

Article

# Greener through Grey? Boosting Sustainable Development through a Philosophical and Social Media Analysis of Ageing

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**Abstract:** Sustainable development is challenged by the exponential growth of the older population, which threatens available resources. In this paper, we question current negative views in the ageing debate by considering the ageing process from a philosophical perspective. By focusing on *frailty*, a feature that is usually associated with old age, we show that ageing can be the means to highlight the constitutive vulnerable condition of human beings which makes them exposed to others. As a result, we redefine the relationship between the human and the natural world as one of co-constitution and reciprocal sustenance and promotion. We move away from the current approach to sustainable development and we suggest a vision in which the concept of care becomes central. We claim, on the basis of social media behavioral analysis, that the elderly could be involved in care practices of other human beings and especially of nature, contributing actively to sustainable development.

**Keywords:** ageing; sustainable development; frailty; vulnerability; care practices; environment; philosophy; social media

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## 1. Introduction

Sustainable development is concerned with economic growth in relation to the environment, which is considered in its instrumental function as a means for the satisfaction of human needs without neglecting, in principle, those of future generations. This view, suggested in the report *Our Common Future* [1], highlights the importance of meeting human needs while acknowledging the limitation of available resources. As stated in [2], this political report was radical in linking the environmental theme to that of development—themes which were previously separated—but it also called for more development even if sensitive to the environment. Various models of sustainable development have been proposed aiming at an integration of the various dimensions [3,4]. The most well-known is based on the three pillars (economy, environment, society/social), to which the institutional dimension was added as a fourth pillar, i.e., democracy/governance [5]. A criticism to this model is that economy is favoured over the other dimensions and humanity is placed outside of the environment, while human beings are inherently part of it [6]. As an alternative, “nested” models have been proposed, as well as an Earth Charter. These models aim to avoid the separation of economy from the other pillars in order to achieve a more holistic approach to sustainable development [3,7]. Society here is not considered as separate from the environment but it is located within the environmental limits that have to be respected in order to avoid its destruction [8]. Even though the environmental goals are not separated from the social ones, human wellbeing still represents the central concern [6].

The ultimate aim of sustainable development, in all the proposed models, is anthropocentric since it focuses mainly on human beings and more specifically on the wellbeing of the subject. Nature

and the ecosystem should be preserved, essentially because human welfare depends on them [9]: this necessity is what makes it a duty for every human being to protect and restore the integrity of the planet [10].

Ageing is considered a challenge for sustainable development since the exponential growth of the older population threatens the resources that are globally available with relevant consequences at the environmental, economic and social level [11]. In addition, the ageing population contributes to environmental problems due to the growth of independent and assisted living facilities that contribute to a passive consumption of energy [12–16]. Car use is another element of concern since older people are more likely to have a driving licence and to make trips than previous generations of seniors [17], and this is especially the case in low-density areas where public transport is not well developed [18]. Furthermore, these environmental problems, which play a role in climate change, expose the elderly to great health risks [13] with economic consequences for the care system [19], making seniors more prone to social exclusion.

In this paper, we question the current negative views on ageing as a threat for sustainable development. Our aim is to show that the elderly represent a theoretical resource to challenge the anthropological framework that is behind both the contemporary debate on ageing [20,21] and the definition of sustainable development [22,23]. Both, indeed, share a vision of “men being [...] by nature all free, equal and independent” [24] (pp. 8–9), that is of a self-determined subject [25]. It is precisely this vision that we want to question by considering the ageing process from a philosophical perspective.

By focusing on *frailty*, a feature that is usually associated with old age in the current debate, we show that ageing can be the means to highlight the constitutive vulnerable condition of human beings which makes them exposed to others. To this end, we adopt a methodology which relies on a combination of hermeneutics and phenomenology. We take from the former the etymological analysis of terms that allows to identify their original meaning [26], while the latter aims to reveal both the essence and the conditions of possibility of the experience, considering it from a subjective perspective (i.e., phenomena) [27].

