motivaction, a Dutch research agency, which has a panel of research respondents of about 100,000 people in the Netherlands, and years of experience with online surveys. Because online panel research is self-selective—although respondents are invited broadly, they decide whether or not to take the invitation—Motivaction uses *propensity scores* (Rosenbaum & Rubin, 1983) in order to correct for the non-response generated by this type of research. Propensity scores allow the researcher to model the sample on specific reference variables in a sophisticated way, not only including socio-demographic variables but also incorporating variables such as opinion, lifestyle, and values. The response rate of the questionnaire (26%) was deliberately brought down as respondents of subgroups that are known to respond slow or incomplete are approached more frequently, with the aim of creating a more representative sample. After the fieldwork was finished, the gathered data were weighed as to correct any obliquity of the sample in comparison with the Dutch public. A weighing factor of 0.91 was used, meaning that the efficiency of the weighing was 91%. The effective sample after weighing thus consisted of 952 respondents. In this way, the sample is made representative for the Dutch public on the

variables of gender, age, education, region, and value-orientation (mentality-environment).[48]

Participants in this study thus consisted of a representative sample of residents of the Netherlands, who were invited via email for participation in the research. In order to prevent a selective response, the topic of the research was not mentioned. The respondents filled in the questionnaire online. I expect that this does not substantially limit the representativity of the sample, as the Netherlands have a very high degree of internet penetration: in 2008 87 % of the households in the population under 75 years of age had access to internet *at home* (CBS, 2009). For filling in the complete questionnaire, respondents received a modest compensation. The age of the respondents was minimum 18 years and maximum 70 years old. The respondents consisted of 53% men and 47% women. However, through weighing this was corrected, resulting in a sample consisting of 50.5 % men and 49.5% women.

4.3.3   Analysis

To analyze the data, I used Principal component analyses to explore the items describing worldviews, as well as the items describing environmental attitudes. In both cases, I chose an oblique rotation (Promax) because the components might be related to each other. These analyses generated five different worldview-factors, and three different environmental factors, which are respectively discussed in 4.1 and 4.2. Using the regression method, component scores were calculated for each participant, which were used for all subsequent analyses. Pearson correlation matrices were used to explore the interrelationships among the different worldviews, and among the different environmental attitudes. In 4.3 the correlations between the different worldviews, environmental attitudes, and sustainable behaviors are discussed. To explore to what extent the environmental attitudes mediate the effect of worldview, a regression analysis was carried out (Section 4.4). I first created a sustainable lifestyles-variable, combining the positively correlating sustainable behaviors of Table 7 (9 standardized items, Cronbach's alpha = .65). The five

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[48] Motivaction developed its own model for describing the different value-orientations within the Netherlands, which they call "mentality-environments." See www.motivaction.nl for more information; this site has an English section.

worldview-factors were added in Step 1 to determine the extent to which each factor uniquely contributed to the sustainable lifestyles-variable. In Step 2 the three environmental attitude variables were added to determine changes in each factor's contribution to the sustainable lifestyles-variable and the degree of mediation.

4.4   Results

4.4.1   *Worldviews and their interrelationships*

The five worldview-factors as generated with the Principal component analysis were labeled 'Inner growth', 'Contemporary spirituality,' 'Traditional God,' 'Focus on money,' and 'Secular materialism.' These five factors explained 46% of the total variance, almost half of which (22.1%) was explained by the first factor. The eigenvalues before rotation ranged from 7.05 to 1.32. For an overview of the different factors see Table 4.

The *Inner growth* factor emphasizes the existence of an inner domain or interiority to life in general, in oneself as well as in the surrounding world, which comes to expression in references to 'inner wealth,' 'feeling and intuition,' and the intrinsic connection between human being and world. For these individuals, inner growth appears to be the primary locus of meaning in life. Moreover, a statement like 'What we do to others, will in the end come back to ourselves' also seems to be based on a sense of the intrinsic interconnectedness of all things, and this factor thus seems to resonate with Taylor's description of the post-Romantic, expressive current in contemporary culture, especially in its secularized variations. At first sight, the statement 'Human beings are in their core egocentric beings: they think mostly of themselves' may seem inconsistent with the spirit of this factor. However, I understand this statement to reflect a critical attitude towards the state of humanity (and the world) as a whole. This seems understandable from the perspective of participants that score high on this factor, as they are among the most conscious and socially engaged individuals in society, and are thus likely to be frequently confronted with less conscious and engaged individuals around them.

The second factor was coined *Contemporary spirituality*, because it gives expression to an explicitly spiritual or divine understanding of life, yet seems to do so in a contemporary (rather than traditional) fashion, referring to an all-pervasive ensouled reality, reincarnation, human beings as having a spiritual or divine core, and the universe as giving expression to a creative intelligence—which are typical contemporary spiritual ideas[49] (see e.g. Campbell, 2007; Hanegraaff, 1996; Heelas, 1996; Houtman et al., 2009). The third factor, labeled *Traditional God,* seems to be based on a more traditional understanding of the divine, referring to a God 'far above life on earth,' rejecting 'it is pure coincidence that human life has developed on earth,' and underscoring the traditional dualism between humanity and the rest of creation by emphasizing that the human being is 'the only being on earth with consciousness.'

The fourth factor, *Focus on money*, does not seem to express a comprehensive worldview as it does not articulate an ontology, epistemology, anthropology, or societal vision, but only a particular axiology—that is, the motivation to earn money in the aspiration of having a certain (material) quality of life. The last factor was labeled *Secular materialism* because of its rejection of meaning (other than utilitarian, e.g. 'I hardly ever reflect on the meaning and purpose of life' and 'The suffering that happens to people does not have any meaning'), its explicit mind-body dualism ('I don't think body and mind are closely connected'), and its scientistic epistemology ('Science is the only source

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[49] These ideas are, of course, not new. Most of these ideas find their origin in the Eastern religious traditions, but have been re-interpreted in a contemporary Western context, profoundly shaped by processes of notably secularization and rationalization (Hanegraaff, 1996; Heelas, 1996). An example is the understanding of the concept of reincarnation. Reincarnation has traditionally in the East been understood from a cyclical concept of time, coming to expression in the idea of "the wheel of rebirth." In the contemporary spiritual context however, that same conception tends to be understood from an evolutionist and this-worldly framework, stressing the possibility of spiritual progress by learning from experience, during many lives in this and other worlds. This view on reincarnation envisions a process of *progressive spiritual evolution*. Moreover, generally there is little desire in the West to escape from the cycle of rebirth altogether, as there tends to be in the East, but instead a desire to experience as many lives as possible, in an endless process of growth and evolution. Not only did this perspective emerge together with modern concepts of evolution; it is most plausibly interpreted as a direct inference from them (Hanegraaff, 1996).

	1	2	3	4	5
1: Inner growth					
Wealth is just as much to be found within ourselves, as in the world around us (o/an)	**.71**	.04	-.12	-.12	.08
I see life as one big growth-process (o)	**.69**	.10	-.15	.04	.11
I want to contribute to society in my own, unique way (ax)	**.66**	-.10	-.01	.09	-.13
Inner growth is really important to me (ax)	**.63**	.13	-.06	.19	-.22
Next to science, also feeling and intuition are needed to know reality (e)	**.63**	.03	-.11	.06	-.11
What we do to others, will in the end come back to ourselves (an)	**.62**	.12	-.07	-.08	.03
The world can only be changed by first changing oneself within (s)	**.61**	.00	.05	-.05	.01
Human beings are in their core egocentric beings: they think mostly of themselves (an)	**.43**	-.32	.05	-.01	.07
I feel generally satisfied with the life that I lead (ax)	**.39**	-.26	.12	-.23	.27
There is something that connects human being and world in their core (o/an)	**.39**	.21	.25	-.04	.07
Pain and suffering provide me with the opportunity for growth and maturity (an)	**.35**	.07	.30	.10	.06
2: Contemporary spirituality					
I believe in reincarnation, that is to say, that we will be born again in this world after our death (an)	-.11	**.89**	-.27	.07	.18
I have sometimes had experiences that you could call spiritual (o)	.11	**.66**	-.05	.10	-.19
I see the earth and humanity as part of an ensouled or spiritual reality (o)	.02	**.65**	.29	.04	.01
I believe every human being has a spiritual or divine core (an)	.11	**.65**	.23	-.04	.08
I find the whole idea of 'spirituality' or 'something spiritual' nonsense (o) (reversed)	-.05	**-.64**	.07	.04	.30
I believe the universe gives expression to a creative intelligence (o)	.13	**.41**	.23	.07	.16
3: Traditional God					
God stands far above life on earth (o)	-.18	.08	**.75**	.02	.20
The human being is the only being on earth with consciousness (an/o)	.01	-.50	**.66**	.16	.01
It is pure coincidence that human life has developed on earth (o) (reversed)	.13	.05	**-.62**	.03	.17
What people call 'God' does not only exist above, but also here in the world around us (o)	.08	.24	**.53**	-.15	.09
I take a moment for reflection, prayer or meditation regularly (ax)	.18	.10	**.46**	-.05	-.24
4: Focus on money					
Earning a lot of money is really important to me (ax)	-.03	.05	.02	**.84**	.04
I aspire a luxurious and comfortable lifestyle (ax)	.05	.07	-.01	**.80**	.10
The more money I can spend, the higher the quality of my life (ax)	.00	.03	.03	**.69**	.24
5: Secular materialism					
The most important thing in my life is that I enjoy myself and am happy myself (ax)	.11	-.03	.13	.21	**.56**
I don't think body and mind are closely connected (an/o)	-.42	.05	.19	.01	**.52**
I believe the human being is by nature, that is to say in his core, good (an)	.32	.28	-.11	-.10	**.50**
I hardly ever reflect on the meaning and purpose of life (ax)	-.43	.13	-.14	.03	**.46**
The suffering that happens to people does not have any meaning (an)	.14	-.36	-.21	-.04	**.37**
Everybody needs to take care of oneself and stand up for oneself (s)	-.04	.08	-.03	.26	**.37**
Science is the only source of trustworthy knowledge (e)	.21	-.30	-.11	.22	**.35**

Table 4: The five worldview-factors, loadings after Promax rotation

Notes: The items are coded with letters that refer to Table 2: o=ontology; e=epistemology; ax=axiology; an=anthropology; s=societal vision.

Component	2	3	4	5
1 Inner growth	.48	.34	-.20	-.09
2 Contemporary spirituality		.40	-.25	-.21
3 Traditional God			-.19	-.30
4 Focus on money				.15
5 Secular materialism				

Table 5: Correlation matrix of the worldview-factors

of trustworthy knowledge'). Moreover, the statements 'The most important thing in my life is that I enjoy myself and am happy myself' and 'Everybody needs to care of oneself and stand up for oneself' seem to reflect a political/societal orientation of individualistic liberalism (see Sedgwick, 2008).

The component correlation matrix (see Table 5) shows that the first three worldview-factors tended to correlate with each other (notably Inner growth and Contemporary spirituality), while the latter two tended to correlate with each other. Moreover, the first three factors also correlated negatively with the latter two, thus suggesting that these are fairly different and somewhat opposed orientations towards reality.

4.4.2   Environmental attitudes and their interrelationships

The three environmental factors were labeled 'Connectedness with nature,' 'Willingness to change,' and 'Technological optimism.' These three factors explained 44.4% of the total variance, of which 28.7% was explained by the first factor. The eigenvalues before rotation ranged from 6.32 to 1.30. For an overview of the different factors see Table 6.

The first factor, *Connectedness with nature*, gives expression to a personal sense of connectedness with, and care for nature. This also seems to involve the preference for a certain lifestyle—'conscious and more natural'—as well as an attitude of wanting to contribute oneself (e.g. 'I like making an effort to contribute to a better environment'). The second factor was coined *Willingness to change* because the statements in this factor seem to reflect a willingness to change in favor of the environment on different levels: societally through support for governmental intervention and individually through changing one's own behaviors and lifestyle. Moreover, this factor seems to contain the idea that such change is not necessarily disadvantageous: in the end it will prove to be good for

the economy, and buying more environmental friendly products gives 'a good feeling.' Lastly, this factor also affirms a sense of individual power and agency, as the statement 'Changing my own behavior will hardly contribute to solving environmental problems' is rejected. The third factor was coined *Technological optimism*, because of its belief in the (instrumental) mastery of nature and its emphasis on external forces like market, science, and technology to solve environmental issues. Moreover, this factor makes clear that these individuals do not feel called to personally contribute or change in order to 'be part of the solution.'

While the first two factors can be seen as pro-environmental factors, expressing connectedness with, and care for, nature, and willingness to change in favor of the environment in a broad sense, the last factor gives expression to instrumental values of nature combined with the attitude that other stakeholders (the market, science and technology, 'not me') will solve environmental issues, seemingly giving voice to less active care and concern for these issues. This comes explicitly to expression in statements like "I don't feel responsible for contributing to solving the environmental crisis" and "In these economically difficult times, environmental requirements should not become obstacles to economic growth." As Table 7 shows, Connectedness with nature and Willingness to change indeed correlated significantly ($\underline{r}$ = .54, $\underline{p}$ < .001) with each other, while they also both correlated negatively with Technological optimism ($\underline{r}$ = -.32 and $\underline{r}$ = -.31, $\underline{p}$<.001).

	Component		
1: Connectedness to nature	1	2	3
I have a deep feeling of connectedness to nature	**.81**	.05	.15
I don't feel a personal bond with nature (reversed)	**-.69**	.19	.25
It hurts me to see nature being destroyed	**.66**	.07	-.04
I find it valuable to plant a tree at least one time in my life	**.59**	.12	.13
Things that I enjoy, but are bad for the environment, I want to keep on doing (reversed)	**-.52**	.09	.10
I like making an effort to contribute to a better environment	**.51**	.41	.10
I aspire a conscious and more natural lifestyle	**.50**	.36	.16
I don't care so much that species are becoming extinct (reversed)	**-.45**	.06	.37
The relationship between human being and nature should be one of respect, adjustment and attunement	**.33**	.32	-.20
2: Willingness to change			
For solving environmental problems, the government needs to get space for carrying through strict rules and laws	-.08	**.70**	.06
Every individual needs to contribute to solving the climate problem	.02	**.69**	-.05
What is good for the environment, is in the end also good for the economy	-.02	**.66**	.25
It gives me a good feeling to buy products that contribute to a better environment, even when they are a bit more expensive	.14	**.62**	.07
For solving the climate problem we need to adjust our lifestyle	.15	**.53**	-.21
Changing my own behavior will hardly contribute to solving environmental problems (reversed)	.07	**-.50**	.25
3: Technological optimism			
Nature has value only because the human being is able to use and enjoy her	.25	-.09	**.68**
By mastering nature, the human being can find freedom	-.07	.17	**.65**
Environmental problems will be solved through the working of the market, for example because oil prices are going up	-.22	.16	**.61**
Through the development of science and technology, environmental problems will be solved by themselves	-.13	.16	**.58**
In these economically difficult times, environmental requirements should not become obstacles to economic growth	.40	-.33	**.56**
I think animal rights are nonsense	-.20	-.03	**.43**
I don't feel responsible for contributing to solving the environmental crisis	-.14	-.33	**.43**

Table 6: The three environmental attitude-factors, loadings after Promax rotation

Component	2	3
1 Connectedness with nature	.54	-.32
2 Willingness to change		-.31
3 Technological optimism		

Table 7: Correlation matrix of the environmental attitude-components

4.4.3 Worldviews, environmental attitudes, sustainable lifestyles

When correlating the worldview-factors with the environmental attitudes the results show that Inner growth, Contemporary spirituality, and to a lesser extent Traditional God, correlated positively with Connectedness with nature and Willingness to change. Both Inner growth and Contemporary spirituality correlated negatively with Technological optimism, while Traditional God correlated slightly positively with Technological optimism. In contrast, Focus on money and Secular materialism correlated negatively with Connectedness with nature and Willingness to change, and positively with Technological optimism (see Table 8).

The correlations found between the worldview-factors, environmental attitudes, and sustainable lifestyles (see tables 9 and 10) partially show a similar pattern. For example, in terms of food-related behaviors I found significant differences between the different worldviews and environmental attitudes with respect to the consumption of meat, organic food, and local and seasonal food. While notably Inner Growth, Contemporary Spirituality, Connectedness with nature, and Willingness to change demonstrated more sustainable behaviors in this respect (that is, lower meat consumption, higher consumption of organic and local/seasonal), Focus on money, Secular materialism, and Technological optimism tended to make significantly less sustainable food choices. Compare for example meat consumption (statistics are reversed due to the order of the responses): Inner growth (r = .19) and Focus on money (r = -.13), and Connectedness with nature (r = .25) and Technological optimism (r = -.13; in all these cases p < .001). Traditional God was again a bit ambiguous in its tendencies, with meat and organic consumption showing no significant differences, but demonstrating significantly higher consumption of local and seasonal food.

However, energy consumption behaviors did not conform to this pattern: while using renewable energy at home did not show any significant differences between the worldview-factors and environmental attitudes at all, the average temperature used to warm the home did seem to display the pattern somewhat, yet not unambiguously. Regarding transportation behaviors (car use, bike use) the differences were less clear in terms of the worldview-factors, while the environmental attitudes did display the expected pattern: Connectedness with

nature and Willingness to change tended to be associated with more sustainable transportation behaviors, while Technological optimism tended to be related with less sustainable behaviors. Second hand purchases, in contrast, demonstrated significant differences across both worldview-factors and environmental attitudes, and thus conformed to this pattern. The same counted for (voluntary) work for nature, environment, and sustainability, as well as for personal action and participation for a more sustainable world. Also prioritizing sustainability politically and supporting societal organizations roughly confirmed to this pattern (with Traditional God showing no significant differences in the first category, and Contemporary spirituality showing no significant differences in the latter).

	Connectedness with nature	Willingness to change	Technological optimism
Inner growth	.64***	.59***	-.23***
Contemp. spirituality	.41***	.26***	-.16***
Traditional God	.28***	.19***	.08**
Focus on money	-.31***	-.14***	.30***
Secular materialism	-.15***	-.12***	.35***

Table 8: Component correlation matrix correlating worldview-factors with environmental attitude-factors
*p < .05; ** p < .01; *** p < .001

Sustainable behaviors	Inner growth	Contemp. spirituality	Traditional God	Focus on Money	Secular Materialism
Meat consumption (reversed)	.19***	.16***	.02	.13***	-.07*
Consumption organic foods	.20***	.12***	-.02	.11***	-.07*
Consumption local & seasonal foods	.28***	.18***	.14***	.20***	-.07**
Thermostat	-.04	-.09**	-.02	.11***	.03
Use of renewable energy	-.01	.01	.06	.05	-.02
Car use (reversed)	.07*	.08**	.04	.11***	-.05
Bike use (reversed)	-.07*	.01	-.06*	.10**	.09*
Consumption of 2ⁿ hand goods	.20***	.24***	.07*	.13***	.15***
(Voluntary) work	.21***	.17***	.19***	.10***	.10***
Action & participation	.16***	.12***	.10***	.11***	-.08**
Support for animal rights	.11***	.10***	.02	-.03	-.06
Sustainability political priority	.24***	.15***	.05	.13***	.13***
No support for societal organizations (reversed)	-.21***	-.04	.11***	.06*	.09**

Table 9: Correlations between worldviews and sustainable behaviors

Notes: the behaviors meat consumption, car-use, bike-use, and support for societal organizations are 'reversed' due to the formulation of the questions and its responses. E.g. Meat consumption started with 7 days a week, implying that a lower response implies a higher consumption. See Appendix II for the formulation of the behavioral questions and answers.

* p < .05; ** p < .01; *** p < . 001

Sustainable behaviors	Connectedness with nature	Willingness to change	Technological Optimism
Meat consumption (reversed)	.25***	.22***	.13***
Consumption of organic foods	.33***	.36***	.19***
Consumption local & seasonal foods	.38***	.31***	.13***
Thermostat	-.09**	-.09**	.03
Use of renewable energy	-.01	.03	.02
Car use (reversed)	.10**	.13***	-.08**
Bike use (reversed)	.10**	.13***	-.08**
Consumption of 2ⁿ hand goods	.18***	.18***	.10***
(Voluntary) work	.31***	.12***	.02
Action & participation	.24***	.21***	-.02
Support for animal rights	.20***	.13***	.13***
Sustainability as central political priority	.39***	.40***	.29***
No support for societal organizations (reversed)	.27***	.25***	.71***

Table 10: Correlations between environmental attitudes and sustainable behaviors

Notes: the behaviors meat consumption, car-use, bike-use, and support for societal organizations are 'reversed' due to the formulation of the questions and its responses. E.g. Meat consumption started with 7 days a week, implying that a lower response implies a higher consumption. See Appendix II for the formulation of the behavioral questions and answers.

* p < .05; ** p < .01; *** p < . 001

4.4.4   Analysis of mediation

In general, the correlations between environmental attitudes and sustainable behaviors tended to be stronger than the correlations between worldview-factors and sustainable behaviors, thus suggesting that the influence of the worldview-factors on sustainable behaviors was *mediated* by the environmental attitudes. Table 11 therefore reports the results of a regression-analysis of the sustainable lifestyles-variable on worldviews and environmental attitudes. In step 1 the sustainable lifestyles-variable was predicted on the basis of the five worldview-factors; predicting a medium size effect (R square = .195), of which most can be ascribed to the Inner growth factor (B =.34, p< .001), with a smaller, though significant (negative) contribution of Focus on money (B =.-.13) and Secular materialism (B =.-.14). In step 2, the environmental attitude factors were added, resulting in a strong R square (.380). The results show that the regression-weight of Inner growth dropped to almost zero (B =.-.07, p> .05). The effect of Secular materialism stayed significant at the .001 level, yet was modest (B =.-.11). Both Connectedness with Nature and Willingness to change showed a strong predictive effect on the sustainable lifestyles-variable (B = .39 and B = .32, p < .001). Since Table 6 reveals strong correlations between Inner growth and Connectedness with nature as well as Willingness to change, the evidence suggests that the relationship between Inner growth and the sustainable lifestyles-variable was fully mediated by these environmental attitudes.

Finally, because the distinction between worldviews and environmental attitudes is somewhat arbitrary, we considered whether the findings are dependent on the pre-selection of particular items. To test this, the correlations and partial correlations were examined between the worldview-items of Inner growth and Contemporary spirituality, on the one hand, and Connectedness with nature and Willingness to change, on the other hand. Table 12 shows that all the items of both Inner growth and Contemporary spirituality uniquely correlated with Connectedness with nature and that all the items of Inner growth (but not Contemporary spirituality) also uniquely correlated with Willingness to change.

	Step 1		Step 2	
	B	s.e.	B	s.e.
Constant	-.00	(.03)	-.00	(.02)
Worldviews				
Inner growth	.34‴	(.03)	-.07	(.04)
Contemporary spirituality	.08*	(.03)	.06*	(.03)
Traditional God	-.07*	(.03)	-.08⁎⁎	(.03)
Focus on money	-.13‴	(.03)	-.06*	(.03)
Secular materialism	-.14‴	(.03)	-.11‴	(.03)
Environmental attitudes				
Connectedness to nature			.39‴	(.04)
Willingness to change			.32‴	(.03)
Technological optimism			.04	(.03)
R square	.195		.380	

Table 11: Regression of the sustainable lifestyles-variable on worldviews and environmental attitudes

p < .05; *ᵖ* < .01; *ᵖ* < .001

	Correlation		Partial correlation	
	Connect. with nature	*Willing-ness to change*	*Connect. with nature*	*Willing-ness to change*
Inner growth items				
Wealth is just as much to be found within ourselves, as in the world around us (o/an)	.45"	.40"	.31"	.20"
I see life as one big growth-process (o)	.37"	.34"	.24"	.18"
I want to contribute to society in my own, unique way (ax)	.42"	.46"	.22"	.31"
Inner growth is really important to me (e/ax)	.39"	.39"	.22"	.24"
Next to science, also feeling and intuition are needed to know reality (e)	.35"	.34"	.21"	.19"
What we do to others, will in the end come back to ourselves (an)	.48"	.40"	.35"	.19"
The world can only be changed by first changing oneself within (s)	.45"	.40"	.30"	.22"
Human beings are in their core egocentric beings: they think mostly of themselves (an)	.22"	.17"	.15"	.06'
I feel generally satisfied with the life that I lead (ax)	.17"	.16"	.10'	.08'
There is something that connects human being and world in their core (o/an)	.43"	.38"	.29"	.19"
Pain and suffering provide me with the opportunity for growth and maturity (an)	.25"	.21"	.17"	.09'
Contemporary spirituality items				
I believe in reincarnation, that is to say, that we will be born again in this world after our death (an)	.21"	.12"	.18"	.01
I have sometimes had experiences that you could call spiritual (e/o)	.28"	.22"	.20"	.08'
I see the earth and humanity as part of an ensouled or spiritual reality (o)	.37"	.24"	.29"	.05
I believe every human being has a spiritual or divine core (an)	.39"	.27"	.30"	.08'
I find the whole idea of 'spirituality' or 'something spiritual' nonsense (o) (reversed)	-.30"	-.20"	-.24"	-.05
I believe the universe gives expression to a creative intelligence (o)	.29"	.22"	.20"	.08'

Table 12: Correlations and partial correlations between the items of Inner growth and Contemporary spirituality and the measures of Connectedness with nature and Willingness to change

Notes: Partial correlation between each item and Connectedness with nature after controlling for Willingness to change, and partial correlation between each item and Willingness to change after controlling for Connectedness with nature.

p < .05; *p* < .01; *p* < .001

4.5 Discussion

I will start with reflecting on, and considering the limitations of, the results of this study, in the context of the approaches as introduced in the beginning of the

article: 1) the psychological approach of Self-Determination Theory (SDT); 2) the cultural-historical background as sketched by Charles Taylor; and 3) the Integrative Worldview Framework (IWF). I then offer some suggestions for future research in 4.5.2.

4.5.1 *Reflections and limitations*

From the perspective of SDT, one could argue that the two worldview-factors most strongly related to pro-environmental attitudes (Connectedness with nature and Willingness to change) are characterized by the recognition of an intrinsic dimension to reality (or an intrinsic ontology), conceptualized in either more secular terms (Inner growth), or more contemporary spiritual terms (Contemporary spirituality), and can thus be understood to be more *intrinsically* oriented. This intrinsic orientation seems to be most strong in the factor Inner growth, as it explicitly and directly refers to the intrinsic dimension of life (rather than via spiritual notions), and this orientation goes together with a sense of satisfaction in life, as well as the desire to contribute to society—precisely as SDT would predict (see e.g. Ryan et al., 2008; Weinstein et al., 2009). In contrast, the two factors that are negatively correlated with the pro-environmental attitudes seem to share a more materialistic or instrumentalist orientation, and can thus be understood to be more *extrinsically* oriented, as comes to expression in the focus on money (which SDT understands to be an instrumental goal), as well as in the 'hedonic'[50] orientation of Secular materialism. This orientation comes to expression in statements like 'The most important thing in my life is that I enjoy myself and am happy myself' and 'The suffering that happens to people does not have any meaning.'[51]

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[50] SDT poses a distinction between *eudaimonic* (intrinsically motivated way of life) and *hedonic* (extrinsically motivated way of life) orientations. While "eudaimonic conceptions focus on the *content* of one's life, and the *processes* involved in living well, hedonic conceptions of well-being focus on a specific *outcome*, namely the attainment of positive affect and an absence of pain" (Ryan et al., 2008, p. 140). (For more research on the relationship between hedonic values and environmental behavior, see Steg, Perlaviciute, Van der Werff, & Lurvink, 2012)

[51] Especially this latter statement is in sharp contrast with the more eudaimonic factor of Inner growth, which for example subscribes to the idea that 'Pain and suffering provide me with the opportunity for growth and maturity.'

Thus, while the more intrinsically oriented (or eudaimonic) worldview-factors appear to be related to Connectedness with nature and Willingness to change, the extrinsically oriented (or hedonic) worldview-factors are related to Technological optimism. These results thus seem to suggest that, as SDT would hypothesize, individuals endorsing more intrinsically oriented worldviews (notably Inner growth) tend to behave in more pro-social ways, showing a sense of personal responsibility in their environmental attitudes and generally engaging in more sustainable lifestyles. Simultaneously, the more extrinsically oriented worldviews of Focus on money and Secular materialism appear to be related to Technological optimism and generally less sustainable lifestyles. These findings are also in alignment with results from earlier research, showing that various worldviews tend to have substantially different preferences in terms of how to address environmental issues, such as through lifestyle changes, governmental regulation, market mechanisms, or development of science and technology (Leiserowitz et al., 2006; Milfont & Duckitt, 2004; PBL, 2004)

One way to understand the correlation between more intrinsically oriented worldviews and Connectedness with nature is that, as environmental philosophers have argued, one cannot feel profoundly connected to nature if one does not recognize an intrinsic dimension to it, as a corollary seeing it as fundamentally separate from oneself and humanity at large—the human-nature dualism frequently argued to be characteristic of Enlightenment's disengaged reason (e.g. Plumwood, 1993; Wilber, 1995; Zweers, 2000). Therefore, feeling connected to nature seems to be related to a certain worldview: one that recognizes *interiority*, or an intrinsic dimension of meaning, value, or consciousness to reality, whether understood and conceptualized in secular, spiritual, or, to a lesser extent, traditionally religious terms. While the factor 'Traditional God' seems to be based on a more meaningful interpretation of reality (in contrast with a more nihilistic or materialistic one), as it emphasizes the meaning in God and rejects a random universe, these individuals also tend to engage in a human-nature dualism, conceptualizing the human being as fundamentally different from the rest of life, as he is, in their eyes, "the only being on earth with consciousness." This may explain the substantially lower correlation of Traditional God with Connectedness to nature ($\underline{r} = .28$, $\underline{p} < .001$), in comparison with notably Inner growth ($\underline{r} = .64$, $\underline{p} < .001$), and Contemporary

spirituality ($\underline{r}$ = .41, $\underline{p}$ < .001), as well as its slightly positive correlation with Technological optimism ($\underline{r}$ = .08, $\underline{p}$ < .01). The same counts, to a somewhat lesser extent, for Traditional God's correlation to Willingness to change.

Because worldviews and notably environmental attitudes (which appear to function as mediating factors between worldviews and behaviors) are associated with significantly more or less sustainable behaviors across a wide range of behaviors—from food consumption, transportation behaviors, second hand purchases, (voluntary) work, action and participation, to support for societal organizations, and political priorities—the concept of a sustainable *lifestyle* is suggestively substantiated (see e.g. Corral Verdugo, 2012; De Young, 1993; Schultz, 2001). However, some behaviors seem to be less or not at all informed by the worldview-factors and environmental attitudes, such as energy consumption (see also Vringer, 2005), and thus may need to be explained by other, for example, structural factors—such as economical, infrastructural, institutional, and social-practical barriers (see e.g. Gifford, 2011; Steg & Vlek, 2009). One can perhaps explain the differences in the *kind* of sustainable behaviors that individuals are motivated to get involved in from the perspective of SDT. Certain behaviors seem to have a larger potential for being intrinsically motivated or internalized than other behaviors, and thereby may have, or may activate, more capacities for fulfilling the psychological needs of autonomy, competence, and connectedness. For example, while food consumption has important instrumental motivations, also the potential intrinsic ones are abundant: the pleasure of eating, the competence and creativity one can experience in cooking, the connectedness one can feel with nature through using its products, the health one can experience from being well-nourished, et cetera (see e.g. Schösler & Hedlund-de Witt, 2012). However, a similar variety of potential intrinsic motivations is much harder to find in the case of putting the thermostat a degree lower or calling up one's energy provider to switch to 'green energy.' Thus, perhaps differences in sustainable behaviors can be (partially) understood by differences in their capacity to be intrinsically motivated or internalized.

In terms of the larger worldview-dynamics in society, the results of my questionnaire resonate with Taylor's conceptualization of a profound tension in our contemporary cultural landscape between an Enlightenment-inspired,

instrumental, understanding of reality (as comes to expression in notably Secular materialism and Focus on money) and a Post-Romantic, expressive cultural current that sees nature as inner source (as comes to expression in notably Inner growth and Contemporary spirituality), and the entirely different and to some extent even opposed trajectories towards sustainability they propose, namely Technological optimism versus Connectedness with nature and Willingness to change. The Traditional God-factor seems to be indicating the presence of a more traditional worldview. This worldview appears to have somewhat different tendencies in how it correlates with environmental attitudes and sustainable lifestyles, seemingly taking up a position in between the post-Romantic cultural current emphasizing connectedness with nature and the solidarity that that brings, and the Enlightenment perspective of assuming control of an objectified universe and solving environmental issues through technical and instrumental means (see also Sherkat & Ellison, 2007). The five worldview-factors could therefore be interpreted as pointing at the existence of at least three different clusters of related worldviews—or 'families of views' in Taylor's terms—in Dutch society, which are however only partially portrayed here: a more *traditional* worldview (Traditional God), a more *modern* worldview (Secular materialism, Focus on money), and a more *postmodern* worldview (in both a more secular version, Inner growth, and a more explicitly spiritual version, Contemporary spirituality). Although this understanding needs to be substantiated in future research, it appears to be in line with findings from several other researchers (Habermas, 1976; Inglehart, 1997; Inglehart & Welzel, 2005; O' Brien, 2009; Ray & Anderson, 2000), as well as with Taylor's own insights (1989), who argued that,

> the lines of battle are multiple and bewildering [...], I have been sketching a schematic map which may reduce some of the confusion. The map distributes the moral sources into three large domains: the original theistic grounding for these standards [traditional worldview]; a second one that centres on a naturalism of disengaged reason, which in our days takes scientistic forms [modern worldview]; and a third family of views which finds its sources in Romantic expressivism or in one of the

modernist successor visions [postmodern worldview] (pp. 495-496).

Lastly, the results suggest that the various factors can indeed be seen as part of profoundly different *worldviews*, as comes to expression in the different constellations of ontological, epistemological, axiological, anthropological, and 'societally visionary' statements they consist of. For example, the factor Inner growth does not only speak to personal (intrinsic) aspirations and values, but also gives expression to a certain ontology (e.g. life/reality has an inner dimension and is characterized by growth), epistemology (emphasizing non-rational modes of knowing), anthropology (human beings as egocentric), and societal vision (societal change starts within). These factors therefore seem to, in varying degrees, point to larger, overarching systems of meaning and meaning-making—or worldviews—rather than to merely motivations and values. They thereby have the potential to generate a more comprehensive and holistic understanding of the environmental attitudes and sustainable lifestyles—and the differences between them—which researchers observe in society. Focus on money is a clear exception as this factor does not successfully illuminate the larger worldview the aspiration for money is potentially part of, although the statistical analyses do show that this aspiration is frequently related to a secular materialist understanding of reality. These findings thereby underscore the value of an integrative worldview-approach including multiple aspects (see also K. A. Johnson et al., 2011), such as the Integrative Worldview Framework used here. Simultaneously, these factors generate insight into the larger worldviews existing in (Dutch) society, even though they fall short in portraying the contours of these worldviews comprehensively. In my view, the found factors should be seen as *indications* of larger, more wide-ranging worldviews existing in society, rather than precisely representing them. These indications are useful for future research, as they could serve as ideal-typical heuristics guiding more comprehensive item-development.

4.5.2 Suggestions for future research

The worldviews indicated and partially depicted in this study deserve further qualitative and quantitative exploration in future research, in an effort to illuminate the deeper logic of their relationship to environmental attitudes and

sustainable lifestyles, as well as to enhance our understanding of how these insights may be applied in the domain of environmental policy-making. The IWF could potentially aid such research by facilitating a comprehensive approach to exploring the different aspects of worldviews (see also Hedlund-de Witt, 2012). This would allow one to generate more understanding into how environmental attitudes are potentially embedded in and related to other, sometimes seemingly unrelated, aspects of individual's worldviews, such as their understanding of the nature of reality (ontology), their perspective on the role and validity of science (epistemology), or their understanding of suffering (axiology, anthropology). Moreover, the above-sketched differentiation between traditional, modern, and postmodern worldviews could function as an ideal-typical heuristic supporting the further structuration of one's questionnaire—functioning as a novel hypothesis guiding future research.

Another potentially interesting avenue for further research is the question of how environmental identity relates to environmental attitudes and more intrinsic motivations and worldviews. For example, the worldview-factor Inner growth and its strong relationship to Connectedness with nature may potentially be understood in light of the notion of *ecological self,* as originally formulated by the philosopher Arne Naess (1989). Like Naess, also for example Schultz and Zelezny (1999) speak of a more expansive sense of self that includes other people and nature (see also Bragg, 1996; Hedlund-de Witt, 2013; Whitmarsh & O'Neill, 2010; Wilson, 2011). In their understanding, self-enhancement, which tends to be related to more egoistic concerns, reflects a narrow construal of self, while self-transcendence, which tends to be related to more biocentric concerns, reflects a broader, more *inclusive*, construal of self. Thus, complementary to conceptualizing environmental behaviors to result from 'altruism,' demanding actions from the individual that are at odds with his or her self-interest, some authors have argued that sustainable lifestyles can be seen as a healthy expression of human nature (Kaplan, 2000). Others have underscored that sustainable actions should be understood as expressions of positive antecedents such a capacities, emotions, virtues and strengths, and positive consequences such as satisfaction, psychological well-being, and happiness (Corral Verdugo, 2012), or as an expanded sense of self. It would likely be fruitful to explore how such an expanded self is related to intrinsic motivations

as conceptualized in SDT. For example, as Marshall (2009, p. 42) has proposed, potentially the move from external contingency to inner directedness—or from extrinsic to intrinsic motivations—can be seen as consistent with the move from earlier to later stages of development, which in developmental psychology is often associated with a more expansive sense of self (see e.g. Cook-Greuter, 2000; Kegan, 1982). These potential interconnections, bridging different sub-fields in psychology, deserve further investigation.

4.6   Conclusions

This study was aimed at generating insight into how environmental attitudes and sustainable lifestyles are related to *worldviews*, both in individuals and society at large.

The results suggest that, in line with SDT, more intrinsically oriented worldviews correlate with pro-environmental attitudes and lifestyles, while more extrinsically oriented worldviews correlate with less environmental attitudes and lifestyles. Especially the factor of Inner growth strongly resonates with SDT-insights regarding self-determined individuals, and indeed demonstrates, as SDT would predict, significant correlations with pro-environmental attitudes and sustainable lifestyles, as well as with life satisfaction and the desire to contribute to society (pro-social attitude). Interestingly, this study thereby seems to provide suggestive evidence for the idea, as argued for by some (Corral Verdugo, 2012; De Young, 1996), that sustainable lifestyles might be (also) conceptualized as *indicating* psychological health and well-being (as a result of being intrinsically oriented in life), and potentially also *facilitating* psychological health and well-being.

In line with Taylor, these results can also be interpreted to indicate the existence of a more traditional, modern, and postmodern worldview in the Netherlands. These worldviews are only partially portrayed here, yet display different environmental attitudes and tendencies regarding environmental attitudes and the sustainability of lifestyles. In that way, the study gives a preliminary overview of potentially important worldviews in a contemporary Western society such as the Netherlands: the two (partially overlapping) variations of a more postmodern worldview, Inner growth and Contemporary

spirituality, appear to have substantial advantages for goals and issues of sustainable development (see also Giner & Tábara, 1999; Hedlund-de Witt, 2011; B. Taylor, 2010), as they tend to display significantly more environment-friendly attitudes and sustainable lifestyles—including ecologically highly relevant behaviors such as meat consumption (FAO, 2006; Schösler, De Boer, & Boersema, 2012a), political preferences, action and participation (L. R. Brown, 2008), and support for societal organizations. In the coming chapters, these cultural phenomena and worldviews will be further explored.

Although the direct, predictive effect of the worldview-factors on sustainable lifestyles appears to be mediated through the environmental attitudes, the worldview-factors are nonetheless relevant for our larger understanding of the cultural context and explanatory mechanisms of pro-environmental attitudes and their association with more sustainable lifestyles. For example, this study has clarified how pro-environmental attitudes appear to be associated with more intrinsically oriented worldview(s), which can be understood to be of a more postmodern nature. This worldview is characterized, in part, by an ontology of an intrinsic dimension to reality and an epistemology emphasizing inner modes of knowing, such as feeling, intuition, and self-discovery. Insight into the different worldviews at play can thus generate a more comprehensive understanding of pro-environmental attitudes and their connections with other concepts, beliefs, and issues in society. These larger worldview-dynamics in society are important as environmental attitudes and sustainable lifestyles cannot be explained adequately on an individual, psychological basis only, and society's beliefs about nature, reality, self, and societal issues are changing (De Boer, 2010; Hedlund-de Witt, 2011; Kempton et al., 1995), informing individual's perceptions and understandings as well as being informed by them. By making use of the IWF and placing environmental attitudes and sustainable lifestyles in a larger historical-cultural context, researchers can connect and integrate insights from different disciplines in the social sciences, such as psychology and sociology (see also K. A. Johnson et al., 2011). This appears to be a critically important undertaking for the 21st century, which is characterized by a multitude of complex, urgent, multifaceted, planetary issues in the context of a pluralistic and increasingly polarized cultural landscape (Hulme, 2009).

Appendix I: Worldview- and environmental attitude items

Worldview-items

It is pure coincidence that human life has developed on earth (6)

I see the earth and humanity as part of an ensouled or spiritual reality

I believe the universe gives expression to a creative intelligence

What people call 'God' does not only exist above, but also here in the world around us (6)

Wealth is just as much to be found within ourselves as in the world around us

I find the whole idea of 'spirituality' or 'something spiritual' nonsense (6)

God stands far above life on earth

I have sometimes had experiences that you could call spiritual (6)

There is something that connects human being and world in their core (6)

I see life as one big growth-process

Science is the only source of trustworthy knowledge

Next to science, also feeling and intuition are needed to know reality

Earning a lot of money is really important to me

The more money I can spend, the higher the quality of my life

Everybody needs to take care of oneself and stand up for oneself (5)

The most important thing in my life is that I enjoy myself and am happy myself (3)

Things that I enjoy, but are bad for the environment, I want to keep on doing (3)

I aspire a luxurious and comfortable lifestyle

I hardly ever reflect on the meaning and purpose of life (*7*)

Inner growth is really important to me

I want to contribute to society in my own, unique way (3)

I take a moment for reflection, prayer or meditation regularly (*7*)

The human being is the only being on earth with consciousness (6)

The suffering that happens to people does not have any meaning (*6*)

Pain and suffering provide me with the opportunity for growth and maturity

I don't think body and mind are closely connected

What we do to others will in the end come back to ourselves

I believe the human being is by nature, that is to say in his core, good

Human beings are in their core egocentric beings: they think mostly of themselves

I believe every human being has a spiritual or divine core

I believe in reincarnation, that is to say, that we will be born again in this world after our death (*7*)

Environmental attitude items

I don't feel a personal bond with nature (4)

I don't care so much that species are becoming extinct (1)

By mastering nature, the human being can find freedom (2)

I think animal rights are nonsense (2)

Nature has value only because the human being is able to use and enjoy her (2)

I have a deep feeling of connectedness to nature (4)

It hurts me to see nature being destroyed (4)

Changing my own behavior will hardly contribute to solving environmental problems

The relationship between human being and nature should be one of respect, adjustment and attunement (2)

I like making an effort to contribute to a better environment (3)

It gives me a good feeling to buy products that contribute to a better environment, even when they are a bit more expensive

I aspire a conscious and more natural lifestyle

Through the development of science and technology environmental problems will be solved by itself (5)

Environmental problems will be solved through the working of the market, e.g. because oil prices are going up (5)

I don't feel responsible for contributing to solving the environmental crisis

In these economically difficult times, environmental requirements should not become obstacles to economic growth

The world can only be changed by first changing oneself within

For solving the climate problem we need to adjust our lifestyle (7)

For solving environmental problems, the government needs to get space for carrying through strict rules and laws (5)

Every individual needs to contribute to solving the climate problem (5)

What is good for the environment, is in the end also good for the economy

Notes: **The development of the various Likert-items was inspired by several approaches and sources, including:**
1) The New Environmental Paradigm (Dunlap et al., 2000)
2) Intrinsic versus instrumental values of nature (S. C. Thompson & Barton, 1994); Human and Nature scale (HaN-scale) (M. De Groot et al., 2011; Van den Born, 2008; Van den Born et al., 2001)
3) Schwartz's self-transcendence versus self-enhancement (Grob, 1995; Karp, 1996; Schultz & Zelezny, 1999; S. H. Schwartz & Bilsky, 1987)
4) Connectedness with Nature (Dutcher et al., 2007; Mayer & McPherson Frantz, 2004)
5) Societal visions on environmental issues (De Vries & Petersen, 2009; Milfont & Duckitt, 2004; PBL, 2004)
6) Research in the field of the sociology of religion (Eisinga et al., 2000)
7) World Values Survey (Hallman, Inglehart, Díez-Medrano, Luijkx, & Basánez, 2008).

Appendix II: Introduction to questionnaire and behavioral questions

Introduction

This questionnaire explores your attitude towards life in general, and your perspective on nature in particular. Sometimes we speak of 'sustainability.' With that, we mean ways of life, production, and consumption that are minimally harmful to human being and environment—both here and at other places in the world, both now and in the future.

Behavioral questions

How many days a week do you eat meat, on average? If you don't know precisely, you can guess.

- … [Responses ranging from 7 to 0]
- Don't know

How many of the products that you buy are organic?

- (Almost) everything
- A lot
- About half
- Some
- (Almost) none

- Don't know

Do you try to buy local and seasonal food (instead of, for example, kiwi's from New Zealand, or strawberries in the winter)?

- (Almost) always
- Frequently
- Sometimes
- Seldom
- Never

At how many degrees do you put the thermostat at home?

- …
- Don't know

Do you use green energy at home (sustainable energy, e.g. solar, wind)?
How often do you use a car as mode of transportation?
How often do you use a bike as mode of transportation?

- Daily

- Weekly
- Monthly
- Now and then
- (Almost) never

Do you sometimes buy second hand goods (e.g. clothes or furniture)?
Are you active in your work or in voluntary work for the environment, nature and/or sustainability?
Are you societally active, for example by writing letters or by going to participation meetings?
- Very often
- Frequently
- Sometimes
- Seldom
- Never

Which three themes play the most important role in your choice for a political party?
Randomize
- Economy and employment
- Distribution of incomes
- Animal rights
- Norms and values
- Nature, environment and sustainability
- Health care
- Solving of traffic jams
- Competition position of Dutch companies
- Immigration and integration of New Dutch people
- Conservation of social welfare state
- Education
- Emancipation of women
- International position of the Netherlands
- Safety and terrorism

- None of these
- Other, namely….
- Don't know

Do you support one or more of the following organizations (either financially or otherwise)?
Randomize
- A political party
- Oxfam Novib
- Salvation Army
- Terre des Hommes

- Amnesty International
- Unicef
- War Child
- Greenpeace
- World Wildlife Fund (WWF)
- Friends of the Earth
- Et cetera [the list also contained many national organizations]

- Other, namely.....................
- None of these

Chapter 5
Pathways to environmental responsibility: A qualitative exploration of the spiritual dimension of nature experience

In the woods, we return to reason and faith. There I feel that nothing can befall me in life, – no disgrace, no calamity (leaving me my eyes), which nature cannot repair. Standing on the bare ground, –my head bathed by the blithe air, and uplifted into infinite space– all mean egotism vanishes. I become a transparent eyeball. I am nothing. I see all. The currents of the Universal Being circulate through me: I am part or parcel of God. […] In the tranquil landscape, and especially in the distant line of the horizon, man beholds somewhat as beautiful as his own nature.

