



Facing finitude: Death-awareness and sustainable transitions

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ABSTRACT

In this paper we argue that our current value-systems contributing to unsustainable social practices and the dominant death-denying culture have a close relationship to each other. The ways society offers to alleviate the anxiety of death are avoidance and distraction especially through consumption. Consumption in this regard aims to raise individual self-esteem and to strengthen the current version of reality. The question we address in this paper is how we can move from this unsustainable cultural pattern to more death-aware and sustainable one. This question is pertinent because experimental evidence shows that a direct confrontation with death often leads to fundamental and long-lasting behavioural and value changes. These changes are in line with those emphasised by ecological economics as the possible basis for sustainable societies. The first section of the paper discusses the social theoretical background of the topic arguing that the emphasis we put on individual, bounded self leads to a heightened sense of death anxiety. The second section discusses on the one hand Terror Management Theory, and on the other the alternative but related Transcendence Management Theory with their different emphasis on ways of coping with death anxiety. The following section provides a theoretical model integrating these two strands of research and interpreting their main conclusions at a social level. This framework is the main contribution of the paper since it not only captures the social dynamics of these different ways of coping but also offers possible ways to move towards a more death-aware and sustainable social arrangement.

1. Introduction

In the last few years dramatic and pervasive societal disruptions have affected a significant proportion of the global population either directly or indirectly (Schipper et al., 2021; Ebi et al., 2021). First and foremost, we can think about events such as devastating natural catastrophes due to extreme weather conditions including countries in the global North (Ridder et al., 2022), Covid-19 and its middle- and long-term after-effects on both physical and mental public health (McBride et al., 2021), and most recently the war in Ukraine and its possible repercussions on public health systems, global food shortages and economic instability (The Lancet Regional Health – Europe, 2022). What is common in these occurrences that what had been considered highly unlikely has suddenly become an everyday, harsh reality. These dramatic changes and their unexpected nature seriously damage people's ontological security and general trust (Adams, 2016). These events not only exacerbated existential fears but also put the limelight on possible social and cultural ways of dealing with them (Kieft, 2021). For the time being, it can be said that in our societies the dominant approach to dealing with

troubling issues is avoidance through distraction, denial, or evasion instead of direct constructive coping strategies (Norgaard, 2011; Weintrobe, 2013).

However, it is more than likely that our situation is dire in the sense that we will not just leave a few difficult years behind and return to the 'normal' (whatever this expression means). Climate change causes serious imbalances in the ecosystems supporting our lives (Schipper et al., 2021). Therefore, such disruptions tend to be more frequent in the future and might become more violent and far reaching in their ecological, social, and economic consequences (Camillus et al., 2021).

These disruptions, while deeply unsettling, also force us to ponder questions on how we understand, deny or embrace the fundamental vulnerability of our life-sustaining systems including our natural and social environments, as well as our own bodies. While this question is in itself worthy of investigation, this paper argues that our individual and social vulnerability and inevitable demise have close relationships to the worldview that underpins the sustainability or unsustainability of our behavioural patterns. Therefore, we will propose that death denial and the sequestration of death in our culture lead to unsustainable individual

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lifestyles and cultural patterns. Vice versa, a culture with more death-aware individuals, through the nature of their worldviews and value-systems, can lead to lifestyles and subsequently to cultures that share more values with sustainability.

This paper draws on many sources which focus on vulnerability (May, 2017), finitude and existential fears such as existential psychology (Yalom, 1980, 2008); sociology of death (Kearl, 1989; Nielsen and Skotnicki, 2019; Livne, 2021) and the social organisation of denial (Norgaard, 2011; Weintrobe, 2013); studies on emotional coping (Pihkala, 2019; Kieft, 2021); as well as on existential fears and sustainability (Adams, 2016; Koller, 2021). However, the most important influences on our argumentation are terror management theory (henceforth TMT, Arndt et al., 1997, 2004) on the one hand, and a related but different approach called transcendence management theory (henceforth TrMT; Cozzolino et al., 2004; Cozzolino and Blackie, 2013). While the former aims to understand the often negative cognitive, behavioural, and cultural responses of evading death anxiety, the latter argues that a direct confrontation with our finitude might bring positive changes in terms of value orientation and the reassessment of life goals.

Based on these multi-faceted, yet overlapping schools of thought, the main question of our paper is 'how we can move from a death-denying unsustainable cultural pattern to a more death-reflective and sustainable one'. In order to provide an answer to this question we also attempt to delineate the underlying social mechanism behind the obduracy of the current unsustainable system and propose an alternative pathway that can move us towards more sustainable directions. So, while there are excellent papers focusing on the relationship between existential issues and sustainability (Weintrobe, 2013; Adams, 2016; Wolfe and Tubi, 2019; Koller, 2021), we also propose a model capturing the social dynamic that can contribute to sustainable transitions. This framework interprets the conclusions of TMT and TrMT at a social level, which allows for more theoretical space to understand not only how different approaches to death can lead to divergent value systems and changes in the accepted patterns of behaviour, but it also offers possible areas for intervention to promote moving towards more sustainable social arrangements.