As a result, we redefine the relationship between the human and the natural world as one of co-constitution and reciprocal sustenance and promotion, in which the concept of care becomes central. In this respect, we differ from current views on sustainable development that consider the environmental pillar simply as functional to human welfare [9]. Our view shares similarities with that proposed in the Earth Charter, which states that it is humanity’s choice ‘to form a global partnership to care for Earth and one another or risk the destruction of ourselves and the diversity of life’ [8] (p. 71). However, we differ from it because, by acknowledging the ontological vulnerability of human beings, we recognize the relational nature of mankind: a relation that includes also the environment. In this view, the principles behind sustainable development should be perceived not as imposed by an external Charter but as inherent to our human nature, thus necessary to realize our true human existence (cf. also [28]).

An innovative aspect of this paper is that we complement the existing literature on sustainable development and ageing that relies on technical, medical and social considerations [11,29,30] with philosophical insights in order to show that vulnerability is an essential feature of human beings. The intent is to address sustainable development, at least in its environmental pillar, from a non-functionalistic perspective. In addition, we carry out a behavioural analysis of social media data to assess the attitude of the elderly with respect to environmental issues and we claim that social media could play an important role in involving the elderly in care practices of other human beings and especially of nature, contributing actively to sustainable development.

An interesting side-effect of our vision is that it might become more easily accepted in those non-Western societies that stress the important role of social relationships rather than the needs of the individuals, as in Chinese society, which is still strongly based on the Confucian tradition that considers human society as family-based rather than individual-based, assigning an important role to social relationships [31–33].

## 2. The Ageing Process: A Literature Review

In the contemporary debate on ageing, we can distinguish two antagonistic conceptual frameworks: the active ageing (or successful ageing) and the autonomy paradigms ([20], p. 47), [29,34]. They influence political agendas, the organization of health care as well as technological innovation [20,21,29,35].

In the active ageing paradigm, old age is defined as a time for activity, social engagement and productivity, rather than a period of decay and dependency [36]. The assumption behind this view is that the elderly should delay the decline process by keeping physically and socially active. Old people should look and act young, making those seniors that do not manage to behave in this way a failure [35] (p. 922). Seniors that do not meet the high expectations imposed by the paradigm are labelled as “unsuccessful” and are considered to belong to the negatively pictured category of “fourth age”, which is characterized by frail and needy seniors, often in decay and misery [37,38], ([39] p. 66).

In this paradigm, frailty has been defined as “pathogenetic mechanism which can be contrasted by preventive and therapeutic approaches” [30] (p. 283). Frailty is considered from an exclusively biomedical perspective, and it is viewed as the increased risk of losing one’s physical functions [29,40] and consequently one’s social functions [41]. It is thus regarded as an individual problem and it is treated as a sort of illness resulting in a form of medicalization or bio-medicalization of old age [20], ([29] p. 60), [35,42–44]. In this context, the elderly lose agency since the only relevant perspective is the one of the technical experts such as geriatricians while the personal experience of the seniors is often ignored and excluded ([29] p. 63), [35,45].

However, as noticed by Becker, the medicalization of ageing “may [...] erode individual’s ability to make important health-related decisions, promoting [...] dependence” [46] (p.61). The autonomy paradigm aims at emancipating the elderly from the passive situation in which the active ageing paradigm confines them [29,35,38,46–48] and, in order to achieve this objective, it promotes the direct and first-person involvement of the seniors in healthcare decisions as well as in technological design [35,49–51]. The paradigm revolves around the concepts of autonomy and self-determination [35,39,46,47]—or, as Kaufman claims, autonomy as self-determination [20] (p. 47). Old people often regard themselves as autonomous and try to escape the medical dependency to which they are often confined [20,46,47].

Interviews with seniors have shown that the term *frailty*—and the status of being dependent on others related to this condition [42] (pp. 224–226)—is not part of the vocabulary of the elderly who, on the contrary, view themselves as autonomous, even if they struggle to maintain their independence [46] (pp. 65, 71). The autonomy paradigm claims that frailty is a social construct, as it is part of the gerontology vocabulary which neglects the vision that old people often have of themselves as autonomous and independent agents ([29] (p. 63), [46] (p. 71), [47] (p. 484)). The goal of this approach is to respect the autonomy of the seniors and to establish “equality between the caregiver and care receiver” [21] (p. 10), i.e., between old people and those who are responsible of their wellbeing.

Despite the merits of the autonomy paradigm, it presents some shortcomings, especially regarding the participation of the elderly in the decision process. It presupposes that old people are self-determining and able to make rational and free decisions [20,21,46,52]. However, this is not the case for those that exhibit cognitive impairment or physical decay, who are thus excluded [53].