  - Ralph Waldo Emerson[52]

Thoreau wrote of nature as a source of spiritual renewal and inspiration. A surprising outcome of the wilderness research has been the remarkable depth of such spiritual impacts. [...]. The quest for tranquility, peace and silence resonates with what in religious contexts might be considered serenity. Similarly, the sense of oneness is more likely to appear in a spiritual context than in research on human functioning. A third dimension that comes out strongly in these results, the notion of wholeness or what Mary Midgley calls "integration", may be related to the achievement of a coherent sense of oneself. We had not expected the wilderness experience so powerful or so pervasive in its impact. Nor had we anticipated that this research program would provide us with an education in the ways of human nature. We have been introduced to some deeply felt human concerns that broadened our conception of human motivation and priorities.

  - Stephen and Rachel Kaplan[53]

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[52] *Nature and selected essays* (1849), p. 39.
[53] *The Experience of Nature. A Psychological Perspective* (1989), p. 147-148.

5.1   Introduction

The restorative, psychological, and well-being effects of nature are becoming increasingly well reported (see e.g. Herzog, Black, Fountaine, & Knotts, 1997; Kaplan & Talbot, 1983; Parsons, Tassinary, Ulrich, Hebl, & Grossman-Alexander, 1998; Talbot & Kaplan, 1986; Ulrich et al., 1991; Weinstein et al., 2009). However, a more thoroughgoing, empirical exploration of the spiritual dimension that is frequently associated with experiences of nature still appears to be lacking (Terhaar, 2009). This is so, despite several studies suggesting its potential importance (see e.g. W. A. Clark, 2011; Frederickson & Anderson, 1999; Terhaar, 2009; Williams & Harvey, 2001; Wilson, 2011), and the increasing popularity of research into 'connectedness with nature' for understanding the human-nature relationship (see e.g. Dutcher et al., 2007; Mayer & McPherson Frantz, 2004). In these latter studies, the spiritual dimension is frequently referred to. According to, for example, Dutcher et al. (2007), "as experienced … connectivity may be an essentially spiritual phenomenon" (p. 490).

Various theorists and philosophers have also claimed that a more meaningful or spiritual experience of nature has a potential 'healing' effect on our worldviews and attitudes towards nature, potentially leading to more environmental-friendly attitudes and behaviors (Calicott, 2011; Devall & Sessions, 1985; Leopold, 1949; Naess, 1989). For example, the environmental philosopher Bryan Norton (1990) refers in this context to the *transformative value* of nature. Norton's argument is that intimate experiences in nature can force us to reassess our held values (including demand or instrumental values of nature) and inspire us toward a more ecological view and appreciation of human choice and behavior. Nonhuman species are thus understood to have transformative value, as they can aid us in moving away from materialism to appreciation of values that do not readily submit to cost-benefit analysis.

Research within the field of environmental psychology seems to suggestively support this hypothesis. For example, the findings of a ten-year-long research program suggested that profound 'wilderness experiences' can prompt broad and significant psychological changes in participants, affecting one's perspectives on the world, life, and nature, as well as personal priorities and involvements. The impacts of such experiences were found to be largely

similar for different participants, as well as for participants in somewhat different programs, and such changes appeared to last over time (Kaplan & Talbot, 1983; Talbot & Kaplan, 1986). Although the investigated experiences were not necessarily framed as being of a 'spiritual' nature, the spiritual dimension was frequently alluded to in the description of these experiences.

Such profound nature experiences are therefore often viewed as powerful 'therapeutic tools' (see e.g. Walsh, 2011), as they seem to have the potential to encourage new behavior patterns and self-perceptions in the participants, and may have the capacity to change the way individuals view nature and the world at large. For example, participants often reported that they felt they were learning new ways of thinking about their place in the world, and about the compelling relationship between that world and themselves—frequently becoming "convinced that living with nature is both more appropriate and more satisfying" as opposed to a more dominating or controlling attitude (Talbot & Kaplan, 1986, p. 186). Such experiences can thus lead individuals to deeper levels of personal understanding, to convictions that the ways in which they conduct their lives should be different, and to a change of personal priorities (Kaplan & Talbot, 1983; Talbot & Kaplan, 1986). Findings such as these make it therefore plausible that profound nature experiences have the potential to affect attitudes, worldviews, (political) choices, and behaviors in a more environment-friendly direction. However, it is likely that long-term changes develop only gradually, as a response to either extended or repeated positive experiences. Moreover, next to worldviews and values, there are of course also many structural factors—such as economic, infrastructural, institutional, and social-practical ones—that inform environmental behaviors and lifestyles (Gifford, 2011; Shove et al., 2012). In this context, demographics such as age, income, and socio-geographical location are thus also likely to play a substantial role.

While there frequently appears to be a spiritual dimension to profound experiences in the natural world (see e.g. Frederickson & Anderson, 1999; Kaplan & Talbot, 1983; Williams & Harvey, 2001), this dimension has not been systematically and empirically explored, nor has it been investigated how it relates to a sense of environmental responsibility. As also Williams and Harvey (2001) observed, "while there is increasing interest in the spiritual values of

nature, there have been very few empirical studies undertaken to identify the character of significant experiences which contribute to these values" (p. 256). In this study, I therefore explore the spiritual dimension of nature experience and its relationship to environmental responsibility, intending to provide insight into: 1) how participants experience and conceptualize the spiritual dimension of nature; and 2) what the (self-described) potential of such experiences in nature is for developing a sense of environmental responsibility.

I do this by analyzing 25 semi-structured, in-depth interviews conducted in Victoria, British Columbia, Canada, with two groups of carefully selected individuals: nature-lovers/environmentalists and spiritual practitioners (that is, yoga- and meditation practitioners, as well as individuals found through an interfaith center). Through the use of this (interview) method, I aspire to generate *qualitative insight* into the inner logic and processes of these profound experiences in nature and their relationship to a sense of environmental responsibility, thereby generating rich detail, thick descriptions, and almost a felt sense of such experiences and their transformative value, rather than attempting to (more quantitatively) prove this relationship.

5.2   Background

As earlier research on profound experiences in nature has shown, such encounters tend to be characterized by *a strong positive affect* and feelings of overcoming the limits of everyday life (Frederickson & Anderson, 1999; Williams & Harvey, 2001). Also, these experiences seem to go along with a profound *sense of meaning and purpose*. As individuals experienced themselves against the background of an expansive natural world, they often came to feel the significance and value of life, while simultaneously becoming more aware of the transience of more mundane concerns (Frederickson & Anderson, 1999; Kaplan & Talbot, 1983). Additionally, a sense of oneness, unity, wholeness, and/or *connectedness* tends to be present in these experiences. Participants described, for example, feeling closely related to the earth, and understood themselves to be a part of and participating in nature, rather than being an outsider or intruder. Related to this were feelings of awe, wonder, and sensitivity to the spiritual elements of the environment (Talbot & Kaplan, 1986). These

experiences also have a propensity to be characterized by an *increased awareness*—varying from a heightened sensory awareness, a reawakening to physical capabilities, a renewed sense of the body, to a more general feeling of an increased consciousness (Frederickson & Anderson, 1999; Kaplan, 1995; Williams & Harvey, 2001). Additionally, individuals frequently reported to come to view themselves and the larger world in a different way. A new and more profound sense of self-understanding often emerged, as well as an expanded sense of self and one's capabilities (Talbot & Kaplan, 1986). Particularly periods of solitude seemed to provide participants with spiritual inspiration and a sense of contemplation, reflection, and personal growth (Frederickson & Anderson, 1999).

As this brief characterization of profound experiences in nature shows, these individuals frequently allude to a spiritual dimension to their experiences. These experiences may thereby provide a doorway, as well as give an insiders-perspective into a larger cultural movement that is increasingly observable, most notably in the Western world (Campbell, 2007; De Hart, 2011; Gibson, 2009; Hanegraaff, 1996; Heelas, 1996; Heelas & Woodhead, 2005; Partridge, 2005). Taylor (2010) speaks in this context of *contemporary nature spirituality*, referring to a cultural movement characterized by a deep sensitivity to nature and an ethics of kinship with all life, which has emerged from the nature-revering, Romantic movements in Europe and North-America in the 19th and 20th centuries, spearheaded by figures like Rousseau, Burke, Goethe, Emerson, Thoreau, and Muir. According to Taylor (2010), this cultural movement flows from

> a deep sense of belonging to and connectedness in nature, while
> perceiving the earth and its living systems to be sacred and
> interconnected. Dark green religion is generally deep ecological,
> biocentric, or ecocentric, considering all species to be intrinsically
> valuable, that is, valuable apart from their usefulness to human beings.
> This value system is generally (1) based on a felt kinship with the rest of
> life, often derived from a Darwinian understanding that all forms of life
> have evolved from a common ancestor and are therefore related; (2)
> accompanied by feelings of humility and a corresponding critique of
> human moral superiority, often inspired or reinforced by a science-based

cosmology that reveals how tiny human beings are in the universe; and (3) reinforced by metaphysics of interconnection and the idea of interdependence (mutual influence and reciprocal dependence) found in the sciences, especially in ecology and physics (p. 13).

While Taylor speaks of this cultural movement as a *religion* (that is, 'dark green religion'), he explicitly characterizes its most prevalent forms as non-institutionalized and 'post-theistic', which has more in common with what is generally understood as *contemporary spirituality* (De Hart, 2011; Heelas & Woodhead, 2005; Houtman et al., 2009), or, in the terminology of Benedikter and Molz (2011), as 'rational spirituality.' In this worldview, the individual, subjective experience takes central stage, scientific insights (such as the theory of evolution, ecology, and physics) profoundly inform one's ontology, and nature experience is seen as valid epistemology for the direct apprehension of the sacred (B. Taylor, 2010). According to several authors, this 'religion' is characterized by 'a fundamental relocation of the divine from its previous position somewhere 'up there' to its new location somewhere 'down here,' that is to say, from a basically transcendent [God] conception to one that is more suggestive of immanence' (Campbell, 2007, p. 270; see also Houtman et al., 2009). Thus, contemporary notions of spirituality tend to be *this worldly*—that is, focused on *this life* and *this world*—thereby elevating nature, but also for example the body (Campbell, 2007; Hanegraaff, 1996; Heelas, 1996; Van Otterloo, 1999). It is precisely this elevation (or, in Campbell's terms, 'rehabilitation') of nature that explains the sense of environmental responsibility that is often associated with this cultural movement (Giner & Tábara, 1999; Hedlund-de Witt, 2011; B. Taylor, 2010). Thus, frequently a certain coherence can be discerned between the more conceptual ideas and assumptions (in)forming the cultural worldview and the practices and behaviors that can be empirically observed (Hedlund-de Witt, 2012). For example, as Liftin (2009) carefully unpacks in her study on the global ecovillage movement, beneath these ecovillagers' commitment to social and ecological sustainability, "one may discern a worldview premised upon holism and radical interdependence. This basic ontological commitment is what unites the global ecovillage movement, forging a shared epistemic bond across widely disparate communities" (pp. 126-127).

5.3   Methodology

In this study, I elected to use semi-structured, in-depth interviews as they facilitate questions that are relatively personal, illuminating responses to subjects that tend to be considered of a more profound nature. The interviews were held with the support and direction of an interview-guide (see appendix III). In line with the tradition of ethnographic interpretative research, experiences were explored with a high level of detail, in a 'storytelling' yet analytical fashion, with the aim of generating insight about cultural themes and worldviews (Creswell, 1998).

I conducted a total of 25 interviews in Victoria (British Columbia, Canada) during the fall of 2003, each of which generally lasted one to two hours. The number of interviews was determined on the basis of saturation of information, and the participants were selected through purposeful sampling (Seidman, 2006), namely, on the basis of their susceptibility to experience a spiritual dimension in nature. Participants were found through contacting various organizations by a written letter, which explained the purpose and practicalities of the interview. Fourteen participants were found through the assistance of *spiritually oriented centers*, namely the Zen Centre, the Victoria Yoga Centre, and the Interfaith Centre.[54] The eleven other participants were found through the help of *nature/environment-oriented groups*, namely the Outdoors Club of Victoria, the Western Canada Wilderness Committee, and the Sierra Club.[55]

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[54] The *Zen Centre* is a small organization, presenting the Zen path of meditation and contemplative arts. Although based on Zen Buddhist teachings, the centre states that it has a secular, non-dogmatic orientation; its main focus is on presence and mindfulness. The *Victoria Yoga Centre* (www.iyengaryogacentre.ca) aims at encouraging 'physical, mental, and spiritual growth … by the study and discipline of Iyengar Yoga.' Inner awareness is enhanced through learning to relax and concentrate. The *Interfaith Centre* of the University of Victoria (www.stas.uvic.ca/chap) welcomes students, staff and other interested people to share, question, and develop their personal spirituality—regardless of their religious background.

[55] The *Western Canada Wilderness Committee* (www.wildernesscommittee.org) is Canada's largest grassroots, membership-based wilderness preservation group. The *Sierra Club* is an international grassroots organization that was founded in the United States in 1892 by the naturalist and writer John Muir. His philosophy that interaction with the natural landscape inspires environmental stewardship still fuels the Sierra Club today (www.sierraclub.bc.ca). The *Outdoors Club of Victoria* (www.ocv.ca) organizes outdoors activities, ranging from hiking, climbing and canoeing to mountain biking, camping and skiing. The club is a non-profit

These participants were either environmental activists (working as professional or volunteer for environmental organizations) or 'nature-lovers' (hiking on a regular basis). The participants as described by these labels showed some overlap, notably in the sense that all environmentalists declared that they were also active nature recreationists. The labels thus primarily reflect through which organizations I found the different participants. The interviews took place at the homes of the participants, or in a few cases, in a public space. The group consisted of ten males and fifteen females, and the ages varied between 22 and 76. The education level was generally high: everybody received a higher education at a university or was in the process of attaining one, except for two people, who only finished secondary school.

Interviews were coded according to the *grounded theory approach* (Charmaz 2006). In this approach, analyzing and coding partially takes place during the interview itself, in order to identify themes as they emerge. This has the advantage that specific information can be explored in more depth, and that the analysis can be directly verified and clarified with the participant. The disadvantage can be that analytical processes become less transparent, and unconscious biases of the interviewer may influence the interview-process. I addressed these disadvantages by taking a course in interview-methodology, in order to gain interviewing skills and become more aware of my own potential biases. Furthermore, all the interviews were audio recorded, enabling me to hear the interview back with more distance. Lastly, all interviews were transcribed verbatim, and 'member-checked.' This permitted me to use personal quotations, making it possible to directly convey the expression and understanding of the individual without going through the filters and conceptualizations of the researcher.

I organized the data with *Kwalitan 5.0*, a computer program intended to support the analysis of qualitative data.[56] The interviews were analyzed with the aim of categorizing content on the basis of (thematic) similarity. For each category, I selected representative quotations, labeling them according to the language and terms used by the participants themselves. In multiple coding cycles, I explored these different categories and how they related to each other,

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organization, asking from their members only a minimal fee to cover their costs.

[56] For further information on this program see www.kwalitan.nl/engels/index.html.

and refined, relabeled, subsumed, or dropped earlier categories altogether. This process was repeated several times, allowing me to identify several key themes that seemed to form a larger emergent pattern in the data. Coding according to the grounded theory approach aims to stay as closely as possible to the data and the terminology used by the participants, rather than subjecting the data to a preconceived theory or logically deduced hypothesis (Charmaz, 2006).

When I started out with the interview-process it became clear to me that the differences between the groups were much less interesting for my purposes than the commonalities between them. Moreover, the boundaries between these groups seemed somewhat ambiguous: generally speaking, environmentalists and nature-lovers appeared to be committed to spiritual practices and beliefs almost as much as the spiritual practitioners; and spiritual practitioners often spoke with almost as much love and reverence about nature as the nature-lovers and environmentalists did. In the analysis of the data I have therefore focused on the common patterns and themes, rather than on the differences between the groups, and in the description of the results I thus aim to give a *synthetic* picture of the explored phenomena.

5.4   Interview results

In this section I describe the most significant interview results. While I used the grounded theory approach to code the data into key themes, in this section groups of key-themes are organized into different paragraphs. In order to give the reader an understanding of the background of participants' experiences, I start with the general dynamics and context of nature experience (6.4.1). Because I aim to provide insight into how participants experience and conceptualize the spiritual dimension of nature, I then analyze individual's understanding and experience of nature (6.4.2), spirituality (6.4.3), and the phenomenological characteristics of their more profound (and spiritual) experiences in nature (6.4.4). In order to generate understanding into what the (self-described) potential of such experiences in nature is for developing a sense of environmental responsibility, I end by summarizing three potential pathways to a sense of environmental responsibility as found in the data (6.4.5).

5.4.1 General dynamics and context of nature experience

Most participants' relationship with nature started early. Many of them grew up in the countryside, often in an abundant presence of the natural environment. Those who did grow up in the city generally remember getting out in nature on holidays, spending weekends at cottages, or going out for drives in the country. Participants tended to display clear and fond memories of their experiences of nature as a child. Many explained the prominent role of parents, summer camps, holidays, and scouting in developing a relationship with nature. Participants also explained how nature became associated with positive experiences, since they encountered it on vacation or when busy parents finally had time and were relaxed. Many participants also reported their relationship with nature to continue to develop throughout their life, sometimes influenced by transformational experiences or major life-events. One woman, for example, explained how her pregnancy drastically influenced her relationship to nature. For others, moving out to the city or being faced with environmental destruction made them appreciate nature more deeply.

Although every individual has a unique experience of nature and personal ways of expressing and interpreting that experience, common patterns were observed. Besides the variations among individuals, the intensity and depth of participants' own nature experiences also varied—ranging from more mundane to more momentous, even spiritual, experiences.

Generally, participants praised nature for its *beauty*, variety, vastness, and perfection. From a grain of sand, the shape of a shell, to an overwhelming mountain landscape—they tended to see beauty in all of it. Some participants explained to be fascinated with the processes, cycles, and interconnections in nature, its resilience and capacity for renewal, and the creativity in its survival and evolution. Generally, the aesthetics of nature appeared to be a central theme in individuals' appreciation of nature. Next to the aesthetic aspects, participants described the *physical* aspect to be determining for their experience. They explained to feel "challenged" and "empowered" by climbing mountains or hiking trails, which tended to go along with the pleasant feeling of staying active and healthy. One participant emphasized the physiological aspect, wondering whether "it is just the endorphins or something, kicking in?" Others highlighted the repetitive, meditative, soothing rhythm of hiking, which seemed to bring

them in a more peaceful and receptive state of mind. According to several participants, the fresh air and the vital life energy in nature give a sense of invigoration, well-being, and even healing:

> I feel energized. I know that if I go for a walk I feel better. It is my medicine. […] It unwinds me, it clears my head. If I've got a lot on my mind, going out in nature will do. It does wonders. It is good for you. It is good for the soul. [nature-lover]

Participants also stressed the *peace* and *space* they tend to experience when they go out in nature. Many explain this by contrasting this peacefulness with the overload of stimuli of their daily lives in the city. Getting away from the phone, the obligations, the social expectations, and the noise of the city is frequently experienced as a relief. In nature, participants feel to finally have time and space for themselves. This seems to be related to a sense of freedom and joy that participants often experience in nature, sometimes described as "euphoria," or "a high." And even though getting out in nature often involves leaving the comforts of the city behind, most participants describe to generally feel at home, comfortable, and relaxed in nature.

Also an *interest* and *fascination* for the natural world appeared to be an important element in participants' nature experience. For most of them this was largely physics, biology, and geography. Several participants explained how nature is an endless world to discover—from "micro study, […] digging in the dirt to see all sorts of little things, all the way up to the big picture." Participants reported to be eager to explore the natural world: they were curious how ecosystems work and wondered about processes of evolution. As (scientific) knowledge gave them more understanding into what they encountered in their explorations in nature, many explained to appreciate nature even more. For others, their experience of nature awakened a curiosity in how different cultures and religions interact with nature. Many participants referred for instance to the Indigenous (or First Nations) people, whose culture and history is present in Victoria, and explained how this inspired them to explore their own relationship with nature in more depth.

Also the natural setting itself and whether participants see wildlife were

often described as potentially determining aspects of their experience. Some participants described being specifically receptive to certain landscapes—for instance the sea or the mountains, dense lush forests or open, spacious fields. Many explained to have vivid memories of seeing wildlife, which was experienced as precious and special. Participants also explained how being alone or with others affects their experience. Since for many the peace and the silence were particularly important, they preferred to be by themselves or with like-minded 'silent' people. Others particularly enjoyed spending time in nature with friends and family, because that enabled them to share their experience with loved ones.

5.4.2 *Conceptualizations of nature and the human-nature relationship*

Most participants appeared to have different layers in their conceptualization of nature. When people spoke about nature they generally referred to places (seemingly) not or less influenced by human beings—*wild nature*. This definition corresponds with the colloquial use of the word nature, and positions humanity and nature in polar relationship to each other. Re-occurring polarities in this respect included the "natural" versus the "artificial," the "spontaneous" or "wild" versus the "planned" and "managed," the "alive" versus the "dead," and the "self-manifesting" versus the "built." However, most people recognized that this strong human-nature dichotomy creates an untenable contradiction, as they also tended to hold that "*we are part of nature*" and that "ultimately everything is nature." As one participant put it: "My first impulse would be to say that everything is nature. But, I don't know, I feel that we have removed ourselves so much from nature that you cannot really count for instance a city as nature." This notion seemed to be widespread among participants. While humans are explicitly conceptualized to be part of nature, they were also perceived as being "*alienated*" or "removed" from nature. As one participant uttered, "we're part of the natural cycle, and we can't escape from that, but many people try." And as another participant articulated it:

> It's a huge and ongoing misconception that humanity is somehow
> separate from the natural world, and that our role is to dominate
> and control and make it subservient to our needs. And that's been

going on for so long. If you realize that if we would ever battle nature and make it subservient, we would be losing in the long run. [nature-lover]

Many participants reported to feel that humanity *is* nature. That is, humanity is "made" of nature, emerges out of nature, and is the "self-conscious" part of nature. Although basically all participants stated that humans are part of nature, many of them also articulated that humans have a special place in the natural order, which therefore, so it is generally understood, gives them a particular responsibility. Some participants spoke in this context of the human being as "care-taker," "parent-figure," "steward" or "co-creator:"

I see how all the animals and the earth are really in a very definite web or structure of life, and we're the only beings that […] have a mind and also the intelligence to do things incredibly differently—that animals just can't do. […] So that shows what an incredible responsibility we have. [Humanity is] that part of nature, which reflects, and becomes aware, conscious, of what IS. Of what exists. […] Nature is spirit in form. And humans are that part of spirit, therefore that part of nature, which can reflect on what it sees, which observes and comments. Not only that, but can also help create, since we are meant to be co-creators with the creator. The bible actually says, we're asked to have wise dominion—not domination, but wise dominion. To be steward. [spiritual practitioner]

As this last quote exemplifies, participants frequently conceptualized nature in a more profound or spiritual way. According to some, nature is "God's creation,' "God's body" or "spirit in form." Simultaneously, nature is seen as the creative and intelligent force behind all that; it is life and the principle of life at the same time. Some people understood it as a spiritual dimension pervading all of reality, that is, nature as "the inner essence of something"—since "everything has its own essence, its own spiritual essence." In that understanding, nature refers both to the deeper source, principle, or intelligence *behind* nature, as well

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as to its manifestation in or *as* nature. More generally speaking, nature seemed to be viewed by most, if not all, participants as alive and animated, that is, as having (some degree of) consciousness and intelligence. Frequently, participants spoke about nature in an explicitly relational and reciprocal way, describing nature as friend, guide, or companion, who helped them to resolve problems, get inspiration, find wisdom, or ease their solitude. Rather than seeing it as a one-sided arrangement or "a commodity for consumption," people feel that they "participate" in nature and "commune with nature." As this participant explained, she feels she can communicate with nature:

> It's an internal thing. I go to nature and then I get answers. I share my life with it. And, when I'm there, I feel stronger; I feel that what I believe is right—and that I get these answers back. It is communicating, which is kind of strange. [environmentalist]

Broadly, these results indicate that these participants generally characterized the human-nature relationship by a vision that human beings are both *part of* as well as *responsible for* nature—a conclusion that is consistent with earlier research into public visions on the interrelationship between humans and nature (M. De Groot & Van den Born, 2007; Van den Born, 2008). Generally, the interviews also show that these individuals tended to understand nature in a fairly meaningful, sentient, and spiritual way, frequently referring to it in an explicitly relational and reciprocal way.

5.4.3   *Participants' understanding and experience of spirituality*
For most participants, the first association with the concept of spirituality was *religion*. Many of them described their spiritual development as having started with their religious upbringing. Participants often explained having gone through periods of taking distance from their religious roots in order to explore different ways of looking at life. Some of them described a "spiritual search." Participants generally demonstrated to both actively reflect on their worldviews and their God-image, as well as to be informed by an eclectic combination of sources of knowledge and wisdom—in both their own and other religions, in philosophy and science, and in their personal experience, notably their

experiences in nature (see also B. Taylor, 2010).

Most participants characterized their sense and understanding of spirituality in terms of a "Higher Power," "Spirit," or "all-pervasive divine dimension," often portrayed as a "benevolent," "intelligent," "loving," "nurturing" or "mothering" power, force, or energy. Whereas for some the world appeared to be completely permeated with this power or divine dimension, others described the world as created and loved by that power or Spirit. It seems that in the views of most participants, the divine is closely connected to the world, either as a creator behind but not necessarily fully present in the world, to an all-pervasive spirit, manifest in all of existence. This understanding seems to signify a generally more *immanent*, or *this-worldly* type of spirituality. That is, many participants tended to see the world itself as a sacred, divine, or holy whole (terms that may also referred to as *pantheism* or *panentheism*, depending on the exact interpretation), and/or emphasized that a spiritual intelligence, life force, or higher power is animating the world (*animism*). These perceptions can be differentiated into more spiritual and more naturalistic understandings. That is, while some participants emphasized that there is a spiritual, immaterial, or supernatural dimension to existence, others underscored that the sacredness of life comes fully to expression in the (natural) world itself, and that there is nothing transcendental beyond that.[57] However, despite these differences in their understandings of the spiritual, none of the participants seemed to have a purely transcendental view of the divine, in which God or spirit is completely above and beyond the world (*transcendental monotheism*).

Several participants articulated their spiritual beliefs as follows:

> So I guess to me God is something very big, very nurturing. I think of God, not as a little old man, but as a sort of a mothering spirit, who created the world, but is probably also in the world, in us, the trees and the animals, in some way. And that's probably why, when we are alone in this kind of setting, we're able to sense some of this spirit of God, in this beauty, in the creation. [environmentalist]

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[57] See also Taylor (2010), who uses the differentiation between spiritual and naturalistic animism and gaian earth religion as his basic heuristic for exploring 'dark green religion.'

I've gone through lots of different kinds of religious beliefs, but I do now believe that there is some kind of divine spirit that permeates our universe, and us. So the spirit is in us, and around us. […] It is something that is so much bigger than we are, you know, the whole universe—and it is something beyond it, a creative spirit, that is creating, and sustaining, and dwelling. [spiritual practitioner]

I tend to be sort of an animist. I touch a tree and kind of talk to it, when I'm by myself. I know it is silly, but that is my sort of gut feeling. That we're all kind of one, you know. I think that that's the way philosophy is tending these days. That there is a spirit in everything. That we're more alike to rocks and trees and water and air than appears. What's in us, is in there. So that's the essence. [nature-lover]

In some sense, this more immanent or this-worldly understanding of spirituality logically explains the close association between nature and spirituality, as experienced by most participants. Some of them explained that when they feel touched by the beauty of nature, they realize "this must be the creation of God—a God who is beautiful, and loves beauty." Others described that feeling the energy of, for instance, a tree gives them a sense of spirituality. According to many, "Spirit" is experienced to be more present or more easily accessible in nature, while human-dominated environments often seem to be devoid of that same spirit. Some people therefore detected an ambiguity, opposition, or paradox, in their own worldview. While they tended to claim that this spirit permeates the whole universe, they also recognized that they do not necessarily experience it that way:

It totally pervades us. But then I ask myself the question: what about these parts of me that I don't like, or the parts of society that I don't like? A part of me wants to say that these parts are somehow separate from ultimate reality, these parts for some reason don't seem to fit with this all-pervasive reality, or essence,

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or spirit. [nature-lover]

According to some participants, this (apparent) contradiction is a function of a limited perception, which potentially can be overcome through the development of consciousness. For some, this is why they were involved in spiritual or religious practices—ranging from yoga and meditation, church attendance and the reading of spiritual texts, to being in nature. More than half of the participants reported to be involved in such practices, and said to experience great benefits from it—including feeling more present and aware, feeling refreshed and restored with energy, and having a sense of meaning, direction, and trust in their lives. While participants generally held that the sacred or spiritual can be more easily experienced in nature, they also emphasized that it is not human presence or influence per se that obstructs their experience of the spiritual, but rather the extent to which these are "dissociated" and "alienated" from nature. For example, some participants explained that hearing a beautiful piece of music would give them a similar feeling as some of their nature-experiences. According to them, "human creation at its best *is* part of nature," is "aligned" or "in harmony" with nature, and an expression of nature.

Generally speaking, scientific understanding seemed to play an important role in informing participants" notions of the spiritual. Although the spiritual dimension was often contrasted with material or scientific reality, they were, in general, not considered to be mutually exclusive. In the words of one participant, "the universe is a spiritual thing as well as a physical thing." Though participants often explicitly acknowledged the value of science, they tended to refer to the spiritual as a domain "beyond what we know from science." However, participants simultaneously often referred to scientific knowledge to argue for their spiritual beliefs and experiences (e.g., as in the case of the experience to be interconnected with the rest of nature) and they frequently claimed that all their beliefs had to be at least coherent with scientific knowledge. Some participants also expressed that understanding the science of nature made them more aware of nature's spiritual greatness:

It is so much more complex and beautiful than I had realized— that has increased the sense in me of this marvelous creator as

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being kind of in all things. It is more that I come to an increased sense of God through an increased understanding of nature, than the other way around. I believe that a lot of this complexity has developed through natural selection of the fittest mechanisms, but still there has to be some kind of organizer or Spirit behind all this, to support all this. [nature-lover]

As this quote illustrates, creation and evolution were not necessarily seen as competing explanations for the origination of the cosmos. On the contrary, evolution often seemed to be conceptualized as a sacred, creative force itself. Generally speaking, participants seemed to endorse a *spiritual-evolutionary cosmogony*—that is, an evolutionary origin story of the universe in which the process of evolution itself is driven by a creative spirit or divine force, rather than a belief in either a biblical notion of creation or a purely scientific understanding of random, unconscious evolution. In the words of this participant:

[Nature] is this scientific miracle. But I do believe that there is more than science in nature. […] I believe there is some type of intelligent creator or energy that somehow created or at least sparked life. […] To me it is too unlikely, even for me as a scientist, with my physics background, that it is just unconscious evolution, from pure hard matter. [spiritual practitioner]

In the understanding of these participants, spirituality also touches upon the whole dimension of *meaning* and *purpose*. According to one interview-subject, "spirituality answers the question of who we are to be, and what life is all about." And according to another, spirituality is about "knowing who you are, and understanding your place in the world, and desiring to fulfill it the best way you can." Participants often explained that their spirituality gave them a sense of meaning, and/or informed them with a sense of a "higher call" or a "higher cause." This was often directly related to a worldview in which the universe is seen as a meaningful whole, in which everything has its own place, meaning, and purpose while at the same time being connected with everything else. This made

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many participants feel that it is not "meant" to only work or strive for their own good; they described feeling "called" to "contribute to the bigger whole," or to strive for a cause bigger than oneself. According to one participant:

> Spirituality is about having a sense of connectedness, for a bigger purpose. I think that a product of working on your spirituality is that you start to see what your purpose is. By purpose I mean what are you here to do, contributing to the whole. [environmentalist]

Participants frequently also contrasted their sense of spirituality with *the culture of materialism*, which was often understood and experienced to be at odds with any genuine form of spirituality. Materialism was then roughly defined as the dominance of a materialistic, consumer-based way of understanding and living in the world. Participants emphasized that they were not "going for the money," nor that they felt tempted to go along with the cultural values of materialism. Frequently they saw their spirituality as an alternative source for finding purpose, meaning, and contentment in life. However, instead of being critical towards the material dimension of life itself (which they clearly tended to love and embrace, notably in the form of nature), most participants tended to be critical to a reductionist materialism, which favors the physical-material world over, and at the expense of, other sources of meaning and fulfillment.

Thus, spirituality tended to be conceptualized by the participants in a *natural, evolutionary, and this-worldly* fashion, which appeared to support a sense of responsibility for and kinship with the rest of life in a general sense. They tended to see the evolutionary process itself as a form of creation, sparked by a higher intelligence or spirit, which seemed to result in a re-uniting of traditional polarities, such as natural versus supernatural, body versus soul, and evolution versus creation. Overall, this conceptualization of spirituality appears to be in line with Taylor's (2010) observations of contemporary nature spirituality.

5.4.4   *Profound or spiritual experiences in nature: Presence, interconnectedness, self-expansion*

While inquiring into what participants experienced when they were out in

nature, and probing them for detailed, phenomenological descriptions of their experiences, three clusters of themes emerged consistently, which I labeled *presence, interconnectedness*, and *self-expansion*. These clusters seemed to co-arise and mutually interrelate, rather than display a one-sided causality.

Virtually all participants described their experiences in nature as being very sensory: they reported to be fascinated by what they see, enjoy the warmth of the sun or the freshness of the wind on their skin, listen to the sounds or the silence, and love the smells. Many participants elucidated that in nature they feel invited to be sensory—that is, to perceive and appreciate everything—whereas the bad smells and the noise of the city tends to have the opposite effect:

> I can breathe; I can take in the sensations. I want to hear everything, I want to smell everything, I want to taste everything around me, I want to embrace everything around me. Whereas when I'm in the city, I'm trying to block out all the noise around me. There it is exactly the opposite. [environmentalist]

Some of them therefore described their experiences in nature as "grounding:" they feel that going out in nature brings them back in touch with their direct surroundings and sensations. Some participants explained to "feel grounded to the earth again," which is meant, in the words of one woman, "pretty literally—feeling the earth under my feet." Another participant stressed the "immediacy, the textures, the feel of the wind, the warmth of the sun." By experiencing the immediacy of the natural, living environment, participants felt that they "get in tune with their senses" and become more *present* in, aware of, and in touch with their immediate space-time-dimension, including their physical bodies and sensations. Some participants spoke of "a sense of being and presence." As this participant clarified this sense of presence:

> Using your senses. Being more present in and out. Noticing the life around you. What is it that you are feeling at this time? I'm often too distracted by my mind, to take in my surroundings. For instance when I'm thinking about something in class—I don't catch what the professor is saying. I'm not fully present. You are

not really here. [environmentalist]

Instead of being immersed in more distant aspects of life and the abstractness of (conceptual) thought, participants emphasized that when they are in nature they tend to feel more present. Some participants explained that often in their lives they are on their way to get somewhere, while in nature they can allow themselves "to be," to "relax and unwind," and be aware of life inside and outside, in the present moment. The phenomenon of presence or mindfulness has been observed and explored in other studies as well (see e.g. K. W. Brown & Ryan, 2003; Frederickson & Anderson, 1999; Kaplan, 1995). Weinstein et al. (2009) use the term *immersion.*

The sense of being more present in one"s immediate space-time-dimension seemed to be related to an increased sense of being a participant in the world. A central theme in the data is that of *interconnectedness*—ranging from a recognition of how one is physically tied in with nature to a direct experience of "oneness with the divine." This interconnectedness seemed to be an important ingredient in the nature experience of all participants. Participants explained that often, when spending time in nature, they increasingly start to feel "related" and "connected" to their surroundings. They become aware of how they are unmistakably part of and participating in this bigger whole. Some participants explained to have the sense of their physical boundaries soften and becoming more porous to the environment. Others described it in terms of a sense of "belonging" or "homecoming." This sense of *interconnectedness* with nature, other life forms, and people has also been found in other studies (Frederickson & Anderson, 1999; Gosling & Williams, 2010; Hyland, Wheeler, Kamble, & Masters, 2010; Kaplan & Talbot, 1983; Williams & Harvey, 2001).

Whereas some people explained such experiences in a more physical-material sense, others interpreted it in a more spiritual or religious way. For some participants, a scientific understanding of the intricate, interrelated systems of the natural world made them realize how interconnected everything is, thereby facilitating the more intuitive experience to be part of nature. More generally speaking, participants seemed to actively relate their experiences in nature with what they knew from science, and they often combined that with philosophical ideas stemming from different religious and spiritual traditions in

an attempt to form a coherent worldview. Some participants for instance pointed at the knowledge that "we're made up of the same stuff that's out there" to explain the interconnectedness they feel with nature, and related that to insights from, for example, Indigenous (or First Nations) cultures and Buddhism.

Other participants described profound experiences of *oneness* in nature, experiences that made them feel that "there is something bigger than just me," touching on a dimension that is distinctively spiritual:

> This feeling I got occasionally […] where you just have this energy that goes through you, that you can't quite describe—it feels so alive. And I think that's similar to what mystics for thousands of years have felt when they thought they had a connection with God—that power running through you. And I'm not religious. […] Everything became one huge functioning thing. And it was all moving together, and fitting together piece by piece. […] As if everything was working as it was supposed to work, moment by moment. I could see everything in detail and the big picture at the same time. […] And in that moment I understood the oneness of everything. [spiritual practitioner]

Participants also reported that experiencing this interconnectedness helped them to realize that they *do* influence the world, that their actions *have* consequences. Generally, this realization seemed to result in more environmental awareness and behavior. When people "feel part of nature," or feel that "nature is not separate from me," they were more inclined to identify with the interests or well-being of nature, for, in the words of a participant, "what we are doing to nature, we are doing to ourselves." This often deeply felt sense of connectedness might therefore result in a high level of involvement with the environment. In the words of this participant:

> I know that I'm very disturbed by environmental destruction; it makes me very sad and very angry, just very emotional. And for me that is proof that I'm connected to anything else. That I'm able to cry when I see a rainforest being cut down. It really

reminds me that we are supposed to be connected. And that's
why I feel emotional about this. [spiritual practitioner]

Moreover, realizing that one is participating in an interconnected whole
can also make one more aware that one *can* influence the world, that individual
actions *are* changing the world (for better or for worse). The resulting feeling of
power and responsibility may be important for becoming environmentally active:
nearly all environmentalists expressed that the belief in their own ability to make
change was an important driving force in their motivation and commitment.

The third key-theme was a sense of self-reflection and *self-expansion*.
Many participants reported that in nature they often started to experience
themselves differently. Some participants described that change in terms of
feeling "more myself," "more real," "stronger" and "more aware." Others
described to gain access to parts of themselves that were neglected in the
business of daily life—such as a sense of inner peace, empowerment, beauty,
meaning, and joy:

Sometimes in the city I don't have time to think about who I am, what is
important to me, what goals I have in life, but when I'm out in nature—
that's where I feel most like myself. It just gives me the time to see the
'better' sides of me. [environmentalist]

Participants also spoke of the expansion, the openness, and the freedom
they often experienced in nature: how they "get out of their selves" and become
totally immersed and absorbed in the beauty of nature (see also McPherson
Frantz, Mayer, Norton, & Rock, 2005). In the words of one participant: "The
beauty of it is that you forget I. For me the dominant experience is the
decreasing importance of yourself." This "getting out of oneself" often went
along with a sense of expansion, and sometimes even with a phenomenological
sense of an opening up of one's personal boundaries, as this participant
experienced strongly:

I was absolutely convinced that my skin was not a boundary
between myself and other life. […] My physical experience was

one of flow. […] the body sensation [one of] porousness, the barrier had somehow opened up. Emotionally I felt very calm, peaceful, content. But also at the same time a sense of wonder, awe and curiosity. […] To me it is a sense of transcending this ordinary existence that many of us in the Western world experience most of the time. Transcendence of that, to a place of deep connection, and perhaps moreover awareness […] And I don't even remember me being in the picture at all. But I felt, if I had to describe it, like I was a huge eyeball, watching the whole thing. [spiritual practitioner]

Such an expanded experience of self often seemed to have the potential to put life back in proportion. Many participants reported that worries from daily life disappeared and trivialities were revealed for what they are. As one participant explained, "it makes you sometimes feel that all your worries are some kind of silly, in the sense that you realize that you are part of this bigger picture, which is the world." A sense of smallness in the midst of a great and amazing universe was frequently accompanied by the feeling to be part of, and participating in it. Yet instead of feeling tiny and threatened, several people described to feel empowered and uplifted through seeing this "bigger picture." As one participant explained:

You feel small. But it's not like a bad small; it is a very powerful small. It doesn't make you feel like your less worthy. It's like you know you have a great responsibility—you can't just think about yourself. You're called to do something more. [spiritual practitioner]

In the experience of these individuals, the beauty, purity, and vastness of nature have the potential to make one think in greater, even universal terms. A star-filled sky on a bright night or the overview gained from climbing a mountain seems to have the potential to give the individual a glimpse of something larger. This can result in a different perspective on life, on oneself, one's capabilities, and on what is truly important. More than just rethinking their lives,

participants described to sometimes have "a deep felt sense" of what their life is all about and what place they want to fulfill as a vital participant in this intricate, larger whole. In such experiences, frequently an innate sense of *purpose* and *meaning* was encountered, and often such experiences were interpreted in explicitly spiritual terms. These experiences seem to resonate with Naess' (1989) influential, 'deep ecological' notion that the more we expand the self to identify with "others" (people, animals, ecosystems), the more we realize ourselves, and the more we will spontaneously have moral consideration for those others.[58]

5.4.5   *Potential pathways to a sense of environmental responsibility*

Based on the data as gathered in these interviews, there seem to be three potential pathways to a sense of environmental responsibility.

First, the results show how individuals, through their more profound experiences of nature, may be sensitized to the beauty, value, and importance of nature, thereby opening them up to a different way of perceiving and relating to nature. As participants explained, they tended to see nature as alive and animated (and frequently even sacred), and commonly described their relationship with nature in terms of reciprocity, care, and companionship.[59] Moreover, the sense of *presence* in nature appeared to evoke an increased awareness of, and appreciation for the natural world that individuals frequently felt to be oblivious to in daily life. The sense to be part of, or *connected* to nature made participants frequently feel more responsible for, and identified with the needs and interests of nature. It also tended to attune them to the fact that as a part of this larger whole, they are necessarily of influence, for better or for

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[58] Plumwood (1993) criticized Naess' notion of self-expansion because "the widening of interest is obtained at the expense of failing to recognise unambiguously the difference and independence of the other. Others are recognized morally only to the extent that they are incorporated into the self, and their difference denied" (p. 180). However, the data from this study do not seem to support this criticism. In contrast, the sense of self-expansion as these individuals describe it seems characterized by a reawakening to one's one qualities and value, as well as recognition of those qualities in others and the world at large, rather than an incorporation of the other into the self.

[59] However, the data seem to suggest that the relationship between profound experiences of nature and one's perception and understanding of nature is reciprocal rather than one-sidedly causal, and can perhaps be better described and understood in terms of co-arising than causality. This issue will be further discussed in section 5.5.

worse. The sense of *self-expansion* appeared to bring participants in touch with their "better sides" and capabilities, generally making them feel empowered and inspired. Simultaneously, as participants explained, it frequently put life back in proportion—reminding them of "what life is all about," and calling them to stand up for what is truly worthwhile to them. The majority of participants evaluated such experiences in nature as having had an important impact on their lives: informing their worldviews, their sense of environmental responsibility, and for some their career choices. For example, several participants explained how such experiences had inspired them to become active in the environmental movement—which is in line with results from earlier research (see e.g. Chawla, 1998). Such encounters with nature thus appear to have the potential to elicit a sense of environmental responsibility in the individual, potentially leading them to step up and work for the preservation and flourishing of nature, the environment, or the 'Earth community.' Moreover, as a result of such profound experiences in nature, individuals may also be awakened to a deeper dimension of meaning and/or spirituality in their lives. In figure 1, these relationships are portrayed by the arrow running from 'profound encounters with nature' to 'a sense of environmental responsibility,' and by the arrow running from 'profound encounters with nature' to 'contemporary spirituality.'

Second, the research shows how understanding and cultivating a contemporary spirituality may lead to a sense of environmental responsibility. Participants tended to endorse a natural, evolutionary, and this-worldly form of spirituality, in which the divine gets relocated in nature, and even in the world at large. This tends to result in care for nature and the world, and a sense of kinship with other creatures, since, as one participant put it, "we're made up off the same stuff that is out there." Moreover, their spirituality seemed to provide many participants with a sense of meaning and purpose, and the motivation to strive for a "bigger cause," "contributing to the whole." Also, because a sense of meaning and fulfillment in life was frequently sought for in the inner or spiritual domain (or at least not exclusively in the material domain), a spiritual orientation seems to have the potential to discourage a more narrowly materialistic lifestyle, which frequently is detrimental to the environment. Earlier research has indeed shown that people embracing the extrinsic goal of materialism tend to consume more and have bigger environmental footprints (K. W. Brown & Kasser, 2005).

Lastly, such a contemporary spirituality may activate the potential for a (more) meaningful and participatory understanding and experience of nature, relating to it as alive, animated, and intrinsically valuable. In figure 1, these relationships are portrayed by the arrow running from 'contemporary spirituality' to 'a sense of environmental responsibility,' and by the arrow running from 'contemporary spirituality' to 'profound encounters with nature.'

Third, the research thus also shows that both pathways—of profound encounters with nature as well as of contemporary spirituality—have the potential to reciprocally enhance each other, coming together in a spiritual experience of nature, which can be conceptualized as a third potential pathway to a sense of environmental responsibility. According to some participants, this sense of environmental responsibility is augmented, precisely when these two pathways converge in an unmistakably spiritual experience of nature. Other participants pointed out that it is the convergence of their love for nature and their sense of spirituality that compelled them to become environmentally active. As this participant explains:

> I see nature as a manifestation of the beauty of the greater power. So if I interact with it, I'm coming closer to the higher power as well. If I take care of and love the land, then I appreciate something that the higher power has provided. What I read about Buddhist thought and the more I understand that, the higher power is part of nature. There is just this sense of directing to something much greater than myself when I interact with nature. [spiritual practitioner]

Moreover, it appears that precisely when experiences in nature are particularly profound and meaningful to participants, a spiritual dimension is encountered, and the experience's potential to be a source of a sense of environmental responsibility is enhanced. Similarly, when the source of one's spirituality was experienced particularly strong in nature, this seemed to have the potential to function as an incentive to care for and protect nature, possibly leading to a sense of environmental responsibility. In figure 1, these relationships are portrayed by the convergence of the arrows running from 'contemporary spirituality' and 'profound encounters with nature' to 'a sense of environmental

responsibility.'