As a conceptual note, it is important to mention that in this paper we utilise the term death awareness somewhat differently to its everyday use. In our understanding, this expression is not a stable attribute or a permanent condition that we either have or not. as Awareness - the way we propose it - is a spectrum ranging from forms of death denial (that is the complete lack of awareness) to forms where knowledge and acceptance of mortality is integrated in one's life. This understanding of death awareness points to the fact that it is not only an individual trait, but something conditioned, shaped and primed by social, cultural and situational factors. Moreover, death awareness can be seen as a partly independent, yet related dimension to behavioural responses.

As for the structure of the paper, the first section discusses social theories about death-awareness (and the lack of it) and late modernity. Then we move our attention to previous research on Terror and Transcendence Management Theory and studies applying these theories in relation to sustainability. Having all the necessary building blocks at our hands in the third section, we present our model capturing the social dynamics behind the interrelationships between death awareness and sustainability. This leads to the discussion section delineating both theoretical and practical implications.

2. Death and late modernity: Social and cultural interrelationships

Death is not only present in individual anxieties and lives but also pose a social problem (Nielsen and Skotnicki, 2019). Societies, in general, attempting to avoid chaos and disintegration have to find ways to shield their members from the overwhelming terror, despair and disillusionment death means (Kearl, 1989). Different societies in different historical eras attempted to provide various responses for this

conundrum. While solutions are never perfect to hold anxiety at bay, we can find a wide array of rituals, practices and belief systems providing some comfort and support (Doughty, 2017).

Late modernity provides a specific solution to deal with death fears by putting the individual to the centre stage of social life. The answer to the problem of death is then to hide death reminders from people as much as possible, and at the same time persuade them that their life and individual selves are all that matters (Mellor and Shilling, 1993). What late modernity and consumer culture offer to its members as solace are immersing them in the illusion of having all the time in the world (or at least providing enough distractions to be oblivious to finitude and vulnerability), and in the meantime shifting the focus on individual material gains and pleasures (Arndt et al., 2004).

As there is no perfect solution for the problem of death, there is a fundamental paradox between the socially acknowledged and celebrated individuality and the actual value of individuals in the face of vulnerability and finitude (Benatar, 2017). One of the main engagements in these societies as an ongoing project is caring for and developing a (reflexive) self (Giddens, 1991). However, human vulnerability and mortality are at odds with the constant occupation and focus on the self, since this project will inevitably remain unfinished (Mellor and Shilling, 1993).

This contradiction is also present at the social level. While we attempt to create, maintain, and preserve valuable self-identities, never throughout history were people more replaceable in society than in our times. The successful and continuous operation of our institutions rely more on positions than on specific individuals, so individual selves are continuously obliterated. This is a basic contradiction that on some level most people are aware of. While society emphasises the value of individuality, actual individuals are not considered valuable in themselves or for their uniqueness in social and institutional life (Kearl, 1989). The solution of individuality comes crashing down when people become vulnerable or no longer socially useful (May, 2017).

At the same time, locating most of the issues at the individual level, social resources, practices and rituals are scarcely available (Mellor and Shilling, 1993). Death also loses its communal aspect. It is no longer social in the sense that it affects the social body losing one of its members. Instead, it tends to be a lonely event in the already thoroughly individualised and privatised life-course (Kearl, 1989). While our social lives are organised around the sanctity of individual self-hood, we hide the vulnerability and finitude of such selves from the social sphere denying a significant part of our 'humanness' (May, 2017). Those who come close to death either by dying or grieving can easily find themselves in an outcast position, as if vulnerability and finitude means breaking the latent and collective agreement of maintaining the social imaginary of self-hood. In this manner, individuals either dying or grieving often have to face existential issues alone (Mellor and Shilling, 1993).

This is a deeply unsettling insight for individuals of late modernity, who focus on their unique and bounded self and not on their interdependence, community with other beings and feeling continuously present in the chain of generations (Yalom, 2008). While facing death and/or the loss of their loved ones are in themselves difficult ordeals under any social conditions, dropping out from the collectively accepted and maintained illusion of permanent selfhood leave people defenceless to overwhelming terror and despair (Mellor and Shilling, 1993; Yalom, 2008).

Becker (1973) also discusses these issues connecting existential questions to social and cultural mechanisms. He highlights that as humans we have a double nature, that is, our selves have a biological and a symbolic dimension. Our symbolic side can be extended in time and space as far as our name, our accomplishments, our symbolic creations live on even after our deaths or we live on in our children's memory (these all belong to the category of so-called immortality projects [Yalom, 2008]). Conversely, our biological side (that is the body) is finite, vulnerable, and subject to gradual decay (Solomon et al., 2015).

This insight in itself is anxiety provoking and poses an existential threat to the self. In order to avoid and deflect the deep terror of our inevitable demise, we attempt to avoid reminders of our biological nature, and focus on our symbolic selves and symbolic immortality (Solomon et al., 2015). From this viewpoint, society and culture themselves can be seen as vehicles for our immortality projects. They are ways of coping with the terror of death and with the despair and crisis of meaning that ensue (Becker, 1973).