In summary, both paradigms present problematic aspects related to the notion of agency and frailty. The active ageing perspective “takes agency away from people” [35] (p. 928) while the autonomy paradigm results in a highly idealized vision of agency, which adopts the rational healthy adult as a behavioural standard valid through all life stages [52] (p. 108). Similarly, frailty is considered a disease (active ageing) or a label (autonomy paradigm) that the elderly should try to avoid. This position reveals that both approaches share the assumption that human beings should be independent in all life stages in order to be regarded as autonomous subjects.

We conclude that both paradigms share the same anthropological framework with a view of human subjects, which are “similar with respect to independence, and each is a separate source of claims and projects” [52] (pp. 32–33). In other words, human subjects consider themselves as the

unique and ultimate source of their existence. In this regard, the main feature of human nature is autonomy, i.e., the lack of dependence from others.

In the rest of the paper, we question the negative view of ageing that emerges from the literature we have presented. More precisely, our philosophical analysis challenges the notion of the individual as essentially independent and self-supporting being [54], which is also at the core of current views on sustainable development. We highlight instead the constitutive interdependence existing among human beings by extending the notion of frailty beyond the ageing debate aiming at a new vision of sustainable development.

### 3. From Frailty to Vulnerability: A Philosophical Approach

In the previous section, we have provided an overview of the concepts of frailty and agency within the literature on ageing; in this section, we reconsider the elderly and the ageing process through a methodology which combines hermeneutic and phenomenological insights. More specifically, while hermeneutics reveals the original meaning of frailty that is hidden behind the various uses of the term that have emerged in the course of time, phenomenology is a fruitful method to assess the structure and the conditions of possibility of the experience. In this task, our sources are etymological texts as the main material for the hermeneutic investigations [55], while the phenomenological analysis relies both on classical texts of this philosophical tradition [56–60] and on two different case studies [61,62]. The result is a different perspective on frailty and in showing its relation with the concept of vulnerability we lead the way to an alternative view on the human subject and as a consequence a redefinition of sustainable development.

As already mentioned, the hermeneutic analysis aims to reveal the original meaning of frailty. To this end, we consider Isidore of Seville, who in his work *“Etymologiae”* defines it in the following way: *“fragilis dictus eo quod facile frangi potest”* [frail is said of it that can easily be broken] (book X, 101) [55]. Therefore, the term frail is associated with the Latin verb *“frangere”* in its passive and intransitive form. In this perspective, frailty indicates an entity that can easily lose its original consistency, as it offers a feeble resistance towards the external world [23,61]. Therefore, it is neither directly related to physical disease or impairment (as in the active ageing paradigm) nor to «the diminished ability to carry out life functions of both personal and social nature» [43] (p. 95); rather, it indicates the possibility to break into pieces under the pressure of an external entity. It is thus relevant to understand which is the condition behind it and what it tells us about the subject. To this end, we rely on phenomenological approaches that allow us to assess the conditions that make the subjective experience of frailty possible.

As Butler [63] (p. 40) highlights, the term frailty reveals that one *“[is] exposed to others, at the risk of violence”* and that living creatures are constantly subject to what is happening to them and around them in the world (i.e., they are vulnerable) [64]. Therefore, being exposed reveals a more general condition of vulnerability, as originally acknowledged by Levinas [56], who writes: *“In having been offered without any holding back, it is as though the sensibility were precisely what all protection and all absence of protection already presuppose: vulnerability itself”*. It expresses the ontological condition of frail people [57,58] because the subject is affected by events happening in the external world that can hurt and break him since he is open to otherness [23] (p. 214).

After having established the relation which exists between frailty and vulnerability, it is important to analyse in more detail the experience of vulnerability in order to clarify its essence. We will rely on a phenomenological analysis also in this case.