The research thus traces three potential pathways to a sense of environmental responsibility: profound encounters with nature (which can be interpreted to be of a spiritual nature, or not), contemporary spirituality (which can be explicitly connected with a more reverent relationship with nature, or not), and their convergence in spiritual nature experiences (where the first two pathways come together). I conceptualize these as three distinct pathways even though they tend to dynamically interact with, and enhance, each other, because the data in this study as well as existing literature seem to suggest that these first two pathways do not necessarily imply each other—that is, profound encounters with nature (Chawla, 1998; Kaplan, 1995; Kaplan & Talbot, 1983) and contemporary spirituality (Hedlund-de Witt, 2011; Heelas, 1996; Heelas & Woodhead, 2005) both appear to be potential pathways to a sense of environmental responsibility in themselves.
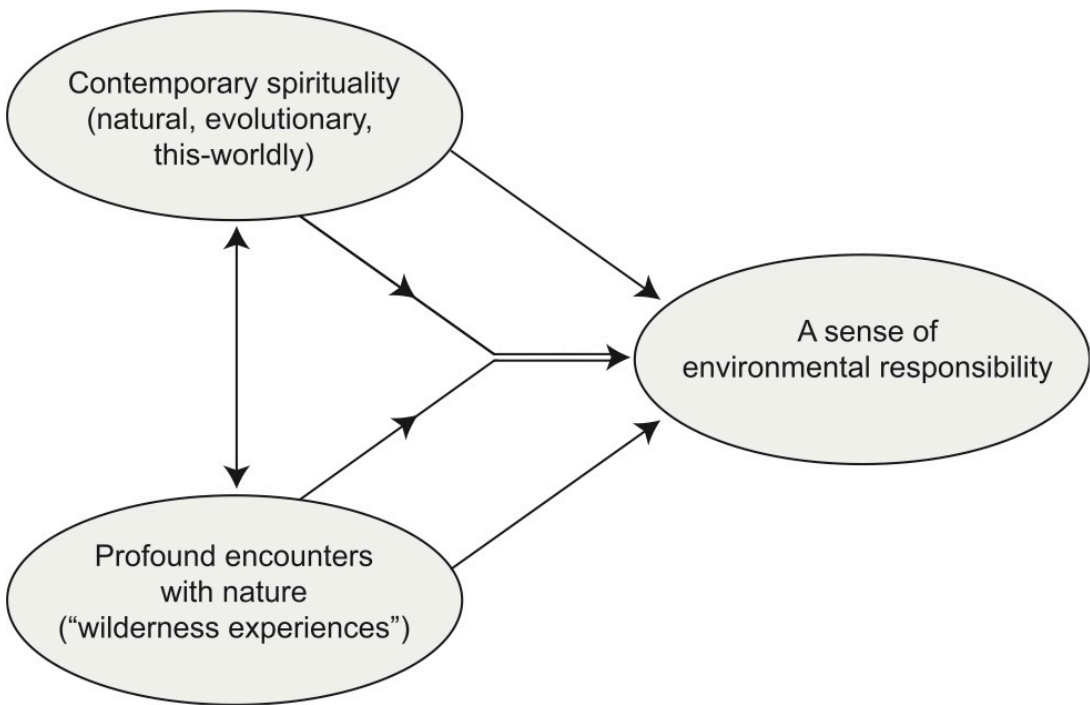
Figure 1: The three different pathways to a sense of environmental responsibility as found in the interviews

5.5   Discussion and conclusion

The results of this study give an analytical understanding and empathic insiders-perspective into the spiritual dimension of nature experience and its relationship to environmental responsibility, as reported in 25 interviews with nature-lovers/environmentalists and spiritual practitioners in Victoria, Canada. In the experience of these individuals, seeing nature as imbued with meaning, as having intrinsic value, and/or as sacred seems to engender an increased sense of environmental responsibility. Simultaneously, a natural, evolutionary, and this-worldly understanding of spirituality appears to lead to a 'kinship with all life'-ethics. Profound or spiritual experiences of nature were characterized by three key-themes, which I labeled *presence*, *interconnectedness*, and *self-expansion*. Many participants explained that these experiences had a profound impact on their lives, often informing their worldviews, sense of environmental responsibility, and for some their career choices. The research thereby traces three pathways to a sense of environmental responsibility: profound encounters with nature, contemporary spirituality, and their convergence in spiritual nature experiences. In this way, the research illuminates the inner logic, meaning, and experience of these pathways, as well as their potential interplay and enhancement (see figure 1).

Since the data were derived from a selective group of individuals at a specific North-American location, the possibilities for generalizing the data to a larger population are limited.[60] However, comparing the major observations with the literature give the impression that a basic level of generalizability can be assumed. For example, Self-Determination Theory refers to 'eudaimonic' individuals as driven by intrinsic (rather than extrinsic) motivations,[61] and a picture is sketched that echoes the descriptions in my study (Ryan et al., 2008):

> The researchers showed that eudaimonic individuals: have high
> levels of inner peace, as well as frequent experiences of moral

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[60] For example, contemporary nature spirituality seems to be more common in the Pacific North-West (Shibley, 2011).

[61] While intrinsic motivations refer to engaging in activities because of their intrinsic value, or inherent appeal, extrinsic aspirations refer to instrumental actions that one engages in as a means to achieve a goal; e.g., money, material gains, social reputation (Ryan et al., 2008).

elevation and deep appreciation of life; feel connected not only with themselves but also with a greater whole that transcends them as individuals; have a sense of where they fit in to a bigger picture and are able to put things in perspective; and describe themselves as 'feeling right' (pp. 162-163).

There thus seems to be a convergence of the themes dominating these spiritual experiences in nature, and certain findings within environmental psychology (e.g., with regard to wilderness-experiences) and positive psychology, notably Self-Determination Theory (K. W. Brown & Ryan, 2003; Ryan & Deci, 2000; Ryan et al., 2008). Moreover, participants' understanding of spirituality appears to be in line with Taylor's (2010) observations of contemporary nature spirituality. Based on examples from many different continents, this work suggests that this kind of spirituality and worldview is a global rather than a local phenomenon.

These results can therefore be understood in light of, and appear to give an insiders-perspective into, contemporary nature spirituality—which some authors claim is spreading rapidly around the world, become increasingly important in global environmental politics, and hold a substantial potential for sustainable development (Giner & Tábara, 1999; Hedlund-de Witt, 2011; Liftin, 2009; B. Taylor, 2010). The extent to which this research generates understanding into a *worldview* (Hedlund-de Witt, 2012) as much as into a particular experience, is enhanced by the selection of participants' in this study, which was based on their likelihood to have a profound, even spiritual experience of nature.[62] As the results suggest, this susceptibility to experience nature spiritually seems to be associated with a specific worldview: that is, participants did not speak of their nature experiences in isolation to the rest of their lives and their perspective on the world. In contrast, these profound experiences appeared to take place in the context of, as well as in reciprocal relationship to, their worldview, apparently both informing it as well as being

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[62] This in contrast with earlier, more experimental research, in which a-selective, representative groups of participants were taken into wilderness areas for an extended period of time and were requested to journal about their experience (see e.g. Frederickson & Anderson, 1999; Kaplan & Talbot, 1983; Talbot & Kaplan, 1986).

informed by it. Thus, while the presence of a certain worldview—based around a certain understanding of nature, the human-nature relationship, and spirituality—seems to increase the likelihood that such experiences will take place, simultaneously these experiences can potentially also be seen as worldview-changing events. Therefore, the relationship between such nature experiences and the associated worldview can probably be best understood as a reciprocal relationship, rather than a one-sided, causal relationship.

Another contribution of this study is the outline of three potential pathways to a sense of environmental responsibility. While environmental responsibility is partially self-reported in the present study (although not completely, as the environmental activists worked for environmental organizations and expressed their sense of responsibility in that, measurable way), several studies suggestively support my outcomes (e.g. K. W. Brown & Kasser, 2005; Weinstein et al., 2009).[63] However, these findings still need to be investigated further—especially the extent to which a self-described sense of environmental responsibility is related to measurable environmental behaviors and sustainable lifestyles. While the experiences and perceptions as explored in this study appear to play a substantial role in developing a sense of environmental responsibility—at least in the experience of these individuals themselves—many other factors will likely inform actual environmental behaviors, including availability and attractiveness of environment-friendly alternatives, supportive social norms, financial incentives, and logistical issues (Atcheson, 2007; McKenzie-Mohr & Smith, 2008; Moser & Dilling, 2007), as well as demographic factors such as age, education, and country of residence.

This study also raises questions and thereby potential avenues for further research with respect to its practical implications, considering the increasingly urban and technological world we live in. How can we make sense of these profound experiences in the wild within the context of a world in which half of

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[63] In these studies, researchers found that both nature relatedness (compare interconnectedness) and autonomy (compare self-expansion) independently and robustly predicted higher intrinsic aspirations, which have been empirically found to be related to pro-social and other-focused value orientations, and lower extrinsic aspirations, which predict self-focused value orientations (Weinstein et al., 2009). Brown and Kasser (2005) showed that people embracing the extrinsic goal of materialism tend to consume more and have bigger environmental footprints.

the population is now living in cities, and the majority of children grow up without much contact with nature at all (UNESCO, 2002a)? Do such profound experiences in nature presume access to 'wild nature'—that is, nature that is simply outside of the arena of most people's daily lives? And if so, what is the value of this mode of connecting to nature for the majority of the world's, increasingly urbanized, populations? These are important questions that need to be further explored. However, as earlier research has shown, brief exposures to (city) nature or even pictures of nature can have profound benefits for both individual and society at large:

> Together these findings suggest that full contact with nature can have humanizing effects, fostering greater authenticity and connectedness and, in turn, other versus self-orientations that enhance valuing of and generosity toward others. In these experiments, people's contact with nature was relatively weak, consisting of brief exposure to slides of natural landscapes or sitting among plants in an office space. Given that these brief exposures appear to have yielded a reliable impact in creating a more prosocial value set, we might speculate about the more general balance of nature and nonnature in people's lives and its societal effects (Weinstein et al., 2009, p. 1328).

These findings thereby suggest that nature has, even in its more prosaic or common manifestations, to use Norton's (1990) term, important 'transformative value.' This sort of value is, however, likely to increase in intensity and depth depending on both the nature of the exposure as well as on the quality of attention paid to the experience (Weinstein et al., 2009, for example, speak of 'immersion' in this context). Moreover, as multiple participants in my own study argued, 'ultimately everything is nature', and they often appeared to have a comprehensive appreciation of nature, including for example, trees and birds in the urban environment. The hereby reported study thus attempts to demonstrate and underscore the profoundness of the potential and transformative value of nature, without reducing it to more exclusive and frequently inaccessible 'wilderness experiences.'

Overall, this study provides insight into a variety of inner motivations for

a sense of environmental responsibility and an understanding of how these motivations fit into individuals' larger worldviews. As other authors have argued, the spread of such a contemporary nature spirituality may be a powerful means for the popular implementation of ecologically rational behaviors, especially because there are limits to the societal diffusion of complex scientific arguments as well as to an exclusively analytical and rational understanding of reality (Giner & Tábara, 1999, p. 74). Moreover, several authors emphasize that this kind of ecological or nature religion is shared by multiple religions, thus forming a common ground between them (e.g. B. Taylor, 2010; Tucker & Grim, 1994). Therefore, such nature spirituality 'provides the universal language that can be integrated in diverse institutions and situations. For this reason, it can be considered to have an invaluable cultural role in the common pursuit to adapt human societies to global environmental change' (Giner & Tábara, 1999, p. 75). In a world plagued with global environmental challenges, with questions of meaning and spirituality on the rise, and with traditional religions reinventing themselves (see e.g. Berry, 2009; Habermas, 2010; McFague, 2008; Tucker & Grim, 1994), the potential role of (spiritual) nature experience in humanity's quest for understanding its role and purpose in existence seems difficult to overstate.

Appendix III: Interview-guide

I'm interested in how people relate to nature. Many people enjoy spending time in nature, but why? What happens to people when they are in nature? I would like to ask you some questions about your relationship to nature, in the past and the present.

- In the first place, I am curious what you understand nature to be. What does nature mean to you? What is the first thing that comes to your mind when I say nature?
- What place has nature had in your life, in the past? Did you grow up in nature? How did you experience nature as a child? [Maybe there is a special memory you can tell me about? Camping, holidays?]
- And what does nature mean to you in your present life? Why do you enjoy spending time in nature? What is it about nature that you like? When do you go there (e.g. at special times in your life)? [What does nature do for you? How does it make you feel?]
- What comes to your mind when I ask you to think of an experience in nature that was special to you? [Can you tell me something more about it?]
- Can you tell me more precisely what happens to you in your experience of nature? How do you feel? What is different or special about it, compared with your daily experience? Do you have such experiences often?

Now I would like to talk with you about spirituality. Although many people speak about spirituality, it is often not clear what is meant with the term. It seems to be a word that people use and understand in different ways. I am curious what you understand spirituality to be.

- What does spirituality mean to you? What do you think of when I say spirituality?
- What does it mean to you, in your life? Do you consider yourself to have a spiritual orientation? Are you in any way practicing some kind of spirituality? If any, what kind of impacts does this 'orientation' have on your life?
- Would you call (one of) the nature experience(s) you just described 'spiritual'? Why, what was it that made it spiritual? / Why not, what was missing for calling it a spiritual experience?
- Did you ever have a comparable experience in a different setting, outside nature? If yes: can you tell me something about it?
- In some traditions, there is a belief that there is a special relationship between nature and spirituality. I am interested in how you think about that. How do you see the relationship between nature and spirituality?

I am curious if these experiences in nature that you have just told me about, have impacted you and your life in a way. Do you think that these experiences in nature changed something in you that was lasting in its impression? Why? And how?

- How does your experience of nature relate to your daily life?

- Do you think these experiences of nature have impacted your life in any way? If so, how, and why?

Chapter 6

The rising culture of contemporary spirituality: A sociological study of potentials and pitfalls for sustainable development

The more deeply I search for the roots of our global environmental crisis, the more I am convinced that it is an outer manifestation of an inner crisis that is, for lack of a better word, spiritual.

   - Al Gore[64]

The search for the self in order to come to terms with oneself [...] has become one of the fundamental themes of our modern culture.

   - Charles Taylor[65]

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[64] In: *Earth in the Balance: Ecology and the Human Spirit* (1992), p. 12.
[65] In: *Sources of the Self. The Making of the Modern Identity* (1989), p. 183.

6.1   Introduction

Theoretical and empirical insight vis-à-vis worldviews and values is an essential element in approaches aiming to design and support more sustainable development paths for society. Our beliefs about the divine, the spiritual, and the transcendent, as well as about our role in the world as moral agents shape our sense of duty and responsibility to care for others and for nature (Hulme, 2009). Issues like climate change raise questions with strong moral and ethical dimensions that need to be dealt with in policy-formation and international negotiations (Wardekker et al., 2009). Additionally, research shows that values and beliefs are strong predictors of policy opinion and policy support (Shwom et al., 2010) and tend to be indicative for environmental behavior (e.g. Karp, 1996; Milfont and Duckitt, 2004; Schultz and Zelezny, 1999). Because everyday consumption choices are deeply enmeshed in a web of non-instrumental motivations, values, emotions, self-conceptions, and cultural associations (Sorin, 2010), values and worldviews can also be seen as major drivers in consumer trends and economic spending patterns, including those concerning the green economy. Lastly, the concept of sustainable development itself contains both objective and subjective dimensions, as it can be seen as a quest for developing and sustaining 'qualities of life' (De Vries and Petersen, 2009), which are at least partially shaped by the views and values that individuals and groups hold.

However, even though the concept of values has played a significant role in the climate change and sustainable development debates, it tends to be narrowly defined, predominantly referring to monetary worth, relative worth, or a fair return on exchanges, which are typically measured as numerical quantities (De Vries and Petersen, 2009). Therefore, as O' Brien and Wolf (2010) state:

> In relation to climate change, what are still missing from economic-oriented and welfare-based approaches to valuation are the differential subjective values of individuals, societies and cultures regarding the experience and consequences of environmental transformations. Economic concepts such as utility and efficiency cannot capture the often subjective and nonmaterial values affected by climate change (pp. 232-233).

Therefore, a systematic integration of worldviews and values is argued for in both research and practices concerned with sustainable development. While there are many different possible approaches for investigating worldviews and values in the context of sustainability (see for example O'Brien, 2009, who explores traditional, modern, and postmodern worldviews in Norway and their interface with climate adaptation measures), there is a cultural development that may be particularly of interest, as it seems to hold a certain potential for sustainable development (Campbell, 2007; Dryzek, 2005; Hanegraaff, 1996; Heelas, 1996; Ray and Anderson, 2000). This is the rise of the culture of contemporary spirituality.

Several social scientists and philosophers claim that a gradual but profound change in the Western worldview is taking place—a change in the direction of a more re-enchanted, post-material, metaphysical, or spiritual worldview (Campbell, 2007; Gibson, 2009; Houtman and Mascini, 2002; Partridge, 2005; Ray and Anderson, 2000; Tarnas, 2006). Some authors speak in this context of a *spiritual revolution* (Heelas and Woodhead, 2005) or a *spiritual turn* (Houtman and Aupers, 2007). As Inglehart and Welzel (2005) put it, based on the results of the *World Values Survey*, the largest existing worldwide, cross-cultural, longitudinal data-set on (changes in) cultural beliefs, values and worldviews:

> Although the authority of the established churches continues to decline, during the past twenty years the publics of postindustrial societies have become increasingly likely to spend time thinking about the meaning and purpose of life. Whether one views these concerns as religious depends on one's definition of religion, but it is clear that the materialistic secularism of industrial society is fading. There is a shift from institutionally fixed forms of dogmatic religion to individually flexible forms of spiritual religion (p. 31).

Clearly, the emergence of contemporary spirituality is not just a counter-cultural or marginal phenomenon. On the contrary, as Heelas and Woodhead (2205) emphasize, this "spiritual revolution… has taken place in key sectors of the culture" and "has its home within the more general culture of subjective

wellbeing whilst *also* being a relatively distinctive or specialized variant of the more widespread culture" (pp. 75, 86). Sutcliffe and Bowman (2000) even state that "contrary to predictions that New Age would go mainstream, now it's as if the mainstream is going New Age" (p. 11). The culture of contemporary spirituality appears to be a pivotal part of the change taking place in the Western worldview, both reflecting the larger cultural development, as well as giving shape and direction to it. The emergence of contemporary spirituality is therefore not to be neglected in our aims to create and facilitate the emergence of a more sustainable society and respond to issues like climate change: not only is it a powerful and growing subculture in itself, it is also largely compatible with as well as instructive for the broader cultural development.

The aim of this study is therefore to generate insight into the culture of contemporary spirituality and investigate both its potentials for sustainable development, as well as explore the risks or pitfalls that it poses, predominantly on the basis of the sociological "New Age" literature. As far as I am aware of, no study of this specific terrain has been made before. Additionally, perspectives on the culture of contemporary spirituality are not always comprehensive; the literature on the phenomenon frequently tends toward polarization between critics and adherents. For some, the "New Age" represents a step backwards from the standards of modern rationality towards pre-modern, irrational thinking and the abandonment of the self-responsibility of the individual; it is then seen largely as a regressive, reactionary, and narcissistic movement (e.g. Lasch, 1978). Others tend to emphasize its noble intentions, qualities, and potentials as well as its overall progressive signature (e.g. Ray and Anderson, 2000). However, the former position tends to dominate in social-scientific analyses of the cultural movement (Höllinger, 2004). Because the term New Age has acquired negative connotations both among the general public and among New Agers themselves (Lewis, 1992), I generally prefer the more neutral term "contemporary spirituality" (although I use them interchangeably throughout this chapter). The use of this term is in line with my aspiration for a more nuanced understanding of this phenomenon in its dignity and its disaster, its *grandeur et misère*, vis-à-vis issues and goals of sustainable development. In section 5.3 I will show that a developmental framework is uniquely suitable for making sense of the observed potentials and pitfalls for sustainable development, as it

enacts an empowering perspective that inspires to appeal to the potentials while avoiding or mitigating the pitfalls. More generally, this study may shed light on the complex interaction between the more objective, exterior and the more (inter)subjective, interior dimensions of issues, goals, and discourses concerned with sustainable development.

6.2 Literature review: An exploration of potentials and pitfalls

In its response to the prevailing Western worldview, as well as in its search for alternative ways of relating to nature, the culture of contemporary spirituality offers some distinctive potentials for the issues and goals of sustainable development, as well as poses some threats or pitfalls. In this section I present these potentials and pitfalls respectively, based on an exploration of the sociological literature on this cultural phenomenon (see table 13 for an overview of these possible potentials and pitfalls). The main used sources include New Age standards, notably Wouter Hanegraaff's historical exploration of New Age religion, which presents an analysis on the basis of the most important New Age texts, sources, authors, themes and beliefs *(New Age Religion and Western Culture. Western Esotericism in the Mirror of Secular Thought*, 1996*)* and Paul Heelas' sociological study of 'the New Age Movement' (*The New Age Movement: The Celebration of the Self and the Sacralization of Modernity*, 1996). Next to that, Colin Campbell's sociological account of the process of 'Easternization' of the West *(The Easternization of the West. A thematic account of cultural change in the Modern era*, 2007*)* and Paul Heelas and Linda Woodhead's empirical exploration of the holistic milieu in Kendal, England (*The Spiritual Revolution. Why religion is giving way to spirituality*, 2005), have been used extensively. Additionally, several other sources have been employed, including various articles reporting empirical studies in this domain (e.g. Aupers and Houtman, 2006; Höllinger, 2004; Jacob et al., 2009).

6.2.1 *Potentials of contemporary spirituality for sustainable development*

Firstly, the potentials include a *rehabilitation of nature*; Campbell (2007) signals a dramatic change in popular beliefs and attitudes towards nature that has occurred over the past thirty to forty years, which comes to concrete expression in the rise of the animal rights movement, the swing to vegetarianism and the consumption of whole and organic food, the holistic health movement, and the origination and expansion of the environmental movement itself. In Campbell's eyes, these are all different manifestations of the contemporary spiritual idea that some sort of spirit, divine life force, or higher value is present in all of nature (including the human body and being), which therefore needs to be treated with respect, or even reverence. This idea is profoundly influenced by Eastern spiritual ideas and ideals (Campbell, 2007) and has positive, practical consequences for environmental behaviors, resulting in an overall *greening of individual life-styles.* An example of this is the change in attitude towards meat-eating, as animals are increasingly considered in terms of their well-being and rights, including the right not to be killed and eaten (Campbell, 2007), and seen as sentient 'fellow creatures' instead of merely 'food' (Verdonk, 2009). Because of its considerable and well-documented impact on the environment, meat consumption is highly significant in the context of sustainable development.[66] Also Heelas emphasizes this point: "'right livelihood,' to use the Buddhist term, and green consumption are the natural responses to the experience of the value and sacrality of both nature and the person, these practices being seen as providing the best way of ensuring that the natural is respected" (1996, p. 86). More generally speaking, contemporary spiritual thought has often been associated with ecological concerns (Aldridge, 2000; Hanegraaff, 1996).

Secondly, this contemporary spirituality is characterized by a pervasive emphasis on *interconnectedness* (Campbell, 2007; Hanegraaff, 1996; Heelas, 1996; Heelas and Woodhead, 2005;). The understanding and experience to be profoundly interconnected with the rest of life may result in a service-ethic and "a profound sense of responsibility for others and the earth" (Heelas, 1996,

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[66] In their 2006 publication "Livestock's Long Shadow," the Food and Agriculture Organization of the United Nations has stated that animal agriculture substantially contributes to climate change, air pollution, land-, soil-, and water degradation, and to the reduction of biodiversity (FAO, 2006).

p.25). We see this for example in the spiritual-ecological literature, in which our interconnectedness with nature is often emphasized as a major reason, motivation, and inspiration for treating it with respect (e.g., Duintjer, 1988; Leopold, 1949; Macy, 2007; Naess, 1989). Next to that, empirical research has also affirmed a sense of connectedness to nature as a determinant of pro-environmental behavior (Dutcher et al, 2007; Mayer and Frantz, 2004), as also observed in chapter four. Besides the sense of responsibility this interconnectedness may bring, it potentially also results in a sense of *empowerment:* being connected to the rest of existence may give meaning and purpose to all that humans do, for it will necessarily have effects beyond themselves. More generally, the belief in a fundamental interconnectedness tends to make New Agers tolerant of differences regarding nationality, ethnicity, religion, and sexual preference, because the essential unity of the human species tends to be emphasized over their differences. Similarly, different religions tend to be perceived as varying expressions of the same, deeper mystical truths (Aupers and Houtman, 2006; Hanegraaff, 1996; Heelas, 1996).

Thirdly, this cultural movement tends to put emphasis on *embedded individuality*. This notion of individuality resembles beliefs about the nature and importance of the person as developed by the Romantics, rather than individualism, understood as the economic doctrine that has traditionally served to legitimate the pursuit of self-interest. As Campbell (2007) points out, there

> appears to be a paradox lying at the heart of the New Age worldview. This is that the central message individuals receive when consulting the inner self is that believing they are a separate entity is an illusion. For the individual divine essence located within each person – the true self – although real, is also merely part of a larger whole, that which is All-Spirit. In this respect the New Age paradigm only gives the appearance of being exceptionally individualistic (p. 356).

A similar point is made by Heelas and Woodhead (2005), who emphasize that "above all else, subjective-life spirituality is 'holistic,' involving self-in-relation rather than a self-in-isolation" (p. 11). One way this "embedded individuality" may come to expression is in a more contemporary understanding of the concept

of *vocation*, or *calling*: the unique contribution every individual deeply desires and is called to make to the larger whole—be it one's family, community, society, the environment, or the evolution of consciousness. Heelas (1996) speaks in this context of the "self-work ethic," referring to work that is both beneficial to the self, as well as to nature, the community, or even the world. In his words: "The basic idea is that by working … one also 'works' (in a spiritually significant sense) on oneself. Furthermore, work provides the opportunity of expressing all those virtues bound up with what it is to be authentically human. And this exercise, it need not be emphasized, contributes to bringing about a better world" (p. 87). It is a perspective of *service through self-actualization* (and equally, self-actualization through service), as 'becoming who one truly is' in this view implicitly and inherently means (re)discovering one's intimate connections with the rest of life, and the ways each individual uniquely aspires to contribute to that (Cook-Greuter, 2000). Practically, this may result in attempts to bring "the soul back to the workplace" and create a working environment in which one's true, creative self can be fully expressed (Mitroff & Denton, 1999).

Fourthly, as Hanegraaff (1996) emphasizes, the culture of contemporary spirituality is pervaded by an acute *sense of urgency* and crisis concerning the world-situation—the ecological crisis included—often resulting in deeply felt concerns. Obviously, this background may make people more willing to change their own behaviors, show support for environmental policies, or get engaged themselves. Often there is a belief that the crisis should not be primarily addressed on the level of its symptoms, but on the level of its most fundamental causes—which are more often than not seen as ultimately of a spiritual nature. In his book "Earth in the Balance," Al Gore (1992) offers an often-quoted perspective that is illustrative here: "The more deeply I search for the roots of our global environmental crisis, the more I am convinced that it is an outer manifestation of an inner crisis that is, for lack of a better word, spiritual" (p. 12). More generally speaking, there is substantial willingness for change and limited attachment to the status quo, as, in the words of Hanegraaff (1996), "the all-important point for New Agers is to emphasize the urgent necessity of *change*" (p. 348). This tends to be true on a more personal level as well: these individuals often seek change in their lives, and that potentially makes them more susceptible for and open to behavioral and lifestyle changes.

Fifthly, an *orientation towards inner and spiritual fulfillment* rather than material fulfillment has the potential to alleviate hyper-consumerism and its associated stress on resources and pollution, as well as support the *transition to a green economy*, with a shift in emphasis from goods to services as well as to green production and consumption (Jacob et al., 2009). Organizations in the post-industrial service sector are likely to be stimulated by this cultural movement, in terms of employees as well as clientele (Aupers and Houtman, 2006). In the words of Heelas (1996), "counter-cultural New Agers seek new ways of relating to the environment: ways which will save the earth from the ravages of capitalistic modernity. Among other things, this entails the adoption of forms of life (involving work and consumption) that are informed by right—that is environmentally sound or nurturing values. Furthermore, these ways of life should also contribute to what it is to live as a spiritual person" (p. 84). Understanding the deeper motivations of consumers is of importance for policies and practices aiming to encourage and facilitate green consumerism (Coad, De Haan, & Woersdorfer, 2009).

Sixthly, from a psychological-developmental perspective it is often assumed that with progressive stages of development both a more complex and comprehensive understanding of problems comes into being, as well as increased capacities to adequately respond to them. As earlier research suggest, the so called *post-conventional stages of consciousness* support the recognition and the effective management of complex environmental issues (Boiral, Cayer, & Baron, 2009): Although each stage presents specific characteristics, advantages, and limitations, post-conventional action

> logics appear best adapted to the promotion of substantial and proactive environmental leadership. … Furthermore, certain capacities vital to the effective consideration of environmental issues by managers emerge mainly at post-conventional stages, including more well-developed abilities to manage complexity, integrate contradictory points of view, consider the expectations of a broader range of stakeholders, and promote in-depth transformation of organizational practice (p. 492, 493).

Individuals actively engaged with consciousness development (e.g. through varying practices and tools) may in that way increase their capacities to appreciate and respond to sustainability issues, resulting in more adequate, effective, and creative environmental (opinion) leaders, thinkers, activists, and managers. Individual consciousness development may therefore support *higher levels of functioning, creativity, and efficacy* (B. C. Brown, 2012a, 2012b).

Seventhly, the culture of contemporary spirituality has the potential to contribute to an overall atmosphere of *cultural experimentation, renewal, and innovation*. This creative potential is also emphasized by Ray and Anderson (2000), who speak of the "Cultural Creatives" and describe them as the individuals "creating many of the surprising new cultural solutions required for the time ahead" (p. 4). Taylor (1999) likewise speaks of a cultural revolution taking place from the bottom up:

> People suddenly became vegetarians and adopted lifelong spiritual disciplines. Assimilating themselves back into mainstream culture, hundreds of thousands of visionaries thereafter began a cultural revolution from the bottom up. They started new kinds of families, went back to school, and entered the professions with new questions. They started their own companies, they launched their own research projects, they began spending their money only on what they deemed most important, and they expressed their newfound spiritual ideas in myriad ways that are now completely transforming modern culture. And while we may see evidence of these changes everywhere in popular culture, the transformation in American social consciousness that these changes represent has now also reached the doors of mainstream science and traditional medicine in the form of human science and alternative or complementary therapies (pp. 280-281).

As Boiral et al. (2008) point out, the progressive strand of the culture of contemporary spirituality may also prove to be more creative and innovative in the solutions it comes up with, because it tends to operate from outside the confines of the dominant paradigm. As it tends to be less embedded and institutionalized in the prevailing practices, traditions, and beliefs, it not only has

the capacity to reflect on and question the dominant social paradigm, but is also more inclined to develop original and creative environmental solutions. As Dryzek (2005) notes, such cultural initiatives can also influence the understandings of key decision makers, "though by the time green ideas get taken up they have often lost much of their radical bite" (p. 198), and in that way provide useful support for ecological modernization. According to Rogers' (1995) 'diffusion of innovations model,' or the idea of 'social tipping points' (Gladwell, 2000), the influence of innovators and early adopters in the larger process of social-cultural and economic change is enormous. Cultural transmission of consumer behavior may also play a significant role here, as consumers frequently imitate pioneering 'green' consumers (Buenstorf & Cordes, 2008).

Lastly, there is a strong conviction within the culture of contemporary spirituality that changing the world does not only depend on changing our (outer) behaviors, but as much demands an inner change, a change in thinking and feeling about and relating to the world. So inner spirituality is *in itself* seen as serving to bring about a world of harmony, peace, and bliss (Heelas, 1996). Acts like self-healing, positive thinking, meditation, and prayer are understood to have a positive, tangible effect, not only on the practicing individual himself, but also on the larger community and possibly even the world. In this sense, working on oneself is often considered to be not merely egotistical, but an act of service. Studies have been conducted to affirm or refute what has been called the *Maharishi-effect*,[67] with fascinating albeit controversial results (Orme-Johson, 2003; Schrodt, 1990). Nicol speaks in this context of *subtle activism*, as an activism that recognizes the active potential of consciousness, spirit, or what might be conceived of as the subtler dimensions of the field of action (2010). Although there is no uncontroversial scientific confirmation of the measurable effects of "subtle activism," its potential also has not been convincingly refuted.

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[67] According to Orme-Johnson (2003), the Maharishi Effect is "a powerful mechanism of increasing informal social control by increasing coherence and decreasing stress in the most holistic level of society, its collective consciousness. A review of 15 published studies conducted on city, state, national, and international levels find strong evidence that crime is reduced and quality of life is improved when 1% of a population practices the Transcendental Meditation (TM) program" (p. 257).

Moreover, these practices—next to other well-documented (psychological) benefits (for an overview see Murphy & Donavan, 1999)—are likely to be a fertile ground for behavioral and other changes needed.

Potentials	Pitfalls
• Rehabilitation of nature: an overall greening of (individual) lifestyles • Sense of interconnectedness: responsibility and empowerment of the individual • Embedded individuality: vocation, self-work-ethic, service through self-actualization • Sense of urgency and crisis: willingness for change, little attachment to *status quo* • Focus on inner fulfillment: alleviate consumerism and support (transition to) green economy • Individual consciousness development: higher levels of functioning, creativity, and efficacy • Cultural experimentation and renewal: forces of creativity, innovation, and social change • Subtle activism: support for change through meditation, prayer, and positive intentions	• Narcissism: egocentrism, acting out childlike impulses under the flag of spirituality, not taking responsibility, lack of willingness for sacrifices • Instrumentalizing and commercializing: spirituality as mere means for self- and wealth-enhancement • Ideas that breed passivity: losing sight of one's own contribution • An exclusive focus on inner work at the cost of addressing the affairs and injustices in the world • Regression to or romanticizing of mythic, pre-rational consciousness (and society): no adequate integration of modern achievements • Experienced as 'too socially deviant' by society, marginalizes its impact

Table 13: Exemplary overview of potentials and pitfalls of the culture of contemporary spirituality for sustainable development

6.2.2 Pitfalls of contemporary spirituality for sustainable development

However, despite these potentials, this contemporary spirituality also involves certain risks and pitfalls—both more generally as well as more specifically for sustainable development. The first, and probably most-widely expressed one, is that of New Agers' great concern with themselves and therefore the *potential for narcissism*. As Lasch (1978) author of "the culture of narcissism" comments:

After the political turmoil of the sixties, Americans have retreated to purely personal preoccupations. Having no hope of improving their lives in any of the ways that matter, people have convinced themselves that what matters is psychic self-improvement: getting in touch with their feelings, eating health food, taking lessons in ballet or belly-dancing, immersing themselves in the wisdom of the East, jogging, learning how to "relate," overcoming the "fear of pleasure." Harmless in themselves, these pursuits, elevated to a program and wrapped in the rhetoric of authenticity and awareness, signify a retreat from politics and a repudiation of the recent past (p. 4).

Although New Agers fiercely reject the suggestion that self-concern equates with selfishness (Campbell, 2007), and self-concern may indeed reflect a healthy sense of 'embedded individuality' as discussed before, this attitude of self-focus and self-exploration obviously brings certain risks with them. As the basic goal of a lot of inner work and therapy is to help people to get in touch with themselves—that is with those parts that have been alienated or suppressed—not only profound spiritual insights and experiences may arise, but also frustrations, pains, anger, and narcissistic or child-like impulses and tendencies. When the latter are not understood and dealt with in an appropriate way, resulting in the healing and wholeness that so much of the culture of contemporary spirituality is concerned with, it is easy to see how these may actually result in narcissistic behaviors and tendencies. Wilber (2007), reflecting on this phenomenon from a developmental-structural perspective, speaks in this context of *Boomeritis*, a term for postconventional/worldcentric levels of development infected with pre-conventional/egocentric impulses. This complex involves manifesting lower-level, narcissistic, self-centered impulses and confusing them with higher-level, postconventional, worldcentric or even spiritual experiences and qualities. More generally speaking, the locus of meaning and authority moving from the external order to one's inner life may also result in less willingness to make sacrifices (Heelas and Woodhead, 2005).

A second area of concern is the *instrumentalizing and commercializing of spirituality*. A telling example is the success of the esoteric bestseller 'The Secret.' The Secret is a 2006 movie and book by Rhonda Byrne, which were marketed

with tease and viral advertising techniques, and use spiritual insights and perspectives for mainly self- and wealth-enhancement. For that reason, The Secret has been criticized for promoting egocentrism and materialism. Generally, spiritual thought, insights, and practices have been put to work in mainstream business and capitalism on a large scale. Enhancing and "unlocking" human potential is widely used to support productivity and financial gains (Aupers and Houtman, 2006; Heelas, 1996; Mitroff and Denton, 1999). Although that in itself does not need to be a problem (and instead may be a potential, if used wisely), it obviously does pose certain risks, especially where spirituality becomes a mere *means* for commercial and other goals, devoid of ecological and social awareness. According to Hanegraaff (1996), the New Age "has become increasingly subservient to the laws of the market place" (p. 523). Campbell (2004) goes one step further and argues that this culture facilitates and encourages not just the commercialization of spirituality but consumerism more generally. Also York (2001) shares this position: "Rather than a rejection of free market principles, New Age endorses a spiritualized counterpart of capitalism" that represents "a modern continuation of Calvinistic principles which exalt material success as assign, reflection, or consequence of one's spiritual state of grace" (p. 367). Additionally, he addresses the issue of New Age commodification and appropriation of the world's various spiritual traditions. However, Heelas and Woodhead (2005) state that, in their extensive research of the holistic milieu in Kendal, England, they "did not meet many who were using their spirituality in an instrumentalized way, as a means to achieve prosperity" (p. 30).

A third possible pitfall of the culture of contemporary spirituality is that some interpretations/variations of the common New Age views may *breed passivity.* In the contemporary spiritual perspective there is general agreement that humanity has now arrived at an evolutionary crisis or turning point, and has therefore both the incentive and potential for making the transition towards a new and higher consciousness, possibly resulting in a more healthy, humane, and sustainable society. However, opinions differ with regard to the role human beings play in this process, ranging from a more active and co-creative perspective in which the human contribution is critical, to a more pacifying belief in the ultimate perfection of the cosmic processes, tending to see the coming transformation as an inevitable evolutionary event (Hanegraaff, 1996). While

the former tends to activate and empower individuals, the latter perspective may result in passivity.

Another theme is the *exclusive focus on inner work*. Although inner work may be of great value in and of itself, the pitfall of this orientation shows up when inner work is engaged at the expense of the needed outer work (often based on a view in which spirit is seen as primary to matter). Obviously, meditating alone will not solve the environmental crisis, and this inner attitude needs to be translated to and become manifest in physical existence. However, many forms of inner spirituality are not necessarily committed or even oriented to that kind of dedicated involvement with the affairs and injustices in the world. The exclusive focus on inner work may therefore exclude challenging the systems, structures, and hierarchies that disempower people and make it difficult to become conscious 'agents of change' in the first place. In the words of Taylor (1989):

> A society of self-fulfillers, whose affiliations are more and more seen as revocable, cannot sustain the strong identification with the public community which public freedom needs. […] The primacy of self-fulfillment, particularly in its therapeutic variants, generates the notion that the only associations one can identify with are those formed voluntarily and which foster self-fulfillment, such as the 'life-style enclaves' in which people of similar interests cluster. […] Politically, this bit of the 'counter-culture' fits perfectly into the instrumental, bureaucratic world it was thought to challenge. It strengthens it (p. 508).

A tendency to *regress to, or romanticize a pre-rational, more unitary* (but undifferentiated) *consciousness* can also be seen as one of the pitfalls of the culture of contemporary spirituality (see e.g. Wilber, 1995, 2001, 2007; Höllinger, 2004; Campbell, 2007; Houtman et al., 2009). This may come to expression in a tendency to emphasize "holism," "unity," and "wholeness" in a way that does not honor the developmental process of differentiation. For example, the New Age rhetoric tends to emphasize feelings, emotions, and intuition *over* mind, thinking, and rationality, instead of stressing the complementation and integration of the two different modes of being (Campbell, 2007; Heelas, 1996). Wilber (2001)

speaks in this context of the *pre/trans fallacy* or the *pre/post fallacy*: the categorical error to confuse earlier and less complex stages of development with later and more complex stages of development—e.g. the tendency to equate pre-rational perspectives with post-rational perspectives because they are both non-rational.

Another possible pitfall is that the New Age culture may be experienced as 'too countercultural' or *'too socially deviant'* by the rest of society, which will probably substantially marginalize its impact in terms of societal and cultural change in the direction of sustainable development. This is most likely the case when this culture defines itself over and against the more mainstream culture instead of opting for a more inclusive and invitational approach, framing itself as a next step that includes and integrates both traditional and modern achievements and values.

6.3   Discussion: A dialectical-developmental perspective on contemporary spirituality

In this chapter I propose to view the culture of contemporary spirituality from an explicitly *developmental* perspective. That is, I attempt to understand it by looking at sociological understandings of processes of social development and change, as well as explore it in the light of constructivist developmental-psychological insights about the growth and evolution of the individual. It is important to note that development is not understood here in a Modernist sense of a unilinear developmental progression from 'primitive' levels of social evolution towards the 'civilized' status represented by the modern West—a perspective critiqued and debunked by both anthropologists and sociologists for its ungrounded optimism, oversimplification, and ethnocentrism (Ferguson, 2002; Marshall, 1998). Nor is it meant to refer to a progressive movement towards a state that is univocally "better"—morally or otherwise. In contrast, with development I refer to a structural evolution towards increasing complexity, differentiation, and integration, in line with the insights of the developmental structuralists in the field of psychology (e.g. Kegan, 1994, 1982; Loevinger, 1987).

A first reason to look at contemporary spirituality from a developmental perspective is that in the New Age literature, the phenomenon is often framed as

being *post-traditional, post-Christian* or *post-secular* rather than pre-traditional or pre-secular (Houtman and Aupers, 2007; Hanegraaff, 1996). Several researchers argue that the culture of contemporary spirituality is profoundly shaped by processes of notably secularization and rationalization (Hanegraaff, 1996; Heelas, 1996).[68] This understanding suggests a developmental sequence to, or at least a historical understanding of, its emergence in present-day culture. Generally, it is seen as involving a shift of authority: from 'without' to 'within' (Heelas, 1996). According to Inglehart and Welzel, industrial society is characterized by a secularization *of* authority, while post-industrial society brings increasing emancipation *from* [external] authority (2005). According to some, this turn away from life lived in terms of external or 'objective' roles, duties, and obligations, and a turn towards a life lived by reference to one's own subjective experiences—also referred to as *the subjective turn*—has become the defining cultural development of modern Western culture (see e.g. Heelas and Woodhead, 2005; Inglehart and Welzel, 2005; Taylor, 1989). The developmental process observed could thus be described as a gradual *internalization of authority*. Related to that, a developmental perspective seems warranted by the results of the WVS. As Inglehart and Welzel (2005) frame it: "we interpret contemporary social change as a process of human development, which is producing increasingly humanistic societies that place growing emphasis on human freedom and self-expression. A massive body of cross-national data demonstrates that (1) socioeconomic modernization, (2) a cultural shift towards rising emphasis on self-expression values, and (3) democratization, are all components of a single underlying process: human development" (p. 2). They thus explicitly relate individual-level values with system-level changes, and make *human development* their primary lens for understanding and explaining processes of social and cultural change.

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[68] According to for example Hanegraaff's (1996) thorough study, "the foundations of New Age religion were created during the late 18th and 19th century, in the course of a process which I have referred to as the secularization of esotericism. … Those traditions on which the New Age movement has drawn can be characterized as western esotericism reflected in four "mirrors of secular thought": the new worldview of "causality", the new study of religions, the new evolutionism and the new psychologies" (pp. 517-518).

Moreover, a developmental perspective may help us to understand why an exploration of the theoretical literature seems to suggest that the culture of contemporary spirituality can be interpreted in (at least) two completely opposing ways, including a more regressive, pre-rational perspective as well as a more progressive, post-rational, integrative one—as I sketched briefly in the introduction of this chapter. Contemporary spirituality is often understood as at least partially a response to the ills of Modernity (Campbell, 2007; Hanegraaff, 1996; Heelas, 1996; Höllinger, 2004), and the solutions that it offers can therefore both be sought in an attempt to go back to a society before modernity came into being, as well as in a tendency to go beyond (the limitations of) modernity. The former is exemplified by the (according to some) "romanticizing" of indigenous peoples and a "oneness with nature," and comes saliently to expression in the a-historical orientation of much of the New Age, its elevation of myth, feeling, and intuition as sources of knowledge *above* reason, logic, and analysis, and its fusion of science and metaphysics (Campbell, 2007). The latter is seen in its worldcentric orientation and postconventional morality, its progressive social/political signature, and its attempt so overcome dichotomies and synthesize the best of both worlds (Höllinger, 2004; Ray and Anderson, 2000). Similarly, Hanegraaff emphasizes that the New Age worldview "believes that there is a 'third option' which rejects neither religion and spirituality nor science and rationality, but combines them in a higher synthesis," attempting to formulate answers to the limitations of both faith and reason (1996, p.517).[69]

However, this *holism* of religion and science, or faith and reason, may be attained in two fundamentally different ways. The first is a monism, fusion, or *dedifferentiation* (Campbell, 2007; Hanegraaff, 1996; Heelas, 1998) of science and religion, in which the independence of the two enterprises is fused in order to operate as a whole. However, it could be said that it thereby reverses the

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[69] As Hanegraaff (1996, p.516) articulates it, "New age holism emerges as a reaction to established Christianity, on the one hand, and to rationalistic ideologies, on the other. The fact that it has to fight on two fronts creates a certain amount of ambiguity. As a religious reaction to rationalism and scientism, it has to demarcate it from its principal religious rival, Christianity; but in its reaction to traditional Christianity it frequently allies itself with reason and science, and therefore has to demarcate itself from rationalist and scientistic ideologies. The solution to this dilemma is, of course, the affirmation of a "higher perspective" in which religion and science are one."

painstaking process of the Enlightenment-project, which fostered the differentiation of the secular and religious spheres. As Campbell (2007) has argued, this may be one of the foremost negative implications of the New Age worldview becoming increasingly dominant in postmodern society. Arguably, it is the most prominent objection raised against the culture of contemporary spirituality by those who defend the rationalist ideals of the European Enlightenment (Höllinger, 2004). In contrast, the second approach emphasizes the need for an *integration* of the differentiated spheres, with the ambition that "science and religion can find a common ground of understanding by recognizing the different *and* valid methods of inquiry that each use" (Esbjörn-Hargens and Wilber, 2006, p. 528). Ken Wilber and colleagues defend this position (Esbjörn-Hargens and Wilber, 2006; Wilber, 2001). However, both this more *monistic* as well as this more *integrative* tendency seem to be present in the culture of contemporary spirituality (Hanegraaff, 1996; Wilber, 2001; Höllinger, 2004).