These issues have both individual and cultural level implications. One of the ways through which people cope with existential anxiety is that they emphasise their uniqueness. Feeling special (exceptional, irreplaceable, above average, or better, smarter, more sophisticated than others) can act as a symbolic barrier between ordinary people who are vulnerable and tend to get sick, old and die and the outstanding self (Yalom, 1980). In this manner, individuals tend to emphasise their independence and autonomy, yet at the same time neglect their relationality and how their personalities are interwoven with that of others (Yalom, 2008).

Interestingly, separating individual selves from their contexts also have its cultural manifestation. As we have mentioned above, reminders of our biological nature can be in itself anxiety provoking as far as the individual body is subject to gradual decay and finally death (Becker, 1973). Similarly, in the cultural realm we tend to deny our connections to other living beings and our embeddedness in the natural environment (Adams, 2016). Human exceptionalism, as well as seeing our socio-economic systems as something context-independent, separate from nature as if natural laws do not apply to them, are manifestations of this need to feel special at a cultural level (Koller, 2021).

Nevertheless, the alarming signs of such an unembedded worldview are already quite visible. Some argue that our time is an age of ontological insecurity (Adams, 2016). While ontological security is needed to see the world as a safe and meaningful place where continuity of biological and social life is possible, societal disruptions mentioned above undermine this security. The unpredictability of the short and long-term effects of climate change, and the severity of the consequences of societal inaction raise the possibility of human extinction or 'the very least' social and cultural collapse (Rees, 2020). This is significant in two ways regarding the arguments above.

Directly, the experience of extreme weather patterns, as well as news, reports and predictions on climate change can be anxiety provoking invoking deep existential fears. These are reminders of our neglected biological nature, and since we are part of nature *per definitionem*, in this situation we are just as vulnerable as any other beings. Indirectly, individual existential anxiety is reverberated and amplified by the looming presence of global existential catastrophe of climate change, since it undermines our trust in the continuity of social and cultural order. This is an essential issue since our symbolic selves and most of our immortality projects are only meaningful inside the cultural, symbolic universe. The possibility of societal collapse therefore is doubly anxiety provoking, highlighting the vulnerability of both our biological and symbolic selves.

3. Individual coping mechanisms facing finitude

A few decades ago, social psychologists started to empirically test Becker's theoretical framework on our ways of dealing with death (Solomon et al., 2015). The result of this endeavour became a research programme that is now known as Terror Management Theory (TMT). Based on Becker's ideas, the basic tenet of this approach is that death is so anxiety provoking for us that we do everything we can to avoid the very thought of it (Arndt et al., 2004). The research programme is based on experimental situations where researchers used reminders of death in order to emphasise the vulnerability and mortality of the participants. This condition is called mortality salience. Mortality salience can be invoked by indirectly interviewing participants next to cemetery, subliminally showing a death related expression on a screen, or directly

asking participants to write about death (Solomon et al., 2015).

Mortality salience provokes deep existential fears in participants, so as a default response they attempt to deal with this anxiety by pushing it out from their conscious thought processes (Wolfe and Tubi, 2019). There are two typical ways to do that: either by increasing one's self-esteem or by turning to one's cultural worldview as a refuge. Empirically testing these responses, proponents of TMT could show that reminders of death can make people more occupied with their own individual self (Solomon et al., 2015). They focused on raising their self-esteem by showing more interest towards material goods and material accumulation and looking for outward signs of being valued in society through conspicuous consumption. While raising self-esteem in itself has a strong association with over-consumption and hence the overuse of natural resources, this tendency is also strengthened by the dominant cultural worldview (Arndt et al., 2004).

As it was already discussed, culture is the symbolic domain which seems to have a higher level of permanence compared to the ever changing physical, biological world. Hence, if people are reminded of death, they do all they can to maintain the illusion of the permanence and stability of their worldview (Arndt et al., 1997). As a consequence, they tend to be less tolerant with other cultural belief-systems, see their own culture more stable and important, and engage in practices that strongly adhere to the norms of their culture. This can lead to more conservative political choices as well as options that exclude out-groups (Solomon et al., 2015). This reaction to mortality salience is also an important point in relation to sustainability as the dominant culture of our societies emphasises material gains, consumption, and growth. If people in a consumer society are feeling vulnerable, they will turn to and strengthen the dominant cultural worldview, i.e., material gains, consumption, and growth. The cultural patterns, in turn, lead to further overconsumption and the overuse of natural resources (Arndt et al., 2004). Therefore, while these practices paradoxically provide symbolic comfort, they also increase individual and collective vulnerability through jeopardising life sustaining natural systems as well as increasing the potential for social conflicts.

It is important to mention, that TMT was not the only approach that emerged from this research programme. 'Naturally occurring' phenomena such as terminal illness, near-death experiences (henceforth NDE) and post-traumatic growth (henceforth PTG) demonstrated that a different attitude to mortality is also possible, even desirable (Cozzolino et al., 2004, 2014). These occurrences turned the attention of researchers to situations when people directly have to face death and the inherent vulnerability of their human existence (Cozzolino and Blackie, 2013). This 'high dose' condition of mortality salience is when it is not possible to avoid and/or push back the thought of death to the unconscious realms of the mind (Cozzolino et al., 2014). Researchers also attempted to replicate these conditions in experimental contexts by asking participants to imagine in detail a scenario when they die and conduct a life review (Blackie et al., 2016).

In order to grasp the changes in worldview and behavioural patterns that happen under such circumstances, researchers called this approach Transcendence Management Theory (TrMT; Cozzolino et al., 2004). Proponents of this approach argue that when people have no way of avoiding the idea of death and must reflect on their own mortality, their previous worldview and value system tend to collapse. This so-called worldview-capitulation entails people turning towards intrinsic values, becoming more interested in serving and supporting others, focusing more on their relationships and recalibrating their life perspective often turning towards inner, spiritual growth instead of hoarding material possessions (Cozzolino and Blackie, 2013). So, in a way, we can say that they grow beyond their previous bounded individual self and turn towards projects that transcend their individual lives (Yalom, 2008). Interestingly, these are the very changes in cultural worldview and behavioural patterns that are emphasised by ecological economics as a basis for sustainable societies (Costanza et al., 2007; Hedlund-de Witt, 2011; Hedlund-de Witt, 2012; Rees, 2020).

TMT and TrMT can be incorporated in a single theoretical framework called dual-existential system (Cozzolino and Blackie, 2013). This system proposes that under certain conditions (mortality salience is relatively low, idea of death remains abstract) we turn away from the idea of death and use evading strategies by attempting to increase our self-esteem and strengthen our cultural worldview. As we mentioned above, for the time being, both strategies are connected to a material orientation and to overconsumption being detrimental to the natural environment.

However, under certain conditions (mortality salience is high, cannot be avoided and/or the idea of death is personal and concrete) people tend to face their mortality and vulnerability head on and this instigates a deep reflection about their life and priorities. This often entails such changes that they give up their previous bounded individual selves, their material worldview and extrinsic value-system to emphasise interconnectedness of being, intrinsic values and pro-social behaviours (Cozzolino and Blackie, 2013). It is true that TrMT’s empirical research on the relationship of this worldview-capitulation and sustainability is not as rich as death avoidance’s negative effect in TMT. Nevertheless, we can propose that these changes in values and behavioural patterns can lead to more sustainable lifestyles.

Summing up this section, we can say that facing our mortality and vulnerability is a difficult process, one that we attempt to avoid under ‘normal’ circumstances. Nevertheless, when we cannot avoid it, this can also become a process which instigates deep reflection as well as fundamental changes in our worldviews and value systems. What we might lose in such a process is our greed, our materialism, and our individualism in terms of a bounded, individual self. What we might gain is an alternative worldview based on the experience of interdependence, an increased value of relationships, a focus on inner, spiritual growth and - in relation to all of these - an increased interest in serving others.

In the next section, we turn our attention to the question of how we can move towards a more death-reflective and, in turn, more sustainable society and how this dynamics can change both pathways in this dual-existential system.

4. Dynamic model of death awareness pathways

Relying on the existing literature and drawing on a systems thinking perspective (Meadows, 2008), this section proposes a dynamic model with two interrelating, self-reinforcing feedback loops where the ecological environment, culture, and human responses to existential fears interact with each other. These can be viewed as reinforcing in terms of sustainability transitions vicious and virtuous circles. Outlining this dynamics, the major intervention points can be identified when making a conscious effort to provide adequate impulses for the emergence of sustainable patterns. Chart 1 provides an overview of the proposed model.

While for the sake of simplified visual representation we distinguished the ecological and social (cultural) environment, depicting them as distinct entities with the latter being embedded in the former, our underlying assumption is more systemic in line with the organic worldview (Ingebrigtsen and Jakobsen, 2012) we align ourselves to. Ecological and social structures are deeply embedded and intertwined networks, continuously impacting and forming each other. Hence, changes in one affect the other in a myriad of ways, providing a dynamic relationship. Therefore, our focus is on forming a socio-cultural environment that is more likely to induce advantageous changes in the natural environment.

Mortality reminders – the departure point (1) for our argumentation – of distinct nature and depth arrive from our own individual lives, from our socio-cultural environment and from the ecological environment. Reminders of vulnerability of the natural environment invoke thoughts on the vulnerability of social and cultural entities, as well as the possible death of the individual. The forcefulness of these reminders can range from just hearing the news in the background on environmental damage done in faraway lands to being personally impacted by a natural disaster undeniably linked to human action. Such reminders about our vulnerability at individual and social levels tend to be more and more frequent in the coming years due to imbalances and non-linear dynamics of the natural systems sustaining us. The ferocity and frequency of these reminders provoke the next point of intervention in our model: death reflection (2).