In line with basic psychological-developmental insights, I propose that a tendency of de-differentiation or monism may signify a more *regressive* inclination within the culture of contemporary spirituality, while a tendency of differentiation and integration may signify a more *progressive* bent (see also Wilber, 2001). Theorists like Piaget, Kohlberg, Loevinger, Fowler, and Kegan, (and more broadly speaking the school of developmental structuralism within psychology, see Mc Adams, 1994)[70] conceive of development as progressing through hierarchical stages, in which each stage is shown to be more differentiated than the preceding one, while it is also more integrated (Fowler, 1981; Kegan, 1994, 1982; Loevinger, 1987). Higher levels of functioning or development therefore involve greater levels of (cognitive) differentiation and

[70] As Mc Adams (1994) summarizes the major premises of the school of developmental structuralism: "Epitomized in the monumental work of Jean Piaget on cognitive development, this broad approach to psychology views the individual as an active knower who structures experience in ever more adequate and complex ways. Development is viewed as progression through hierarchical stages. Earlier stages must be mastered before subsequent stages can be approached. Each stage builds on its predecessor and ultimately encompasses all that came before it. Movement from one stage to the next is a complex product of both internal maturation and external forces, which are in constant reciprocal interaction" (pp. 542-543).

integration (Mc Adams, 1994). For this reason, reaching the holism that so much of contemporary spirituality is about through de-differentiation or fusion rather than through integration, can be seen as a regressive tendency: from a developmental perspective it is reversing the process of differentiation and integration to more simplistic understandings of reality. Progression and regression are thus concepts that are used by the developmental structuralists to indicate the *direction* of development.[71] A developmental framework may thus help us to understand both of the observed tendencies within the New Age movement (monistic versus integrative) and render them comprehensible despite their opposing and seemingly mutually exclusive natures.

Suggestive of this kind of distinction is the research of Höllinger (2004), which shows that two main different strands within the New Age movement can be quantitative-empirically distinguished. His research was conducted with a large (n=3970), cross-national data set, in which several analyses were performed to explore the relationship between different spiritual activities (such as meditation, yoga, astrology, Tarot, et cetera) and multiple social and political orientations. On the basis of a statistical exploration of the data, Höllinger came to a distinction between two strands, one tending to what he calls "spiritual self-perfection" and the other tending to the "magical-esoteric," which were associated with almost opposing social and political tendencies, as they tended to be, respectively, "more 'progressive,' grassroots democratic, critical, and counter-cultural or more 'conservative,' conforming to the social *status quo* and even authoritarian" (p.307). His research therefore gives some empirical, quantitative ground to the idea of progressive and regressive (or in his terminology, "progressive" and "conservative") strands and tendencies in the

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[71] Because these concepts tend to have evaluative connotations (progression being associated with matters that we value, regression with stress and even pathology; see e.g. Loevinger, 1977), it is important to distinguish the *descriptive* aspect (structural development in terms of a progression towards more complexity, differentiation, and integration; and regression towards simplification and fusion) from the *evaluative* aspect (a positive or negative normative judgment vis-à-vis sustainable development). Next to that, it is important to emphasize that progression and regression are not mutually exclusive phenomena, and can simultaneously manifest in a single individual—e.g. in developmental psychology "progression through regression" is a well-known phenomenon, revealing the complex and interrelated natures of these concepts (Loevinger, 1977).

culture of contemporary spirituality. Further research is needed to confirm whether these two strands are indeed the different manifestations of a more progressive, integrative versus a more regressive development as conceptualized in this article. However, this analysis suggests that the potentials for sustainable development tend to be more consistently associated with the progressive, integrative tendency within the culture of contemporary spirituality, while the pitfalls are more consistently associated with the regressive, de-differentiative tendency. By shedding light on the developmental dynamics associated with the various tendencies and manifestations within this culture, such self-understanding may support it towards increased differentiation-integration. Simultaneously, in alignment with Habermas' notion of the 'dialectic of progress' (1976) my understanding is that every new worldview—while overcoming certain limitations and problems, and bringing forth certain potentials—will create its own sets of challenges, limitations, and pitfalls.

To summarize, understanding contemporary spirituality from a developmental framework converges not only with a widely acknowledged theoretical perspective on the subject, but is also solidly grounded in the empirical data of the *World Values Survey*. Next to that, it possibly renders two opposing, mutually exclusive interpretations of the phenomenon comprehensible, by allowing us to make a distinction between opposing tendencies within the culture of contemporary spirituality—regression versus progression (or dedifferentiation versus differentiation-integration). A developmental framework may in that way support us to make sense of the deeper logic behind the potentials and pitfalls that the culture of contemporary spirituality holds for sustainable development, inspiring to actualize and amplify the former, while mitigating the latter. This perspective may thereby make a worthwhile contribution to the important question of how to support the cultural transition to a (more) sustainable society.

6.4   Conclusion

As an exploration of the sociological literature on the "New Age" shows, the culture of contemporary spirituality proves to be both a potentially promising force in the context of the goals and issues of sustainable development, as well as

a cultural phenomenon posing specific risks and pitfalls that should not be ignored. For an overview of these potentials and pitfalls, see table 13.

Some of the primary potentials that the culture of contemporary spirituality holds for sustainable development include an overall *rehabilitation of nature*, which comes to expression in a preference for organic food and vegetarian diets, natural products and conscious consumerism. This has a double effect: it not only results in less environmental pollution and resource depletion through the *greening of individual lifestyles*, but it also supports and stimulates (the transition to) *a green economy*, as it serves as an impetus for companies aiming to win these markets, and a discouragement or even a pounding for companies which are not taking up the environmental challenge. Additionally, the culture of contemporary spirituality tends to result in increased *societal support* to green political parties, sustainable initiatives, and nature- and environmental organizations (see e.g. Dryzek, 2005; Höllinger 2004). This is significant, as (electorally) supporting environmental policies and initiatives is probably one of the most significant actions individuals can undertake to support changes in a more environment-friendly and sustainable direction (Brown, 2008). Lastly, the culture of contemporary spirituality tends to result in an overall atmosphere of *cultural experimentation, renewal, and innovation,* which may be crucial in creating the needed transitions to a more sustainable society and economy. According to Rogers' (1995) 'diffusion of innovations model,' or the idea of 'social tipping points' (Gladwell, 2000), the influence of innovators and 'early adopters' in the larger process of socio-cultural and economic change is considerable. Overall, the results show that the potentials of the culture of contemporary spirituality are closely aligned with the perspectives of *Ecological Economics*, and may therefore significantly contribute to the ongoing movement to promote sustainability.

In contrast, one of the main pitfalls is the culture's association with *narcissism,* which may manifest in egocentrism, a lack of willingness for sacrifices, and the refusal to take responsibility for the environment and the health and eco-social wellbeing of others. Moreover, a proclivity to *instrumentalize and commercialize* spirituality as mere means for self- and wealth enhancement may also be seen as a possible pitfall of this culture. Lastly, the tendency to *regress to or romanticize a mythic, pre-rational consciousness* (and society*)*

does not allow the achievements of modernity to be well-integrated—which is likely to result in an alienation of all those who defend the rationalist ideals of the European Enlightenment. This marginalizes its impact in (mainstream) society and potentially contributes to polarization and 'paradigm wars.'

Introducing a developmental framework may serve to distinguish more *regressive* from more *progressive* tendencies within the culture of contemporary spirituality, thereby potentially providing deeper insight into the observed potentials and pitfalls. That is to say, I propose that the observed potentials for sustainable development tend to be more consistently associated with more progressive, integrative strands within the culture of contemporary spirituality, while the pitfalls tend to be more consistently associated with more regressive, monistic (de-differentiative) strands (see section 6.3). However, in alignment with Habermas' notion of the 'dialectic of progress,' my understanding is that every new innovation or worldview is likely to—while overcoming certain limitations, solving certain problems, and bringing forth certain potentials— create its own sets of challenges, limitations, and pitfalls. Moreover, this analytical lens, when used in the messy practice of everyday reality, will probably not result in a clear-cut, "black and white" picture, as potentials and pitfalls will likely be observed emerging together within individuals as well as within the different strands of the movement. Since I have not researched the (empirical) relationship between those two strands and their association with such potentials and pitfalls myself, it is merely a grounded (hypo)thesis emerging from this research, which needs to be further scrutinized. Moreover, as this chapter is limited to a literature study, further research needs to be conducted to explore the extent to which these potentials and pitfalls are indeed operative, under which conditions they tend to be enacted, and how for example policy measures and communicative interventions may support potentials being actualized and pitfalls being mitigated. Lastly, the overall framework and my categorizations of these potentials and pitfalls need to be empirically substantiated and potentially expanded and revised in light of further research.

Research such as this may therefore invite a more sophisticated exploration of the phenomenon in the research community. The results presented here suggest that greater attention should be paid to understanding the nuances of this emerging cultural phenomenon, raising questions as to what

contributes to progressive tendencies and what promotes regressive tendencies. Next to that, by contributing to a deeper understanding of its developmental dynamics, this study may function as an invitation for the culture of contemporary spirituality to engage in a critical self-reflection on its pitfalls as well as an acknowledgement and empowerment of its sustainable potentials. The value of this study therefore lies in putting the subject on the agenda and proposing a framework for a more nuanced and pragmatic exploration of an influential cultural phenomenon—one that has a substantial, yet largely latent potential for contributing to the timely challenge of sustainable development.

More generally, if the described change in worldview and values is indeed taking place, the culture of contemporary spirituality is not only instrumental for initiating individual, behavioral, cultural, and institutional/economic change, but also intrinsic to the process of defining and shaping our understanding of sustainable development itself. As sustainable development refers to a quest for developing and sustaining 'qualities of life' (De Vries and Petersen, 2009), as mentioned in the introduction, a clear challenge for sustainability strategies, policies, and practices is "to take into account values that correspond to diverse human needs and multiple perspectives and worldviews. This includes values that many individuals and groups do not currently prioritise, yet which are likely to become important as humans further develop" (O'Brien, 2009, p. 177). These may include, for example, aesthetic and spiritual values such as the experience of snow or wilderness, a sense of place or non-dual relationships with other living organisms. Therefore, this study highlights the importance of the interior, (inter)subjective dimension of values, worldviews, and culture in the larger sustainability-debate, and explores its potential and limitations for (facilitating) changes in the exterior dimensions of consumer and behavioral, political, institutional, and economic change. Lastly, this study may shed light on a possible future trajectory of Western (sub)culture, thereby informing strategists, (ecological) economists, and potentially policy-makers to anticipate and enact strategic pathways toward the actualization and amplification of its potentials, while simultaneously alleviating and mitigating its pitfalls for sustainable development in the twenty-first century.

Chapter 7

The integrative worldview and its potential for sustainable societies: A qualitative exploration of the views and values of environmental leaders

The postmodern mind has come to recognize, with a critical acuity that has been at once disturbing and liberating, the multiplicity of ways in which our often hidden presuppositions and the structures of our subjectivity shape and elicit the reality we seek to understand. If we have learned anything from the many disciplines that have contributed to postmodern thought, it is that what we believe to be our objective knowledge of the world is radically affected and even constituted by a complex multitude of subjective factors, most of which are altogether unconscious. Even this is not quite accurate, for we must now recognize subject and object, inner and outer, to be so deeply mutually constituted as to render problematic the very structure of a "subject" knowing an "object." Such a recognition—hard-won and, for most of us, still being slowly integrated—can initially produce a sense of intellectual disorientation, irresolution, or even despair. Each of these responses has its time and place. But ultimately this recognition can call forth in us a fortifying sense of joyful co-responsibility for the world we elicit and enact through the creative power of the interpretive strategies and world views we choose to engage, to explore, and to evolve with.

      - Richard Tarnas[72]

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[72] In: *Cosmos and Psyche. Intimations of a New World View* (2007), p. 40.

7.1   Introduction

Some authors argue for the emergence of an *integral* or *integrative* worldview in our contemporary cultural landscape—that is, a worldview attempting to reconcile rational thought and science with a spiritual sense of awe for the cosmos (Benedikter & Molz, 2011; Esbjörn-Hargens & Wilber, 2006; Esbjörn-Hargens & Zimmerman, 2009; Laszlo, 2006; Van Egmond & De Vries, 2011; Wilber, 2001, 2007). Such new forms of nature-spirituality are becoming an essential component of modern culture in the context of globalization (Gibson, 2009; Hedlund-de Witt, 2011; Inglehart & Welzel, 2005; Partridge, 2005; Ray & Anderson, 2000; B. Taylor, 2010). For example, the Pew Research Forum's latest results show that in the USA one fifth of the public, and a third of adults under thirty, are religiously unaffiliated, while frequently being 'religious or spiritual in some way.' More than half (58%) of them say they often feel a deep connection with nature and the earth (2012). Thus, while what some refer to as *cosmic piety* (Giner & Tábara, 1999) is clearly on the rise, these new forms of eco-spirituality simultaneously tend to base their worldviews on their interpretations of the data and hypotheses that scientists supply—thus incorporating crucial forms or rationality. As Taylor (2010) has argued, scientific insights as generated by, for example, ecology, physics, and cosmology, frequently inform a spiritual sense of awe for the cosmos and function to legitimize central notions in this worldview, such as the sense of interconnectedness and kinship with the rest of life. In the words of Benedikter and Molz (2011):

> The current constellation in the European-Western hemisphere is witnessing a significant increase in 'spiritually' informed paradigms that claim to be at the same time 'rational'. Though these paradigms sometimes deploy ambiguous concepts of 'spirituality' and 'rationality', have very diverse features, are not infrequently opposed to each other and are of varying quality, their common core aspiration can be said to be, in the majority of cases, integrative, inclusive and integral. These terms imply an attempt to reconcile spirituality and rationality, transcendence and secularism, as well as 'realism' and 'nominalism', with the goal of building a more balanced worldview at the heart of Western civilization than the ones we have had so far, which have by and large

been biased either towards secular nominalism on the one hand, or religious transcendentalism on the other (p. 29).

As these authors argue, in this context the terms integral, integrative, or holistic denote a "search for inclusion of the largest number of possible viewpoints on one and the same issue or question, even if those viewpoints may be conflicting with each other" (p. 34). That is, a contradiction-capable, overarching view "that captures the potential unity of the issue *only through* the full recognition of its differences, inbuilt dialectics and paradoxes" (ibid.).[73] Precisely because of its attempt at integration, this emergent cultural movement appears to be relatively compatible with other cultural currents in contemporary society. Therefore, notably in the context of the current widespread disagreement, polarization, and gridlock in the global debate around our global environmental issues (see e.g. Hulme, 2009; Victor, 2011), an important contribution of this movement may be that it offers such an integrative worldview and perspective. Moreover, as multiple authors have argued, the 'cosmic piety' associated with this worldview may result in a profound sense of care for the health and flourishing of our planet as a whole (e.g. Giner & Tábara, 1999; Hedlund-de Witt, 2011; B. Taylor, 2010). Additionally, this movement seems to be offering a 'sustainable social imaginary,' a vision or imaginary of a

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[73] Benedikter and Molz (2011) therefore speak of 'neo-integrative' worldviews, as these contemporary approaches are, in their recognition and inclusion of pluralism and diversity, fundamentally different from the ideologies that "have claimed since the nineteenth century to be the integrative theory *par excellence*, integrating or subsuming all other theories of their time. […] All these ideologies, understood as integrative paradigms or grand narratives, notwithstanding huge differences in detail and in the potential scope of their respective projections, departed factually from the assumption that a guiding prejudice or leading bias about the sense and perspective of the whole, i.e. a paradigm in the strict sense of the term, was needed for any historical period to guarantee the unfolding of its full potential for progress. That implied the view that the whole was more important than its constituent parts, and that the whole had to follow different, 'higher' logics from those followed by its parts. It implied the view that it was not an accident but a historical necessity to define integration and inclusion by means of exclusion, and—if necessary—even forced by unification. Ideologies, defined as paradigms, claimed to serve the greater good if necessary also by sanctioning a resort to violence to achieve a (frequently forced) unification and wholeness, falsely defined as integration" (pp. 31-31).

more sustainable society, in the form of new ways of addressing environmental and sustainability-issues (B. C. Brown, 2012a; Esbjörn-Hargens & Zimmerman, 2009).[74]

In chapter two, *worldviews* have been defined as inescapable, overarching systems of meaning and meaning-making that to a substantial extent inform how humans interpret, enact, and co-create reality. A worldview is thus a complex constellation of ontological presuppositions, epistemic capacities, and ethical and aesthetic values that converge to dynamically organize a synthetic apprehension of the exterior world and one's interior experiences (Hedlund-de Witt, 2012). A societal vision or *social imaginary* can be defined as a broad understanding of the way a given people imagine their collective social life (C. Taylor, 2004), and can be seen as a vital part of any worldview. In the context of our urgent planetary issues, a new, more sustainable, social imaginary appears to be particularly relevant, because it can facilitate and inspire the needed technological, institutional, political, economic, and cultural innovations. That is, in order to realize a sustainable society and lifestyle, it first must become a real social imaginary (Frank, 2010), particularly because it is such a common understanding that tends to make common practices and a widely shared sense of legitimacy possible (C. Taylor, 2004). A compelling vision of what a sustainable society would look like, and how it would be experienced by the individuals participating in it, also appears to be essential to the important task of public communication and large-scale mobilization for sustainable, life-enhancing solutions to our planetary issues (Futerra, 2005, 2009; Moser, 2007; Moser & Dilling, 2007; Schösler & Hedlund-de Witt, 2012).

While there is some theoretical literature pertaining to this emergent worldview and cultural current (see e.g. Benedikter & Molz, 2011; Esbjörn-

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[74] Yet this integrative movement does not only offer potentials and solutions for sustainable development. It may also pose certain threats or pitfalls, as I extensively discuss in chapter six (see also B. Taylor, 2010). For example, while a focus on inner fulfillment may alleviate consumerism and support the transition to a green economy (K. W. Brown & Kasser, 2005; Jacob et al., 2009), this culture may simultaneously bring a potential risk for narcissism and egocentrism (Lasch, 1978; Wilber, 2007), commercialized and instrumentalized forms of spirituality (Campbell, 2004), and appropriation and commodification of indigenous and other spiritual traditions (York, 2001). Although important enough to mention here, in this chapter the focus is not on such criticisms and possible pitfalls.

Hargens & Zimmerman, 2009; Hedlund-de Witt, 2011; B. Taylor, 2010; Wilber, 1995, 2001), empirical studies exploring this integrative worldview ethnographically—that is, from within, describing and analyzing the views and cultural meanings as held by these individuals themselves—are rare (see particularly B. C. Brown, 2012a, 2012b). This study therefore aims to generate such insight into this integrative worldview and its potential for offering a life-enhancing, 'sustainable social imaginary.' Using the in-depth-interview as main method, the worldviews of twenty integrative environmental leaders and innovators[75] are explored. This results in an articulation of their generally shared ontology, epistemology, axiology, anthropology, and societal vision/social imaginary. In this article, I focus on the emerging patterns and the common views more than on the many differences that also exist between these individuals. I have attempted to describe these views as these individuals understand, articulate, and rationalize them themselves, rather than trying to evaluate or challenge their claims and views, thus offering generally sympathetic insight into this worldview. Simultaneously, by including frequently heard criticisms in the discussion-section, I aim to sketch a nuanced perspective on this worldview.

Although these individuals are not representative for the larger public, an advantage of this selective group is that these participants, who are often authors and opinion-leaders themselves, tend to be articulate and thoughtful. This greatly supports the complex interview-task of getting individuals to reflect on their frequently implicit and unarticulated worldviews. Moreover, because the majority of these individuals are leaders and innovators in the sustainability-field, they have experience translating their ideas and worldviews to concrete practices and approaches for sustainable development. Additionally, the high-profile nature of this group may support readers to explore these ideas on their own merits, instead of being influenced by negative connotations with spiritual or esoteric ideas and beliefs. Lastly, these individuals seem to belong to, what Rogers' (1995) has called 'the innovators' and 'the early adopters.' According to his *diffusion of innovations model*, such individuals tend to have considerable influence in the larger process of socio-cultural and economic change. Exploring

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[75] See the method-section for the procedure of selecting these individuals.

the worldviews of these individuals therefore potentially generates insight into future currents and trends in society. As Taylor (2004) has also argued, it often happens that what starts off as 'theories' held by a few people come to infiltrate the social imaginary, first of elites, and then of the whole society. This study thus not only aims to contribute to an understanding of what motivates these individuals, but potentially also what may drive larger processes of societal and cultural change in the direction of a more sustainable society and lifestyle.

I describe the methodology in section 7.2. Then, I discuss the interview-results (section 7.3). In the discussion (section 7.4) I contextualize my findings in the literature and reflect on the methodological limitations of this study. I finish with a concise conclusion (section 7.5).

7.2   Methodology

In this study, the semi-structured, in-depth interview has been chosen as a research method, because it facilitates use of questions that are relatively personal and cover subjects that tend to be considered of a more profound nature. In these interviews the different aspects of worldviews, operationalized according to the *Integrative Worldview Framework* as discussed in notably chapter two and three, are systematically covered. The IWF operationalizes the concept of worldview in five different aspects—its ontology, epistemology, axiology, anthropology, and societal vision/social imaginary—thereby differentiating this complex and potentially abstract concept in workable domains. An interview-guide (see appendix IV) was developed to support the process of 'uncovering' and 'explicating' the worldviews of the participants, by asking questions that systematically address these five different aspects. The second part of the interview focused on the participants' perceptions of current societal and cultural processes.

In line with the tradition of ethnographic interpretative research, the experiences of the participants are explored and described with a high level of detail, in a "storytelling" yet also analytical fashion, with the aim of generating insight about cultural themes and worldviews (Creswell, 1998). The interviews were conducted face-to-face and took 75 to 90 minutes each. Interviews were conducted at the participants' home or office, and in a few cases in a public space

such as a coffee shop or café. The twenty participants were selected on the basis of the following criteria:

1) Participants were suspected to have a more *integrative* worldview, an assessment that was primarily based on their social profile as well as information from public interviews and other sources such as books and websites. The central criterion for this assessment were statements that demonstrated that these leaders were motivated by a personal sense of (contemporary) spirituality or a more reflexive framework of meaning-making in combination with a commitment to science and rationality, thus following Benedikter and Molz' definition (2011) of (neo-)integrative as introduced above.

2) Participants showed a considerable *affinity with sustainable development* (and in the majority of the cases, this was their main professional focus).

3) Participants fulfilled *leading positions* in the larger, societal debate on sustainability and/or eco-social well-being. As a result of that, most of them are (nationally) well-established individuals in their fields of expertise.

4) Participants were sought in four *different sectors of society*: civil society; government and policy; business & finance; academia.

First, several nationally well-known participants were approached via email with the request to participate in an interview. More participants were then found through snowball sampling (see e.g. Seidman, 2006). I attempted to strike a balance between male and female participants. This selection-process resulted in twenty different participants from four sectors of society (see appendix V for an overview of these individuals and their professional background), including highly successful and influential individuals such as Herman Wijffels (Dutch economist and politician for the Dutch Christian Party, former representative at the World Bank, former chairman of the Social-Economic Council, et cetera), Josephine Green (sustainable visionary of multinational electronics company Philips), Bart-Jan Krouwel (co-founder of Triodos-bank, recently chosen as "the most sustainable bank in the world" by the UK Financial Times), internationally known spiritual activist Joanna Macy, and Marianne Thieme (parliamentary leader of the Dutch 'Party for Animals').

In terms of the data-analysis, interviews were coded according to the

grounded theory approach, thus aiming to stay as closely as possible to the data and the terminology used by the participants, rather than subjecting the data to a preconceived theory or logically deduced hypothesis (Charmaz, 2006). In this approach, analyzing and coding partially takes place during the interview itself, in order to identify themes as they emerge. This has the advantage that specific information can be explored in more depth, and that the analysis can be directly verified and clarified with the participant. The disadvantage can be that analytical processes become less transparent, and unconscious biases of the interviewer may influence the interview-process. I addressed these disadvantages by taking a course in interview methodology, in order to gain interviewing skills and become more aware of my own potential biases. Moreover, all the interviews were audio recorded, transcribed verbatim, and member-checked, which enabled both participants and researcher to reflect on the content of the interview with more distance, and made it possible to use personal quotations that directly convey the understanding of the individual, without going through the conceptualizations of the researcher.[76]

In order to disclose the shared worldview of the participants, I analyzed the interviews with the aim of categorizing content on the basis of similarity. For each category, I selected representative quotations and labeled them as much as possible according to the language and terms used by the participants themselves. In multiple coding cycles, I explored these different categories and how they related to each other, and refined, relabeled, subsumed, or dropped earlier categories altogether. This process was repeated several times, allowing me to identify the central themes forming a larger emergent pattern in the data. Finally, I used the IWF as an analytical tool for organizing these themes, grouping them according to the worldview-aspects of ontology, epistemology, axiology, anthropology, and societal vision/social imaginary—as one will see in the results section below.

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[76] The raw data in the form of these transcribed interviews can be requested for inspection by contacting the author at annick.de.witt@ivm.vu.nl or a.dewitt@tudelft.nl.

7.3   Interview results

As mentioned above, the following sections are largely ordered according to the structure of the IWF. In 7.3.1 I discusses participants' shared ontology. The anthropological statements and beliefs are also briefly discussed under this section, as an anthropology can also be seen as an ontology of the human being. Section 7.3.2 discusses participants' epistemology, while section 7.3.3 elaborates their axiology. Section 7.3.4 describes their societal vision or social imaginary, focused on their ideas and notions related to sustainable development.

7.3.1   *Evolutionary, spiritual-unitive ontology and a positive anthropology*

Nature was a prominent theme in all interviews: participants reported to have much love and respect for nature, and their relationship with nature appeared to be fairly reflexive—that is, something they tended to think about and reflect on. Nearly all participants gave voice to a profound appreciation for nature, and many of them communicated a deep sensitivity to it. Feelings of awe and reverence for nature were frequently expressed. Generally, participants tended to see nature as *intrinsically valuable*—that is, as valuable in itself, independent of its (instrumental) value for human beings. In the words of one participant: "We need to rediscover a reverence for the natural world, irrespective of its usefulness to ourselves." Others spoke of "respect for all life" as a guiding principle in their personal lives. Also, nearly all participants spoke of their sense to be *part of, or connected to nature* in quite profound ways.

Participants generally also displayed criticism about modern culture's relationship with nature, often characterizing this relationship as "alienated," "separated," "instrumentalist" and/or "exploitative." Simultaneously, many of them appeared to understand this alienated or exploitative relationship as a stage in a larger, *evolutionary* process, thus conceptualizing our current planetary challenges as part of a larger (generally dialectical) development. In this process, humanity was frequently understood to first forge a certain autonomy or even separation from nature—often seen as initiated in the Enlightenment and coming to full expression in Modernity—to then enter into a new, more conscious, relationship with nature. In this understanding, cultures as a whole move through several stages in their relationship with nature, from a sense of union/symbiosis with nature, through differentiation and separation, to

integration—ultimately resulting in a more mature relationship with nature. As these participants put it:

> We are no longer a part of nature, but an opposite. And in a way, we see that same development in children. In the beginning they are in a symbiotic way part of the mother. Later they start to differentiate, and become a separate entity. In that sense it is a very natural process. So what we are going through now is a process of the maturation of humanity, you could say. […] I think now is the time to start developing a mature relationship with this earth, this planet.

> I am convinced that a new worldview is emerging, broadly speaking, a worldview based on a planetary, if not cosmic, consciousness. […] The notion of the fundamental unity of life, of existence, is the basis of this planetary consciousness. And that is a new, evolutionary, step. I'm inclined to understand it from an evolutionary perspective. […] In the history of humanity, you can see that in subsequent stages different forms of awareness emerge, in which human beings start to look at their reality with different eyes. […] In the Enlightenment, humanity placed itself outside of nature, in order to be able to study it objectively. And now, after a process of development based on the insights that came forth through that, a new worldview is emerging—as a result of the development that the European Enlightenment has brought forth. […] The step that we are making now, in my view, is that we consciously—that is, at a new level of consciousness—start to see ourselves as part of, and intricately related to, all of life and existence.

> At all levels—whether you are looking at a planet, a population, a body, or the universe as a whole—we see self-organizing systems in which the different parts are connected with each other, yet are unique in themselves. The system has a general direction of becoming increasingly differentiated—we are becoming more aware of the differences between the parts—while there is simultaneously a movement towards increasing

integration, in which we are becoming more aware of the wholeness of all of it.

Several other participants articulated a similar understanding of a gradual social-cultural evolution characterizing (human) history, by posing the idea that human development leads cultures to increasingly include more of life in their moral regard—sometimes referred to as "expanding moral circles." From this perspective, human history is seen as a gradual widening of 'moral circles'—that is, circles that encapsulate all beings that are considered to deserve moral treatment: from oneself, the exclusivity of one's own tribe or one's own religious or ethnic group, the citizen of one's nation, to all people in the world, despite race, class, sex, religion, and sexual preference, to finally include all of life and nature, resulting in the kind of *planetary consciousness* that was also alluded to in one of the above quotations. For example, one participant spoke about 'animal rights' as the next step in this emancipatory process, following the abolition of slavery and the establishment of women rights. And another participant argued: "It is necessary that humans gradually learn to think in bigger circles, beyond your own little ego, your own family, your working environment, your community—increasingly expanding outwards."

This developmental or evolutionary perspective on reality is also profoundly *unitive*, as comes to expression in participants' reference to "the fundamental unity of life" and "the wholeness of all of it." Participants tend to see the nature of reality as fundamentally *interconnected*. Often this understanding is based in a scientific understanding of reality. In the words of one participant, there is an "emergence of different ways of understanding our interdependence, and indeed our inter-existence. It could be systems theory, quantum theory, chaos theory, deep ecology, it could be eco-feminism […] the common ground is that we are organically interrelated." Simultaneously, this interconnectedness is generally not seen as limited to the physical-material domain, but tends to be understood in a spiritual, metaphysical, or transcendental sense: the notion of an *ensouled* cosmos, an animated reality, or an *anima mundi* was a recurring theme in the data. Generally, participants voiced the sense or idea that a larger spiritual power or presence (or multiple spiritual powers and presences) animates and unites all of nature, even the whole universe, and can be experienced by anyone

able and willing to open her- or himself up to it. In the words of one participant, "the divine is not outside of us, outside of life. It is here, in us, in everything. I even think it is the core of what connects us all." Other participants explained that they interpret the interconnectedness in the physical world as an expression or manifestation of a "deeper unity" or "bigger consciousness." This perspective also appears to be related to the above-mentioned notion of the *intrinsic* value of nature, since this was often justified by the view that there is aliveness, intelligence, sentience, or value in all of nature. Along these lines, one participant stated the following:

> I view what we tend to call God […] as an energy that is present in all that is alive. That total energy, of which a piece is thus present in every human being, in every animal, in every plant, forms together an overarching whole. And that whole contains more than our earth and even the universe, perhaps several universes. We as human beings are thus a small part of that whole.

However, this ensouled view of reality was not shared by everyone; some said that they yearned "for a spiritual dimension," while endorsing a more agnostic worldview. One participant expressed a more traditionally religious understanding of nature as not ensouled or sacred, but as God-created and therefore to be treated with respect and reverence, endorsing a view that is generally described as *stewardship*. However, most participants reported that they were not religious in a traditional sense, even though many of them explained that they had grown up in a religious milieu. Some explicitly re-interpreted the religious teachings of their youth in a more contemporary fashion. Take for example one participant, who synthesized a scientific with a more religious perspective, thereby overcoming the usual dichotomy between creation and evolution:

> I grew up Catholic, and I see in the evolutionary process the forces of Creation. Assuming that the Big Bang theory is correct, the Big Bang itself, and everything that came after that, is a manifestation of a creative force. So the evolutionary process itself, including the emergence of the

human being and his further development in time, is a form of Creation. That we have started viewing God as a man with a beard who is reigning from above tells us more about the ways in which we interpret the texts than about the meaning of the texts themselves. I have in that sense a more contemporary view; interpreting the Bible literally is outdated. In my eyes, as human beings, we have an important role to play in the further co-creation of this process, of life—and therefore also a great responsibility.

Some speak in this context of a "re-sacralization" or "re-enchantment" of the world, in which the divine, first understood to be "out there," now starts to be understood as "in here:"

So there is a greater sense of the immanence of the sacred. We've projected the sacred out on divine figures, however we define them. That allowed us to discuss it and worship it and make great cathedrals, and symphonies—but it was removed. And now we are recapturing that projection and bringing it back. […] We created a divine being out there, put God out there. That tended after a while to de-sacralise the phenomenal world. So at this point it is very beautiful to see how in every religion there is a retrieval of that projection. So I call it an introjection, bringing it back to re-sacralise the world.

Directly related to this re-enchanted perspective on reality is participants' *anthropology*. Most participants seemed to have a fairly positive view on human nature: a majority articulated the perspective that human beings have a vast—even though generally unrealized—potential, and thus have "unlimited" qualities, skills, and possibilities. Some participants stated a belief that every human being has an "authentic self," a "true essence," a "divine spark," or "a God within." Others articulated similar positions more cautiously. Besides that, participants frequently ascribed the less beautiful and/or less morally admirable aspects of human behavior to human beings being "cut off," or "alienated" from their true essence, often seen to be a result of childhood traumas, rearing

inadequacies, stifling societal roles, and 'arrested development' (see also Aldridge, 2002). In the words of some participants:

> Human nature is ultimately good. Deep down is all but essence. The ugliness we see is just because we're lost. People want to be of service, in their depth. Sin doesn't exist! The only thing that exists is places where the light didn't reach.

> I think human beings, under certain circumstances, tend towards the good. […] However, if you look at what is happening worldwide, think of Rwanda, or Gaza, you see a complex picture. But it does help me to assume the good in the human being. And I do think that if people have their basic needs met, at some point, deeper questions about the meaning and purpose of life emerge, as the pyramid of Maslow predicts. And then everybody seems to want to contribute, to do something good for the larger whole.

So a psychological-developmental view is in this context frequently applied: Several participants evoked the well-known 'Pyramid of Maslow,' which depicts a hierarchy of needs that humans go through in their development, from physiological and safety needs, to love/belonging, esteem, and ultimately self-actualization needs (Maslow, 1987 [1950]). In this view, the extent to which human behavior is exhibiting humanity's innate goodness, nobility, and unlimited potential tends to be understood as a result of the degree to which it has been developed and actualized. Simultaneously, some participants emphasized that the encounter with evil, conflict, and suffering is—or at least *can* be—a motor behind human development:

> [Evil] can serve very profound purposes, like moral development, discipline, strengthening. [We see it] in the ways in which humanity responds to evil—like the world wars, the Holocaust, and so forth—there is a moral development that took place through encountering that. […] Somehow human consciousness thrives on, grows through the encounter with intense conflict.

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For many individuals, suffering and pain thereby gets meaning and a deeper purpose, as it can motivate one to grow (morally, spiritually, and otherwise) and actualize one's potential. For example, several participants explained that when something unfortunate happens in their life, they try to look at what they can learn from the event, or reflect on "what life is trying to tell me." In the words of this participant:

> What we call 'mistakes' or 'wrong-doing,' and it often also feels that way, is actually where we can change or come to new insights. In that way you also look at your own 'mistakes' in a more understanding and compassionate way, and see them as invitation for growth and transformation. And that leads to more peace and freedom.

> Overall, a focus on 'inner growth' is paramount in this worldview.

7.3.2 Epistemology: Internalization and integration of multiple modes of knowing

With respect to their epistemology—that is, their assumptions and ideas about how to gain valid knowledge of reality—it is noteworthy that several participants reported themselves as either having gone through, or as still immersed in, a process of actively deconstructing and reconstructing their worldviews in an attempt to make sense of reality and one's experiences. Many participants reported having read numerous books about 'the big life questions' and explored such questions for years, in an attempt to combine their personal experiences, insights, and intuitions, with knowledge and insights of science, as well as of religion, philosophy, and spirituality. Thus, these individuals do not seem to unquestioningly depart from the worldview or framework of meaning that they inherited, but instead actively cultivated different ways of understanding life and the world. Moreover, in this explorative and reflexive process, participants often seemed to use both different sources and modes of knowing (e.g. science, personal experience, religious, philosophical, and spiritual traditions), as well as concepts or realities that are often considered to be mutually exclusive (e.g. as observed in some of the above mentioned quotations: spirit and matter, creation and evolution).

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For nearly all participants, a basic scientific understanding of reality seemed to be an important part of their worldview. Almost all of them invoked scientific knowledge or concepts to illustrate their perspectives. Participants frequently used fairly sophisticated theoretical perspectives and frameworks including a psychological-developmental understanding (referring to concepts like "symbiosis," "differentiation," "integration"); a cosmological-evolutionary perspective; ideas from systems, complexity, and chaos theory ("non-linear processes," "self-organizing systems," "tipping points"); quantum physics and quantum theory; and theories of change, leadership, and learning ("adaptive capacities," "U-theory" et cetera).[77] Simultaneously, they all seemed to draw on sources other than scientific, in the form of philosophical, religious, and/or spiritual understandings and experiences that may provide guidance around questions about the meaning of life and the nature of reality. Many of them drew on the history of philosophy (referring to "the Enlightenment," "Newtonian cosmology," "Postmodernism" et cetera), as well as to a body of knowledge that could be described as New Age Religion, informed by both the Western esoteric tradition and Eastern religions and philosophy (see e.g. Hanegraaff, 1996). For example, several participants referred to concepts like "the divine spark" and "cosmic consciousness," and sometimes to more esoteric notions such as "karma" and "reincarnation." Lastly, participants reported drawing on their own subjective experiences—in nature, in relationships, in work, in life. Several participants articulated that through their inner growth practices—such as yoga, meditation, prayer, time in nature, reflecting on one's psychological patterns, working through self-limiting convictions—new insights had come forth, including insights of a "non-rational," "post-rational," or "meta-rational" nature (see also B. C. Brown, 2012a; Giner & Tábara, 1999), that over time profoundly informed their worldviews. As one participant articulated the emergence of such insight:

> I started to do yoga, and I think that that was my way to liberate myself
> from the feeling that everything needs to be controlled and that you need
> to do everything by yourself. Dance already teaches you that when you

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[77] The same was observed by Brown (2012a, 2012b), in his extensive research on sustainability leaders with a late-stage 'action-logic.'

let go of things, space emerges […] but with yoga that is even taken a step further. And that gives me new answers about how I see life, or how I *can* see life.

Two basic patterns were thus observed. On the one hand, participants explained that they rely on their own subjective experiences and inner modes of knowing for forging an understanding of reality. In the words of one participant:

We are gradually moving towards the getting to know ourselves as human beings […]. We need to learn to see our own potential and that we are 100% responsible for what happens in the world and in our own life. I think that *that* is the biggest transition, after thousands of years in which we have made ourselves dependent on leaders—religious leaders, economic leaders, et cetera.

Moreover, participants in this study often seemed to be making an active effort to *triangulate* and *integrate* their subjective experiences and ideas with both their scientific and their spiritual or philosophical understandings, thus relativizing, contextualizing, and complementing scientific authority and knowledge, rather than rejecting it. This seems to indicate an attempt at an integrative, rather than purely internalized, epistemology, as also other authors have argued (see e.g. Benedikter & Molz, 2011; B. Taylor, 2010; Weeda, 1996). Several participants reflected on these changes in the context of larger societal changes, arguing for a more reflexive perspective on science, the necessity of a multiplicity of methods, and the complementarity of different fields and bodies of knowledge:

[Societally] there is a greater appreciation for […] the complexity of reality. Rather than thinking that […] reality is a fixed, objective, separate entity that we can know like a spectator, I think there is a greater sense that reality is something that we are in the midst of—that we are shaping it as we are seeking to know it. And in the shaping of, how we act in turn shapes what we seek to know. Also there is a sense that reality is more adequately known by a multiplicity of methods of

knowing. Not for example a narrow rational empirical approach, but a personal participatory one, one that uses all our faculties. That for example our imagination is a powerful tool […], also the moral faculty, and the capacity for empathy.

In science, philosophy, and spirituality I see a stream emerge of connectedness and congeniality. And that is not flaky New Age, but simply scientific, concrete, verifiable; it is the place where science and spirituality meet. […] I see the development of a more shared thinking emerge, in which different visions do not necessarily exclude each other, but rather complement each other. So things are coming together that for a long time seemed to be very different: for example East and West, spirituality and science. And those connections I just find so fascinating.

7.3.3   Axiology: Sustainability-work has a spiritual foundation and meaning

What stands out in the data is the sense that most of the participants engage in their sustainability-work from a deep inner foundation and sense of spiritual meaning and significance. For many of them, their work expresses, in a profound way, who they are. Simultaneously, it is precisely through this work that they feel called to rise above themselves and become their greatest selves. Several participants use terms like "my calling" or "my mission" and they speak of the profound sense of purpose as well as fulfillment and joy that they experience from dedicating themselves to this task—a task that generally seems to be oriented towards "being of service," working for a "higher cause" or "purpose," "contributing to society," "contributing to the evolution of consciousness," and/or "contributing to the struggle for life." Participants recurrently give the impression that, for them, doing work that contributes to others and society, is simultaneously work that makes them *feel good*. For them, an ethically good life is thus also an aesthetically (or qualitatively) good life. In the words of one participant: "The good life for me is striving for the good. Using your energy in a very focused way for something that is truly worth the effort. That makes me very happy." This perspective thereby overcomes the dichotomy between 'doing good' and 'having fun,' in which doing good tends to be associated with self-sacrifice and is understood as the opposite of enjoying

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oneself. That is not to say, according to these participants, that this work of fulfilling one's mission is necessarily easy. According to this participant, finding one's calling is very satisfying, yet it also demands an inner growth process on the part of the individual:

> I just know that this is what makes us deeply happy. But it is also hard and often painful, because there is a lot of garbage in between that you need to work through to get there; that is the path. This garbage is what I call 'the armor.' On so many different terrains people have started to believe: we are not good enough, we can't do it, it's too big for us, who are we to change the world. So there are many limiting convictions.

As also several other participants articulated, their sustainability-work goes together with a process of personal development and inner growth, which comes to expression in, as well is being catalyzed by, their work. In some cases, their sustainability-work becomes almost a sacred practice (see also B. C. Brown, 2012a, who comes to a similar observation), which in chapter six I refer to as 'service through self-actualization':

> I believe I was born into this world with a specific message, a specific task. […] And I feel that when things are spontaneously flowing, and I feel good with myself and in my body, then I am working on this special task. That's how it feels, then things just start to emerge on my path, and I tend to get more energy from the things that I am doing than that they cost me.

> It personally makes me happy to be able to contribute something positive. […] And partially it is also personal development; that goes hand in hand. I don't want to live only for something outside of myself, so it is also motivated by a strong inner drive.

The image of "a path" is frequently evoked, communicating the sense that life is a journey, "a never-ending learning process," which creates numerous opportunities for inner growth and personal development. It is also clear from

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the data that for most participants the border between their professional and private life is not absolute. On the contrary, their personal experiences and ideas are an important source and motivation, directly feeding into their sustainability work. Moreover, according to some participants, it is precisely this divide between private and professional ethics that needs to be overcome in order to solve our sustainability-issues:

> I think one of the main causes of the environmental crisis is the divide between personal ethics and professional ethics. I know for example a professor in animal ecology, who said: "Professionally I think animals don't have feelings, but when I am at my home with my dog I experience that very different." That creates a disconnect between what people think at home, and what they create at their work—a disconnect between one's inner nature and one's external work.

> The split in our selves, between ratio and feeling, or doing and being, is one that needs attention. I see in that a necessity for healing and wholeness. For example, that in the weekend, or when you are on holiday with your kids, you are a different person than at your work. […] When we become more whole in this, and thus are the same human beings in our work as we are at home, I think many environmental issues would be solved. […] I think it is easier to pollute from that split, and take everything for ourselves.

7.3.4   Societal vision: An emerging 'sustainable social imaginary'

As logically follows from the evolutionary, spiritual-unitive ontology as sketched in 3.1, most participants tended to view our planetary issues as an invitation for consciousness growth and inner development in the larger public and culture as a whole. This understanding seems to be the foundation for a generally *positive approach* towards sustainability-issues. Most participants expressed a degree of optimism about the planetary challenges humanity is facing, even though they simultaneously showed deep concern and care. Many of them explained to see this time as an extraordinary difficult time in human history, conveying the sense that we are living in a historic moment: A time of quickening consciousness

transformation and great societal transitions, immense potential and enormous tragedy. This *passage difficile*, as one participant phrased it, tends to be perceived as a challenge, demanding that humanity rise to the occasion, develop beyond its present limitations, and even be "forced to a higher state of consciousness"—a possibility that several participants expressed excitement and curiosity about. It is perhaps important to emphasize that none of the participants seemed to be unaware of, or skeptical about, the severity of our planetary issues, nor seemed to be downplaying the suffering and devastation they are engendering. Their optimism and trust did not seem to be based on a lack of gravitas, understanding, or commitment, but rather on a deeper trust in the larger evolutionary process, as well as in the capacity and potential of human beings (also see earlier work on "the eco-integralist" by Esbjörn-Hargens & Zimmerman, 2009, pp. 233-236). According to some participants, it is especially in such a context of necessity that the human potential and creativity might be activated and the constraints towards actualizing it overcome. In the words of one participant, "there is nothing like a mortal crisis to produce a moral transformation:"

> [I'm not] optimistic about the ability of corporations and governments to turn around quickly enough. Many individuals in smaller groups of people are making the turn, but they are small groups in the face of all of it. […] We need such enormous changes to take place; it is doubtful whether that will happen early enough to stop at least some significant destabilizations of the global ecology. My guess is that there will be significant challenges that will force a shift. Very often human beings rise to the occasion under crisis. Near-death experiences in an individual's life often are very transformative. There's nothing like a mortal crisis to produce a moral transformation, a shift of values.

Participants also tended to be "enthusiastic" about the sustainable society that they were envisioning. In their eyes, the transition to a more sustainable society was highly compelling and attractive, and they frequently described themselves as moved by an *inspiring* vision of what society could look like, rather than by fear about or discontent with the present state of affairs. Several participants also emphasized the importance of communicating such an inspiring

vision to the larger public, rather than fear, doom scenarios, failures, and guilt.[78] It is, as one participant described, about "seeing the human role differently at this planet, seeing that human beings can be an opportunity, instead of a liability problem," and understanding that it is about quality, beauty, and intelligently cooperating with nature:

> It is just a quality thing. When something is toxic it is just not a good product. When people cannot make a living by producing it, it is just not a good product. From another perspective […] it is about beauty. Can it be truly beautiful, when it is toxic? It is a quality thing. […] Also, there is no overpopulation problem. If we would be as intelligent as ants we could be thirty billion people at this planet, and every person would be beneficial.

> I tend to have a positive attitude towards life. There are so many great chances in which I can mean something right now. Talking about sustainable development, there are so many doom scenarios, but I notice that that is not my incentive. My motivation for these issues doesn't come from discontent, but instead from a positive emotion.

The societal vision of most participants can also be understood to be *emancipatory*, as they tend to believe that the decisive requirement for change in the direction of a more sustainable society is growth in consciousness in the public at large. Some formulated this by saying that an "inner transformation" or a "consciousness revolution" is what is most urgently needed to adequately respond to our planetary issues. In that respect, this vision reflects their positive view on human nature. Several participants argued for this perspective by emphasizing that addressing our global environmental issues can never be achieved through governance, regulations, and economic incentives alone, but that "a change of mentality" or "a different worldview" is a fundamental yet frequently underemphasized part of the solution. Working on oneself— "transforming our limitations and negative thoughts," and "discovering our own

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[78] This appears to be in line with recent insights about how to communicate climate change (see e.g. Futerra, 2005, 2009; Moser, 2007; Moser & Dilling, 2007).

greatness and potential"—then is seen as work that is not just serving oneself, but is beneficial to society. In the words of one participant, "self-care is world-care." And in the words of another:

> The pollution of our thoughts is for me one of the worst pollutions of this earth. And then I mean the gossiping about others, negative thinking, endless complaining, not taking responsibility—I see that as forms of pollution where we can do so much, just by looking at ourselves. And I think it is the worst kind of pollution that we are creating. So we have a responsibility, also for our thoughts. So that asks for an orientation towards a life of honesty, of confronting things instead of avoiding them. So that goes further than a clean car and replacing your bulbs. You know, it is all of life that we are responsible for.

> I think that everything that happens inside a human being can be translated to the bigger whole [of our society], and vice versa. Gandhi said that beautifully: 'Be the change you wish to see in the world.' And I think that that's true, you first have to solve it in yourself.

Many participants were thus working on their inner development in various ways—such as through practicing yoga or other forms of healing, meditation, or prayer, the studying of spiritual texts and teachings, spending time in nature, and deep self-reflection. In the words of one participant: "people need to become leaders of their own life again, daring to trust in their own essence and being." Such comments also seem to imply a new understanding of what leadership is, conceptualizing it as facilitating individuals "to step in their own power, creativity, and agency, rather than telling them what to do." In the words of another participant: "I don't believe in an external force that comes to solve our problems. That power is in the people, and thus in me, as one of them." The societal vision of this worldview thus appears to be characterized by an emancipatory and *bottom-up* perspective on social change: social change comes about through liberating and empowering the individual, who then, through the very nature of his free and noble being, starts to transform the world and the institutions around him.

Frequently, the sense is that although our sustainability-issues involve numerous exterior changes in our economic, political, and institutional systems, the inner change is primary. In that sense, this political orientation can be understood as *idealist*, and some authors criticize it for that reason (Campbell, 2010; Lasch, 1978). An exclusive focus on inner work may indeed prevent challenging the systems, structures, and hierarchies that disempower people and make it difficult to become conscious 'agents of change' in the first place, as I discuss in chapter six. However, one could also argue that the participants in this study frequently seem to attempt to *combine* the inner and outer dimensions in their approach to sustainability, rather than aiming to privilege one over the other (see also Esbjörn-Hargens & Zimmerman, 2009; O' Brien et al., 2010). For example, several participants alluded to the inner or spiritual dimension of humanity's planetary issues with energy, explicitly *connecting* the interior and exterior dimensions of our environmental issues:

> I foresee that we need to learn to live, not on the basis of fossil fuels and other reservoirs, but out of the flow. Instead of digging up stuff out of the earth [illustrates this by kneeling down], we need to learn to engage in an open attitude towards life, embracing and receiving the energy of life [demonstrates this by opening his arms and chest towards the sky]. We need to center ourselves in the middle of the energy flow. That is the big change. And for me that also has a spiritual dimension. We are connecting with this evolutionary perspective on life. You could say it is a new phase of the homo erectus. And I think this change, this transition, is a highly attractive perspective. I am myself wildly enthusiastic about it.

> And I think that the essence of this world here, and it would take us spiritually somewhere, is around energy. [...] I had a very strong sense that the mystery of the world at a very high level has something to do with the connection of personal energy, planetary energy, and cosmic energy. [...] And we're running out of it. It is also interesting how people in their personal lives are burning out and are starting to look for new sources of energy in themselves: 'What inspires me, where is my passion, what gives me energy?'

So I think you can connect every societal issue back to yourself, and ask yourself: how am I doing that, within? So it is an internalization. At the same time, I want it to manifest in the world around me. Because you can stay on your meditation cushion forever and wait till it happens, but I do also believe that you actually have to act and make it happen.

Also characteristic of this 'sustainable social imaginary' is the emphasis that several participants place on *the state of consciousness* they do their work from, highlighting the inner attitude we need to cultivate, rather than being focused on certain outcomes. One could call this a 'process-oriented way of working.' Others emphasize an attitude of trust, openness, and allowing, instead of controlling, forcing, and imposing. Some participants describe it in terms of "being carried by life" or a "surrendering to life," generally referring to a state of consciousness that is opener and more experimental, and allows more "creativity" and "flow." As this participant underscores, a certain 'not-knowing' is a vital part of that:

> Characteristic is a certain not-knowing, a certain openness, and thus also being able to let go of old ways of thinking, of old models of doing things. And that results in an openness to explore and inquire, and make mistakes, and truly take part in an *experiment*. Initiatives that are in tune with the kind of system change that is needed invite a lot of diversity and intensify the charge, and thus the field, such that higher quality solutions can emerge. […] So that also requires another kind of leadership: one that is invitational and open and does not assume to have found all the solutions already, but instead creates the conditions for change, so that it can emerge and unfold organically.

This 'not-knowing' also allows one to access other sources of knowledge than rational and intellectual ones, thus including non-rational or *post-rational* ones (see also B. C. Brown, 2012a; Giner & Tábara, 1999). A majority of the participants emphasized this aspect, using a rich variety of concepts and ideas to refer to it, ranging from "meeting the transcendent in silence," a dimension of "poetry," "intuition," contemplation on "the synchronicities in life" to the above-

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mentioned notions of "not-knowing," "surrendering to life," "allowing" and "unfolding." As these participants emphasize, this open and intuitive way of working and being is not always adequately understood or appreciated:

> In the design process, the idea has the authority, and I try to serve the idea that is trying to come to expression. That is very different from me imposing my own ideas […], [and it] demands different skills and brings with it a certain vulnerability. And it also creates irritation sometimes: people intuitively sense that there is something to it, but intellectually they cannot understand it.

> Because this [modern, industrial] paradigm, this consciousness was about doing, pragmatism, action, results, all that stuff. And there was no space for the irrational, there was no space for the non-rational. And silence was seen as emptiness. As opposed to silence as being richness.

Lastly, this social imaginary appears to be *integrative/synthetic*—that is, it aims to align, integrate, and synthesize environmental and sustainability values and interests with a diverse range of other societal values and interests, aspiring to cooperation and collaboration instead of polarization, thereby potentially also depoliticizing environmental issues—at least to some extent. For example, several participants articulated to aspire to "work with the system rather than against the system." In the words of one participant:

> I don't believe in those absolutist terms. Something is not 100% good or bad. It is relative, and often there are dilemma's involved: something is good or bad under certain conditions or in a certain context. Greenpeace also approached me as youth representative; they wanted to cooperate in the climate campaign towards Copenhagen. But I decided not to do that because Greenpeace has an image that is based on polarization and activism, and that is far from my personal values and the direction that I am aiming for.

Another participant expressed this perspective by emphasizing that

'growth'—a frequently attacked target by environmental advocates—is itself not problematic, but it is the narrow, exclusive focus on *material* growth that is:

> I think the environmental movement has not always communicated that optimally, by stating that we need to go back, or consume less. I don't necessarily think that things are becoming less. Yes, we need to let go of the idea that finishing up our resources is economic growth—but that is just fooling yourself! However, it does not mean our society is going to be less prosperous, or that life is going to be less attractive, or less fun. On the contrary, I think a sustainable society is a very compelling perspective. We just need to move towards *different forms* of growth.

A similar perspective was argued for in the influential architectural and design approach *Cradle to Cradle*, of which one of the founders was interviewed for this study. According to McDonough and Braungart (2002), the key is growth that improves the quality of life for all:

> The growth of nature (and of children) is usually perceived as beautiful and healthy. Industrial growth, on the other hand, has been called into question by environmentalists and others concerned about the rapacious use of resources and the disintegration of culture and the environment. […] Unquestionably there are things we all want to grow and things we don't want to grow. We wish to grow education and not ignorance, health and not sickness, prosperity and not destitution, clean water and not poisoned water. We wish to improve the quality of life. The key is not to make human industries and systems smaller, as efficiency advocates propound, but to design them to get bigger and better in a way that replenishes, restores, and nourishes the rest of the world (pp. *77-78*).

For example, some argue for the importance of technology in responding to our planetary issues, yet emphasize our relationship to it as decisive:

> Technology is fundamental, but it should not be seen as a driver of growth. It should be seen as the enabler of a world that is meaningful.

And it should make sense to the stakeholders of that world, including the planet itself. Technology is vital. But it is not technology as end in itself, it is what technology is used for. Its purpose becomes fundamental. And I can't see how the environment can, in any way, go forward without it. We can't all go back to living in a hut. […] That means we have to start to think about consuming less and living off the grid. It can only be a technological solution, I think. But it must absolutely not *only* be technology. It has to be also a different way of living. It's got to be both.

Technology, technique, all these quantitative measurements—that has been such a great part of my work in the last years. But I don't believe that that will be enough. […] We are now completely in the materialistic consumer society also because of a lack of counterweight from the spiritual or mental side. […] [When that dimension is more integrated,] there can be a balance between inner and outer, or spiritual and material, and I and the other. Then it becomes possible to satisfy one's needs according to one's true *being*—including the material dimension of course, but in balance.

These quotes also illustrate an integrative approach by emphasizing the need for interior cultural and lifestyle changes *in combination with* exterior technological and economic changes. "It's got to be both," in the words of the first participant. Some participants argued that such an approach is pragmatically feasible as it has a much bigger chance of being adopted by the larger public, thereby potentially resulting in the large-scale mobilization and change that is generally considered essential for addressing our planetary issues. It is precisely because of this latter reason—its relative compatibility with other worldviews, cultural currents, and lifestyles in contemporary society—that such an approach may prove to be more successful and effective in the long run.

7.4   Discussion

7.4.1   *Findings contextualized in the literature*

The 'spiritual-unitive, evolutionary ontology' as described in 7.3.1 seems to be substantially informed by a *psychological-developmental*[79] understanding of human behavior, in which insights of the development of the individual are applied to the social and collective sphere (see e.g. Habermas, 1976, for a robust academic articulation of such a view). Historically, the understanding of a larger evolution of the human-nature relationship (from symbiosis, differentiation and separation, to integration) can be traced to have Romantic roots. In Romanticism, the notion developed that the breach of reason with nature—characteristic of the Enlightenment-period—was necessary in order for human beings to develop their powers of reason and abstraction, but would eventually result in a return to nature at a higher level, having made a *synthesis* of reason and sensibility (see e.g. Tarnas, 1991; C. Taylor, 1989).[80] While for many of the interviewee's human development expresses itself in "expanding moral circles," or a morally expanded circle of care and compassion, several studies in the field of constructivist developmental psychology do indeed show that there is empirical support for an understanding of human (cognitive and moral) development as becoming gradually more expansive and inclusive, which is rooted in Piaget's notion of *decentration* (see e.g. Cook-Greuter, 1999; Kegan, 1982; Kohlberg, 1984; P.

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[79] Theorists like Piaget, Kohlberg, Loevinger, Fowler, and Kegan (and more broadly speaking the school of cognitive developmentalism within psychology) conceive of development as progressing through hierarchical stages, in which each stage is shown to be more complex and differentiated than the preceding one, while it is also more integrated (Fowler, 1981; Kegan, 1982, 1994; Kohlberg, 1984; Loevinger, 1977, 1987). Higher levels of functioning or development therefore involve greater levels of (cognitive) differentiation and integration (Mc Adams, 1994).

[80] In the words of Taylor (1989): "The expressivist philosophies of nature as a source tended to develop a theory of history which saw it as resembling a spiral, from a primitive undifferentiated unity, to a conflictual division between reason and sensibility, human and human, to a third and higher reconciliation, in which the gains of the second period, reason and freedom, were fully retained. This structure has its roots very obviously in the Christian picture of salvation history, from original Paradise, through a Fall, to ultimate Redemption. But it is connected more immediately to millenarist developments out of Judeo-Christian thought, which were just then acquiring new political relevance" (p. 386).

Marshall, 2009; Piaget & Inhelder, 2000 [1969]). In terms of their anthropology, many of the interviewee's ideas about humanity's vast—though generally unrealized—potential emerged powerfully during the 1960's in the so-called *Human Potential Movement*. The adherents of this movement not only believed in the great potential lying dormant in the majority of human beings, but they also believed that the net effect of individuals starting to cultivate this potential would bring about positive social change at large (see e.g. Campbell, 2007; Hanegraaff, 1996; Heelas, 1996). Abraham Maslow, whose 'pyramid or hierarchy of needs' was frequently referred to, was himself an important proponent of the Human Potential Movement (Hanegraaff, 1996).

In terms of this worldview's epistemology, a generally critical and reflexive attitude is observed. According to Giddens, such reflexivity has become necessary in—and is indicative of—the 'post-traditional society,' as tradition is increasingly undermined, interrogated, and problematized, and thus no longer able to provide a firm set of norms and beliefs (Giddens, 2009; Kaspersen, 2000). This is also in line with Inglehart and Welzel's observation (2005) of the *internalization of authority* that characterizes post-industrial societies. That is, while the transition from traditional to industrial societies is characterized by a secularization *of* authority, the transition to a post-industrial society is characterized by emancipation *from* (external) authority—a process in which inner, subjective experience is emphasized and the authority of science is increasingly questioned. One can see this in the data in the emancipated stance of forging one's own worldview, as well as in the generally critical perspective on science and society that these individuals tend to display. This process, which according to Inglehart (1997, 2008) is best understood as part of a larger process of intergenerational value- and worldview change linked with rising levels of existential security, is associated with many positive attributes such as increased tolerance and emancipation (of women, minorities, gays, nature and the environment, et cetera), overall well-being, political participation, and even good governance and the spread and flourishing of democratic institutions (see also Welzel et al., 2003). Simultaneously, several authors have criticized this internalized epistemology, because of its associated rejection of rationality, logic, and empiricism. According to these authors, a reliance on intuition and feeling cannot replace a proper appreciation of rational argument, the scientific method,

and its findings (see e.g. Campbell, 2007, 2010). For example also Charles Taylor (1989, p. 429) speaks of "subject-centeredness" as a great problem of our time. However, as I argue in section 7.3.2, the integrative worldview appears to be characterized by an emphasis on a triangulation and integration of multiple modes of knowing, rather than the prioritization of one over another (see e.g. Benedikter & Molz, 2011; B. Taylor, 2010; Weeda, 1996). The emerging academic approach of *Integral Research* seems to be an attempt to formalize such ideas (see e.g. Esbjörn-Hargens, 2006; Esbjörn-Hargens & Wilber, 2006; Hedlund, 2008, 2010; Lessem & Schieffer, 2008). Also the emergence of more integrative research approaches (e.g. mixed methods) and philosophies of science (pragmatism, critical realism, integral theory) could potentially be interpreted as guided by a similar impulse (Alvesson & Sköldberg, 2009; Creswell & Plano Clark, 2011; R. B. Johnson & Onwuegbuzie, 2004; Tashakkori & Teddlie, 1998). However, whether this active effort to triangulate and integrate successfully addresses these criticisms is, of course, unclear, and evaluating that is not within the scope of this chapter.

In terms of the axiology, this worldview appears to be characterized by a spiritual foundation and meaning of work (B. C. Brown, 2012a; see also B. C. Brown, 2012b, who came to a similar observation), as well as the conviction that a morally good life is also a good life in terms of the quality of life. This perspective thereby overcomes the dichotomy between 'doing good' and 'having fun,' in which doing good tends to be associated with self-sacrifice and is understood as the opposite of enjoying oneself (see also K. W. Brown & Kasser, 2005; Corral Verdugo, 2012). Taylor (1989) traces this dissolution of the distinction between the ethical and the aesthetical to the Romantics, who found and affirmed a higher significance in their sensual and aesthetic pleasures. This is of interest in the context of positive psychology's findings that there is a relationship between individual psychological health and well-being, and its social benefits as manifested in more altruistic, other-focused, and pro-social orientations (Ryan & Deci, 2000; Ryan et al., 2008; Weinstein et al., 2009), including more sustainable behaviors (K. W. Brown & Kasser, 2005; Corral Verdugo, Mireles-Acosta, Tapia-Fonllem, & Fraijo-Sing, 2011). Thus, as these studies seem to suggest, 'feeling good' and 'doing good' indeed appear to be far from mutually exclusive, and are instead related to each other. Moreover, a focus

on 'inner growth' is paramount in this worldview. This is particularly noteworthy in the context of the findings of chapter four, where the Inner growth worldview-factor emerged as a powerful determinant of more environment-friendly attitudes. Some studies have also shown that *eudaimonic* individuals, individuals characterized by psychological well-being, tend to be characterized by a commitment to their own growth, and tend to demonstrate more altruistic and pro-social orientations (Ryan, 1995; Ryan & Deci, 2000; Ryan et al., 2008).

In the interviews it was also found that these individuals tend to depart from, what I labeled as, a more integrative/synthetic social imaginary—that is, a perspective that tries to bring together and synthesize different views, interests, and needs. In this context, an interesting argument was made in an essay with the provocative title *The death of environmentalism* (Shellenberger & Nordhaus, 2004). This essay accused the American environmental movement of conceptualizing environmental issues in such a (narrow) way that it necessarily results in a polarization of perspectives and interests, thereby undermining alliance building, cooperation, and synthesis with other interests groups (e.g. industry, labor unions), and thus integration into larger society (see also Zimmerman, 2012). These authors thereby seem to advocate for a more integrative social imaginary, just as these interview-participants did. Of course, the opposite argument has been made too in the literature: according to some critics, environmental organizations are getting too integrated into society, tempering their calls for radical social change, and being co-opted or marginalized by capitalist forces in society (e.g. Fairhead et al., 2012; Mert, 2012). However, the participants in this study seem to perceive their own position as a more pragmatic, effective, and life-enhancing approach rather than as a 'sell-out' or a conformation to imposed norms.[81] Generally speaking, according to the literature integrative approaches are characterized by attempting to move beyond 'either/or' thinking and instead plead for an inclusive

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[81] These ideas also come to expression in approaches such as 'natural capitalism' and 'conscious capitalism,' which aim to move beyond capitalism's greatest flaws (e.g. wasting of resources and externalizing of costs), yet preserve some of its greatest qualities (e.g. creating innovation, excellence, and efficiency through competition) (see e.g. Hawken, Lovins, & Lovins, 1999).

'both/and' approach (B. C. Brown, 2012b; Esbjörn-Hargens, 2010c; Esbjörn-Hargens & Zimmerman, 2009; O' Brien, 2010).

7.4.2 Methodological limitations

Since the data were derived from a highly selective group of individuals, the possibilities for generalizing the data to a larger population are limited. For example, one could argue that the high-profile nature of these individuals invalidates the observation that their social imaginary tends to be of an integrative nature: perhaps their societal positions explain them as (as well as prescribe them to) being societally integrative, rather than their worldviews do. This is a limitation that needs to be taken into account. At the same time, this theme is also encountered in the literature, suggesting that it cannot be exclusively ascribed to the social-economic status of these individuals. More generally, a comparison of the major findings with other studies—as I have done above—gives the impression that the views and values as articulated here are consistent with what is observed elsewhere (in comparable groups) in far advanced industrial societies. Moreover, no claims about causal relationships are made on the basis of this study. Lastly, and perhaps most importantly, generally the interview-method does not prioritize generalizability, but rather aims to make a certain phenomenon understandable by generating an in-depth, insider-perspective into it (Seidman, 2006). Thus, the 'thick descriptions,' rich details, and 'felt sense' of this worldview as disclosed through this method, potentially serve to make this worldview intelligible—also for individuals who normally do not understand the world along these lines.

Next to the generalizability, the (construct-) validity needs to be considered as a potential methodological limitation. That is, how can one be sure that the selected individuals give access to the 'integrative worldview' that was intended to be explored here? Firstly, I do not claim that *all* of these individuals are inhabiting an 'integrative worldview.' In my analysis I have therefore focused on shared, recurring themes, rather than on the differences between individuals, thereby aiming to compensate for potential deviations. I have also contextualized my findings in the existing literature. Lastly, I have member-checked my results and interpretations with several participants (at least one from every group, that is from civil society; government and policy; business and finance; and

academia), thereby aiming to overcome, or at least mitigate, these limitations. I requested each of these individuals to read the entire article and comment back to me whether they felt that I described their worldview in an accurate way, whether they came across misinterpretations or mischaracterizations, and whether they felt that important themes or subjects where missing. Each of these individuals declared, apart from each other, that they felt the chapter described their worldview accurately and precisely. This seems to suggest that a minimum degree of validity can be assumed.

7.5   Conclusions

The results of this study provide an analytical understanding and empathic insider-perspective into what appears to be an emerging worldview, as reported in 20 semi-structured interviews with integratibe environmental leaders in North-Western Europe (the Netherlands) and North-America (the USA), and contextualizes these findings in the literature.

   The major contribution of the present study is that it systematically and empirically describes and analyzes the worldview(s) of this societally-influential group of environmental leaders in a fair amount of detail. The results demonstrate that these individuals tend to: share an evolutionary/developmental, spiritual-unitive perspective on the nature of reality (ontology), hold a positive view on human nature as characterized by a vast, though generally unrealized, potential (anthropology), emphasize an internalization of authority, as well as an integration of multiple modes of knowing (epistemology), and engage in their sustainability-work from a spiritual foundation (axiology). The results also show how these premises logically flow forth in a 'sustainable social imaginary,' which is 1) positive; 2) emancipatory; 3) inclusive of post-rational ways of working/knowing; and 4) integrative/synthetic. For example, a view on human nature as full of latent potential tends to logically go together with a more positive, emancipatory, and integrative approach to sustainability-issues. In a similar fashion, an epistemology that emphasizes multiple methods of knowledge acquisition, including more internalized forms of knowing, is likely to result in an approach that is inclusive of post-rational ways of working and knowing. In my view, it is precisely because these individuals envision a highly compelling

sustainable society, are positive and emancipatory in their outlook, and generally choose an integrative/synthetic (rather than a more polarized) approach, that this social imaginary may appeal to the larger public and serve the important task of public communication and large-scale mobilization for sustainable solutions to our pressing, planetary issues.

Appendix IV: Interview-guide

Short introduction

I am researching worldviews and their relationship to goals and issues of sustainable development. In this context, I am particularly interested in the *dynamics* of worldviews—that is, the changes that take place in how people understand themselves and the world that they are surrounded by. Sociological and survey research indicate that our current, collective worldview is undergoing profound changes. Departing from the idea that these changes may bring specific potentials for sustainability-issues, I am attempting to investigate and articulate this newly emerging worldview, precisely by speaking with individuals who have demonstrated themselves to be visionary and societally engaged, like yourself. In this interview I am interested to hear more about your own worldview—about how you see the world, nature, the role and purpose of the human being, society, the divine, et cetera. Next to that, I am also interested to hear more on how you view the societal changes taking place.

Questions

1. In the first place, what to you is a worldview? What do you think of when I say that word? [Make sure there is mutual understanding with regards to our conception of worldview]
2. I would like you to describe your own worldview. Perhaps we can start with how you view nature, and the relationship between human being and nature?
3. What, in your view, is the nature, role, and purpose of the human being?
4. Do you believe in a God? [And if yes, what does this God look like, what kind of being is it and how is it related to the world that surrounds us?] Is there a transcendental dimension to life?
5. What is a 'good' life, according to you? Both in a moral and a qualitative sense?
6. And what is *not* it, what is it that we need to get rid of? [What is the biggest contrast with the 'old' worldview?]
7. How did you come to the worldview as you have just described it? Did you go through a transition in which you started to look differently at the world (nature, yourself, the divine, et cetera), or is this a perspective that you have held for a long time?
8. Do you yourself think a change in worldview is taking place in society? And if so, how does that come to expression?
9. How do you perceive the global environmental issues we see ourselves faced with today? What is the source of these problems, in your eyes?
10. What do you think is most urgently needed in our society right now, considering global challenges such as climate change?
11. Do you have questions or comments yourself?

Appendix V: List of interview-participants

Listed positions reflect the positions at the time that the interview took place (2009-2010).

Civil society/non-governmental organizations

1. Thomas van Slobbe, director Earth Value Foundation; publicist and author of several books and numerous articles.
2. Irene van Lippe, chairman Nature College; author of several books
3. Froukje Jansen, TV and documentary maker for LLINK, idealistic and green TV channel
4. Peter Merry, leader of the Centre for Human Emergence; author of 'Evolutionary Leadership'
5. Joanna Macy, spiritual activist and environmentalist; author of several books, including 'World as Lover. World as Self.'

Academia

6. Richard Tarnas, professor of philosophy and psychology; author of several books, including 'The Passion of the Western Mind. Understanding the ideas that have shaped our worldview'
7. Maarten Meester, philosopher and publicist; author of several publications, including 'Nieuwe Spiritualiteit' ('New Spirituality')
8. Joep Dohmen, professor of ethics; author of several books including 'Het leven als kunstwerk' ('Life as a form of art')
9. Klaas van Egmond, professor environmental sciences and former director of the PBL Netherlands Environmental Assessment Agency; author of several books and publications
10. Iteke Weeda, former professor of sociology and emancipation; author of several books including 'Spiritualiteit en Wetenschap' ('Spirituality and Science').
11. Michael Braungart, Professor of chemistry, and author of Cradle to Cradle: Remaking the way we make things.

Government and policy

12. Herman Wijffels, politician for the Christian Party, former chairman for the socio-economic forum, Dutch representative of the World Bank.
13. Bram van de Klundert, secretary for the council of Housing, Spatial Development and the Environment in the Netherlands; author of several books
14. Marianne Thieme, parliamentary leader for the Dutch 'Party for Animals'; producer of the documentary "Meat the Truth"
15. Michaela Hogenboom, youth representative sustainable development for the UN; the Dutch youth council

16. Paulien Assink, journey-leader Twijnstra & Gudde; author of several books, including 'Uit het harnas. Vier wegen naar authentiek en verantwoord leiderschap' ('Beyond the armour. Four ways to authentic and responsible leadership').
17. Thomas Rau, director green architect-agency RAU; inventor of "one planet architecture"
18. Bart-Jan Krouwel, director Corporate Social Responsibility (CSR) at Rabobank, co-founder and former general manager Triodos-Bank.
19. Elfrieke van Gaalen, former senior director Corporate Social Responsibility KLM
20. Jospehine Green, trend watcher and sustainable visionary Philips.

Chapter 8

Synthesis and policy-implications: Reflexive communicative action for sustainable solutions

We need to approach the idea of climate change from a different vantage point. We need to reveal the creative psychological, spiritual and ethical work that climate change can do and is doing for us. By understanding the ways in which climate change connects us with these foundational human attributes we open up a way of re-situating culture and the human spirit at the heart of our understanding of climate. Human beings are more than material objects, and climate is more than a physical entity. Rather than catalyzing disagreements about how, when and where to tackle climate change, the idea of climate change is an imaginative resource around which our collective and personal identities can, and should, take shape.

> \- Mike Hulme[82]

In our normal dealings with things, we disregard this dimension of experience and focus on the things experienced. But we can turn and make this our object of attention, become aware of our awareness, try to experience our experiencing, focus on the way the world is for us. This is what I call taking a stance of radical reflexivity.

> \- Charles Taylor[83]

Don't believe everything you think!

> \- Bumper sticker

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[82] In: *Why We Disagree About Climate Change. Understanding Controversy, Inaction and Opportunity* (2009, p. xxxvvi).
[83] In: *Sources of the Self. The Making of the Modern Identity* (1989), p. 301-302.

8.1   Introduction

While global environmental protection has been on the international political agenda since the 1972 United Nations Conference on the Human Environment, these efforts have not been effective in altering the trends of human-induced environmental degradation (Biermann et al., 2012). As many now recognize, the failure to alter these fundamental trajectories is largely due to widespread disagreement and gridlock in the global debate on contemporary sustainability challenges such as climate change (Hulme, 2009; Nisbet, 2009; Victor, 2011). It is therefore becoming increasingly clear that the lack of agreement and the often intensely polarized perspectives this lack is based on, is itself a major, if not *the* major, obstacle to forging robust, effective solutions and building a secure, sustainable, and flourishing 'planetary civilization' in the twenty-first century.

As Hulme (2009) has argued, differences in *worldview* and culture often underlie the ubiquity of such diverging and polarized perspectives in stakeholder negotiations and public opinion, thereby hampering the cooperation and communicative action that is so urgently needed (see also Kahan et al., 2012). For example, several voices have pointed out how intractable political conflicts in the U.S. are the result of 'culture wars,' or clashes in worldviews. It has also been asserted that diverging worldviews are at play in international conflict (see e.g. Koltko-Rivera, 2004). Nonetheless, since our planetary issues are increasingly interconnected and multi-faceted, transnational, transcultural, and transdisciplinary cooperation are absolute necessities; these issues are simply far too complex to be solved from one or two perspectives, disciplines, or modes of rationality (Benedikter & Molz, 2011; Held, 2006). While the divergence in perspectives and cultures clearly leads to misunderstanding, conflict, and inertia, some voices have also emphasized the *value* of such diversity for addressing our pressing, global issues (Calicott, 2011; UNESCO, 2002b). Precisely because of the diverse range of solutions, strategies, and perspectives that different cultural worldviews tend to bring forth, cultural diversity can be seen as having the potential to enhance our overall capacity for (cultural) adaptation and transformation (see also O' Brien, 2009).

Thus, overall there appears to be a growing recognition of the critically important phenomenon of *worldviews* in the urgently needed transformation to sustainable societies (see e.g. Esbjörn-Hargens, 2010a; Hulme, 2009; O' Brien,

2009; O' Brien et al., 2010). While it has been claimed that some degree of mutual understanding, agreement, and synergy between divergent worldviews is essential to fostering sustainable climate solutions (Esbjörn-Hargens & Zimmerman, 2009), in my view this does *not* mean that actors need to achieve comprehensive mutual understanding or share the same worldview.[84] Rather, basic insight into, and awareness of, worldview-dynamics can prove useful to enable one to empathize with social actors inhabiting divergent perspectives, speak to them without alienating them, leverage and align their diverse cultural potentials, and generate constructive communication and cooperation between them. In my view, it is precisely through such an *empathic understanding* of other worldviews and their ways of understanding and relating to sustainability issues such as climate change, that we can expect to make progress in including a larger part of the population in this important dialogue around our shared well-being and the future of our planet. The aim of this chapter is therefore to generate heuristic insight into the major worldviews in the West, as well as into how such insight can be applied to communication and cooperation for sustainability.

In section 8.3, I synthesize the different insights that have come through in the earlier chapters, resulting into an expanded understanding and articulation of the *Integrative Worldview Framework* (IWF). As extensively discussed in particularly chapters 2 and 3, this heuristic framework operationalizes the concept of worldview into five major aspects: namely, *ontology*, *epistemology*, *axiology*, *anthropology*, and *societal vision*. Using these five worldview-aspects as an organizing scheme, the IWF offers a synoptic overview of the predominant worldviews in (but not limited to) the West—worldviews frequently referred to as *traditional*, *modern*, *postmodern*, and *integrative*. In section 8.4, I translate the basic understandings of the IWF to issues of multi-stakeholder communication, intending to demonstrate how this framework holds the potential to illuminate key barriers to mutual agreement and collective action, and enact strategic potentials and opportunities towards sustainable

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[84] As Hajer (1995) and Hajer and Versteeg (2005) argue, also actors that can be proven to *not* fully understand each other can still produce meaningful political interventions. According to them, precisely the effect of misunderstanding can be functional for creating a political coalition.

solutions. I show how this framework has the potential to serve as 1) a heuristic for cultural and psychological self-reflexivity; 2) an analytical tool for understanding worldview-dynamics in society; and 3) a scaffolding for effective sustainability communications and solutions. Finally, I close with a discussion on the IWF and offer suggestions for further research.

8.2 An expanded understanding and articulation of the Integrative Worldview Framework (IWF)

In this section I aim to provide an overview of the predominant worldviews in the contemporary West, by introducing an expanded understanding and articulation of the IWF. I will first reflect on my empirical results (of notably chapters four, five, six, and seven) in the light of this framework and the observations of notably sociologists. Subsequently, I will offer the perspective that the culture of contemporary spirituality (as explored in chapter six) can potentially be understood as transition between a more postmodern and a more integrative worldview, displaying a process of dialectical development. I finish with articulating some general principles for the ethical and effective usage of this heuristic framework.

8.2.1 Major worldviews in the West: Traditional, modern, and postmodern

As reported in chapter four, a large representative survey conducted in the Netherlands resulted in five worldview-factors that clustered into three distinct groups (in terms of the factors themselves as well as the attitudes and lifestyles they tended to correlate with), which can potentially be understood as provisionally displaying three distinct worldview-structures: a more traditional, a more modern, and a more postmodern worldview. These results are in alignment with empirical research and theory in both sociology and developmental psychology, which posit at least three worldview structures, or in the words of Taylor, "families of views" that are understood to be predominant in the West. As, for example, Taylor (1989) argues in his seminal work *Sources of the Self*, our contemporary cultural landscape is characterized by a profound tension between an Enlightenment-inspired, instrumental, disengaged, objectified understanding

of reality (or modern worldview) and a post-Romantic, expressive cultural current that sees nature as inner source (postmodern worldview). Next to that, he refers to a theistic or traditional worldview. Also the quantitative, longitudinal, and cross-cultural research of the World Values Survey (WVS) demonstrates substantial different tendencies in terms of value orientations between residents in traditional, modern (or industrial), and postmodern (post-industrial) societies (Inglehart, 1997; Inglehart & Welzel, 2005). The social scientific climate researcher O'Brien (2009) articulates these value differences as follows:

> Traditional worldviews may, for example, place a greater emphasis on the set of values associated with conservation, which include tradition, security, and conformity. Modern worldviews may place emphasis on values associated with self-enhancement, such as power, achievement, and hedonism. Values linked to openness to change, such as stimulation and self-direction, may bridge both modern and postmodern worldviews. Finally a postmodern worldview may emphasize values that focus on self-transcendence, such as universalism and benevolence (pp. 168-169).

While the terms *traditional*, *modern*, and *postmodern* are used to refer to a variety of different and sometimes divergent phenomena in an assortment of distinct contexts, I adopt these terms for a number of reasons. First, they are broad, widely used constructs that capture the general thrust of the historical-developmental trajectory of cultural epochs and worldviews in the West, as described by numerous philosophers of Western thought, historians, and social scientists (see e.g. Bhaskar, 2008 (1975); Dawson, 1998; Giddens, 2009; Habermas, 1976, 1987; Hartwig, 2011; Inglehart, 1997; Klukhuhn, 2007; Tarnas, 1991; C. Taylor, 1989; Wilber, 1995). Thus, they appear to be apt terms to be deployed for conceptualizing the deep structures of worldviews in a wide-ranging manner, generically linking the individual and collective, as well as integrating multiple, domain-specific theories. Moreover, because these terms appear to be fairly common, they seem to have widespread cultural caché and be graspable in a relatively intuitive manner. Needless to say, understanding

worldviews in terms of such a high-level framework is necessarily based in a sweeping generalization of the complexities and ambiguities of reality. Nevertheless, in my eyes, such simplification is justified by its heuristic value of offering a kind of generalized orienting framework that can *ideal-typically* structure research and analysis. The construction of such ideal-typical worldviews can serve as a method of investigation that supports the researcher to learn about worldviews by comparing a rationally and logically constructed ideal-type with reality (G. Marshall, 1998).

In table 14 I tentatively depict this expanded, heuristic framework, which delineates traditional, modern, postmodern, and integrative worldviews, using the five worldview-aspects as organizing scheme. This depiction is explicitly of an *ideal-typical* nature, aimed at providing a very general, broad, and tentative overview of the primary assumptions, themes, and concerns of each of these worldviews, as well as provisionally suggesting the larger developmental trajectory that they may display. Although this framework builds on my own findings as well as other (empirical) research, notably the correlations between the different trajectories as well as between the different trajectories and the worldview-aspects is still in many ways of a tentative, hypothetical nature, and in need of further research, refinement, and verification. Moreover, the depiction of the integrative worldview is based on a limited data pool and is therefore currently still theoretical and speculative. The IWF, in its current form, is thus primarily a *heuristic* that can be used for generating understanding, reflexive inquiry, and communicative action.

In this understanding, *traditional worldviews* tend to be characterized by a religious or metaphysical monism, in the sense that the religious sphere is not differentiated from the secular sphere, and metaphysics not from science (see e.g. Campbell, 2007; Habermas, 1987). The religious or metaphysical understanding of reality thus answers the great questions in life, and religious authority (e.g. religious scripture or doctrine) is generally heavily relied on (Inglehart & Welzel, 2005; Welzel et al., 2003). As discussed in chapter two, Taylor (1989) speaks of a substantive rationality in this context, referring to the notion that whether an idea is seen as reasonable or rational depends on its substance or content, rather than on the procedure of how the idea was arrived at or argued for (which is the 'procedural rationality' that became prominent in

the Enlightenment). In this worldview, a transcendent God tends to be seen as separate from the profane world, thus pointing at a fundamental ontological dualism (see e.g. Campbell, 2007). Although religious perspectives can frequently be understood in terms of a more ideal-typically traditional worldview, it is important to note that they can be enacted in highly diverse ways, such as more traditional, modern, postmodern, and integrative ones (see e.g. Fowler, 1981; Marion, 2000). Generally speaking, traditional worldviews appear to be characterized by a much greater emphasis on family and community, especially in contrast with the more individualistic modern worldview (Edgar, 2008b; Sztompka, 1993). As for example Vonk (2011) describes, traditional religious communities are frequently guided by values such as the importance of religious life, moderation, community, obedience, submission, discipline, solidarity, conformity, devotion, respect for tradition, humility, and frugality.

One can see these themes back in several of the items that characterize the 'Traditional God' factor as found in chapter four. For example, the statement 'God stands far above life on earth' points at a strong ontological dualism between the divine and the human sphere. The statement 'The human being is the only being on earth with consciousness' seems to indicate a profound human-nature dualism (conscious humanity versus unconscious matter/nature), which has frequently been argued to be one of the core-beliefs that led to the large-scale environmental destruction that is so characteristic of contemporary society (see e.g. White, 1967). The consistent rejection of the statement 'It is pure coincidence that human life has developed on earth' points at the belief of the universe as a purposively constructed whole—generally a creation of God (see e.g. McFague, 2008; Vonk, 2011; Wardekker et al., 2009). Simultaneously, the statement 'What people call 'God' does not only exist above, but also here in the world around us' seems to indicate that potentially religious beliefs are changing into a somewhat more immanent and less dualistic direction, as for example Campbell (2007) has argued. This idea may also result in the necessary 'creation care' and may thus contribute to an overall sense of environmental concern and

stewardship.[85]

Modernity and the *modern worldview* are typically placed in contrast to traditional or pre-industrial societies and mindsets. According to Sztompka (1993), the idea of modernity refers to

> a rich complex of social, political, economic, cultural, and mental transformations occurring in the west from the sixteenth century onward, and reaching its apogee in the nineteenth and twentieth centuries. It involves processes of industrialization, urbanization, rationalization, bureaucratization, democratization, the ascendency of capitalism, the spread of individualism and achievement motivation, the affirmation of reason and science, and many other processes (p. 127).

One of the most central aspirations of modernity—whether seen as a cultural/historical epoch or as worldview—is to emancipate humanity from the superstitions and unquestioned, generally religious, authorities and overarching frameworks of meaning of the past, thereby demonstrating a fundamental shift in epistemology (e.g. in line with the secularization of authority as observed in the WVS, as well as with, for example, the analysis in chapter two of the transition in the Enlightenment from a worldview based on an 'ontic order of meaning' to a self-constructed order of meaning, or in Taylor's (1989) terms a 'procedural rationality'). Moreover, the Enlightenment entailed a revision of the historical understanding of the present: while the understanding of time and history in the Christian middle ages and Renaissance was shaped by the expectation of the imminent end of the world, the more secular Enlightenment presupposes that history will unfold into an open, possibly limitless future (Edgar, 2008b). Another central concept frequently used to describe modernity is rationalization—that is, the organization of social and economic life according to

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[85] Interesting in this context is that while studies have found a negative relation between Christian beliefs and pro-environmental attitudes, this relation is often small and may be due to political and moral conservatism rather than religion itself (Wardekker et al., 2009). Schultz et al (2000) found that respondents expressing more literal beliefs in the Bible scored lower on ecocentric environmental concerns, but higher on anthropocentric environmental concerns.

the most instrumentally efficient means of achieving certain goals, and on the basis of technical knowledge (Giddens, 2009), as also articulated in chapter two. Max Weber used the term *disenchantment* to describe the way in which scientific thinking and rationalization had swept away the forces of sentimentality, superstition, and given orders of meaning from the past (C. Taylor, 1989).

One can see several of these typically 'modern' themes back in the modern worldview-factors of Secular materialism and Focus on money, as well as in the Technological optimism-factor they tend to correlate with: from the affirmation of science and technology ('Science is the only source of trustworthy knowledge,' 'Through the development of science and technology, environmental problems will be solved by themselves'), the focus on and celebration of the individual ('The most important thing in my life is that I enjoy myself and am happy myself,' 'I believe the human being is by nature, that is to say in his core, good,' 'Everybody needs to take care of oneself and stand up for oneself'), the break with imposed frameworks of meaning ('The suffering that happens to people does not have any meaning'), the dualism between body and mind ('I don't think body and mind are closely connected'), the instrumentalization of nature ('Nature has value only because the human being is able to use and enjoy her,' 'By mastering nature, the human being can find freedom') and the emphasis on economic rationality ('The more money I can spend, the higher the quality of my life,' 'In these economically difficult times, environmental requirements should not become obstacles to economic growth.')

The concept of a *postmodern worldview* is complex and somewhat ambiguous, especially as the terms 'postmodern' and 'postmodernism' generally are used to refer to three different but related phenomena: postmodern art and culture, postmodern theory, and the postmodern historical situation or era (see e.g. Bentz & Shapiro, 1998; Bertens & Natoli, 2002; Butler, 2002). What these three different phenomena have in common is the centrality of the idea that there is no 'objective reality' to represent or an independent (Cartesian) self to express, thereby rejecting modernity's realist epistemology and the Enlightenment project built upon it (Butler, 2002). This tends to be accompanied by an emphasis on other modes of knowing—including moral, emotional, intuitive, and artistic ones—and other logics than purely rational ones. In this view, knowledge is not simply representing reality, but

'constructing' it, thereby reflecting the temporary power of social classes, ethnic groups, and genders in a struggle over the definition and constitution of reality. The liberation and emancipation of repressed and marginalized 'others' (e.g. women, minorities, nature) appears to be a central cause of the postmodern movement and worldview (Hacking, 1999). Postmodernism is therefore also characterized by the acceptance of difference and the celebration of heterogeneity and pluralism. Moreover, several authors (e.g. Benedikter & Molz, 2011; Butler, 2002; Inglehart, 1997; Inglehart & Welzel, 2005; Tarnas, 1991; Wilber, 1995) have linked the philosophical and intellectual orientations of the postmodern intelligentsia with the wide-spread emergence of values and orientations that reflect a similar commitment to relativism, pluralism, diversity, other forms of knowing, a generally critical attitude towards the modern, Western worldview (e.g. the notion of progress, science and technology), and an emphasis on emancipation of marginalized groups as coming to expression in the new social movements of the post-sixties era (e.g. multiculturalism, gay rights, peace, environmentalism, anti-nuclear activism, animal welfare). These orientations are also understood as giving expression to the rise of 'postmaterialist' or 'self-expression' values (Inglehart, 1990, 1997, 2008). Thus, when referring to a postmodern worldview, I am speaking in a broad and generic way to a worldview that appears to be associated with a more widespread, popular understanding of the philosophical ideas of the literary, artistic, and academic postmodern movements. As some authors have argued, philosophical ideas tend to anticipate and reflect as well as inform the emergence of publicly held ideas (Tarnas, 1991; C. Taylor, 1989, 2004).[86]

The postmodern worldview is observed in the quantitative survey-data (see chapter four) in statements that in different ways refer to an interior or internalized epistemology ("Next to science, also feeling and intuition are needed to know reality" and "Inner growth is really important to me"). It also comes to expression in a post-material axiology ("Wealth is just as much to be found within ourselves, as in the world around us"). The statements "There is something that connects human being and world in their core" opposes the usual

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[86] At the same time, one could argue that the concerns of the postmodern academics and philosophers themselves tend to be of a 'post-material' nature, e.g. in their focus on discourses.

categories and duality of self and world, and humanity and nature that the postmodern worldview tends to be critical of. The statement "The world can only be changed by first changing oneself within" appears to refer to the idealism and internalization that many authors have found to be characteristic for the postmodern worldview (see e.g. Campbell, 2010). This postmodern worldview also appears to come to expression in the commitment to pro-environmental attitudes and sustainable lifestyles that the Inner growth and Contemporary spirituality factors tend to be correlated with. However, while both these factors seem to display a postmodern worldview, in certain respects they may also understood to be signifying the transition between the postmodern and integrative worldview. I will now discuss how I conceptualize that transition and clarify the continuities as well as differences between these two worldviews, based on both observations of others as well as on my own data.

8.2.2   *An emerging integrative worldview: Dialectical development?*

In this section, I argue that the culture of contemporary spirituality (as explored in chapter six) can potentially be understood as transition between a more postmodern and a more integrative worldview, displaying a process of dialectical development. As I will argue below, some authors identify contemporary spirituality as corresponding to the postmodern worldview, while others emphasize its integrative tendencies and/or potential. It appears, as I have demonstrated in chapter six, that this cultural movement manifests in distinct ways, that is, in more 'de-differentiative' and more integrative strands. Perhaps the complex dynamics manifesting in the culture of contemporary spirituality can be understood as demonstrating the dialectical developmental process. As Habermas (1976) emphasized in his perspective of the 'dialectic of progress,' every new worldview and social formation is a response to the problems, limitations, and challenges of its time, and in particular the problems and limitations of its preceding worldview. In this understanding, worldviews thus profoundly build forth on—and are thus indebted too—the worldviews before them, while simultaneously overcoming some of their predecessors greatest limitations, in that process generating their own shortcomings and pitfalls. The culture of contemporary spirituality could thus potentially be interpreted as evolving in its responses to the challenges it is confronted with, resulting in a

gradual—and likely fairly messy and complex—process of transitioning from one worldview to another.