In our understanding death reflection is a scale ranging from the total

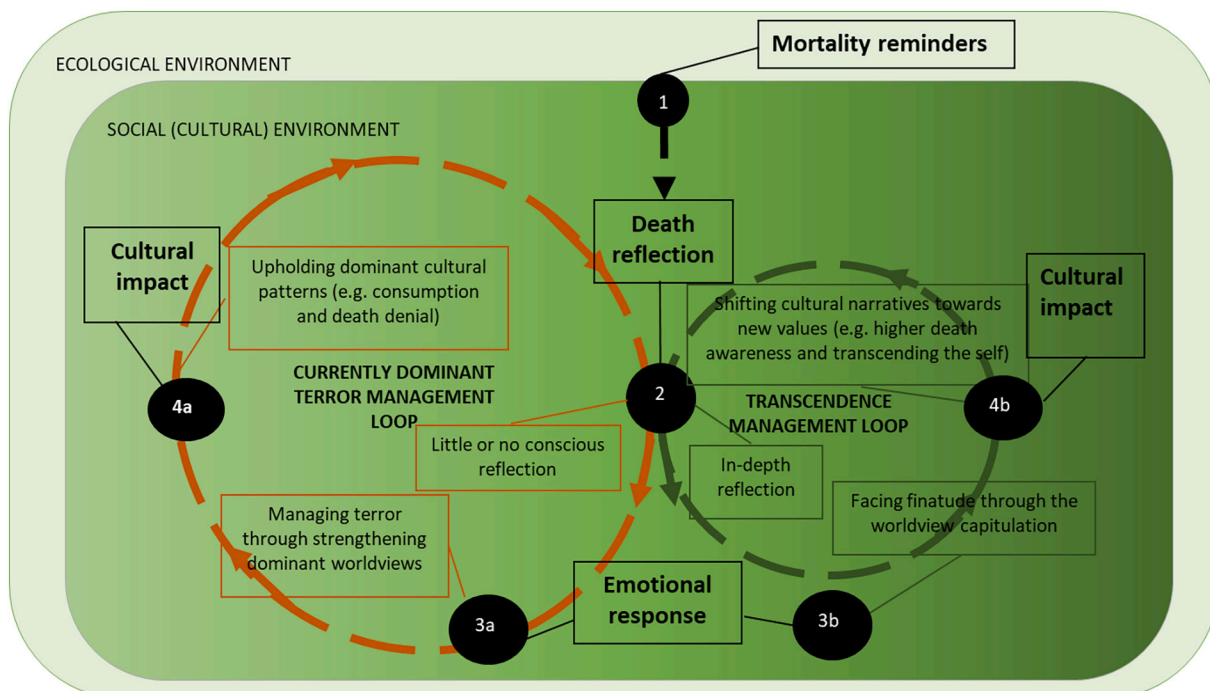


Chart 1. Double-loop model of death awareness and sustainability.

lack of death reflection to a thorough understanding and capability of processing the inevitability of our mortality. The depth of death reflection is a crucial decision point in our model where pathways are bifurcated between a more and a less death aware approaches to deal with the anxiety provoked by the mortality reminders. Our key argument is that in death-denying cultures individuals are left to their own devices to grapple with anxiety related to mortality and hence cognitive responses given and mental energy allocated to the depth of reflection also happen on the individual level. These individual responses, however, could be supported by culture and social structures. In death aware societies the inevitability of death for each member is exposed and reflected upon in safe social spaces. Currently living in a denial culture only those people 'choose' the death aware pathway who individually reach a point in their lives where they either have no choice (e.g., facing terminal illness, having near-death-experience, or in the phase of post traumatic growth) and/or are strong enough to face fundamental anxieties coming from our common existential condition. (This is why in our chart, the TrMT loop is radically smaller.) Therefore, the more social, emotional, and spiritual resources are available in a culture, the more people choose the death aware pathway at the point of bifurcation, in our model the transcendence management loop.

Framing and underlying narratives of what is happening with us (with our life-sustaining systems) are crucial about how the anxiety provoking messages are handled. After having reflected or having refused to reflect on death, people face altered emotional responses (3) on the two different loops, leading to vastly distinct actions within the loop. While mortality reminders induce anxiety in all of us, handling this anxiety happens differently on the terror management loop (3a) and on the transcendence management loop (3b). The terror management loop induces worldview defence and self-esteem striving (Smith et al., 2022). The previous reinforces the current identity perception of the individual and encourage out-group antagonism, while the latter – self-esteem being currently dominantly dependent of material status symbols – reinforces consumption culture. As worldviews directly impact the sustainability of lifestyle choices (Hedlund-de Witt, 2012), this indirectly affects the ecological environment around us. At the same time, on the transcendence management loop (3b) emotional responses drive us towards searching for meaning in our lives as well as ways to deepen our relationships.

The emotional responses and the following action directly influence the existing socio-cultural environment that provides the background for both loops. The cultural impact of the terror management loop (4a) further reinforces unsustainable consumption patterns as our anxiety leads to increased reliance on existing cultural patterns. Therefore, without being aware of this impact, we then further strengthen the cultural institutions with the already detrimental elements of unsustainable consumption. Hence, with the likely increase of more ferocious mortality reminders we not only increase conspicuous consumption but also possibly drive towards more extreme out-group antagonism, i.e., ethnocentric worldviews. At the same time, the lack of meaningful death reflection of those on the terror management loop uphold the current death denying culture, making it more and more difficult for individuals to select transcendence management paths. It also makes the emergence of death-aware behaviours and death-aware social structures and institutions more difficult, keeping this loop dominant in the system.

On the other hand, people on the transcendence management loop impact culture (4b) differently. Finding solace in meaningful activities and strengthened personal relationships, they can induce changes in the social structures where values shift from currently reigning worldviews of dominance and competition to harmony and enhanced social connections. Acknowledging the distinctions in the personal development trajectories, the dominance of the well-defended and well-preserved individual self is often being replaced by the desire to feel the connection to others and find our roles within these interrelated systems. Moreover, this quest to find unity with others often transcends anthropogenic boundaries and leads to a search of harmony with the broader

universe, including our ecological environment. It also leads to heightened death-awareness that culturally, socially, institutionally and morally may support more and more people to reflect upon death (2) in a profound way, diverting them away from the terror management loop, thus shifting cultural norms. It is important to note that it is only the two-dimensional nature of depicting this otherwise more complex system that makes it difficult to depict how 4a and 4b actually impact the very same culture. Since the cultural space is the same any changes in value orientations and in worldviews influence both those on the terror management and those on the transcendence management loops. We tried to illustrate this through the shading of the socio-cultural environment. Therefore, the differing emotional response of an increasing number of people on the transcendence management loop (3b) – with temporal delays – affect the emotional responses of those on the terror management loop (3a) as they reproduce the contemporary cultural values including the value shifts from the transcendence management circle (4b). Hence, the stronger the impact of transcendence management, the more sustainable the terror management circle becomes with new alternative contemporary worldviews establishing themselves in the mainstream. This is, of course, true the other way round, too. The stronger the cultural impact of the terror management circle, the more difficult it becomes for people to break away from them and move towards transcendence management values and worldviews.

The model shows how the intertwining circles of terror management and transcendence management loops interact with each other and influence the shifts in the socio-cultural environments, leading to highly distinct impacts of the ecological environment. From the viewpoint of necessary sustainability transitions, one acts as a vicious, the other as a virtuous feedback loop where conscious effort is needed to divert resources away from the detrimental spiral of events towards the more benevolent one. This requires us also to understand where the most effective intervention points lie in the system.

Terror management, the less death-aware pathway is currently our 'default pathway'. Our model shows that all those dealing with sustainability issues (e.g., scientists, activists, policymakers, etc.) need to be conscious that their message on the potentially lethal and grave outcomes of human-induced environmental degradation does not directly lead to more conscious pro-environmental behaviour. On the contrary. Without a supporting death-aware society, individuals are more prone to stick to currently reigning cultures. Therefore, death awareness is a mitigating factor between strong messages on the finitude of life-supporting systems and the required response and cultural shift towards a more sustainable system. Undeniably, our socio-cultural environment can also be reorganised to become more sustainable if sources of self-esteem, our shared values and worldview become more pro-environmental. This implies that it is possible to improve these correlating complex systems in terms of sustainability leaving the level of death awareness intact. However, in that case the focus on related cultural issues, for example on sources of self-esteem must also be included in the shift. As the terror management loop relies on the perseverance of dominant norms and values, if those are sustainable, death denial would not impact sustainability transitions.

However, instead of relying on independent cultural sustainability shifts, intervention can be focused on death-reflection. As currently it is emotionally and psychologically (maybe even socially) challenging for the individual to grapple with the anxiety of facing finitude, resources bolstering the emergence of death-aware socio-cultural institutions would facilitate the switch of increasing number of people to the more death-reflective pathway of transcendence management. This would also have the potential to lead to a different, more sustainable value-system, worldview, and behaviours. Moreover, it would make the dominant cultural views shift towards new sustainable values and make the behavioural momentum of those reliant on the terror management tools more sustainable without consciously making such options.

In the discussion that follows, we have a look at the implications of this model to ecological economics. We uncover what type of

interventions, mechanisms and practices can lead to the beneficial shift from denial to awareness and what all this suggests for those concerned with keeping anthropogenic impacts within planetary boundaries.

5. Discussion

What if the difficulty of moving our societies towards a more sustainable mode of operation is (at least partly) related to spiritual and existential issues? What if our avoidance of existential facts and the disregard of our vulnerability make us wilfully blind to the vulnerability of our life supporting eco-systems? In this paper, we attempted to show that this is the case since the avoidance and denial of mortality leads to behaviours to boost self-esteem, to follow cultural scripts unreflectively and be antagonistic to outgroup members having different values, worldviews. All of these have detrimental effects on social conditions, the first two by strengthening unsustainable lifestyles and worldviews, the last by exacerbating the already serious issue of political and social polarisation. This prospect seems bleak given the fact that the situation in our world tends to worsen, so people will receive more reminders about their inevitable death and vulnerability, which paradoxically strengthen those individual and social tendencies that have a detrimental effect on the integrity of our life-sustaining natural and social systems.