In addition to for example Inglehart, who observed the emergence of flexible forms of spirituality and spiritual concerns in postmodern societies (Inglehart, 1997; Inglehart & Welzel, 2005), Campbell (2010) describes the contemporary spiritual and postmodern movements as *corresponding* responses to Modernity. In his words:

> The word "postmodern" and the phrase "New Age" both imply the same thing, which is that there has been a major break or caesura in the history of our civilization; a break that clearly marks off one period of history from another. The only difference between them—which is admittedly of some significance—is that while the one stress what is now past, the other stress what is to come (p. 3).[87]

Highlighting their similarities, Campbell points at their common origin in the counter-cultural youth movement of the1960's, their apocalyptic mood proclaiming the advent of a new historical period, and their criticism of modernity: "Both reject the idea of historical progress, faith in science and technology, materialism, empiricism, determinism, rationalism, and reductionism. In addition, both reject virtually all dualities, especially that of subject-object and mankind-nature" (p. 10). Their scientific positions can be characterized by "a break with Newtonian determinism, Cartesian dualism, and representational epistemology" (Steven Best, in Campbell, 2010, p.14).

Moreover, according to Campbell, both tend to be critical of Western values and the Western worldview more generally, and emphasize the rights and merits of other cultures and other ways of being, "celebrating difference, along

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[87] Although Campbell (2010) does not clearly define the postmodern movement he analyzes, his descriptions generally resonate with the definition of a postmodern worldview as outlined in section 8.2.1. However, from his descriptions it may be concluded that he is using a slightly more narrow definition than I do, referring principally to the (philosophical) ideas of the literary, artistic, and academic postmodern movements, while to a somewhat lesser extent referring to the more widespread, popular understanding of such ideas, for example those associated with the emergence of post-material and self-expression values as observed in the World Values Survey.

with particularity, diversity, variety, plurality, and uniqueness" (p.10). Although both are eclectic in their styles, in the postmodern movement this primarily tends to manifest conceptually and intellectually, while in the New Age it tends to be of a more spiritual nature. Additionally, both movements show concerns with issues of identity and tend to locate the causes of socio-economic and political problems in interiors and (inter)subjectivity, thus seeing (social) change as resulting from a change in consciousness (New Age) or a change in discourse (postmodern). Socio-politically, they can both be characterized by idealism, humanism, and ethical and political relativism (Campbell, 2010). Even the apparent distinction in ontology between the two movements (e.g. anti-essentialism versus foundationalism), reveals, according to Campbell (2010), important similarities in worldview:

> In the [...] context of most postmodernist debates there is a fierce rejection of `essentialism' and `foundationalism' or the idea that there might be a reality independent of such linguistic `construction'. This would appear to mark a major difference with the New Age position since this is most obviously foundationalist in the sense that there is a belief in an underlying reality—in this case an essentially spiritual reality—that is independent of all language and culture. However what is crucial is that New Agers also believe that the reality of what is taken to be the everyday world is largely a cultural `construct' that serves to imprison and restrain people, thereby preventing them from becoming their `true selves'. Hence they too believe that this imposed and `false' reality can be `deconstructed' and consequently emphasize the role that changes in attitudes and beliefs, as well as in the use of language, can play in achieving this goal (p. 21).

Thus, according to Campbell, the postmodern and contemporary spiritual worldviews are in many ways closely related phenomena. Simultaneously, Campbell argues that the culture of contemporary spirituality has tended to follow its ideas through in their logical conclusions, resulting in metaphysics of a (generally immanent and all-pervasive) spirituality reality, while the postmodern movement has not (generally characterized by an anti-

essentialism and even nihilism).[88] For Campbell, the contemporary spiritual worldview thus appears to be a subsequent step in the process of cultural change (he also refers to the postmodern worldview as an 'arrested' form of the New Age), thereby suggesting that in a process of dialectically developing worldviews the contemporary spiritual worldview might be a later development, subsequent, and perhaps in response to, the postmodern worldview. Perhaps another way of understanding this is that while the postmodern worldview has tended to emphasize the process of deconstruction (e.g. Butler, 2002; Hacking, 1999), the contemporary spiritual impulse has been focussed on the *re-construction* of worldview following in its wake. Also for example political scientist Liftin (2009) describes the contemporary, spiritually inspired, global eco-village movement as a form of 'constructive postmodernism' (see also Griffin, 1992; Wilber, 2000). In the interview-studies in chapter seven I also observed that participants explicitly reflected on this process of the (de- and) *reconstruction* of their worldviews.

However, while Campbell discusses the New Age as a somewhat coherent whole, in my own data (as well as in much of the sociological literature, as discussed in chapter six) important distinctions can be observed in different expressions of contemporary spirituality, which may actually indicate differences in worldview. In fact, the culture of contemporary spirituality may be most accurately understood to envelop (notably, but not exclusively) both postmodern and integrative worldviews—that is, there appear to be more postmodern and more integrative strands within the culture of contemporary spirituality. The

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[88] In Campbell's words (2010): "Postmodernity can be seen as the New Age worldview shorn of its underlying metaphysics. This would then account for the fact that many postmodern writers, although extremely critical of modernist orthodoxy, are unable to offer any coherent alternative in its place. [...] In addition, in the absence of any metaphysical underpinning, the postmodernist stance tends to be `playful' or `ironic', lacking that serious commitment evident in the New Age movement. In this sense postmodernism can be seen as an `arrested' form of the New Age worldview, one that has not followed the logic of the rationalisation of contemporary cultural development through to its natural conclusion. [...] But then, given that the New Age movement is a genuinely widespread and large-scale socio-cultural movement, while postmodernity, even when viewed as a sub-culture, is largely confined to a relatively small number of academics and intellectuals, it does seem appropriate to see the latter as part of the former. In other words, the foregoing analysis leads to the conclusion [...] that the post-modern movement itself should be understood as an aspect of the New Age movement" (p. 22).

emergence of the integrative worldview can potentially be understood as a response to some of the shortcomings or pitfalls of the culture of contemporary spirituality as observed in chapter six, such as its potential irrationalism, the lack of adequate integration of modern achievements (e.g. science and technology), and, related to that, its sometimes 'too counter-cultural' or 'too socially deviant' profile, which appears to marginalize its impact. That is, while Campbell has argued that contemporary spirituality and postmodernism "both reject the idea of historical progress, faith in science and technology, materialism, empiricism, determinism, rationalism, and reductionism," the integrative worldview, as described in notably chapter seven clearly distinguishes itself from this profile. This comes to expression in the aspiration to "reconcile spirituality and rationality, transcendence and secularism, as well as 'realism' and 'nominalism'" (Benedikter & Molz, 2011, p. 19; see also Esbjörn-Hargens & Wilber, 2006).[89] Thus, it appears that while there are strands of contemporary spirituality that reject the idea of historical progress, faith in science and technology, materialism, and empiricism (and thus can perhaps be seen as a more postmodern strand of contemporary spirituality), there are also strands that explicitly attempt at an *integration* of certain key insights and achievements of modernity (such as aspects of science, a wise and reflexive use of technology, the notion of development) with more spiritually inspired insights and assumptions—and thus can perhaps be seen as a more integrative strand of contemporary spirituality.

   In the interview-data reported in chapter seven this becomes particularly clear in an epistemology emphasizing the *integration* of multiple modes of knowing, including science and spirituality, rather than the prioritization of one over the other.[90] This attempt also comes to expression in the

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[89] Similarly, Hanegraaff (1996) has emphasized that within contemporary spirituality there tends to be a belief "that there is a 'third option' which rejects neither religion and spirituality nor science and rationality, but combines them in a higher synthesis," attempting to formulate answers to the limitations of both faith and reason (p. 517). And as multiple other scholars (Dawson, 1998; Heelas, 1996; B. Taylor, 2010) have argued, contemporary spirituality tends to be compatible with science, as well as being highly congenial with the ethos of contemporary society and the new social order emerging around us.
[90] Academically, we perhaps also see this in the emergence of 'integral research' (see e.g. Esbjörn-Hargens, 2006; Esbjörn-Hargens & Wilber, 2006; Hedlund, 2010; Lessem &

integrative/synthetic nature of the social imaginary or societal vision, and the articulations of interview-participants emphasizing that they do not aim to polarize against modernity—for example in the form of science and technology or economic growth—but that they prefer to, in the words of one participant, "work with the system rather than against the system." This does not mean that they are not aware of the shadow-sides of modernity; in fact, the interviewee's generally appeared to be quite critical of many aspects of modern society. However, generally their emphasis appears to be on constructively bringing together and where possible synthesizing different perspectives. Moreover, in its commitment to a spiritual-unitive developmental or evolutionary ontology, the integrative worldview also appears to be compatible with modern notions of 'progress' and 'development,' although it tends to be a more complex nuanced, tendential, and contingent notion of progress, which is generally also interpreted in a more spiritual sense (see also Hanegraaff, 1996, discussing the role and understanding of the concept of evolution in the New Age) and distinguishes itself from, and perhaps appears to overcome, the more nihilistic understandings of postmodernity—that is, postmodernist's rejection of meta-narratives and their assertion that there is no overarching meaning or direction to history.

The potentials and pitfalls (and more regressive and progressive/integrative tendencies) of the culture of contemporary spirituality as observed in chapter six appear to interact with this process. However, this is not to suggest that the regressive tendencies are necessarily associated with the postmodern strand of contemporary spirituality, and the progressive/integrative tendencies necessarily with the integrative worldview, although in certain instances that may be true. More likely is that both worldviews—both the postmodern and the integrative strands of contemporary spirituality—display their own potentials and pitfalls. The potentials and pitfalls as formulated in chapter six may thus belong to either the more postmodern or the more integrative strand. For example, the commercialization of spirituality as pitfall may be a result of the integrative strands attempting to integrate the more materialistic culture of modernity. On the other hand, the lack of adequate integration and the sometimes wholesale rejection of certain achievements of modernity (such as

Schieffer, 2008) and integrative philosophies of science (e.g. pragmatism, critical realism, integral theory).

aspects of science, rationality, technology, et cetera) may be a pitfall particular to the postmodern strand. As several observers have commented, the culture of contemporary spirituality has also had its own historic development and evolution, as evident in the changes in the movement since notably the sixties (e.g. Hanegraaff, 1996). Thus, potentially the culture of contemporary spirituality could itself be understood as manifesting the process of dialectical development, displaying a gradual transition from a more postmodern to a more integrative worldview. This is, of course, a mere hypothesis that needs to be further investigated and substantiated in future research.

	Traditional worldview	**Modern worldview**	**Postmodern worldview**	**Integrative worldview**
Onto-logy	Religious/metaphysical monism. Reality as singular, transcendent. Universe as purposively constructed whole. God-created universe *ex nihilo*. Transcendent God is separate from profane world; dualism Nature as embodiment of meaningful, imposed order (e.g. God's creation).	Secular materialism. Reality as singular, immanent. Mechanistic universe brought about by random selection. Material reality devoid of meaning, intentionality, consciousness; dualism, disenchantment. Nature as instrumental, devoid of intrinsic meaning and purpose. Resource for exploitation	Post-materialism. Reality as pluralistic, perspectival, constructed. Cosmogony as cultural construct? Reality as discontinuous and fragmented; anti-essentialism. Nature as constructed through a plurality of cultural values, meanings, and interests	Integralism? Reality as multiplistic, transcendent *and* immanent. Universe as evolving, creative manifestation of Source/Spirit. Extrinsic and intrinsic reality co-arising and interdependent; unity in diversity. Nature as constructed *and* intrinsically valuable. Frequently seen as divine force that humanity is part and expression of
Episte-mology	Naïve realism; emphasis on concrete-literal interpretations of religious doctrine (literalism, dogmatism). Religious authority (scripture, divine revelation, tradition). A-methodological Substantive rationality	(Post-)positivism; emphasis on reality as objectively knowable, (empiricism, reductionism, scientism). Secular authority (science, the state). Quantitative methods; methodological monism. Procedural rationality	Social constructivism; emphasis on reality as constructed (pluralism, relativism). Internalization of authority (e.g. moral, emotional, intuitive, artistic knowing) Qualitative methods; methodological pluralism Skeptical rationality?	Critical realism, pragmatism; emphasis on reality as knowable through integration Triangulation of authority (scientific, spiritual/religious/philosophical, and subjective knowing) Mixed methods; integrative pluralism Synthetic rationality?
Axio-logy	Traditional values (e.g. security, tradition, conformity, obedience,	Rational-secular, materialist values (e.g. power, achievement, hedonism,	Self-expression, postmaterialist values (e.g. openness to change, self-direction)	Self-expression / self-transcendence values (e.g. universalism, benevolence)?

	humility)	stimulation)	Emphasis on unique individuality	Emphasis on embedded, relational individuality
	Emphasis on community, family	Emphasis on independent individuality		
	Pre-conventional morality?	Conventional morality?	Postconventional morality?	Universal morality?
Anthro-pology	Humanity in managerial stewardship role vis-à-vis nature	Humanity in promethean control over nature	Humanity in cautious relationship to nature	Humanity in unity and transformational synergy with nature
	Prime purposes determined by larger order and social roles. Human being as sinful/fallen from grace. Dependent on religious/metaphysical authorities for salvation.	Prime purposes of a material, hedonistic nature. Human being as self-optimizing, independent being. *Homo economicus.*	Prime purposes are found within, intrinsic. Human being as self-expressing, unique individual.	Prime purposes found within, serving the larger whole ('service through self-actualization'). Human being as evolutionary co-creator, with a vast—though generally unrealized—potential.
	Ethno-centric identity?	Socio-centric identity?	World-centric identity?	Planetcentric identity?
Socie-tal vision	Traditional societies, emphasis on (subsistence) farming.	Industrial societies, emphasis on mechanized modes of production (e.g. industrial agriculture).	Post-industrial societies, emphasis on service economy and creative industries.	Increasing emphasis on services, creative industries, and sustainable entrepreneurship?
	Traditional and religious authorities and values are looked at for solutions to societal and environmental problems.	Technological optimism: science and technology will solve societal and environmental problems.	Scepticism, idealism: emancipation of marginalized voices through 'deconstruction' of power dynamics will solve problems	Integrative vision: emancipation of the masses through consciousness growth and a synthesis of interests and perspectives will solve problems

Table 14: The expanded IWF ideal-typically delineates traditional, modern, postmodern, and integrative worldviews in the contemporary West, using the five worldview-aspects as organizing scheme.

8.2.3 General principles for application of the IWF

In including each of the four major worldview-structures—traditional, modern, postmodern, and integrative—the IWF attempts to illuminate how different worldviews exist in complex, dynamic interrelationship with a plurality of other worldviews (as well as with biophysical, political, economic, and institutional dimensions of reality). This understanding aspires to enact an *empathic disposition* in one's relating to other worldviews. A basic premise of the IWF is that every worldview has intrinsic value and can make important contributions to the larger whole (see e.g. Wilber, 2000). Similarly, the IWF posits that no worldview is intrinsically 'better' than another; rather, worldviews should be seen as deep structures that can come to expression in more and less healthy—and more and less ecologically sustainable—ways (see also Stein, 2012). This means, as several authors have pointed out, that every worldview at least has *the potential* for ecological expressions (see e.g. Esbjörn-Hargens & Zimmerman, 2009).[91] By being aware of the potential of each worldview—that is, its healthy values and enduring truths—one is empowered, in one's understanding of and communication with other worldviews, to orient towards supporting these potentials, rather than activating their less optimal expressions.

It is also important to underscore that these worldviews should be understood as *deep* structures or underlying dynamical patterns that vary in terms of their culturally and individually relative *surface* contents or expressions (see e.g. Wilber, 2000, drawing on Noam Chomsky). For example, a traditional

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[91] Of great interest in this context is, for example, Vonk's (2011) study on the religious worldviews, values, and environmental impact of Amish, Hutterite, Franciscan, and Benedictine communities. She demonstrates that these communities—which from the perspective of the IWF could be analyzed to be embedded in a more ideal-typically *traditional* worldview—adhere to and act from several values that are promising in the context of lowering one's environmental impact. This is so, even though ecological values as such hardly play a role in their value hierarchies and are generally not mentioned as deliberate motivations for their behavioral choices. Moreover, their values not necessarily lead to a lower impact; for example, the Amish and Hutterites are known for their high birth rates, and an emphasis on moderation or thrift can also lead to buying cheap, polluting products rather than the frequently more expensive organically sound ones. However, despite this lack of explicit commitment to green values, these communities base their behavioral choices on other values, such as community, stability, moderation, humility, and reflection, which in many cases encourage behavioral choices with a relatively low impact on the environment.

ontology will be expressed through different surface contents depending on whether that worldview is situated within a Christian or Hindu religious-cultural context, but will share certain underlying commonalities.[92] Furthermore, it is crucial to bear in mind that these worldviews are fundamentally *not* conceptualized as rigid characterizations of people, but rather refer to general homologies of perspective. Moreover, human beings are highly complex and can by definition not be exhaustively described through any theoretical framework. Additionally, in my view, individuals do not simply hold one worldview in a monolithic manner, but rather tend to probabilistically inhabit a predominant worldview, while expressing elements of other worldviews depending on a variety of contextual variables. Thus, the accurate and ethical usage of this worldview framework depends on such a nuanced understanding.

It is also important to point out that although value priorities and orientations may shift with changing worldviews, most values and perspectives associated with earlier worldviews do not necessarily disappear: they simply decrease in exclusive priority as they become integrated as structural sub-components of later worldviews, which transcend and include certain aspects of them, while jettisoning other elements (Wilber, 2000). For example, certain traditional and modern values remain within postmodern worldviews, but they may be considered to be a lower priority and visible only in some contexts and situations (O' Brien, 2009). Wilber elucidates this phenomenon by distinguishing between what he calls *enduring* and *transitional* structures. Enduring structures are the elements of a worldview that, upon their emergence, persist in the developmental process, despite being subsumed and synthesized by a later worldview. Conversely, transitional structures are the worldview-elements that are phase-specific and thus are largely negated and replaced by later, subsequent structures in the developmental trajectory of emergent worldviews (Wilber, 2000).[93] As I will discuss below, this rather technical

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[92] For example, Inglehart and Welzel (2005) observe that the cultural traditions that historically shaped a society show a lasting imprint on, and thus *interact* with, the developmental process of value change, rather than being immune to change or being completely overtaken by it.

[93] Related to this is Inglehart and Welzel's (2005) argument that "cultural change is path dependent"—that is, although under certain (e.g. socioeconomic) life conditions systematic

distinction turns out to be of significant practical import for generating empathic and effective communications that can resonate with multiple worldview audiences.

8.3   Applying the IWF for policy-making and communicative action

In this section I attempt to demonstrate the practical value of the IWF, by applying it to reflexive policy-making and sustainability communications. In this context, the IWF serves three major purposes. First, the IWF can serve greater self-reflexivity vis-à-vis policy-makers and communicators' own worldviews. Such self-reflexivity appears to be essential for effective communications. Secondly, I argue that the IWF can serve as an analytical tool to foster greater understanding of worldview-dynamics at play in sustainability-debates and issues, as well as in societal dynamics at large. Such an understanding of the worldviews operating amongst stakeholders or segments of the population is essential in order to generate effective policies and communications. Third, the IWF can potentially serve in the process of crafting effective communications, by tailoring them to resonate with different worldviews. I will now discuss each of these three major functions of the IWF in relation to aiding reflexive policy-making and communicative action for sustainable solutions.

8.3.1   *IWF as heuristic for cultural and psychological self-reflexivity*

As several authors have argued, greater self-reflexivity is an essential prerequisite for creating effective policies and crafting effective communications in service of solutions to complex eco-social challenges such as climate change. Such self-reflexivity, in my view, can be conceptualized as consisting of two dimensions: the cultural and psychological.

Cultural self-reflexivity has to do with the critical examination of the collective, cultural, or intersubjective elements of the worldview that one is

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changes in what people believe and want out of life tend to take place, the influence of cultural traditions does not disappear. While values can and will change, they continue to reflect a society's cultural heritage" (p. 20).

embedded in. In this context, it has been argued that the lack of reflection on the dominant framing around global environmental issues such as climate change is problematic for communication strategies (De Boer et al., 2010; Nisbet, 2009; O' Brien et al., 2010). For example, Shellenberger and Nordhaus (2004) accuse the American environmental movement of "failing to question their most basic assumptions about the problem and the solution"—notably the assumption that the problem should be framed as 'environmental.' According to these authors, 'the environment' is a category that reinforces the idea that the environment is a 'separate thing' that humans are set apart from and superior to. Framing the problem as 'environmental' also may tend to reinforce a proclivity to understand it as a 'special interest' issue, rather than one that is potentially relevant for everyone's basic safety, security, and (economic) well-being—that is, an issue that is relevant to basic concerns of everyone, irrespective of one's special interests.[94] Thus, as these authors illustrate, all too often environmental communications appear to reflect a lack of self-reflexivity—that is, they succumb to an unconsciousness vis-à-vis the positionality of the communicator(s) own worldview and niche within the larger system of worldviews, thereby inadvertently rendering one's own worldview paradigmatic for everyone else and projecting it onto the world.

The problematic nature of such an unreflexive approach reveals itself in practice when, for example, environmental groups concerned with climate change highlight the perilous plight of the polar bear as the clarion call for action. By appealing to the fate of the (both physically and emotionally far away) polar bear, rather than to speaking to the impacts of climate change on people's everyday world (e.g. food production, jobs, children's health), a more expansive and worldcentric value-set is assumed. From the perspective of the IWF, such a narrative is far from a strategic communicative leverage point, as it is likely to be appealing only to the limited segment of the public sphere that inhabits a postmodern worldview, and is thus more likely to be compelled by the

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[94] O'Brien et al. (2010) also question the accurateness and usefulness of framing climate change as an *environmental* problem, thereby giving rise to "a climate system that is separate and external to human activities," resulting in a managerial discourse that points to "institutional and policy failures as the ultimate cause of the problem, and technocratic interventions as the solution" (p. *7*).

environmental (or even planetcentric) values that such a communication seems to presuppose. Employing such a strategy will tend, at best, to dramatically delimit the potential for climate communications, and, at worst, generate negative associations for certain populations that may alienate them from further engagement with these issues (e.g., 'Why are those environmentalists so worried about polar bears, when I and so many others are unemployed and struggling to make ends meet?!'. Or as a bumper sticker humorously phrased it: 'Are you an environmentalist or do you work for a living?'). As several authors (e.g., Nisbet, 2009; Shellenberger & Nordhaus, 2004) contend, insufficient cultural self-reflexivity appears to be widespread within the contemporary context of sustainability communications and may be an important mechanism contributing to the lack of large-scale behavioral change and the various gridlock dynamics that tend to dominate stakeholder negotiations.

Therefore, decision-making and communication processes may benefit from making worldviews more transparent through systematic reflection on them—that is, through having the different actors engage in a process of cultural self-reflexivity. Such cultural self-reflexivity may contribute to the use of a more comprehensive repertoire of methods and tools, and may enable policy-makers to avoid locking in on non-reflected frames (see also De Boer et al., 2010). For that reason, I suggest that communicators, strategists, and policy-makers seeking to foster sustainable solutions and policies engage in a reflective inquiry with an eye for self-assessment of their own predominant worldview-structure. One way this can be done is by investigating, reflecting on, and dialoguing about one's answers to the exemplary worldview-questions in table 2, and/or by reading through the aspects of each worldview as denoted in figure two, noting patterns of resonance or dissonance between the structural descriptors and one's own felt sense of one's predominant assumptions and values.

In addition to its cultural variant, greater *psychological self-reflexivity*, that is self-reflexivity on a more personal and emotional level, is essential, as Moser (2007) argues:

> Maybe the first insight is for communicators themselves to acknowledge their own emotional responses to environmental degradation and society's responses. Many choose to work on climate change because of

deep passions and emotional, identity- and value-driven motivations, and thus are likely to experience strong emotional reactions (p. 72).

Such reflexivity is highly beneficial, as "unacknowledged feelings among communicators can lead to the impulsive, frustrated, or at least unskillful use of threat and guilt appeals which are unpredictable at best and counterproductive at worst" (Moser, 2007, p. 72). For example, it seems likely that environmental communications appealing predominantly to the psychology of fear (e.g. apocalyptic predictions or scenarios, however realistic they may be) reflect, in part, an expression of the communicators' own fears, in the absence of sufficient psychological self-reflexivity.[95] Such unacknowledged feelings and judgments may also pertain to whole worldview-structures. Take, for example, the frequent, wholesale postmodern disdain for modern corporate enterprise.[96] As chapter eight argued, the 'integrative environmental leaders' tend to engage in different forms of psychological reflexivity (which they frequently considered to have been of importance for their success in their environmental and sustainability efforts).

Becoming aware of such feelings and judgments is crucial for generating authentic empathy, mutual understanding, and effective communications with other worldview-audiences, as disdain or depreciation for another worldview is likely to come through in one's communications, negatively impacting how one's communications are received (i.e. most people do not like it when they are talked down to). As the IWF assumes the enduring elements of each worldview to continue to exist in oneself, the process of working through these blockages and judgments in relation to various worldviews can be seen as a crucial form of *intrapsychic integration* vis-à-vis the ecology of worldviews operant with an individual self-system (Hedlund, 2008). Consciously integrating those

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[95] Interesting in this context is for example the work of Joanna Macy (see e.g. 2007), who, after working in the environmental and peace movements for decades developed a set of practices for emotional work for environmentalists, teaching them to constructively work with their negative emotions (fear, anger, despair, sadness, et cetera) thereby empowering them to be more effective.

[96] Ironically, this kind of disdain is almost exclusively found in advanced industrial societies characterized by and built on this kind of successful, modern corporate enterprise (Beck & Cowan, 1996).

worldviews in oneself may thus support one to communicate with other worldview-audiences than the one(s) one is primarily identified with. If a policy-maker or communicator cannot take the perspective of another worldview different from their own, this is a sign that they need to cultivate a greater capacity for mutual understanding—that is, the capacity to inhabit and empathetically resonate with divergent worldviews. This capacity, as several authors argue, is a necessary pre-requisite for engaging communications that foster coordination, bridge divisions, synthesize positions, and synergistically align perspectives towards common goals and win-win solutions (e.g. B. C. Brown, 2012a; B. C. Brown & Riedy, 2006; Esbjörn-Hargens & Zimmerman, 2009). However, in order to engage other worldview-audiences from such a place of authentically wanting to understand and resonate with (rather than change) them, one will need to 'bracket' one's own positions (or practice epoché, as the phenomenologists call it; see e.g. Moustakas, 1994). It is precisely this openness that potentially allows the outcome of the encounter to become truly participatory and mutually transformative. In short, such psychological self-reflexivity and integration will generally support one to communicate in a more 'whole,' empathic, and therefore effective way, engaging people more deeply and personally (see also Moser, 2007).

8.3.2   IWF as analytical tool for understanding worldview-dynamics in society

Next to greater self-reflexivity, the IWF can also serve as an analytical tool to foster greater understanding of the worldview-dynamics at play in climate and sustainability-debates, as well as in society at large. An understanding of the worldviews operating in particular target segments of the public sphere appears to be essential in order to generate effective policies and communications. As many studies suggest, research into the values and views of specific populations is therefore necessary for generating effective interventions and communications (see e.g. McKenzie-Mohr & Smith, 2008; Steg & Vlek, 2009). However, an overarching framework like the IWF, which has the potential to synthesize research across multiple disciplines, may effectively disclose the general contours of the values and views of the primary sub-culture populations in the West, potentially augmenting the need for conducting further research in some

contexts. Moreover, in contexts in which knowledge of specific inflections and nuances of particular worldviews and their dynamics is needed, the IWF can function as a scaffolding for further research, providing a backdrop that can guide researchers in more effectively mapping a highly complex social-cultural landscape to design effective interventions and craft compelling communications.

I will now briefly illustrate how this framework may facilitate one to better understand contemporary policies, debates, or communications around sustainability issues. An interesting example is the complex debate around biotechnology and its potential merits and risks in terms of sustainable development (Hedlund-de Witt, Osseweijer, & Pierce, forthcoming). Several studies suggest that the different positions and opinions that the larger public holds towards industrial biotechnology can be understood in terms of larger cultural patterns or worldviews. For example, in a European-wide study using the data of the 1996 Eurobarometer survey on biotechnology, two different patterns of resistance against biotechnology were found, which the authors characterized as a 'traditional' and a 'modern' skepticism. However, from the perspective of the IWF these two different forms of skepticism would be more accurately understood as ideal-typical 'traditional' and 'postmodern.'[97] These data showed that the two different groups of skeptics appeared to not only be characterized by certain demographics (age, education level, residence), but also by their political, religious, and value orientations. As the authors argued, "modern biotechnology is commonly confronted by both a 'pre'-industrial

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[97] Understanding these patterns of resistance against biotechnology in terms of a traditional and a *postmodern* worldview aligns better with some of these authors own framings, as according to them, the 'modern' group is characterized by "postmaterial values," and tends to articulate a "post-industrial" critique with respect to biotechnology. Additionally, in virtually every respect the characteristics of this group align better with an ideal-typical postmodern worldview—from their emphasis on uncertainty, systemic impacts and unpredictability, their trust in non-governmental and societal organizations, their politically left-wing inclination, their emphasis on the marginalization of certain interests, to their distrust of corporations to adequately take care of societal interests and needs. It appears that because these authors study 'resistance' against biotechnology, rather than the different positions with respect to biotechnology (thereby seemingly making the acceptance of biotechnology the implicit norm), the ideal-typically modern position tends to be overlooked. This example thereby underscores and illustrates how the IWF can support heuristic understanding of the larger currents and patterns in certain complex sustainability-debates.

critique of intervention in 'nature's order', as well as a 'post'-industrial critique of the potential risks involved with the new technology" (2002, p.192). While the traditionalists appear to be critical on a more principled, a priori basis, the postmoderns tend to demonstrate a more pragmatic orientation, emphasizing that intervention in nature through biotechnology is not reprehensible per se, but that it is instead dependable on conditions and circumstances, such as potential risks, perceived benefits, and the regulations in place. Moreover, the results also showed that while postmoderns tended to trust NGO's such as environmental and consumer organizations, traditionalists were less sure whom to trust, generally placing a higher degree of trust in the medical profession, and in some Catholic countries in religious organizations. Postmoderns also displayed a much higher level of active participation in the biotechnology discourse, generally pleading for regulation of the industry, labeling of GM food, and public consultation (Nielsen et al., 2002). Thus, while individuals with a traditional worldview may be skeptical of industrial biotechnology because technological intervention in nature is seen as a-priori unacceptable—since there tends to be a belief in a natural, God-created order that humans should not interfere in ('Mankind has no right to play God!')—individuals with a more ideal-typically postmodern worldview may be skeptical because of the risks and uncertainties that are hard to oversee as nature is conceptualized as a complexly interrelated, somewhat fragile, set of systems (Nielsen, Jelsøe, & Öhman, 2002; see also M. Thompson, Ellis, & Wildavsky, 1990). In contrast, individuals with a more *modern* worldview may exhibit more trust in science and technology and less problems with interfering in nature, frequently displaying a technological optimism or 'techno-trust' that assumes that environmental problems and other risks will be solved or managed through the further development of science and technology, as was found in chapter four (see also Koppejan & Asveld, 2011).

Also in the stakeholder-debate vis-à-vis the emerging 'bioeconomy' there appear to be several competing perspectives (sometimes described as 'master-narrative' and 'rivaling narrative', see e.g. Levidow, Birch, & Papaioannou, 2012b) that could be understood and illumined through the lens or heuristic of the IWF. One perspective could, ideal-typically speaking, be characterized as a more '*modern*,' technologically optimist view that emphasizes the great economic and sustainability potential of the bioeconomy, and tends to see the further

development of science and technology as a solution to the crises contemporary societies are faced with. The other perspective appears to be much more cautious, critical, and skeptical, emphasizing that the industry's interests are driving the agenda for the bioeconomy, and frequently underscoring uncertainties and risks while advocating for more small-scale and participatory solutions and economies, and speaking up for marginalized voices such as those of developing countries, small farmers, and sensitive ecosystems. This latter view could potentially be characterized as being of a more *'postmodern'* nature (Hedlund-de Witt et al., forthcoming). Thus, as an analysis of the literature on both public acceptance of biotechnology and the stakeholders debate about the emerging bio-economy shows, the IWF can heuristically illuminate the deeper assumptions, values, and concern at play in such highly complex debates, in which clearly much more is at stake than an argument over the scientific facts (see also Hansen, 2013; Sarewitz, 2004).

8.3.3 *IWF as scaffolding for effective sustainability communications and solutions*

The IWF can also function as a kind of general scaffolding to support the crafting of effective climate communications. As communication research has contended, in order to be effective, messages need to resonate with the worldviews—that is, the assumptions, values, and visions—of the audiences that they aim to convince or inspire (McKenzie-Mohr & Smith, 2008; Moser & Dilling, 2007; Nisbet, 2009). Next to the importance of resonating with the audience's worldviews and values, many researchers have emphasized the importance of communicating positive and *empowering* values and aspirations (Futerra, 2005; Moser & Dilling, 2007; Nisbet, 2009). In this context, it has been argued that many communication strategies around environmental issues are problematic, because they aim at increasing the sense of urgency through fear, guilt, or shame appeals (which, according to the majority of studies, tends to be counterproductive except for under specific circumstances; see Moser, 2007), or because they tend to be overly technical, dry, or scientific (Lappé, 2011; Leiserowitz, 2007). Futerra (2005, 2009) therefore speaks of the need to articulate a compelling *vision*, as communications about sustainable development need to be associated with the positive aspirations, values, and worldviews of the

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target audience—just as traditional marketing does. Other authors have also argued that communicators need to tap into culturally resonant, positive, empowering values and personal aspirations, and "envision a future worth fighting for" (Lappé, 2011; McKenzie-Mohr & Smith, 2008; Moser, 2007; Moser & Dilling, 2007; Shellenberger & Nordhaus, 2004). The 'integrative environmental leaders' portrayed in chapter seven made a similar case—that is, for a positive, inspiring, and generally emancipatory perspective and approach to sustainability issues.

Thus, communications appear to be more successful when they are *vision- and value-driven* rather than problem-centered, precisely because it is through (positive) values that approaches can connect to what motivates people and what is important to them (Schösler & Hedlund-de Witt, 2012). Developing and articulating an inspiring vision for the future that appeals to multiple worldview-structures therefore demands a careful and detailed exploration of the different values and views that are the motivational drivers behind the solutions, policies, or strategies that one is trying to advocate. Such an exploration has the extra advantage of inviting strategists and policy-makers to examine their strategies and solutions with more critical awareness and from a multiplicity of perspectives rather than merely their own, possibly facilitating greater *policy-reflexivity* (see e.g. Huitema et al., 2011; PBL, 2004, 2008). As I have described above, the IWF can serve this reflexive process, as well as may generate a greater understanding of what drives other worldview-groups.

Communicators thus need to investigate and reflect on what is valued and what is experienced to be inspiring by multiple worldview-audiences. Generally, it is important to tailor communications so as to resonate with and appeal to the *enduring* elements of the different worldviews, thereby as much as possible averting the alienation of other worldviews. For example, when one appeals to the more universal, religious or spiritual core of a traditional worldview rather than to the more dogmatic, ethnocentric, and authoritarian expressions, this is likely to be more respected and potentially even well-received by modern and postmodern worldview audiences, while a more authoritarian and ethnocentric religious dogmatism will tend not to engender such a response. Conversely, when reason and science are invoked as important yet partial modes of knowing that can be complemented by faith and religiosity, rather than

panaceas that eradicate the need for faith, individuals inhabiting a traditional worldview will likely be more receptive to such communications (see also Habermas, 2010). Generally speaking, while the transitional aspects of a worldview tend to give rise to conflict and polarization with other worldviews, the enduring aspects tend to be more compatible with the content and preferences of other worldview-structures (Wilber, 2000). It is also preferable to craft messages that start with (and prioritize) and appeal to (the enduring aspects of) the earlier worldviews, as these elements will be largely maintained in subsequent development and can thus be relatively easily resonated with by the later worldview-audiences, while the converse is not true (that is, the enduring aspects of the later worldviews may not resonate for the earlier worldviews). Moreover, it is to be expected that when the earlier worldview-audiences feel assured that their fundamental needs and values are addressed, they are, in a Maslowian manner, more likely to be open to other values and needs.

To illustrate the strategy of crafting communications that appeal simultaneously to the enduring elements of multiple worldviews, consider the following hypothetical example of a campaign for the advancement of renewable energy and efficiency technologies.[98] One could begin the framing of one's communicative strategy by emphasizing the values of increased homeland security and personal safety, as a result of greater energy independence and less reliance on foreign oil from politically unstable regions. Such a strategy then draws on traditional values, which, in their enduring form, tend to have widespread appeal (i.e., everybody generally can resonate with the need for safety and security). Additionally, the notion of energy independence often resonates with the traditional worldview's proclivity to express ethnocentric values through identification on the level of the nation-state and a primary concern for one's own national interests and autonomy (see e.g. Beck & Cowan, 1996; Cook-Greuter, 2000, 2002). Such traditionalist forms of nationalism are often amenable to the idea of domestic ownership and control over energy production. One could then build on these traditional values and integrate key modernist values, by highlighting the potential economic advantages, such as an increased competitive advantage, innovation, job-creation, profit, and overall

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[98] As an example of an initiative to advance renewable energy and efficiency on the level of a nation-state, see *Reinventing Fire* by Amory Lovins and the Rocky Mountain Institute (2011).

economic growth—all as results of investments in renewable energy (see also Zia & Todd, 2010). As can also be derived from the results of chapter four, certain worldview-groups (such as the 'Focus on money' and 'Secular materialism' groups) are likely to be compelled or convinced by economic arguments or consequences (e.g. a carbon tax, economic benefits) rather than by moral or social arguments. Furthermore, one could emphasize the benefits in relation to climate change such as biodiversity, the environment, global solidarity, and social justice, which tend to be more highly valued by more postmodern audiences (see e.g. Inglehart, 1997; Inglehart & Welzel, 2005).[99] Lastly, for certain niche audiences, it might be skillful to underscore the ways in which such an initiative may serve the transformation of humanity's relationship to the environment and contribute to the emergence of a flourishing 'planetary society,' thereby potentially resonating with the emerging integrative worldview. See Figure two for an example of such a tailored communications-strategy.

When policies, strategies, and communications are crafted to effectively resonate with the intrinsic motivational flows of each worldview, meeting them *where they are*, rather than implicitly demanding that they identify with various assumptions and values associated with a different worldview, one is practicing effective structural translation, or assimilation, to borrow the term used by Piaget (Piaget & Inhelder, 2000 [1969]). This is the practice of effectively *translating* a (new or higher-order) communicative input or message into language that resonates with, and is appropriate for, the intended audience's 'native' worldview in its already-existing structure. Simply put, it means crafting a communication (or, for that matter, developing a strategy, campaign, or policy proposal) in such a way that it resonates and aligns with the audience's core view on the world. In contrast, structural accommodation consists of attempting to use the communicative act as a practice augmenting the internal structural configuration of the receiver(s) worldview (Piaget & Inhelder, 2000 [1969]). In effect, this

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[99] These insights resonate with insights based on the much acclaimed "guns versus butter" political agenda theory, which emphasizes a framing of climate change in terms of defense and security (guns issues) instead of health and social welfare (butter issues). While it was found that citizens with a liberal political ideology tend to be more concerned about "butter" issues, citizens with a conservative political ideology tend to be more concerned about "guns" issues (see also Zia & Todd, 2010).

amounts to an attempt to *transform* the worldview of the receiving audience. Due to the complex ethical as well as pragmatic questions associated with this strategy—such as those concerning the potential and will for, and even desirability of, the transformation of the various receivers in the target audience—I will not discuss this further here, thus focusing on strategies of translation (or assimilation).[100] In general, I suggest that communicators employ a translation strategy, as I feel that individuals have the right to *be where they are* in terms of their predominant worldview, and should be respected as such. Through translation, communicators can work with their audience's extant views and values, creating supportive conditions for expressing the enduring potentials and values of their current worldview.

   I also argue that strategies, initiatives, and communications should be developed and framed in a way that, as much as possible, *synergizes* the different worldview- and value-orientations, rather than focusing on the views and values of one group and opposing or omitting the rest. For example, Shellenberger and Nordhaus (2004) propose a way of addressing 'environmental' issues—which can be understood as a predominantly, though not exclusively, postmodern concern—that synergizes them with core values of the larger public, such as traditional family values, or modern technological innovation and competition values (see also Dilling & Farhar, 2007). In a similar vein, framing-theorists have explored multiple frames—e.g. the frame of social progress, economic development and competiveness, morality and ethics, public accountability and governance—that can be used to synergize the interests and aims of communicators with those of the larger public (De Boer et al., 2010; Nisbet, 2009). In chapter seven the 'integrative environmental leaders' tendency to synergize, instead of polarize, was highlighted as one of their potential advantages in speaking to the larger public and generating motivation on the level of the masses (see also Giner & Tábara, 1999).

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[100]According to Brown & Riedy (2006), "transformative communications face a major obstacle: people change their worldview rarely, and there is no clear understanding of how to catalyze that change. Harvard developmental psychologist, Robert Kegan, points out in *The Evolving Self* (1982) that it takes approximately five years to change a worldview *if* the right conditions are present. Jane Loevinger, pioneer in understanding ego development (which is central to one's worldview), states that 'Ego development is growth and there is no way to force it. One can only try to open doors'"(p. 6).

Moreover, precisely because most environmental issues are complex and multifaceted, their proposed solutions tend to be viable for syntheses that appeal to multiple value-orientations or worldview-audiences. For example, in studying the emerging values and views of the organic and Slow Food movements—which can be seen as forerunners of a transition to a more sustainable, plant-centered, organic/local diet—it was found that individuals associated with these movements tend to be inspired by a pluriform value-palette, which appeared to be potentially compelling to multiple subcultures and worldview-audiences (Schösler & Hedlund-de Witt, 2012). This value-palette ranged from more 'traditional' values (such as an emphasis on and appreciation for family-owned farms; local livelihoods; traditional production methods; simple, seasonal, artisanal foods prepared according to 'grandmother recipes'; strong social ties between producer and consumer), to more 'modern' values (flourishing economies; pleasure of taste; high quality foods; great variety; experimentation and innovation; health and nutrition), to more 'postmodern' values (environmental well-being; animal welfare; pure, natural foods and mindful eating; food choices as expression of one's individuality; vitality and holistic health). These various value sets can all potentially be highlighted in a synergistic communication strategy, foregrounding and backgrounding certain of them depending on the particular audience. Moreover, in that way, one is explicitly drawing on the diverse sustainable potentials of the different worldviews in a complementary and creative fashion.

Having now discussed some salient ways in which the IWF can support reflexive policy-making and communicative action in service of sustainability solutions, I will now turn to some concluding reflections.

Integrative worldview

• Global systems health and optimization

• Transformation of relationship to the environment

• Eco-social evolution; enacting evolutionary potentials

• Eudaimonia: unity and flourishing of all beings

Postmodern worldview

• Environmental well-being

• Long-term sustainability

• Global and intergenerational solidarity

• Social justice

Modern worldview

• Innovation and competitive advantage

• Job creation

• Increased profit and GDP

• Energy independence

Traditional worldview

• Homeland security (e.g.,via reduced dependency on Middle Eastern fossil fuel)

• Energy security (domestic availability, ownership, control)

• Human health and safety (via reduced toxic emissions)

Figure 2: An example of framing communications for renewable energy initiatives to multiple worldviews

8.4   Discussion and conclusion

As stated in the introduction, the aim of this chapter was to generate heuristic insight into the nature and structure of the major worldviews in the West, as well as how these insights can be applied to policy-making and communication strategies for sustainability. In section 8.2 I introduced an expanded understanding and articulation of the *Integrative Worldview Framework*, synthesizing my own results as presented in the earlier chapters with existing research and theory in notably sociology. This expanded articulation of the IWF should be understood as a generalized, orienting, heuristic framework for understanding and investigating both the aspects of worldviews, as well as the general contours of the predominant worldviews in the West—generally referred to as traditional, modern, postmodern, and integrative. In section 8.3, I demonstrate how this framework is relevant in the context of sustainability

communications, serving as: 1) a heuristic for cultural and psychological self-reflexivity; 2) an analytical tool for understanding worldview-dynamics in society; and 3) a scaffolding for effective climate communications and solutions.

However, while I feel that the IWF holds the potential to empower individuals and organizations to work with the crucial but oft-overlooked interior realities of worldviews and their complex interrelations more effectively, the IWF is explicitly intended as a tentative, *orienting heuristic* that can advance our investigation and understanding of worldviews and their dynamics, rather than as a rigid or reified model with which to categorize and label people, stakeholders, or organizations. Indeed, the real-world empirical terrain of our contemporary social landscape is highly complex and messy, and is not readily disclosed in a comprehensive manner by any conceptual framework. Rather than aiming to fully describe, explain, or predict this complexity, the IWF aspires to highlight its most salient patterns— helping one to *navigate* it. As the saying goes, 'the map is not the territory.' Moreover, although I emphasize (an understanding of) worldviews as a critically important element in any sustainability or climate change policy, strategy, and communication, I am aware that other dimensions of reality—behavioral, political, institutional, socio-economic, et cetera—deserve equal consideration.

To be sure, further research into the IWF is needed, both with respect to the framework itself as well as with respect to its concrete application in various contexts. Further empirical investigation and validation of the different worldview-aspects (e.g. ontology, epistemology, axiology) and their interrelationships are needed. For example, the extent to which the various aspects of each worldview (notably as disclosed through the different developmental trajectories described by developmental-structuralism, as displayed in figure 2) tend to 'hang together' or correlate within individuals or stakeholder groups remains to be empirically explored in a robust manner. Furthermore, the development of a rigorous psychometric tool or survey (thereby building forth on some of the experiences and insights as generated in notably chapter four) that can obtain high degrees of validity and reliability is crucial for the further theoretical development of the IWF. In addition, there are many domains of further research that the IWF could fruitfully be applied in as an orienting heuristic. For example, the framework could be applied to explore

the scientific, public, and policy debates around climate change, using the IWF as a heuristic for analyzing and understanding the various voices and positions in these debates with a greater degree of nuance and depth. Such research projects will likely expose areas in the IWF that are in need of further theoretical development, leading to its refinement, augmenting the framework in an iterative manner, and demonstrating how and in which contexts it can be best applied.

Despite the aforementioned complexities and the arduous work of successfully applying the IWF within the contemporary context of disagreement and gridlock, I hope that this heuristic framework contributes to fostering greater self-reflexivity among policy-makers and communicators, greater understanding of the intricate dynamics within and between worldviews, and constructive communication and cooperation across various worldview-perspectives in service of sustainability and climate solutions.