The prime purpose of our study was to draw attention to these interlinkages. We suggest that scientists like ecological economists rightfully send louder and louder, more awakening messages to the general public and to policymakers about the potentiality of existential collapse and the point of no-return. However, in doing so, they also need to be aware of the paradoxical impacts of these phenomena not often discussed in ecological economics. Despite the complexity and the seemingly worrying counter impact of terror management processes discussed in this paper, we also attempted to show that there might just be another way, another orientation towards accepting our mortality. And this hope does not have just individual spiritual implications but can also lead to positive social transformations if we find ways to reorganise ourselves around this possibility. This alternative approach is when the awareness of death is not suppressed, avoided, and staved off by distractions readily available in our social environments, but death awareness is integrated into our everyday lives and leads to the appreciation of life, gratitude for our life-sustaining systems, a more conscious cultivation of social relationships and the reappraisal of values by focusing on meanings and projects which transcend individual selves. This is not easy since the 'gate-keeper' to this pathway is the overwhelming existential dread which explains why so few people 'choose' this approach voluntarily. Most people go through this process when they have a serious life crisis either by facing possible death in the form of terminal illness, having an NDE or losing something or someone important in their lives.

Hence, this is a crucial point in our argument. The question remains then how we can create social conditions and provide resources for more and more people to go through this process not just as an end-of-life experience or as a serious shock to their personality and worldview. Given the positive and thorough personality-related, behavioural and value changes people can have by accepting their mortality, this is something we should look into not just as a theoretical possibility but also as a practical one. Furthermore, we can also presuppose that this can also become a self-reinforcing circle, since the more people go through this process, the more they can provide social support and other resources to those who are struggling with the thought of their mortality. Moreover, the more people have a different worldview and value system, the more social values and outlooks can change towards conditions more conducive to sustainability. In this manner, we really need to examine what practices we have in creating a more death aware society.

In the first section of the paper, we argued that while death fears seem to be omnipresent in all historical eras, in late modernity the idea

of death and the ongoing project of the individual bounded self looks highly incompatible. While feeling special is a typical answer to anxiety both at the individual (feeling special as a person) and cultural level (emphasising human exceptionalism), it seems that this is another form of denial separating us from each other and the rest of nature. Contrarily, many of the practices that alleviate death fears make people conscious about their connectedness to each other and the natural world. For example, one of the main motivations behind death cafés is to create human connections and experience intimacy in relation to this difficult topic, even if these connections take place in a non-committal social space (Koksvik and Richards, 2021). Moreover, many people who have had NDEs report that they have experienced life reviews experiencing events of their lives from multiple perspectives including others involved in those situations. This makes them aware of their fundamental connectedness to other human beings and to life in general (Greyson, 2021). This type of death reflection is also imitated in TrMT studies to initiate positive value and behavioural changes in research subjects (Cozzolino et al., 2014). This raises the question of how life review and other forms of death reflection can be part of the education at all levels raising generations to be aware of their own finitude and vulnerability while also feeling that they share this existential condition with every living being and even collective entities such as ecosystems, institutions, and cultures.

Experimental studies also show the alleviation of death fears in patients treated with psychedelics. What is interesting in this case that mystical experiences, that is, the feeling of interconnectedness with everything seems to have a strong mediating effect on the capability of facing death (Pollan, 2018). While this is a treatment which is not easily applicable outside of clinical conditions and can be controversial culturally, communities based on spiritual practices of different forms of meditation offer ways to transcend the ego-centric, bounded sense of the self and experience the interconnected nature of being. In addition, based on clinical practice, Yalom (2008) claims that focusing on the rippling effects of our lives can help us face death. Rippling refers to the concentric circles of influence we all have on others throughout our lives and even on following generations, again emphasising connectedness between people and generations. This practice together with the practice of gratitude provide a different worldview than the one based on self-aggrandisement and the focus on individual material gain.

It is also important to mention, that practices aimed at raising death awareness are not new. Our spiritual heritage, or at least a part of it, provided collectively organised ways to integrate death to everyday life. Harada (1993) for example emphasises that zazen (Zen form of sitting meditation) can bring people to have an ultimate experience of being "that razor's edge" (p. 37). Moon (2020) especially mentions two traditional Buddhist meditations which can be used in death-related education: meditation on impurity of the body (imagining the process of our bodies decaying after death) and mindfulness of death (connecting death with temporality, e.g. reflecting on phrases such as "If I live until I breath in and breath out..."). Through these practices, people can integrate death into their lives while their bodies are still healthy in order to bring this awareness to the surface and make it work for society's sake (Harada, 1993). We should not underestimate the importance of these spiritual practices for our contemporary societies given that we can fight their co-optation by capitalism turning them into prepacked individual services to consume (see for example criticism on corporate mindfulness practices in Purser, 2019).