Chapter 9
Discussion, conclusions, future perspectives

So here we are. We need, in the next twenty-five years or so, to do something never done before. We need to consciously redesign the entire material basis of our civilization. The model we replace it with must be dramatically more ecologically sustainable, offer large increases in prosperity for everyone on the planet, and not only function in areas of chaos and corruption, but also help transform them. That alone is a task of heroic magnitude, but there's an additional complication: we only get one shot. Change takes time, and time is what we don't have. […]. Fail to act boldly enough and we may fail completely.

- Alex Steffen[101]

When it comes to the future, *our task is not to foresee it, but* rather *to* enable *it to happen.*

- Antoine de Saint-Exupéry[102]

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[101] In: *Worldchanging: A Users Guide for the 21ˢᵗ Century* (2006).
[102] In: *The Little Prince* (1943).

9.1   Discussion: Concerns and recommendations for further research

The approach taken in this study is interdisciplinary and integrative: theories from sociology, different strands of (and schools within) psychology, cultural studies, philosophy, and political science have been combined in an innovative manner. Although, in my eyes, such an approach is necessary for answering the complex research questions that have been asked, it also presents some challenges to the research design and analysis. The combination of macro level theories describing larger, socio-cultural changes in worldviews over time and contemporary, individual views, environmental attitudes, and sustainable lifestyles, required different time scales and paradigms of analysis. The combination of qualitative and quantitative methods added a further level of complexity. I will therefore now address the most salient considerations with respect to this dissertation as a whole: 1) the use of different theoretical and paradigmatic perspectives; 2) the use of a developmental perspective; 3) the relationship between individual and collective worldviews; 4) the worldview-bias of the researcher; 5) the use of a heuristic approach; 6) the choice to focus on certain worldviews at the expense of others; 7) the worldview-structures emerging from the survey.

9.2.1   *Different theoretical and paradigmatic perspectives*

The usage of different theoretical perspectives (e.g. positive psychology, environmental psychology, history of ideas, sociology of the New Age, et cetera), and how these are related to each other deserves attention. As explained in the first chapter, the mixed methods research design that I use allows for eclecticism and pluralism, and is based on the idea that different—even conflicting—perspectives and theories are potentially useful in the research process (see e.g. Creswell & Plano Clark, 2011; R. B. Johnson & Onwuegbuzie, 2004; Tashakkori & Teddlie, 1998). I have thus chosen not to limit my theoretical approach to one theory, perspective, or even school of thought. In contrast, I have attempted to triangulate different theoretical perspectives and paradigms, guided by the conviction that a highly complex phenomenon like worldviews and its interface with goals and issues of sustainable development is more likely to be adequately understood through bringing together different theoretical and

disciplinary perspectives. An example of triangulation of theoretical perspectives is that of the role of integration and internalization as central to psychological development as emphasized by different schools of psychological thought including Self-Determination Theory (see e.g. Ryan, 1995; Ryan & Deci, 2000) and developmental-structuralism (see e.g. Cook-Greuter, 1999; Cook-Greuter, 2000; Kegan, 1982; Mc Adams, 1994). Moreover, Charles Taylor (1989), exploring the larger, historical and socio-cultural dimensions of evolving worldviews in the West (and whom I heavily rely on in notably chapter two and four), also emphasizes internalization as the central principle driving the 'making of the modern identity.'[103] Another example of this kind of coherence between different theoretical perspectives can be found in section 1.2.2, where I discuss the ways in which environmental psychology, positive psychology, and constructivist developmental psychology are compatible in terms of basic assumptions, understanding of human nature, and major concerns. To this can be added, as for example Marshall (2009) has argued, that Inglehart and Welzel's (in this dissertation frequently invoked) revised modernization theory is based in a Maslowian understanding of human nature, and thus compatible with both positive and constructivist developmental psychology. Thus, despite the diverse range of theoretical perspectives used in this dissertation, a substantial coherence between them can be discerned. This coherence can at least partially be ascribed to a choice of theories and perspectives that invoke a notion of human development, a choice that I will discuss in more detail below.

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[103] In Taylor's (1989) own words: "I have been following one strand of the internalization which has gone into making the modern identity. This took me from Plato through the inward turn of Augustine to the new stance of disengagement which Descartes inaugurates and Locke intensifies. To follow this development is to trace the constitution of one facet of the modern self. […] So we come to think that we 'have' selves as we have heads. But the very idea that we have or are 'a self', that human agency is essentially defined as 'the self', is a linguistic reflection of our modern understanding and the radical reflexivity it involves. […] To the extent that this form of self-exploration becomes central to our culture, another stance of radical reflexivity becomes of crucial importance to us alongside that of disengagement. It is different and in some ways antithetical to disengagement. Rather than objectifying our own nature and hence classifying it as irrelevant to our identity, it consists in exploring what we are in order to establish this identity, because the assumption behind modern self-exploration is that we don't already know who we are" (pp. 177-178).

9.1.2 Use of a developmental perspective

The developmental perspective and the idea of potential cultural evolution that is guiding the IWF and my understanding of worldview-dynamics in society is, of course, contentious. I concisely discuss the notion of development in chapter one (section 1.3.1), as well as some of its complexities and potential problems.

One of the risks of understanding the different worldviews and the dynamics between them in the context of a developmental perspective is that it may seem to suggest that one worldview is 'better' than another. As argued at several points in this dissertation, I explicitly warn against this interpretation. As I argue in section 1.3.1, development does not necessarily mean progress. Moreover, I also emphasize the perspective of a *'dialectic of progress,'* as articulated by Habermas (1976), that is, the idea that every worldview can be seen as both response to specific circumstances and challenges as well as bringing forth its own circumstances and challenges, its own potentials and pitfalls. This also implies that—even though the later stages of development tend to be associated with greater awareness, inner-directedness, freedom, and expanding care (P. Marshall, 2009)—they are not univocally 'better,' morally or otherwise. Thus, despite the in my eyes warranted critiques of the notion of development, part and parcel of my understanding is a critical distancing from the 'growth to goodness' assumptions that have often plagued the discourse, and a concurrent differentiation between *descriptive* (or reconstructive) and *normative* (or evaluative) dimensions of development (see e.g. Stein, 2012; Van Haaften, 1997a, 1997b).[104] In addition, I emphasize the different and to some extent complementary potentials of each worldview. For example, as Vonk (2011) has demonstrated,

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[104] As Van Haaften (1997a) argues: "… very often the term "development" is used evaluatively as well as descriptively. Theories of moral development, for example, usually take for granted that this process is a development for the good, that higher staged moral agents are in some sense "better" than they were at earlier stages. In such cases the implied development claim comprises two subclaims. It will always, minimally, contain a descriptive, or better, reconstructive claim, proposing some developmental pattern […]. Besides that, there is an evaluative claim, to the effect that the stages of that pattern are increasingly better in some respect." However, "it should be clear that the reconstructive claim does not of itself imply any evaluation with regard to the reconstructed pattern" (p. 27). Of course, this does not mean that the ways stages are reconstructed by developmental theorists can claim to be free of their evaluative judgments, as, most likely, they will not.

traditional communities may adhere to and act from values such as community, stability, moderation, humility, and reflection, which in many cases encourage behavioral choices with a relatively low impact on the environment. Similarly, individuals and organizations with a more ideal-typically modern outlook may be inclined to support and invest in the needed scientific and technological advancement. Although both these worldviews tend to be less concerned with environmental issues per se (in comparison with more postmodern and integrative worldviews), the perspectives, views, and values that they tend to bring forth have important potentials in relation to sustainable development, which, in theory, can be strategically compelled to and synthesized with other sustainability solutions and perspectives. Also the work of Esbjörn-Hargens and Zimmerman (2009) is of interest in this context as they describe eight different 'eco-selves' (as a result of applying Susanne Cook-Greuter's work on ego-development to ecological identities), which all have their own strengths and weaknesses: "They all have an environmental ethos appropriate to their worldview and the capacity to be ecologically destructive. One ecological self is not necessarily more environment friendly than another" (p. 227). Therefore, I argue for sustainability strategies that attempt to activate the *potentials* of each worldview, rather than attempt to change the worldviews of groups or individuals (in chapter eight this is referred to as a strategy of translation versus a strategy of transformation.)

Lastly, I argue for a generally compassionate perspective in our attempts to understand differences in worldviews. Rather than interpreting one worldview to be 'better' than another one, worldviews should be understood in the context of their historical, cultural, and social-economic context and arising. In my eyes, the greater complexity and comprehensiveness that in certain respects can be said to be visible in the evolution of worldviews is—just like the expansion and increasing sophistication of many of our scientific understandings—possible only because the newly emerging worldviews are 'standing on the shoulders of the giants' before them. The integrative worldview would not have been possible without the accomplishments and insights of the postmodern worldview, while the postmodern worldview would not have been possible without the accomplishments and insights of the modern worldview— and so on. Also Inglehart and Welzel (2005) emphasize, on the basis of the WVS

data, that cultural development largely manifests as intergenerational value shifts (and through intergenerational population replacement), and needs to be understood in the context of the circumstances individuals grew up in:

> To a large extent, culture is transmitted from one generation to the next. But people's basic values reflect not only what they are taught, but also their firsthand experiences. During the past half century, socioeconomic development has been changing people's formative experiences profoundly and with unprecedented speed. Economic growth, rising levels of education and information, and diversifying human interactions increase people's material, cognitive, and social resources, making them materially, intellectually, and socially more independent. Rising levels of existential security and autonomy change people's firsthand experiences fundamentally, leading them to emphasize goals that were previously given lower priority, including the pursuit of freedom (p. 2).

According to this perspective, emergent worldviews thus truly 'stand on the shoulders of the giants' before them. As sociologists tend to stress, the modern worldview arose as a response to the limitations and pressing confinement of more traditional lifestyles and worldviews, thereby generally supporting a break away from more dogmatic interpretations of (religious) life and one's role in society (e.g. Edgar, 2008b; Giddens, 2009). As argued in chapter two, the revolution in thinking that coincided with the coinage of the concept of *Weltanschauung* by Kant, can be understood as a transition from an ontically imposed order to a self-created order. By demystifying (or, in the words of Weber, 'disenchanting') the cosmos as a setter of ends and understanding it mechanistically and functionally as a domain of possible means, humans gained in independence (1989, pp. 192-193). Thus, the modern worldview, while on the one hand building forth on the achievements of the traditional worldview, also goes beyond it, in an attempt to overcome some of its greatest limitations.

The postmodern worldview should be understood in a similar fashion. While the disenchantment of the world and the individuated self brought a new freedom and independence, and many new possibilities and victories that the

Romantics and postmoderns alike are deeply indebted to and a product of, they in their turn emphasized the ways this disengaged reason alienated humans from the larger nature (due to the sharp dualism between humanity and nature, subject and object that it created), as well as from other sources of knowing, such as moral, emotional, spiritual, and imaginative participation in nature (Tarnas, 1991; C. Taylor, 1989). In many ways, the postmodern worldview, while building forth on many of the modern worldview's achievements, is thus also particularly critical of modernity's shortcomings, and attempts to formulate answers to its most significant problems.[105] In a similar fashion, the integrative worldview may be understood to build forth on the postmodern worldview's most important achievements and insights, such as its emphasis on a plurality of perspectives and different modes of knowing, its post-material values and concerns, and the liberation and emancipation that can be gained through exposing the constructed nature and power interests informing modernity's overarching meta-narratives, notably that of 'science' and of ' progress.' Simultaneously, the integrative worldview appears to attempt to respond to the postmodern worldview's most poignant shortcomings—such as its nihilism, hyperrelativism (or even anti-realism), lack of overarching frameworks, fragmentation, and its opposition to modernity—and overcome its limitations in an attempt to formulate more adequate answers to the problems of our time, as I

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[105] It seems that worldviews are often particularly critical towards their directly preceding worldview (e.g. the postmodern towards the modern worldview, the modern towards the traditional worldview, and the integrative towards the postmodern worldview), possibly because it is their predecessor's limitations and challenges that they primarily respond too and need to overcome. This may result in them going 'too far' in jettisoning elements of their predecessor(s), creating the polarizations and paradigm wars that are so characteristic of our contemporary cultural landscape. This is where, perhaps, the distinction between enduring and transitional elements of worldviews as suggested by Wilber (2000) is useful. Enduring structures are the elements of a worldview that, upon their emergence, persist in the developmental process, despite being subsumed and synthesized by a later worldview. Conversely, transitional structures are the worldview-elements that are phase-specific and thus are largely negated and replaced by later, subsequent structures in the developmental trajectory of emergent worldviews. Van Haaften (1997a) speaks of 'inclusion' in this context: "what is characteristic of the new stage comprises what is characteristic of the prior one, in such a way that what is characteristic of the former stage is retained but changed by its being integrated in the new stage" (p. 23).

have argued at different points in this dissertation (e.g. in section 8.2.2, see also Benedikter & Molz, 2011; Wilber, 2000).

Viewing the dialectical development of worldviews in this fashion, acknowledging how profoundly worldviews build forth on—and are thus indebted to—the worldviews before them, while simultaneously generating both their own potentials and pitfalls, lays the basis for a compassionate understanding of the different worldview-structures. As Kegan (1982) has argued, such "a developmental perspective naturally equips one to see the present in the context both of its antecedents and potential future, so that every phenomenon gets looked at not only in terms of its limits but its strengths" (p. 30). Moreover, as De Mul and Korthals (1997) argued, potentially, developmental theories, rather than being negatively disciplinary and oppressive, can be seen as "a means of liberation" (p. 254), helping to reveal the general underlying paths of development through which individuals, in their unique ways, move towards the fulfillment of their potentials, generally leading to greater awareness, internal freedom, overall well-being, and an ability to cope with the complexities of life in the twenty-first century (see e.g. Cook-Greuter, 1999; Cook-Greuter, 2000; Kegan, 1982, 1994).

9.1.3   *Relationship between individual and collective worldviews*

Another important consideration is the relationship between individual and collective worldviews and development. In this dissertation, I have primarily investigated worldviews as they manifest collectively. That is, I have used different methods and approaches—from an exploration in the history of ideas (chapter 2), a quantitative representative survey (chapter 4), to interview studies (chapters 5 and 7)—which all focus on the common patterns as found in collectively held worldviews.

However, as multiple theorists have argued, the intersubjective or collective (cultural) worldview-structures can be correlated with and should be understood in direct relation to the subjective (psychological) structures of the individual. For example, Jürgen Habermas (1976) has drawn explicit homologies between collective socio-cultural evolution (*phylogeny*) and individual, psychological development (*ontogeny*). He observed that various stages of individual development undergird historical-structural transformations

in the social domain (e.g., in moral, legal, and political systems). Also Ken Wilber (2000) has forged a detailed synthesis of the major developmental psychological and cultural trajectories. Both these theorists have emphasized the dialectical-developmental logic that seems to underpin these individual and collective structures of understanding and enacting reality, and both emphasize the centrality of the insights of the Neo-Piagetian developmental-structuralists.[106] In the words of Habermas (1976):

> Cognitive developmental psychology has shown that in ontogenesis there are different stages of moral consciousness, stages that can be described in particular as preconventional, conventional, and postconventional patterns or problemsolving. The same patterns turn up again in the social

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[106] Both Wilber's and Habermas' theory of cultural development is thus primarily grounded in the work of the Swiss psychologist Jean Piaget (1896-1980) and his followers. In the wake of the early pioneers in the field of psychology, Piaget employed empirical methods to observe and code the patterning of diverse capacities for thought and action, observed as human beings develop from infancy to adulthood. In this way, he rationally reconstructed the conditions for the possibility of various cognitive skills, and designated several stages that he saw as fundamental epistemological structures through which aspects of the world are cognized and disclosed. Over the course of his career, Piaget amassed a copious body of evidence for his developmental theory—known as *genetic epistemology* (referring to the origins or *genesis* of knowledge, *not* genetics in the biological sense of genes)—essentially pioneering the field of developmental-structuralism and inspiring many researchers to further probe, test, and expand on his model. This neo-Piagetian stream of developmental-structuralism has subjected Piaget's model to careful scrutiny, and the model has stood the tests of time and demonstrated both its scientific validity and cross-cultural universality (Gardiner & Kosmitzki, 2004). Moreover, researchers in the neo-Piagetian tradition have found evidence for cognitive development beyond the level of formal (abstract, rational) operations—that is, various levels of *post-formal* (systemic, dialectical) thinking (Commons, Richards, & Armon, 1984; Kegan, 1994; Rose & Fischer, 2009). Additionally, various researchers have used a broadly Piagetian developmental-structural approach to delineate stage models in a number of domains or lines such as *cognition* (Commons et al., 1984; Rose & Fischer, 2009), *consciousness* (Kegan, 1982, 1994, 2001), *ego-identity* (Cook-Greuter, 1999, 2000, 2002; Loevinger, 1977, 1987), and *morality* (Kohlberg, 1984). Thus, from a summative point of view, developmental-structural psychology demonstrates that individual development is characterized by discrete, invariant, and hierarchically structured stages in domains such as cognition, ego-identity, and moral reasoning that must be navigated in the process of learning.

evolution of moral and legal representations. The ontogenetic models are certainly better analyzed and corroborated than their social-evolutionary counterparts. But it should not surprise us that there are homologous structures of consciousness in the history of the species, if we consider that linguistically established intersubjectivity of understanding marks that innovation in the history of the species which first made possible the level of sociocultural learning. At this level, the reproduction of society and the socialization of its members are two aspects of the same process; they are dependent on the same structures (p. 99).

In the context of future research it could therefore be fruitful to explore whether and in what ways the body of knowledge coming forth through a wide range of theories of individual psychological development could be used to advance our understanding of worldviews. In such studies, one could potentially inform and refine the IWF by tentatively using the pool of cross-cultural evidence in (neo-)Piagetian research, using their empirically grounded theorizing to disclose various aspects of each worldview. For example, models of cognitive development may be used to facilitate the disclosure of the *epistemological aspect* of worldviews (e.g., Rose & Fischer, 2009); Kohlberg's (1984) model of moral development can potentially be used to undergird the further disclosure of the *axiological aspect* (see also Gilligan, 1982); while Cook-Greuter's (1999, 2000) and Kegan's (1982, 1994, 2001) models of human self-identity may support the underpinnings of the *anthropological aspect*. The developmental trajectories described by these researchers may thus coincide with the ontological, epistemological, axiological, anthropological, and societal visionary aspects of each of the major worldviews, thus potentially facilitating the further analysis and portrayal of the major worldviews in the IWF.

However, this perspective poses the question whether there is a domain so fundamental that it constitutes the basis for all others. Even though in my understanding worldviews are fundamental, comprehensive, overarching structures, thereby potentially integrating multiple domains and dimensions of development, it is questionable—and in the context of this dissertation certainly not defendable—whether they constitute a basis for all others. Instead, as it is sometimes conceptualized, rather than seeing worldviews as the fundamental

basis for all the different domains and dimensions of human development, worldviews may have a synthesizing and coordinating role between these different dimensions and domains. In the words of Korthals (1997):

> A related problem concerns the question whether we can find one domain so fundamental that it constitutes the basis for all others. One might think here of a domain of worldviews, the (usually tradition-based and hence societal) ways individuals experience themselves in the surrounding world. Worldviews then would encompass all further analytically distinguishable domains and dimensions, such as morality and moral reasoning. For instance, Kohlberg has argued that his theory of hard structural stages of moral judgment concerns only one aspect of the (soft structural) development of worldviews. […] From a narrative point of view, the way people conceptualize themselves as members of the world (i.e., their worldview) is fundamental and influences the ways domains (and dimensions) are conceptualized. However, the various developmental dimensions can be reconstructed differently by different theorists. It is thus better to say, not that worldviews constitute some kind of "master dimension," but that the coordination of the developmental dimensions in individuals or collectives is realized in their worldviews (Oser & Gmunder, 1991). (pp. 97-98)

9.1.4 Worldview-bias of the researcher

Another point of concern could be the potential 'worldview-bias' in this research. My research worldview as described in chapter one could be characterized as an integrative worldview, which has also been studied and portrayed in notably chapter seven. From a more conventional perspective on the philosophy and practice of science this could be seen as problematic, as this intimacy with the studied material (in this case, worldview) would be considered to deteriorate the necessary distance and therefore decrease the objectivity of the study. Although this indeed could be the case, from a more constructionist or pragmatist research-perspective, a certain worldview-bias is inevitable and the correct way to mitigate it is to engage in a reflexive process in which the bias is made explicit through articulating one's basic assumptions or research worldview (see e.g.

Creswell & Plano Clark, 2011). Hedlund (2008) describes this as the necessary—and potentially transformative—process of 'researching the researcher.' In the research paradigm of *integral research* such first-person research is deemed essential for optimizing the research process (see e.g. Esbjörn-Hargens, 2006; Esbjörn-Hargens & Wilber, 2006; Hedlund, 2008, 2010), and also for example Charles Taylor (1989) emphasizes the importance of such 'radical reflexivity.'[107] Moreover, especially when studying complex and sensitive human interiors that do not always readily disclose themselves—such as worldviews—intimacy with the studied material may be an advantage or even prerequisite for adequate disclosure (Tarnas, 2007). Most likely, this 'worldview-bias' will thus have had both positive and negative effects. On the one hand it has allowed me to potentially better understand and appreciate the deeper meanings and assumptions that interviewee's were attempting to share with me, and I also may have more easily won their trust to do so (as most individuals experience it to be easier to disclose intimate aspects of themselves with like-minded others than with alien others). Simultaneously however, I may have been more inclined to 'think to know' what the interview-participants intended to say, while in fact re-interpreting statements through my own frame of assumptions, or be tempted to view their disclosures too positively and uncritically. I have attempted to mitigate these potential negative biases in the following ways: 1) I have explicated my own research worldview and assumptions; 2) I have audio-recorded, verbatim transcribed, and member-checked every single interview conducted; 3) throughout the results of chapters five and seven I use interview-quotations abundantly in order to allow the voice of the interviewee's self to come through; 4) I have checked my interpretations of the interviews (e.g. as embodied in the results-sections of chapters six and seven) with multiple interview-participants from both studies, explicitly inviting them to correct any misinterpretations, missing themes, et cetera; 5) particularly in chapter seven I have attempted to include different, generally critical

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[107] In Taylor's (1989) own words: "In our normal dealings with things, we disregard this dimension of experience and focus on the things experienced. But we can turn and make this our object of attention, become aware of our awareness, try to experience our experiencing, focus on the way the world is for us. This is what I call taking a stance of radical reflexivity or adopting the first-person standpoint" (pp. 130-131).

perspectives on the (characteristics of) the disclosed worldview; and 6) all my findings have been checked with, and contextualized into, the larger body of literature around these topics. However, despite these efforts, a certain degree of 'worldview-bias' is, in my eyes, inevitable.

9.1.5   Focus on certain worldviews at the expense of others

Since the notion of worldview frequently invokes a global perspective on diverging, cultural worldviews, it is important to note that the sphere of research is limited to the West, both in the actual data-collection (which took place in both the Netherlands and North-America) as well as in the theoretical frameworks that I have primarily relied on. The theoretical frame and understanding of traditional, modern, and postmodern worldviews clearly takes modernity as reference point, and could thereby be argued to be 'Eurocentric.' However, it would be hard to argue that our contemporary world is not primarily influenced by, and thus has to be understood in terms of, modernity (see e.g. Giddens, 2009; C. Taylor, 1989). Moreover, as the results of the WVS demonstrate, these 'Western' societal and worldview-dynamics appear to be not only significant for the postindustrial(izing) world in Europe and Northern America, but also for the direction of (worldview-)development they may indicate for many economically quickly advancing societies in the rest of the world (Hallman et al., 2008; Inglehart & Welzel, 2005). Nonetheless, the insights and heuristic framework as presently developed need further testing and refinement in non-Western countries and cultures, and will likely need to be adapted in light of the insights emerging in these contexts.

Additionally, in general this dissertation focuses in more detail on the postmodern and newly emerging integrative worldviews than on the modern and traditional worldviews. This is so, because I was interested in the worldviews that appeared to have the greatest potential in terms of initiating and supporting social-cultural change in the direction of more sustainable societies. However, some authors debate the relevance of selective groups as the ones studied in chapters five, six, and seven. The low generalizability of the results is then argued to be a major limitation. In response to this criticism, qualitative and ethnographic researchers (e.g. Charmaz, 2006; Creswell, 1998; Seidman, 2006; Tashakkori & Teddlie, 1998) argue that the aim of such research is not to sketch

a picture that is generalizable towards the larger population, but to generate in-depth insight into, and rich descriptive detail of, the views of particular groups—in this case worldviews that have considerable potential for goals and issues of sustainable development. Through these studies, different sustainable potentials and pathways are highlighted and investigated—notably the three pathways to a sense of environmental responsibility in chapter five, the sustainable potentials as articulated in chapter six, and the 'sustainable social imaginary' in chapter seven. However, a focus on these worldviews is not meant to suggest that this is the worldview other individuals should aspire to. Rather, as explicated in chapter eight, insight in the differences between worldviews can empower one to become more reflexive of one's own worldview-position (that is, enhance one's cultural and psychological self-reflexivity) as well as of the assumptions undergirding the policies and solutions one is advocating (that is, enhance one's policy-reflexivity). Moreover, such insight will also facilitate a deeper—and thereby hopefully more empathic—understanding of the positions of other individuals and organizations, as well as of larger worldview-dynamics operating in society.

9.1.6   Heuristic approach

An important consideration is the heuristic nature of the IWF. Of course, there are well-known dangers attached to the use of ideal-typical, heuristic approaches, not the least of which is that of tautology (see e.g. Michael, 2002). Heuristic approaches have advantages as well as disadvantages. They "guide or impel us in certain directions. By doing so they tend to divert our attention from information beyond the channels they cleave, and so choke off possibilities" (Saler, in B. Taylor, 2010, p. 2). However, while heuristics might lead us to ignore or oversee important phenomena or dynamics, they simultaneously help us to focus analytic attention and yield insight. Such an approach therefore allows for the crystallization of each worldview, as well as synthesis with existing (inter)disciplinary empirical and theoretical research into worldviews. Especially in the context of attempting to understand a phenomenon as multifaceted, far-reaching, and intangible as worldviews, I consider the use of such a heuristic framework to be well justified. In this dissertation, I iteratively develop a new worldview-theory and heuristic, using a 'grounded theory' approach (see e.g.

Charmaz, 2006). That is, I started with laying the conceptual foundation for this theory or framework, basing myself on an extensive exploration of the concept of worldview as understood by philosophers throughout the ages in chapter two. Subsequently I both expanded on and evolved this framework, in interaction and confrontation both with other worldview-approaches and measures (chapter three), empirical, representative quantitative data generated in the Netherlands (chapter four), the sociological literature (chapter six), and interview-studies with selected individuals in both North-America and the Netherlands (chapters five and seven). Additionally, the three main worldview-structures as embodied in the five factors as found in chapter four—that is, a more traditional, modern, and postmodern worldview—were generated on the basis of a factor-analysis (grounded theory style) and thus not a priori introduced or theoretically imposed. That is, the Likert-type items for the survey were developed using the five different worldview-aspects (ontology, epistemology, et cetera) as heuristic in order to structure this enterprise, while the notion of a traditional, modern, and postmodern worldview was not used at this point (see section 4.3.2). It is therefore noteworthy that these three worldview-structures—however partially portrayed—emerged from the factor-analysis despite that these worldviews were not introduced at this point. Moreover, their resonance with many conceptual and empirical understandings in notably philosophy and sociology is striking, as I argue particularly in section 8.2.1. Nonetheless, further research empirically verifying and refining the general contours of the IWF is of utmost importance in this stage of theory-development.

9.1.7 *Worldviews emerging from the survey*

There are several limitations with respect to the survey of chapter four. This survey was partially a response to the generally much more narrowly focused existing measures as discussed in chapter three (e.g. the New Environmental Paradigm). The results of the survey show that a more comprehensive and systematic worldview-approach as supported with the five aspects of the IWF is useful, and that environmental attitudes and sustainable behaviors indeed can be understood in terms of larger, social-cultural worldview-dynamics in society. However, the survey-results simultaneously show that an even more comprehensive approach is asked for. This becomes particularly clear when

reflecting on the different worldview-structures as emerging through the factor-analysis. The understanding of notably the traditional and the modern worldviews appears to be partial and sketchy: somewhat limited insight is gained in what these worldview-structures consist of in a more wide-ranging sense. Both in-depth ethnographic studies as well as more comprehensive survey-research into particularly these worldviews would be useful. The different worldview-structures as described in table 14 could be used as heuristic for developing survey-research that aspires to consistently map and portray the different worldview-structures existing in the contemporary West (and beyond). Moreover, such surveys should explicitly explore and probe for the sustainable *potentials* of each worldview. Currently, unfortunately, the results seem to indicate considerable sustainable potentials for certain worldviews, while depicting fairly unsustainable attitudes and behaviors across the board for others. Perhaps, such a more comprehensive approach would reveal sustainable potentials that have now been overlooked due to the way the behavioral questions were formulated.

It is also unclear to what extent the Inner growth factor as emerging from the data-analysis presented in chapter four can be adequately understood as 'postmodern.' This factor is clearly 'post-material' in its understanding of reality and its basic value-orientations, and is in that sense unmistakably associated with a postmodern worldview-structure. At the same time, however, many statements that characterize this factor articulate a notion of development (albeit personal rather than historical or social) as central to its ontology and axiology, and in addition reflect the kind of 'both/and attitude' that appears to be characteristic for the integrative worldview (see e.g. Cook-Greuter, 1999; Cook-Greuter, 2000; Kegan, 1982, 1994). Future research should therefore test and substantiate (or reject) the qualitative differences between a more postmodern and integrative worldview, for example using the continuities and differences between these two worldviews as discussed in section 8.2.2. Overall, it thus seems opportune to develop a survey that comprehensively and systematically uses the four ideal-typical worldviews and the five worldview-aspects to explore, refine, and test our insights with respect to these major worldview-structures (as summarized in table 14) and their interface with goals and issues of sustainable development.

9.2 Conclusions: An overview of outcomes

After having discussed the most salient theoretical and methodological limitations and considerations of this study, I will now revisit, and attempt to answer, the five research questions as formulated in the introduction. In this I will build forth on the expanded articulation and understanding of the IWF as presented in chapter eight, in which I reflected on my results as generated through the studies of chapters four, five, six, and seven, and synthesized it with research and theoretical perspectives from notably sociology and developmental psychology. The five research questions were formulated as follows:

1. What is the nature of worldviews?
2. How can we empirically research worldviews and their interface with goals and issues of sustainable development?
3. Which worldviews currently co-exist in the Netherlands, and how do they interface with goals and issues of sustainable development?
4. How can we understand worldviews with particular potential for goals and issues of sustainable development, such as the emerging, 'integrative' worldview?
5. How can we use the gathered insights into worldviews for applying it to policy and practice for goals and issues of sustainable development?

9.2.1 Understanding the nature of worldviews

Some philosophers and worldview-theorists have argued that how we understand and conceptualize the notion of worldview is dependent on our own worldview (see e.g. Koltko-Rivera, 2004; Naugle, 2002; Sire, 2004). I therefore discuss in the first chapter my own positionality and *research worldview* (Creswell & Plano Clark, 2011). Contrasting my understanding of the concept of worldview with related notions, such as ideology, paradigm, religion, and notably discourse—particularly in light of their diverging ontological, epistemological, and axiological foundations and historical context—I describe my research worldview as an emergent ontological and epistemological position that honors not only the creative agency of the human subject, but also the reality and even agency of objects in the world (Bhaskar, 2008 (1975)). In this position, I am inspired by contemporary approaches that position themselves as

alternatives to both positivism and constructivism, building forth on some of their most important insights, while simultaneously aiming to transcend their widely perceived shortcomings—notably critical realism and integral theory (Alvesson & Sköldberg, 2009; Bhaskar, 2008 (1975); Esbjörn-Hargens & Wilber, 2006). In this context I argue that in my understanding and usage of the term, the notion of worldview reflects a commitment to both a constructivist/critical perspective as well as to a realist one. This comes to expression in the word worldview, which emphasizes *view* equally to *world*, and integrates them into a larger, or higher-order, whole. As I am employing it, the concept thus reflects a philosophical perspective that attempts to integrate the most important insights of both positivism—which tends to emphasize a *world* that can be objectively investigated by a researcher external to its object of study—and social constructivism—which tends to emphasize our *view* as human construction and product of historical, political, and cultural contingencies. Moreover, while postmodern discourse theory is typically characterized by an 'incredulity towards metanarratives' and an emphasis on exposing their underlying power dynamics (Torfing, 2005), worldview-theorists tend to argue that overarching frameworks are inevitable and even useful for human cognition and functioning (K. A. Johnson et al., 2011; Koltko-Rivera, 2004; Naugle, 2002; Sire, 2004; C. Taylor, 1989), while simultaneously acknowledging the ways they are informed by power and power struggles. While the postmodern position tends to be of an anti-hierarchical, anti-essentialist, and frequently nihilistic nature (Alvesson & Sköldberg, 2009; Butler, 2002), I tend to maintain a generally dialectical-developmental view of culture and society (see also Bhaskar, 2008 (1975); Habermas, 1976; Inglehart & Welzel, 2005; Wilber, 1995). Lastly, I argue that the concept of worldview is particularly significant in the context of our contemporary, late post-modern predicament, which is characterized by a plurality of competing and frequently intensely polarized worldviews, urgent, multifaceted, and increasingly interconnected planetary issues that demand the coordination of such polarized perspectives, and a profound loss of meaning and purpose among many due to the loss of overarching narratives (see also Benedikter & Molz, 2011; C. Taylor, 1989). In my eyes, worldview is therefore truly a concept 'whose time has come.'

In the second chapter, I review the conceptualizations of 'worldview' of a series of philosophers whose views profoundly changed the spirit of an era, and are to some extent symbolic and representative of the larger currents of change taking place in the Western worldview—Plato, Kant, Goethe, Hegel, Nietzsche, Heidegger, the postmodern thinkers (Foucault, Derrida, Lyotard), as well as contemporary currents such as critical theory, integral theory, and critical realism. On this basis, I define worldviews as "inescapable, overarching systems of meaning and meaning-making that to a substantial extent inform how humans interpret, enact, and co-create reality." Thus, the concept of worldview not only conveys that the world is viewed differently by different viewers, but also that those different viewers tend to enact, co-create, and bring forth different worlds—thereby emphasizing the power, significance, and potential of one's worldview. In Tarnas' (1991) words, "world views create worlds." Additionally, I propose the *Integrative Worldview Framework* (IWF), which differentiates at least five interrelated aspects to the concept: ontology, epistemology, axiology, anthropology, and societal vision or social imaginary. A worldview is thus understood to be a complex constellation of ontological presuppositions, epistemic capacities, and ethical and aesthetic values that converge to dynamically organize a synthetic apprehension of the exterior world and one's interior experiences. This framework forms the conceptual foundation of my study, and facilitates the operationalization of the worldview-construct for empirical research, thereby making this somewhat abstract concept readily researchable. It may also serve as a tool supporting the process of exploration of and reflection on our worldviews—individual as well as collective, in research and in practice—thereby attempting to contribute to a process of cultural and social change towards a more sustainable society (in chapter eight, this idea is elaborated upon and suggestions for more reflexive policy-making and communications are offered). Lastly, I conclude that worldviews are profoundly historically and developmentally situated, arguing that the evolution of the worldview-concept is suggestive of an increasing reflexivity, creativity, responsibility, and inclusiveness—each of which are qualities that appear to be crucial for the global sustainable development debate.

9.2.2 Empirically investigating the structure of worldviews

In light of the need for more robust, empirical research into the relationship between worldviews and sustainable development, I review and analyze existing measures such as the *New Environmental Paradigm* in chapter three. This review of multiple survey-approaches, which stem from different disciplinary and theoretical traditions, results in a meta-analysis of their strengths and weaknesses. On this basis it is concluded that a more optimal approach to empirically exploring worldviews should be comprehensive, systematic, and measure structural worldview-beliefs. Moreover, it is argued that a more optimal approach should be able to account for human and cultural development, instead of being limited to the frequently used binary frameworks (e.g. New Environmental Paradigm versus Dominant Social Paradigm, intrinsic versus instrumental values of nature, preservation versus utilization), which are unable to account for the cognitive possibility of integration. In sum, I argue for a new approach to exploring worldviews, thereby highlighting the value of the IWF . The operationalization of worldviews into (at least) five different aspects illuminates the *structure* of worldviews (i.e., worldviews consist of ontological assumptions, epistemological assumptions, et cetera), thereby facilitating a more systematic, comprehensive, and structural approach to exploring worldviews. Simultaneously however, these five aspects do not shed light on the content or *categories* of different worldviews (i.e., while one worldview assumes reality to be ultimately of a material nature, another worldview presupposes the nature of reality to be ultimately transcendent). In terms of such categories of worldviews, I propose to use a worldview-theory based on a *dialectical-developmental* perspective (see e.g. Inglehart & Welzel, 2005; O' Brien, 2009; Ray & Anderson, 2000).

In chapter four, which reports the development, conduction, and results of a large survey conducted in the Netherlands (n=1043), the usefulness of this framework is suggestively established, as the found factors reflect profoundly different conceptualizations of reality or worldviews, as comes to expression in the different ontological, epistemological, axiological, anthropological, and 'societally visionary' statements that they consist of. With respect to the dynamics of worldviews as found in this study, the research seems to point at the existence of at least three 'families of views' in contemporary Dutch society,

which however are only partially portrayed in this study. The worldviews that emerged from the data resonate with Taylor's conceptualization of an Enlightenment-inspired, instrumental, disengaged understanding of reality (or more modern worldview), a Post-Romantic, expressive cultural current that sees nature as inner source (or more postmodern worldview), and a theistic worldview (or more traditional worldview). These findings thereby seem to suggest the usefulness of the operationalization of the worldview-concept into different aspects, as well as potentially a dialectical-developmental perspective that differentiates traditional, modern, and postmodern worldviews as heuristic framework. However, further research into these different worldview-structures is needed.

Particularly chapter seven explores the integrative worldview in more detail. Moreover, in this chapter the different aspects of the IWF are used as tool for the generation of data in the form of the construction of the interview-guide, thus demonstrating that the IWF cannot only be used for quantitative survey research as done in chapter four, but also for qualitative research. In chapter eight, existing research from notably sociology and developmental psychology is used in order to further elaborate upon the different worldviews (with section 8.2.2 exploring and discussing the differences and continuities between the postmodern and integrative worldviews). The IWF consisting of a structure of at least five worldview-aspects—that is, ontology, epistemology, axiology, anthropology, and societal vision—in combination with at least four ideal-typical worldviews—that is, a traditional, modern, postmodern, and integrative worldview—appears to be a useful and promising *heuristic* for empirically investigating worldviews and their relationship to sustainability issues. Thus, I argue, the IWF could function as foundation for a new worldview-theory, which, of course, needs to be further explored, tested, and refined.

9.2.3 *Exploring various worldviews and their relevance for sustainable development*

Notably chapter four portrays the different worldview-structures that are present in the contemporary cultural landscape of a post-industrial society like the Netherlands. Although these three worldview-structures appear to be far from complete, the resonance with for example Taylor's perspective of a

traditional, modern, and postmodern worldview, as well as that of the results of the World Values Survey, is striking. At the same time, as I have also discussed in the above methodological section (9.1.2), many questions with regards to these worldview-structures still exist. For example, while especially the traditional worldview is only sketchily portrayed, the worldview-factor of Inner growth raises the question whether it may be more aptly signified as postmodern or as integrative. In addition to insight into the existence of these worldviews, chapter four also helps to illumine which of these worldviews has particular relevance for goals and issues of sustainable development. The results of this study show that there are significant correlations between worldviews, environmental attitudes, and sustainable lifestyles in the Netherlands:

The overlapping worldview-factors of Inner growth and Contemporary spirituality (which can potentially be understood as a more secular and a more spiritual variation of a postmodern worldview), tend to be significantly related to the pro-environmental attitudes of Connectedness with nature and Willingness to change, as well as to more sustainable lifestyles—particularly in terms of food choices, transportation behaviors, political preferences, action and participation, and support for societal organizations.

The overlapping worldview-factors of Secular materialism and Focus on money (which potentially can be interpreted as different variations of a more modern worldview), tend to be significantly related to Technological optimism—an attitude signifying belief in markets and technology as solution to environmental issues, combined with a rejection of individual responsibility for these issues—and generally less sustainable lifestyles.

The worldview-factor of Traditional God can potentially be seen as a portrayal —albeit partial and unsatisfactory—of a more traditional worldview. This worldview demonstrates somewhat ambiguous tendencies in terms of its sustainable lifestyles and environmental attitudes, correlating both with Connectedness with nature and Technological optimism (though less strongly than the other worldviews), and with certain environmental behaviors and lifestyles, while not with others.

Interestingly, some behaviors seem to be less or not at all informed by worldviews and environmental attitudes, such as energy consumption, and thus may need to be explained by other factors (see also Vringer, 2005). From the

perspective of Self-Determination Theory (SDT), the results of this study seem to suggest that, as SDT would hypothesize, individuals endorsing more *intrinsically oriented* worldviews (notably Inner growth) tend to behave in more pro-social ways, showing a sense of personal responsibility in their environmental attitudes and generally engaging in more sustainable lifestyles. Simultaneously, the more *extrinsically oriented* worldviews of Focus on money and Secular materialism appear to be related to Technological optimism and generally less sustainable lifestyles.

The study reported in chapter four thereby seems to provide suggestive evidence for the idea that sustainable lifestyles might be (also) conceptualized as positive behaviors that *indicate* psychological health and well-being (as a result of being intrinsically oriented in life) and potentially also *facilitate* psychological health and well-being (see also Corral Verdugo, 2012; De Young, 1996). Overall, the found worldviews hold different, and to some extent even opposed, attitudes towards the environment, while also displaying different tendencies in the sustainability of their lifestyles. In that way, the study gives an overview of potentially relevant worldviews and their relationships to environmental attitudes and sustainable lifestyles in the Netherlands.

9.2.4 *Deepening insight into worldviews with particular potentials for sustainable development*

As the results of the survey demonstrated, several cultural phenomena, such as the culture of contemporary spirituality, the contemporary emphasis on inner growth and self-exploration, and the emphasis on nature experience and connectedness appear to be of particular interest in this context. Chapters five, six, and seven therefore report the further investigation of these phenomena, such as spiritual nature experiences (chapter five), contemporary spirituality (chapter six),[108] and the integrative worldview (chapter seven), and their interface with goals and issues of sustainable development.

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[108] The culture of contemporary spirituality appears to resonate with the central ideas of both the Inner growth and Contemporary spirituality factors. That is, even though the Inner growth factor phrases its ideas and commitments in secular rather than spiritual terms, the general content of these ideas is highly congenial to these of contemporary spirituality, such as in its focus on inner growth, the endorsement of post-material values, et cetera. Also from

In chapter five, contemporary nature spirituality is made comprehensible and palpable for the reader by offering an *insiders-perspective* into it. This is done through exploring the spiritual dimension of nature experience and its relationship to environmental responsibility, as reported in semi-structured, in depth interviews (n=25) with nature-lovers/environmentalists and spiritual practitioners in Victoria, Canada. Although these individuals were not directly asked for their worldviews, their understanding and experience of both nature and spirituality were extensively explored, thereby providing insight into central aspects of their worldviews, including their ontologies, epistemologies, axiologies, and anthropologies. Many participants explained that these spiritual nature experiences profoundly informed their worldviews, sense of environmental responsibility, and sometimes their career choices. The research thereby illuminates three pathways to a sense of environmental responsibility: profound encounters with nature, contemporary spirituality, and their convergence in spiritual nature experiences.

Chapter six reports an investigation of the sociological literature on the culture of contemporary spirituality, resulting in a delineation and overview of its potentials and pitfalls for sustainable development. This chapter demonstrates that this culture and worldview can both be a potentially promising force, as well as a phenomenon posing specific risks. Table ten gives a concise overview of the main potentials and pitfalls as identified in this study. Moreover, a developmental-structural understanding was introduced in order to be able to distinguish between more monistic and more integrative tendencies in this culture.

In chapter seven, I focus on the integrative worldview, which, according to several authors, attempts to reconcile rational thought and science with a spiritual sense of awe for the cosmos (Benedikter & Molz, 2011; Esbjörn-

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a theoretical perspective this appears to be particularly relevant, as social scientists have claimed that the rise of contemporary spirituality is a pivotal part of the gradual but profound change taking place in the Western worldview, both reflecting the larger cultural development as well as giving shape and direction to it (Campbell, 2007; De Hart, 2011; Hanegraaff, 1996; Heelas, 1996; Inglehart & Welzel, 2005). Moreover, several authors have pointed at the ecological sensibility and the sense of personal responsibility that is frequently associated with this subculture (see e.g. De Hart, 2011; Giner & Tábara, 1999; Hanegraaff, 1996; Heelas, 1996; Heelas & Woodhead, 2005; Kronjee & Lampert, 2006; B. Taylor, 2010).

Hargens & Zimmerman, 2009). This study generates insight into this worldview by qualitatively exploring it in semi-structured, in-depth interviews with integrative environmental leaders and innovators (n=20). The results demonstrate that these individuals tend to: share an evolutionary/developmental, spiritual-unitive perspective on the nature of reality (ontology), hold a positive view on human nature as characterized by a vast, though generally unrealized, potential (anthropology), emphasize an internalization of authority, as well as an integration of multiple modes of knowing (epistemology), and engage in their sustainability-work from a spiritual foundation (axiology). The results also show how these premises logically flow forth in a 'sustainable social imaginary,' which is 1) positive; 2) emancipatory; 3) inclusive of post-rational ways of working/knowing; and 4) integrative/synthetic. The chapter concludes that this social imaginary—particularly because of its compatibility with other worldviews and its attempt to integrate and synthesize (instead of polarize with) other perspectives and viewpoints—may serve the important task of public communication and large-scale mobilization for sustainable solutions to our pressing, planetary issues.