As we can also witness an ongoing spiritual turn of worldviews towards post-materialist, intrinsic values, and the feelings of interconnectedness (Hedlund-de Witt, 2011; Zsolnai and Flanagan, 2019; Sihombing, 2021), it might be wise to consciously ride these waves in terms of death awareness as well. A growing number of people look for alternative definitions of the good life and turn towards values and behavioural practices conducive to personal growth and the development of stronger family and community ties. These changes are also favourable to the emergence of more sustainable socio-economic

constellations (Lelkes, 2021; Parodi and Kamm, 2019). Adding discussions on facing finitude to this mix may have a constructive effect in the long run. Vail and Juhl (2015) demonstrated that a more conscious death awareness has several positive personal and social outcomes including more pro-social and community engagement, as well as stronger, more loving relationships and self-enriching behaviours connected to creativity. Therefore, practices of increased death awareness need not be necessarily related to religion or spirituality but also to the way we depict, talk about or, in terms of customs and traditions, handle death in our culture.

As ecological economists we are also painfully aware of the fact that those who are more ecologically conscious tend to also be more anxiety-ridden about our collective future. It is true that pro-environmental behaviour (henceforth PEB) is often related to enhanced life-satisfaction as it also means pro-social behaviour. However, this is reduced through the higher awareness of those individuals engaged in PEB of the environmental threats loitering around us (Schmitt et al., 2018). So, as a typical response, many people attempt to opt out of this type of consciousness and remain in denial about the situation we are in. In this way, they can avoid feelings of being overwhelmed, loss of control and powerlessness. Reflecting on the interrelationships between death and environmental consciousness can also help us reduce the dread it may subconsciously induce.

Kieft (2021) gives a detailed overview on how people can deal with difficult emotions in relation to climate change including community engagement, the mitigating factor of spirituality and the co-design of mental-health practices together with community members. This overview emphasises the need to express, accept and process difficult emotions through meaning making. This is not only important from an individual viewpoint but also in terms of collective resilience since the people who already went through this process can also facilitate change and personal growth in others (Kieft, 2021).

So far, we have discussed the need to implement practices that support death awareness in our societies. Now, we also need to acknowledge that this may not be the only way. Interestingly, avoiding thoughts of death and the ensuing anxiety can lead to pro-environmental behaviour as well but only if and when such pro-environmental behaviour is the cultural norm (Fritsche et al., 2010). So, this highlights the importance of the various initiatives aiming to reorient cultural values and worldviews towards sustainability through awareness raising and education. In line with this, previous research show that values prime our responses to death anxiety (see Vail et al., 2019), so it is a crucial question which type of values are salient in particular situations.

By offering alternative value systems and structuring lines of actions, these initiatives might help people choose pro-environmental behaviours and lifestyles as a 'default response' to death anxiety even in a society which is dominantly unsustainable. Moreover, as a theoretical possibility, we can also imagine a society in which pro-environmental values and behavioural patterns become dominant. This would mean that even less reflective responses to mortality salience can become more sustainable and pro-environment if that is what people accept as the given social reality and shared behavioural patterns leading to self-esteem.

As for the limitations for the model proposed in this paper, it is worth mentioning that the distinct nodes of our model had been heavily researched but the model itself has not been empirically tested. In this regard, while it draws on research results of several decades, the model is better not be seen as capturing social reality precisely but more as a map. This map might assist us to think about potential areas of intervention, and it can be modified based on what we learn from the outcomes of these initiatives. Another limitation of our model is that we found it difficult to both visualise temporality and describe dynamic changes which might strengthen or decrease the influence of different pathways in a longer time frame. This is an important issue, since we might underestimate the possibility of social changes on the long run,

especially when environmental catastrophes and threats becoming even more pressing in the future, making social denial a very costly and risky strategy. Lastly, and connected to the previous point, our model presupposes 'relatively' normal conditions and stable social functioning. Violent and dramatic changes, which might be more and more frequent in the future, can totally change these dynamics in unexpected ways.

Connected to these limitations, we can also propose several avenues for future research. The fact that the model has not been empirically tested offers a potential future line of research. In our opinion, this research strategy can be participatory and action-oriented in nature and close to the field experimenting with actual practices of strengthening death awareness at a collective level. What we learn from these participatory initiatives - drawing on and connecting several interventions mentioned above- can also change our understanding of the social dynamics proposed in this paper.

Another future research area can be a more thorough overview of different cultural and historical ways to deal with the anxiety of death. Apart from Western psychological practices, a systematic understanding of all the different strategies humans have devised to integrate death to life can broaden the horizon of the possible interventions in this regard.

Lastly, one of the main areas where both theoretical and empirical work is urgently needed is understanding how anxiety about the climate catastrophe (including the possibility social, cultural collapse) and individual private fears of dying and vulnerability are connected at a deeper level. While we proposed some possible relationships of where they intersect, this is a crucial point to turn private fears into social issues (Bauman, 1999), as well as learned helplessness into prosocial and pro-environmental actions.

Overall, we argued that a more reflective and heightened sense of death awareness might be an essential ingredient to a more sustainable society since facing death in a reflective manner brings forth those type of value and behavioural changes which are also emphasised in ecological economics as the basis for a sustainable culture.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

No data was used for the research described in the article.

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