9.2.5 *Applying insights in worldviews to sustainability policy and practice*
An important contribution of this dissertation to sustainability policy and practice are the possibilities that the IWF offers for enhancing reflexivity vis-à-vis the policy-making process. As demonstrated in chapter eight, the IWF has the potential to serve as: 1) a heuristic for cultural and psychological self-reflexivity; 2) an analytical tool for understanding worldview-dynamics in society; and 3) a scaffolding for effective sustainability communications and solutions. By reflecting on and clarifying the worldview that undergird one's aims, the way one attempts to realize those aims through policies and practices, as well as one's evaluation of their outcomes, may have a powerful and transformative effect on the policy-making process. Moreover, a basic understanding of the structure and dynamics of worldviews in the contemporary context is likely to contribute to more attuned and thus more effective communication and cooperation for sustainable solutions. For example, while certain (e.g. ideal-typically 'postmodern') audiences may be compelled by arguments based on inter-generational justice, ecosystem health, global

interconnectedness, and species preservation, other (e.g. ideal-typically 'modern') audiences may be more convinced by arguments around economic competitiveness and job creation, or by the personally felt consequences of a carbon tax or certain economic benefits. To foster such reflexivity, I recommend that communicators, strategists, and policy-makers engage in a reflective inquiry with an eye for self-assessment of their own predominant worldview structure, using, for example, the IWF. The IWF can thereby function as a concrete tool for facilitating the emergence of more *reflexive* forms of governance (see e.g. Huitema et al., 2011; Voß & Kemp, 2006) as well as increasing their democratic and deliberative quality (Hajer & Versteeg, 2005). As PBL Netherlands Environmental Assessment Agency has argued, thinking from the perspective of diverging worldviews may help to intercept less sustainable policy strategies and detect transverse connections. The confrontation of worldviews may then form the starting point of a creative process for the seeking of syntheses and new pathways for policymaking (PBL, 2004).

Additionally, the integrative worldview as explored and portrayed particularly in chapter seven may have specific relevance in this context, as it may be of support to develop policies, practices, communications, and interventions that are compatible with and attuned to multiple worldview-audiences—precisely because of the integrative nature of this worldview. Moreover, the successful and innovative change-agents interviewed in chapter seven articulate powerful ideas that anyone developing sustainability policies or practices may be able to learn from or be inspired by. For example, these leaders emphasized *integrative/synthetic* ways of working—that is, ways of working that aim to align, integrate, and synthesize environmental and sustainability values and interests with a diverse range of other societal values and interests, aspiring cooperation and collaboration instead of polarization, thereby potentially also depoliticizing environmental issues (or diminishing some of the unnecessary politicization; see also Zimmerman, 2012). Moreover, as logically follows from their evolutionary, spiritual-unitive ontology, most participants tended to argue for a *positive approach* towards sustainability-issues. They described to be moved by an inspiring vision of what a sustainable society could look like, rather than by fear about or discontent with the present state of affairs. Several of them emphasized the importance of communicating such an inspiring vision to the

larger public, rather than fear, doom scenarios, failures, and guilt—which appears to be in line with recent insights about how to effectively communicate climate change. In fact, several authors claim that a 'vision of a future worth fighting for' is the great absentee in current climate communications (see e.g. Futerra, 2005, 2009; Moser, 2007; Moser & Dilling, 2007).

Lastly, also the special role of nature and nature experience deserves explicit mention. As primarily chapters four and six show, the potential of nature (experience) is great. Chapter four demonstrates how a sense of connectedness to nature is correlated to more sustainable behaviors and lifestyles, including for example consumer choices, political priorities, and citizen initiatives. This underscores the important role of (both national and local) governments in making such a sense of connectedness with nature physically possible by making/keeping nature easily accessible, particularly in the cities. These chapters also draw attention to the importance of nature education (and perhaps more importantly, profound nature experiences) for children. As notably chapter five shows, such profound experiences of nature can change people's worldviews, and career's. For many activists, it was unforgettable experiences in nature that initially sparked their commitment to their environmental and sustainability work (see also Chawla, 1998). Moreover, the interview-participants of both studies seemed to share an immense respect for nature, a reverence that informed their orientations and behaviors in life in a profound way—which was also found to be a result of wilderness programs with representative individuals (Kaplan, 1995; Kaplan & Talbot, 1983; Talbot & Kaplan, 1986). Next to numerous other health, psychological, social, and environmental benefits of nature (see e.g. Frederickson & Anderson, 1999; Herzog et al., 1997; Kaplan & Talbot, 1983; Parsons et al., 1998; Talbot & Kaplan, 1986; Ulrich et al., 1991; Weinstein et al., 2009; Williams & Harvey, 2001), this finding should alert organizations aiming for more sustainable practices, policies, and societies, encouraging them to facilitate people to experience nature, both frequently and intensively.

9.3 Future perspectives: Societal and policy-implications

In this dissertation I have attempted to generate insight into the complex interface between worldviews and goals and issues of sustainable development, thereby focusing on how to define, operationalize, and empirically research worldviews (particularly in chapter two, three, and four). In addition, I explore the larger landscape of different worldviews in the contemporary West and their relevance for environmental policy-making (particularly in chapters four and eight), and zoom in on newly emerging worldviews such as the integrative worldview (particularly in chapter seven), and associated phenomena such as the culture of contemporary spirituality and nature spirituality (particularly in chapters five and six). What then, are the larger societal and policy-implications of this extensive study?

In the first place, empirical research into values, beliefs, and attitudes could benefit from the kind of overarching, heuristic that the IWF aspires to be. The IWF, with its differentiation of at least five different aspects, and at least four different major ideal-typical worldviews, deserves further empirical scrutiny and research. When used as a heuristic, it can both generate more case-specific insights into worldviews and worldview-dynamics in society, as well as further the process of laying the foundation for a new worldview-theory. For example, in a new research project at the University of Technology in Delft, I am using the IWF as analytical tool for understanding the complex—high potential, high uncertainty, and high-stakes—societal debate around the controversial policy concept of the 'bio-based economy' or 'bio-economy' (see e.g. Birch, Levidow, & Papaioannou, 2010; Koppejan & Asveld, 2011; Schmid, Padel, & Levidow, 2012). In this project I am not only using the IWF for analyzing and structuring the societal debate, but also as a support and blueprint for developing a large-scale, representative survey that will be conducted in four different countries on four continents (that is, the Netherlands, Brazil, USA, and Malaysia). In this way, the IWF in its expanded articulation and understanding will be empirically tested and refined, used in a wider range of cultural contexts, and explored in terms of its potential for policy-application and communication.

Secondly, worldviews and their powerful effect on and interface with goals and issues of sustainable development need to be explicitly and systematically included in sustainability policies, practices, and initiatives.

Worldviews—and the cultural and psychological dimensions of sustainability-issues more generally—remain too often overlooked in the sustainability discourse, while potentially providing an essential key in the necessary large-scale transitions towards more sustainable societies and lifestyles (see e.g. O' Brien, 2010). Tracking and researching (changes in) worldviews is salient for environmental policy, policy-makers, and politicians, as their effectiveness appears to be greatly influenced by the extent to which their messages are able to speak to and resonate with the *Zeitgeist*—that is, the deep cultural meanings, values, and worldviews arising within the public sphere. As extensively discussed in chapter eight, an understanding of the incredibly complex, highly pluralistic, and dynamic cultural landscape that characterizes our contemporary world appears to be essential to the development of effective sustainability policies and tailored communications. In that way, environmental policy may be empowered to not only be more keenly attuned to where a substantial portion of the population is at (and headed), but potentially also engage our increasingly urgent global environmental issues in a more creative and inspiring, hopeful and meaningful way.

Sustainability practices and policies could therefore benefit from a systematic reflection on, and exploration of, worldviews—both of the policy-makers, communicators, and strategists in case, as well the of publics they are intended to engage with (see also Sarewitz, 2004). Systematic and comprehensive reflection on, and exploration of, our collective and individual worldviews is likely to generate more pluralistic, inclusive, and attuned policy-proposals and initiatives that can unite and mobilize the larger public, instead of (further) polarizing it. A systematic and self-reflexive worldview-analysis of policy proposals and campaigns could go a long way of ensuring that the needs, interests, values, and frameworks of the population as a whole are (as much as possible) taken into account and included, rather than these proposals merely reflecting the ideas and interests of the policy-making elite itself. In some sense, such a more inclusive and pluralistic policy-strategy could, in a context in which public policy is intended to serve the public at large, potentially even be considered a democratic obligation. Moreover, such a systematic, self-reflexive approach to sustainability-issues could profoundly support the kind of cultural transformation that is frequently argued to be essential in the shift towards more

sustainable societies. Such self-reflexivity— psychological, cultural, and political—should therefore become the rule rather than then exception, and could potentially be institutionalized in the policy-making process. Also PBL Netherlands Environmental Assessment Agency has argued that national and international policy-making could be made more effective by explicating the underlying worldviews that policy-proposals and strategies are based upon (PBL, 2004, 2008). Although clearly much research remains to be done (including studies exploring this kind of practical potential in the context of the policy-making-process), the IWF has the potential to contribute to such applied reflexivity.

Additionally, the cultural development coming to expression in newly emerging worldviews such as the integrative worldview and such phenomena as contemporary (nature) spirituality can be seen as a fundamental *cultural and/or spiritual re-orientation* of a substantial amount of the public in Western societies. These developments signify discomfort with, and reflection on, dominant assumptions and attitudes, resulting in experiments into alternative ways of living and working, relating and consuming, being and seeing. These experiments are gradually transforming mainstream culture: one just need to look around to see how conscious businesses, vegetarian food, green technologies, complementary medicine, self-help therapies, yoga-studios, spiritual ideals, natural living, and creative solutions are penetrating contemporary culture, art, fashion, and media (e.g. Heelas & Woodhead, 2005; Ray & Anderson, 2000; B. Taylor, 2010; E. Taylor, 1999). Moreover, environmental challenges may also catalyze and reinforce such a profound cultural, ethical, and even spiritual reflection and re-orientation in the larger public, including the mainstream. For example, the concept of anthropogenic climate change and its potentially catastrophic consequences for (human) life on earth may challenge certain worldviews and invite for existential inquiries into the meaning and purpose of life (Hulme, 2009; O' Brien, 2010). Policy-makers and politicians can—and should—thus enact environmental issues as an opportunity to ask essential questions and invite reflection on our worldviews, values, and our vision for the future, on our relationships to nature and our fellow human beings. In the words of Hulme (2009), "We need to reveal the creative psychological, spiritual and ethical work that climate change can do and

is doing for us. By understanding the ways in which climate change connects us with these foundational human attributes we open up a way of re-situating culture and the human spirit at the heart of our understanding of climate" (p. xxxvii). Issues of sustainable development have the potential to make us re-think our relationship to ourselves, each other, and nature—to life and love itself. And since, in the words of Tarnas (2007) "world views create worlds" (p. 16), this may prove to be of powerful importance in the transformation to more life-enhancing, thriving, sustainable societies.

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Summary

Worldviews and the transformation to sustainable societies: An exploration of the cultural and psychological dimensions of our global environmental challenges

In the global debate on sustainable development there appears to be a growing recognition of the importance of worldviews vis-à-vis the urgently needed transformation to more sustainable societies. As Mike Hulme (2009) argues in his widely lauded book '*Why we disagree about climate change*,' debates about global environmental challenges such as climate change are disputes about ourselves—about our dreams, our fears, our assumptions, our identity—that is, about our worldviews. Some authors contend that the multiple crises we currently face are not only environmental, technological, economic, and political-institutional in nature, but also philosophical-existential, psychological, cultural, and even spiritual. Thus, worldviews are increasingly—and from a variety of perspectives and disciplinary angles—considered to be of vital importance in our timely quest for sustainable societies. A central argument and premise of this dissertation is therefore that an understanding of worldviews plays a major role in addressing our highly complex, multifaceted, and interwoven global sustainability issues.

The purpose of this dissertation, then, is to contribute to social-cultural transformation in the direction of more sustainable societies, by generating insight into the nature and structure of worldviews in the contemporary West and their interface with goals and issues of sustainable development. This aim is divided into five sub-aims, which can be summarized as follows:

1) Understanding the nature of worldviews;
2) Empirically investigating the structure of worldviews;
3) Exploring various worldviews and their relevance for sustainable development;
4) Deepening insight into worldviews with particular potentials for sustainable development; and
5) Applying insights into worldviews to sustainability policy and practice.

In the first chapter, I carefully argue why worldviews are understood to play a major role in addressing our complex sustainability issues from four different disciplinary perspectives: philosophy, psychology, sociology, and political science. Despite diverging positions on the subject, environmental philosophers generally tend to see worldviews (and frequently the Western worldview) as 'root-cause' of our sustainability issues, and a profound change in them (or it) therefore as crucial to the process of forging solutions. Environmental psychologists argue that a change of individual lifestyles is essential in the transition towards more sustainable societies, and an understanding of worldviews therefore significant. Consider for example the complex task of changing culturally embedded behavior patterns such as meat consumption, car- and energy use, voting, consumption of 'green' products, and support for environmental organizations and -policy. Moreover, as sociological research indicates, profound shifts in (the Western) worldview are already taking place, informing social and grassroots movements, environmental initiatives, democratic functioning, and societal change. There are also arguments from the perspective of environmental policy-making, as a critical reflection on the—often implicit—worldviews that policies are based on potentially helps to intercept less sustainable policy strategies and may form the starting point for more reflexive forms of policy-making. Finally, I elaborate in this chapter on my 'research worldview,' and contextualize the chosen *mixed methods* research design therein. This design consists of quantitative (a large-scale representative survey in the Netherlands) and qualitative (in-depth interviews in Canada, the United States, and the Netherlands) studies, in combination with extensive literature reviews.

The nature of worldviews remains controversial, and it is still unclear how the concept can best be operationalized in the context of research and practice. In chapter two I therefore explore the nature of worldviews *(aim 1)*. I do this through investigating various conceptualizations of the term in the history of philosophy, focusing on the ideas of Plato, Kant, Goethe, Hegel, Nietzsche, Heidegger, and several contemporary currents (e.g., social constructivism) and their potential successors (critical theory, integral theory, critical realism). This review shows that worldviews can be understood as inescapable, overarching systems of meaning and meaning-making that to a

substantial extent inform how humans interpret, enact, and co-create reality. I then propose the *Integrative Worldview Framework* (IWF). This framework operationalizes worldviews by differentiating them into five constitutive, interrelated aspects—ontology, epistemology, axiology, anthropology, and societal vision (or social imaginary). An *ontology* is a perspective on the nature of reality, a vision of 'what is' (including the nature of nature, the origin of the universe, the presence or absence of a God or the divine). An *epistemology* is a perspective on how knowledge of reality can be attained (what is valid knowledge, and why?). An *axiology* is a perspective on what a 'good life' is, both in a moral sense (ethical values) and in terms of the quality of life (aesthetic values). An *anthropology* is a perspective on who or what a human being is and what his/her role and position in the world, or even the universe, is. A *societal vision* is a perspective on how society should be organized and societal problems (including environmental ones) addressed. A worldview provides—even though frequently implicitly—answer to all these questions and concerns. Thus, by distinguishing these different aspects, the somewhat abstract and ambiguous concept of 'worldview' becomes readily researchable *(aim 2*; see also table 2, p. 80*)*. Lastly, I conclude that worldviews are profoundly historically and developmentally situated, arguing that the evolution of the worldview-concept is suggestive of an increasing reflexivity, creativity, responsibility, and inclusiveness—each of which are qualities that appear to be crucial for the global sustainable development debate.

In light of the need for more robust, empirical research into the relationship between worldviews and sustainable development, I aim to advance such (survey) research *(aim 2)* in chapter three. I do this by analyzing and critiquing existing measures such as the *New Environmental Paradigm*, on the way to developing a new conceptual and methodological approach. First, a review of multiple survey-approaches, stemming from different disciplinary and theoretical traditions, is conducted. This results in a meta-analysis of their strengths and weaknesses. On this basis it is concluded that a more optimal approach should be more comprehensive, systematic, and measure structural worldview-beliefs. Moreover, I argue that a more optimal approach should be able to account for human and cultural development, instead of being limited to the frequently used binary frameworks (e.g. New Environmental Paradigm versus Dominant Social

Paradigm, intrinsic versus instrumental values of nature, preservation versus utilization), which are unable to account for the cognitive possibility of integration. I then argue that the IWF is able to support such a systematic, comprehensive, structural, and dynamic operationalization of the worldview-construct. In this way, a conceptually and methodologically innovative approach to exploring worldviews and their relationship to sustainable behaviors is developed and argued for.

In chapter four I use the IWF to empirically and quantitatively explore how environmental attitudes and sustainable lifestyles are related to worldviews in both individuals and (Western) society at large—thus testing the utility of the IWF for investigating worldviews *(aim 2)* as well as exploring different worldviews and their relevance for sustainable development *(aim 3)*. First, environmental attitudes are placed in a larger historical-cultural context (on the basis of Charles Taylor's work) and psychological context (using Self-Determination Theory, or SDT). Then, a questionnaire exploring worldviews, environmental attitudes, and sustainable lifestyles was developed and conducted with 1043 individuals in the Netherlands. Principal component-analyses resulted in five worldview-factors, labeled *Inner growth*, *Contemporary spirituality*, *Traditional God*, *Focus on money*, and *Secular materialism*, and three environmental attitudes, *Connectedness with nature*, *Willingness to change*, and *Technological optimism*. The results show that notably Inner growth and Contemporary spirituality are related to Connectedness with nature and Willingness to change, which are related to more sustainable lifestyles. In contrast, Focus on money and Secular materialism are related to Technological optimism, which tends to be related to less sustainable lifestyles. This study thus shows that there is indeed an empirically demonstrable relationship between how people understand and interpret the world (worldviews) and a variety of environmentally relevant behaviors, such as meat consumption, car use, voting behavior, and support for environmental organizations. In line with SDT, these results suggest that more intrinsically oriented (or 'eudaimonic') worldviews correlate positively with pro-environmental attitudes and lifestyles, while more extrinsically oriented (or 'hedonic') worldviews correlate negatively. In line with Taylor, these results can also be interpreted to indicate the existence of (at least) a more traditional, modern, and postmodern worldview in the Netherlands.

As the results of the survey demonstrate, several phenomena, such as contemporary spirituality, the cultural emphasis on inner growth and self-exploration, and the popularity of nature experience and connectedness with nature appear to be of particular relevance for sustainable development. Chapters five, six, and seven therefore report the further investigation of these phenomena, such as spiritual nature experiences (chapter five), the culture of contemporary spirituality (chapter six), the integrative worldview (chapter seven), and their interface with sustainable development *(aim 4)*.

In chapter five, I offer an *insiders perspective* into contemporary nature spirituality, thereby making the inner experience of this phenomenon more comprehensible and palpable for the reader. This is done through a qualitative exploration of the spiritual dimension of nature experience and its relationship to environmental responsibility, as reported in 25 semi-structured, in-depth interviews with nature-lovers/environmentalists and spiritual practitioners in Victoria, Canada. Although these individuals were not explicitly asked about their worldviews, their understanding and experience of both nature and spirituality were extensively explored, thereby providing insight into central aspects of their worldviews, including their ontologies, epistemologies, and axiologies. As the interviews demonstrate, seeing nature as imbued with meaning, intrinsic value, and/or the sacred seems to engender an increased sense of environmental responsibility. Simultaneously, a natural, evolutionary, this-worldly understanding of spirituality tends to lead to a 'kinship with all life'-ethics. The participant's spiritual nature experience was characterized by three key-themes—labeled *Presence*, *Interconnectedness*, and *Self-expansion*. Many participants explained that these spiritual nature experiences profoundly informed their worldviews, sense of environmental responsibility, and sometimes their career choices. The research thereby illuminates three pathways to a sense of environmental responsibility: profound encounters with nature, contemporary spirituality, and their convergence in spiritual nature experiences.

Chapter six reports an investigation of the sociological literature on the culture of contemporary spirituality, resulting in a delineation and overview of its potentials and pitfalls for sustainable development. This chapter demonstrates that this culture can both be a potentially promising force, as well as a phenomenon posing specific risks, for sustainable development. Table thirteen

(p. 196) gives a concise overview of the primary potentials and pitfalls as identified in this study. Moreover, a developmental-structuralist understanding is introduced in order to be able to distinguish between more monistic and more integrative tendencies in this culture.

In chapter seven, I focus on the integrative worldview, which, according to several authors, attempts to reconcile rational thought and science with a spiritual sense of awe for the cosmos. This study generates insight into this worldview by qualitatively exploring it in 20 semi-structured, in-depth interviews with integrative environmental leaders and innovators *(aim 4 and 2)*. The results demonstrate that these individuals tend to: share an evolutionary/developmental, spiritual-unitive perspective on the nature of reality (ontology); hold a positive view on human nature as characterized by a vast, though generally unrealized, potential (anthropology); emphasize an internalization of authority, as well as an integration of multiple modes of knowing (epistemology); and engage in their sustainability-work from a spiritual foundation (axiology). The results also show how these premises logically flow forth in a social imaginary of a sustainable society, or 'sustainable social imaginary,' which is: 1) positive; 2) emancipatory; 3) inclusive of post-rational ways of working/knowing; and 4) integrative/synthetic. The chapter concludes that this imaginary or societal vision—particularly because of its compatibility with, and its attempt to integrate and synthesize (instead of polarize with), other perspectives and worldviews—may serve the important task of public communication and large-scale mobilization for sustainable solutions.

In chapter eight, I explore how the assembled insights into the predominant worldviews in the West can be applied to policy and practice for sustainable solutions *(aim 5)*. To do so, I introduce an expanded understanding and articulation of the IWF *(aim 2)*, offering a synoptic overview of the major worldviews in the West, based on the empirical results of chapters four, five, six, and seven, in the light of the findings of, among others, sociologists. See table 13 for this expanded overview of the IWF, which ideal-typically delineates *traditional*, *modern*, *postmodern*, and *integrative* worldviews in the contemporary West, using the five worldview-aspects as an organizing scheme. In this chapter, I also offer the perspective that the culture of contemporary spirituality (as explored predominantly in chapter six) can potentially be understood as

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transition and bridge between more postmodern and more integrative worldviews, displaying a process of dialectical development.

Chapter eight then moves on to demonstrate that the IWF has the potential to serve as: 1) a heuristic for psychological, cultural, and policy reflexivity; 2) an analytical tool for understanding worldview-dynamics in society; and 3) a scaffolding for effective sustainability communications and solutions. It is argued that reflecting on and clarifying the worldview that undergirds one's aims may have a powerful and transformative effect on the policy-making process. Moreover, a basic understanding of the structure and dynamics of worldviews in our contemporary context is likely to contribute to more attuned and thus more effective communications and cooperation for sustainable solutions. I suggest that the IWF can thereby function as a concrete tool for facilitating the emergence of more *reflexive* forms of governance, as well as increasing their democratic and deliberative quality. As PBL Netherlands Environmental Assessment Agency (2004, 2008) has argued, thinking from the perspective of diverging worldviews may help to intercept less sustainable policy strategies and detect transverse connections. The practice of explication and confrontation of worldviews may form the starting point of a creative process for the seeking of syntheses and new pathways for policymaking.

I conclude in chapter 9 with a discussion of the major theoretical and methodological concerns with respect to the dissertation as whole, including: 1) the use of different theoretical and paradigmatic perspectives; 2) the use of a developmental perspective; 3) the relationship between individual and collective worldviews; 4) the worldview-bias of the researcher; 5) the use of a heuristic approach; 6) the choice to focus on certain worldviews at the expense of others; 7) and the worldview-structures emerging from the survey. In this context, I also offer recommendations for further research. I end by summarizing my findings with respect to the five sub-aims and sketching future perspectives through concisely discussing the larger societal and policy-implications of this study.

Samenvatting (summary in Dutch)

Wereldbeelden en de transformatie naar duurzame samenlevingen: Een verkenning van de culturele en psychologische dimensies van onze mondiale milieu-uitdagingen.

In het wereldwijde debat over duurzame ontwikkeling lijkt een groeiende erkenning te zijn van het belang van *wereldbeelden* voor de dringend noodzakelijke transformatie naar meer duurzame samenlevingen. Zoals Mike Hulme (2009) stelt in zijn alom geprezen boek '*Why we disagree about climate change,*' discussies over mondiale milieu-uitdagingen zoals klimaatverandering zijn geschillen over onszelf—over onze dromen, onze angsten, onze aannames, onze identiteit—dat wil zeggen: over onze wereldbeelden. Sommige auteurs stellen dan ook dat de verschillende crises waar we momenteel mee te maken hebben niet alleen ecologisch, technologisch, economisch, en politiek-institutioneel van aard zijn, maar ook filosofisch-existentieel, psychologisch, cultureel, en zelfs spiritueel. Wereldbeelden worden dus steeds meer—en vanuit een groeiend aantal perspectieven en disciplinaire invalshoeken—geacht van vitaal belang te zijn in onze urgente zoektocht naar meer duurzame samenlevingen. Een van de belangrijkste argumenten en vooronderstellingen van dit proefschrift is dan ook dat een goed begrip van wereldbeelden een belangrijke rol speelt bij het aanpakken van onze complexe, veelzijdige, verweven, mondiale duurzaamheidsvraagstukken.

Het doel van dit proefschrift is dan ook om bij te dragen aan sociaal-culturele transformatie in de richting van meer duurzame samenlevingen, door het genereren van inzicht in de aard en structuur van wereldbeelden in het hedendaagse Westen en hun samenhang met de doelstellingen en vraagstukken van duurzame ontwikkeling.

Dit doel is onderverdeeld in vijf subdoelen, welke als volgt kunnen worden samengevat:

    1) Inzicht in de aard van wereldbeelden;

    2) Empirisch onderzoek naar de structuur van wereldbeelden;

    3) Verkennen van uiteenlopende wereldbeelden en hun relevantie voor duurzame ontwikkeling;

    4) Verdiepen van inzicht in wereldbeelden met een bijzonder potentieel voor duurzame ontwikkeling; en

5) Toepassen van inzichten in wereldbeelden in de duurzaamheidsbeleid en -praktijk.

In het eerste hoofdstuk beargumenteer ik zorgvuldig waarom wereldbeelden een belangrijke rol spelen bij het aanpakken van onze complexe duurzaamheidsvraagstukken vanuit vier verschillende disciplinaire invalshoeken: filosofie, psychologie, sociologie en politicologie. Ondanks uiteenlopende standpunten over het onderwerp benadrukken milieufilosofen doorgaans dat wereldbeelden (en vaak het Westerse wereldbeeld) aan de grondslag liggen (of zelfs de kernoorzaak, of 'wortel' zijn) van onze mondiale milieuproblemen. Voor een ingrijpende verandering in deze zijn wereldbeelden derhalve van cruciaal belang voor het vinden van oplossingen. Met name milieupsychologen betogen dat een verandering van individuele levensstijlen essentieel is in de transitie naar meer duurzame samenlevingen, en een begrip van wereldbeelden daarom pertinent. Denk bijvoorbeeld aan de complexe opgave van het wijzigen van cultureel ingebedde gedragspatronen zoals vleesconsumptie, auto- en energiegebruik, stemgedrag, consumptie van 'groene' producten, en steun voor milieuorganisaties en -beleid. Daarnaast laat sociologisch onderzoek zien dat diepgaande verschuivingen in (het Westerse) wereldbeeld reeds plaatsvinden, en dat deze samenhangen met de opkomst van allerhande sociale, emancipatoire, en 'grassroots' initiatieven en organisaties— waaronder de milieubeweging—en democratisering en maatschappelijke verandering in het algemeen. Verder zijn er argumenten vanuit het oogpunt van de politicologie. Een kritische reflectie op de vaak impliciete wereldbeelden waarop beleid wordt gebaseerd kan helpen minder duurzaam beleid te onderscheppen en tevens een uitgangspunt vormen voor een meer reflexieve beleidsontwikkeling. Tot slot ga ik in dit hoofdstuk in op mijn eigen 'onderzoeks-wereldbeeld,' en plaats ik de gekozen *mixed methods* (gecombineerde methoden) onderzoeksopzet in deze context. Deze onderzoeksopzet bestaat uit kwantitatieve (een grootschalige representatieve enquête in Nederland) en kwalitatieve studies (diepte-interviews in Canada, de Verenigde Staten en Nederland), in combinatie met literatuuronderzoek.

Vooralsnog is het controversieel wat wereldbeelden precies wel en niet zijn. Ook is het nog onduidelijk hoe het concept het best kan worden geoperationaliseerd in het kader van de onderzoeks- en (beleids)praktijk. Daarom begin ik in hoofdstuk twee met een verkenning van de aard van wereldbeelden *(doelstelling 1)*. Ik geef een overzicht van verschillende conceptualiseringen van de term wereldbeeld in de geschiedenis van de filosofie,

waarbij de ideeën van Plato, Kant, Goethe, Hegel, Nietschze, en Heidegger centraal staan, evenals een aantal hedendaagse stromingen (zoals sociaal constructivisme) en hun (mogelijke) opvolgers (critical theory, integral theory, critical realism). Uit dit overzicht blijkt dat wereldbeelden kunnen worden opgevat als de onontkoombare, overkoepelende systemen van betekenis en betekenisgeving die in aanzienlijke mate vormgeven hoe mensen de werkelijkheid interpreteren, vormgeven, en co-creëren. Vervolgens formuleer ik het *Integrative Worldview Framework* (IWF). Dit kader operationaliseert wereldbeelden door deze te differentiëren in vijf onderling samenhangende aspecten: ontologie, epistemologie, axiologie, antropologie, en maatschappijvisie (of 'sociaal imaginaire'). Een *ontologie* is een perspectief op de aard van de werkelijkheid, een visie op 'wat is' (o.a. de aard van de natuur, het ontstaan van het universum, de aan- of afwezigheid van een God of het goddelijke). Een *epistemologie* is een perspectief op hoe mensen tot kennis van de werkelijkheid kunnen komen (wat is valide kennis, en waarom?). Een *axiologie* is een perspectief op wat een 'goed leven' is, zowel in morele zin (ethische waarden) als in termen van de kwaliteit van leven (esthetische waarden). Een *antropologie* is een perspectief op wie of wat voor een wezen de mens is en wat zijn/haar rol en positie in de wereld, of zelfs het universum, is. Een *maatschappijvisie* is een perspectief op hoe de samenleving moet worden georganiseerd en maatschappelijke problemen (waaronder milieuproblemen) moeten worden aangepakt. Een wereldbeeld geeft (vaak impliciet) in globale zin antwoord op al deze vragen en kwesties. Door deze verschillende aspecten te onderscheiden wordt het enigszins abstracte begrip 'wereldbeeld' dus beter onderzoekbaar *(doelstelling 2*; zie ook tabel 2, p. 80*)*. Tevens concludeer ik dat wereldbeelden historisch en ontwikkelingsmatig verankerd zijn. Zo beargumenteer ik dat de evolutie van het wereldbeeld-concept de suggestie wekt van een toenemende reflexiviteit, creativiteit, verantwoordelijkheid, en inclusiviteit—allen cruciale kwaliteiten in het wereldwijde debat over duurzame ontwikkeling.

In het licht van de behoefte aan meer robuust, empirisch onderzoek naar de relatie tussen wereldbeelden en duurzame ontwikkeling, streef ik er in hoofdstuk drie naar om dergelijk (survey) onderzoek te ondersteunen (*doelstelling 2*). Ik doe dit door bestaande meetinstrumenten, zoals de *New Environmental Paradigm*, kritisch te analyseren, en door het ontwikkelen van een nieuwe conceptuele en methodische aanpak. Eerst wordt een overzicht gegeven van verschillende meetinstrumenten uit uiteenlopende disciplinaire en theoretische tradities. Dit resulteert in een meta-analyse van hun sterke en zwakke punten.

Op basis hiervan concludeer ik dat een meer optimale aanpak alomvattend en systematisch dient te zijn, en structurele wereldbeeld-overtuigingen zou moeten meten. Bovendien betoog ik dat een optimale aanpak de menselijke en culturele ontwikkeling meeneemt, in plaats van beperkt te zijn tot de vaak gebruikte tegenstellingen en binaire schalen (bv. New Environmental Paradigm versus Dominant Social Paradigm, intrinsieke versus instrumentele waarden van natuur), die de cognitieve mogelijkheid van integratie uitsluiten. Tot slot stel ik dat de IWF in staat is om een dergelijke systematische, alomvattende, structurele, en dynamische operationalisering van het wereldbeeld-construct te ondersteunen. Op deze manier wordt een conceptueel en methodisch vernieuwende aanpak van het verkennen van wereldbeelden en hun relatie tot duurzaam gedrag ontwikkeld.

In hoofdstuk vier gebruik ik de IWF om empirisch en kwantitatief te onderzoeken hoe milieuattituden en duurzame levensstijlen zijn gerelateerd aan wereldbeelden in individuen en de (Westerse) samenleving als geheel. Hiermee worden dus zowel de bruikbaarheid van de IWF voor het onderzoeken van wereldbeelden getest *(doelstelling 2)* als verschillende wereldbeelden en hun relevantie voor duurzame ontwikkeling verkend *(doelstelling 3)*. Eerst worden wereldbeelden en milieuattituden in een breder, historisch-culturele context (op basis van het werk van Charles Taylor) en in een psychologische context (met behulp van 'Self-Determination Theory,' SDT) geplaatst. Vervolgens is een vragenlijst voor het verkennen van wereldbeelden, milieuattituden, en duurzame levensstijlen ontwikkeld en uitgevoerd met 1.043 personen in Nederland. Hoofdcomponent-analyses resulteerden in vijf wereldbeeld-factoren, genaamd *Innerlijke groei, Hedendaagse spiritualiteit, Traditionele God, Focus op geld*, en *Seculier materialisme*, en drie milieuattituden, genaamd *Verbondenheid met natuur, Bereidheid te veranderen*, en *Technologische optimisme*. De resultaten tonen aan dat met name Innerlijke groei en Hedendaagse spiritualiteit samenhangen met Verbondenheid met natuur en Bereidheid te veranderen, welke correleren met meer duurzame leefstijlen. Focus op geld en Seculier materialisme daarentegen blijken samen te hangen met Technologisch optimisme, welke correleert met doorgaans minder duurzame leefstijlen. Deze studie laat daarmee zien dat er inderdaad een empirisch aantoonbare relatie is tussen hoe mensen de wereld begrijpen en interpreteren (wereldbeelden) en allerhande milieurelevante gedragingen, zoals vleesconsumptie, autogebruik, stemgedrag, en steun voor milieuorganisaties. In lijn met SDT suggereren deze resultaten dat meer intrinsiek georiënteerde ('eudaimonische') wereldbeelden positief correleren met pro-milieuattituden en

levensstijlen, terwijl meer extrinsiek georiënteerde ('hedonische') wereldbeelden negatief correleren. In overeenstemming met Taylor kunnen deze resultaten ook geïnterpreteerd worden als een indicatie van het bestaan van (tenminste) een meer traditioneel, een meer modern, en een meer postmodern wereldbeeld in Nederland.

Zoals uit de resultaten van de enquête blijkt, zijn diverse fenomenen, waaronder de nadruk op natuurbeleving en verbondenheid, de cultuur van de hedendaagse spiritualiteit, en de hedendaagse nadruk op innerlijke groei en zelfexploratie van bijzonder belang voor duurzame ontwikkeling. Hoofdstukken vijf, zes, en zeven rapporteren daarom verder onderzoek naar deze verschijnselen, zoals spirituele natuurbeleving (hoofdstuk vijf), hedendaagse spiritualiteit (hoofdstuk zes), en het integratieve wereldbeeld (hoofdstuk zeven), en hun samenhang met doelen en kwesties van duurzame ontwikkeling *(doelstelling 4)*.

In hoofdstuk vijf wordt de hedendaags natuur-spiritualiteit begrijpelijk en invoelbaar voor de lezer gemaakt door het geven van een inkijkje in deze belevingswereld. Dit wordt gedaan door de spirituele dimensie van natuurbeleving en de relatie daarvan met een gevoel van verantwoordelijkheid voor het milieu te verkennen, zoals gerapporteerd in 25 diepte-interviews met natuurliefhebbers/milieubeschermers en spirituele beoefenaars in Victoria, Canada. Hoewel deze individuen niet rechtstreeks is gevraagd naar hun wereldbeelden, zijn hun begrip en ervaring van zowel natuur als spiritualiteit uitgebreid onderzocht, waardoor inzicht in centrale aspecten van hun wereldbeelden ontstaat. Uit de analyse blijkt dat de geïnterviewden de natuur doorgaans als vol van betekenis, intrinsieke waarde, en/of het goddelijke zien. Dit lijkt samen te hangen met (en mogelijk te leiden tot) een groter gevoel van verantwoordelijkheid voor het milieu. Tegelijkertijd hebben zij doorgaans een natuurlijk, evolutionair, en 'werelds' begrip van spiritualiteit, welke lijkt te resulteren in een ethiek van 'verwantschap met alle leven.' De spirituele natuurbeleving zelf werd gekenmerkt door drie belangrijke thema's, gelabeld *Aanwezigheid*, *Verbondenheid*, en *Zelfexpansie*. Veel deelnemers rapporteerden dat deze spirituele natuurervaringen hun wereldbeeld, gevoel van verantwoordelijkheid voor het milieu, en soms hun loopbaankeuzes diepgaand beïnvloed hadden. Het onderzoek belicht daarbij drie wegen naar een gevoel van verantwoordelijkheid voor het milieu: diepe ontmoetingen met de natuur, hedendaagse spiritualiteit, en hun convergentie in spirituele natuurbeleving.

Hoofdstuk zes rapporteert een literatuurstudie van de sociologie van de cultuur van hedendaagse spiritualiteit (of 'New Age'), wat resulteert in een overzicht van de mogelijkheden en valkuilen van deze subcultuur voor duurzame ontwikkeling. Dit hoofdstuk stelt dat deze cultuur zowel een potentieel veelbelovende kracht is voor duurzame ontwikkeling, evenals een verschijnsel met specifieke risico's. Tabel dertien (p. 196) geeft een beknopt overzicht van de belangrijkste mogelijkheden en valkuilen zoals die uit deze studie naar voren komen. Tot slot wordt een psychologisch ontwikkelingsperspectief geïntroduceerd om onderscheid te kunnen maken tussen meer monistische en meer integratieve tendensen in deze cultuur.

In hoofdstuk zeven focus ik op het opkomende integratieve wereldbeeld. Volgens verschillende auteurs is de essentie van dit wereldbeeld dat het er naar streeft het rationele denken en de wetenschap te verzoenen en synthetiseren met een spiritueel gevoel van ontzag voor de kosmos. Dit onderzoek genereert inzicht in dit wereldbeeld door het kwalitatief te verkennen middels 20 diepte-interviews met 'integratieve duurzaamheidsleiders' en vernieuwers *(doelstelling 4 en 2)*. De resultaten tonen aan dat deze individuen: een evolutionair/ontwikkelings-, spiritueel-verbindend perspectief op de aard van de werkelijkheid delen (ontologie); een positieve kijk op de menselijke natuur hebben, namelijk als zijnde gekenmerkt door een groot, maar over het algemeen niet-gerealiseerd, potentieel (antropologie); een internalisering van autoriteit benadrukken, evenals een integratie van meerdere manieren om kennis te verwerven (epistemologie); en hun duurzaamheidwerk op een spiritueel fundament baseren (axiologie). De resultaten laten ook zien hoe deze ideeën en aannames logisch leiden tot een 'duurzame maatschappijvisie,' die 1) positief; 2) emancipatoir; 3) inclusief post-rationele manieren van werken/kennen, en 4) integratief/synthetisch is. Tot slot beargumenteer ik dat deze maatschappijvisie vooral vanwege de compatibiliteit met, en de poging te integreren en synthetiseren—in plaats van polariseren—met andere perspectieven en wereldbeelden, de belangrijke taak van communicatie en grootschalige mobilisatie voor duurzame oplossingen kan dienen.

In hoofdstuk acht verken ik hoe de vergaarde inzichten kunnen worden toegepast in duurzaamheidsbeleid en -praktijk *(doelstelling 5)*. Om dit te doen, introduceer ik een uitgebreidere articulatie van de IWF *(doelstelling 2)*, waarbij ik een overzicht geef van de belangrijkste wereldbeelden in het Westen, op basis van de empirische resultaten van met name de hoofdstukken vier, vijf, zes en zeven, in het licht van de bevindingen van onder andere de sociologie. Zie tabel

13 voor deze uitgebreide IWF, die ideaaltypisch onderscheid maakt tussen traditionele, moderne, postmoderne, en integratieve wereldbeelden, met behulp van de vijf wereldbeeldaspecten (ontologie, epistemologie, et cetera) als organiserende structuur. In dit hoofdstuk bied ik ook het perspectief dat de cultuur van de hedendaagse spiritualiteit (zoals met name onderzocht in hoofdstuk zes) mogelijk kan worden opgevat als overgang en brug tussen meer postmoderne en meer integratieve wereldbeelden, in het kader van een proces van dialectische ontwikkeling.

In dit hoofdstuk poog ik vervolgens aan te tonen dat de IWF het potentieel heeft om te dienen als: 1) een heuristiek voor psychologische, culturele, en beleidsreflectie; 2) een analyse-instrument voor het begrijpen van wereldbeeldendynamiek in de samenleving, en 3) een hulpmiddel voor effectieve duurzaamheidscommunicatie en -oplossingen. Reflectie op en verduidelijking van het wereldbeeld dat de basis vormt van bepaalde (beleids)doelen kan een krachtige en transformatieve invloed op het beleidsvormingsproces hebben. Bovendien zal een fundamenteel inzicht in de structuur en dynamiek van wereldbeelden in de hedendaagse context waarschijnlijk bijdragen tot beter afgestemde, en dus effectievere, communicatie en samenwerking voor duurzame oplossingen. De IWF kan daarbij ook functioneren als een concreet hulpmiddel voor het ondersteunen van meer reflexieve bestuursvormen evenals het verhogen van hun democratische en deliberatieve kwaliteit. Zoals het Planbureau voor de Leefomgeving (PBL) heeft betoogd, kan het denken vanuit het perspectief van uiteenlopende wereldbeelden helpen om minder duurzame beleidsstrategieën te onderscheppen en negatieve dwarsverbindingen en feedbackloops bloot te leggen. De explicitatie en confrontatie van wereldbeelden kan dan het uitgangspunt vormen van een creatief proces voor het zoeken van syntheses en nieuwe wegen voor beleidsvorming.

Ik sluit in hoofdstuk negen af met een bespreking van de belangrijkste theoretische en methodische problemen met betrekking tot het proefschrift als geheel, met inbegrip van 1) het gebruik van verschillende theoretische en paradigmatische perspectieven; 2) het gebruik van een ontwikkelingsperspectief; 3) de relatie tussen individuele en collectieve wereldbeelden; 4) de invloed van het wereldbeeld van de onderzoeker; 5) het gebruik van een heuristische benadering; 6) de keuze me te richten op bepaalde wereldbeelden ten koste van anderen; en 7) de wereldbeeld-structuren voortkomend uit de enquête. In deze context formuleer ik ook aanbevelingen voor vervolgonderzoek. Tot slot eindig ik met het samenvatten van mijn belangrijkste bevindingen ten aanzien van de

vijf subdoelen, en schets ik toekomstperspectieven door het bondig bespreken van de grotere, maatschappelijke en beleidsmatige implicaties van deze studie.

About the author

Annick Hedlund-de Witt specializes in the relationship between worldviews and sustainable development, including social-cultural change, environmental behavior, communication, and policy-making. Currently she is a post-doctoral fellow in the Biotechnology and Society section at the Delft University of Technology in the Netherlands. In this context she explores the interface between worldviews and the complex debate surrounding the emerging 'bio-economy,' which holds great potential for fostering sustainability, yet likewise presents many uncertainties and potential pitfalls. In this capacity, she investigates stakeholders' and the public's positions with respect to newly emerging biotechnologies, illuminating their underlying worldviews, and formulating policy-recommendations. She also teaches courses in 'Biotechnology and Society.'

Previously, Annick was a researcher at the Institute for Environmental Studies at the VU University in Amsterdam. Until 2008 she worked for a Dutch environmental NGO (Stichting wAarde), leading projects, organizing symposia and workshops, and writing opinion-articles, press releases, and research reports. Her first appointment was as a researcher at the Centre for Environmental Sciences and Sustainable Development at the Radboud University in Nijmegen. Annick has also fulfilled several board functions, including at the NatureCollege, for which she is still active, and for the Dutch branch of the International Union for the Conservation of Nature (IUCN). In 2009 she was featured as one of the 'forty under forty' most influential young sustainability-leaders in the Netherlands.

Annick has an interdisciplinary background in the social and policy dimensions of the environmental sciences. She received her Master's (*Cum Laude*) from Radboud University in Nijmegen. Annick has also been a guest researcher at several international institutes, including the Energy Biosciences

Institute at the University of California at Berkeley; the Philosophy, Cosmology, and Consciousness program at the California Institute of Integral Studies; and the Center for the Study of Religion and Society at the University of Victoria (Canada). She has also presented at many international conferences and won multiple awards. Annick has published widely, ranging from popular columns and opinion-articles to academic research reports and articles in international journals such as *Ecological Economics*, *Environmental Ethics,* the *Journal of Environmental Psychology,* and *Worldviews.*

Worldviews and the transformation to sustainable societies

Worldviews and the transformation to sustainable societies addresses one of the most challenging questions of our time. Its unique vantage point is based on the recognition of the crucial importance of worldviews vis-à-vis the urgently needed transformation to sustainable societies. Its purpose is to contribute to such transformation, by generating insight into the nature and structure of worldviews in the contemporary West, and their interface with goals and issues of sustainable development.

This dissertation carefully argues why worldviews are understood to play a major role in addressing our complex sustainability issues from four different disciplinary perspectives: philosophy, psychology, sociology, and political science. It also elaborates on the author's 'research worldview,' and contextualizes the chosen mixed methods research design therein. The concept of worldview is then explored in the history of philosophy in order to define and operationalize it. Using quantitative and qualitative studies in combination with extensive literature reviews, the *Integrative Worldview Framework* (IWF) is developed. This framework operationalizes worldviews into five constitutive, interrelated aspects–ontology, epistemology, axiology, anthropology, and societal vision–and differentiates between four major, ideal-typical worldviews, namely traditional, modern, postmodern, and integrative ones.

Next to shedding light on these worldviews, this dissertation demonstrates that there are significant differences between them in terms of environmental attitudes and sustainable lifestyles. Notably, while the modern worldview is frequently associated with a stance of 'technological optimism' and generally less sustainable lifestyles, the postmodern and integrative worldviews tend to be related to a sense of connectedness with nature and more sustainable lifestyles. Several phenomena, such as the culture of contemporary spirituality, the recent emphasis on nature experience, and the emerging integrative worldview, appear to be of particular relevance for sustainability, and are therefore further explored and analyzed.

Finally, the resulting insights are applied to sustainability policy and practice by arguing that the IWF has the potential to serve as: 1) a heuristic for psychological, cultural, and policy reflexivity; 2) an analytical tool for understanding worldview-dynamics in society; and 3) a scaffolding for effective sustainability communications and solutions. This dissertation may thereby contribute to the important tasks of public communication, policy-making, and large-scale mobilization for addressing our urgent global environmental challenges.

Annick Hedlund-de Witt, Ph.D., specializes in the relationship between worldviews and sustainable development, including social-cultural change, environmental behavior, communication, and policy-making. Currently she is a post-doctoral fellow in the Biotechnology and Society section at the Delft University of Technology in the Netherlands. She holds an interdisciplinary Master's (*Cum Laude*) in the social and policy dimensions of the environmental sciences. She has published widely, ranging from popular columns and opinion-articles to academic research reports and articles in international journals, such as *Ecological Economics, Environmental Ethics,* the *Journal of Environmental Psychology,* and *Worldviews.*