In particular, we show that the concept of vulnerability is related to that of dependency, as can be seen in the case of the early adoption of e-bikes by Dutch seniors. They are usually financially affluent people, still quite active and interested in spending their free time in relatively long bike-rides, but at the same time they feel that they do not have the physical condition to ride traditional bikes anymore. They are early adopters of e-bikes because their sporty design matches both the active image they have of themselves and their age-related limitations in biking [61] (p. 443). This case shows that these

seniors are still autonomous since they can have wishes, desires and values, i.e., they have the ability to meaningfully act upon their lives and the external world [35] (pp. 928–929). However, in this case, they are dependent on technology to realize their wish to be able to go for bike rides. We can conclude that dependency does not necessarily mean lack of autonomy: human beings are autonomous in defining their values even though they have a vulnerable nature. In this sense, the autonomy paradigm is correct in highlighting the persistent autonomy of people during old age but it fails to acknowledge that autonomy can be expressed only if the elderly find favourable conditions in the external world [23] (p. 282). Dutch seniors cannot go for long and strenuous bike-rides if they do not have an appropriate bicycle which suits their physical needs.

Furthermore, we shed light on the essence of vulnerability and its various connotations through an additional case that is based on a comparative analysis of frailty and the factors that contribute to it across three Chinese populations: Beijing rural, Beijing urban, and Hong Kong (urban) [62]. The findings emphasize the importance of a social support network constituted by the family and the community, as well as of the positive effects of spending the daily life in a natural environment. In fact, the lowest frailty burden was found in those rural areas where the elderly are in relation with others (i.e., family, community) and the natural environment. This web of meaningful relations is argued to offer protective factors for frailty. This case shows that vulnerability reveals a dependency from others that can break or hurt us, but can also provide the conditions to reach fulfilment and to reduce frailty, as in the case described above.

To summarize: the analysis carried out shows that vulnerability should neither be considered synonymous of frailty [29] (p. 59) nor a term opposed to autonomy [23,57,65], contrary to what is assumed in the ageing debate. It does not seem correct to state that “vulnerability reveals negativity” [65] (p. 13). It rather indicates that the subject is being connected to the other [66]—a relation which can damage the subject, breaking it down, but can also contribute to its fulfilment. It highlights a type of dependency that is not exclusively intended in physical and negative terms [21], as something that has to be feared and avoided [46]; a dependency that does not imply necessarily lack of autonomy.

#### 4. A New Scenario for Sustainable Development

Our analysis of frailty and vulnerability has originated from a different view of the ageing process. In this section, we would like to show that these conditions are not limited to the elderly, but in fact characterize all human beings, making it thus possible to reconsider the anthropological framework behind sustainable development.

The view of the elderly we have sketched in the previous section as autonomous but dependent human beings does not easily fit into the anthropological framework of the modern tradition, which proposes an image of the subject where autonomy is equated to independence and self-determination. In addition, we should notice that, even though vulnerability mostly manifests itself at a specific point in life, i.e., in the frail disposition of the elderly [67], this does not mean that it has to be restricted to the last years of our life [68] (p. 4). It characterizes also other life stages (i.e., childhood), as well as disabilities, being an essential condition of human nature [21,23,52].

More specifically, vulnerability is a consequence of our embodied condition, as Butler [63] (p. 47) claims: “delivered from the beginning to the world of others, it [the body] carries with it their trace” and, as Weil [69] (p. 107) suggests, it represents our constitutive status since the feature of exposure and dependency from others should be recognized as the founding dimension of our existence. Therefore, we all are, as embodied consciousness, vulnerable beings [70] (pp. 49–50).

Vulnerability forces us to reconsider the image of the subject as a self-determined and independent individual who pretends to free himself from relationships with the others, that is a “disengaged-self” [71]. This is due to the fact that this image does not consider our vulnerable condition, which relies instead on the openness to the other ([20], [23] (pp. 300, 320), [52] (pp. 132, 160), [54]). For this reason, we propose to



consider the subject as a broken subject—i.e., “sujet brisé” ([23] (p. 212), [59] (p. 199 ff.)) that requires the encounter with a complex range of otherness to meaningfully exist [72] (p. 148).

More specifically, we claim that the vulnerable condition that characterizes human beings in their various life stages is due to the relational nature of mankind, a relation that includes also the environment. In fact, we claim that human beings are not simply located in the environment, but they enter into a relation with it, being thus allocated in it [28] (p. 79). In this view, the environment goes beyond the natural world described by physics or simply constituted by material features and causal connections [60]. It plays a crucial role in the constitution of the personal identity of the subjects, who, on the other hand, with their various activities, provide a subjective imprint to it [28] (p. 81). The environment is conceived as a territory [milieu] [73], i.e., a relational dynamic system, in which human beings represent a fundamental element for its constitution and maintenance [22,28,73]. In this respect, we are in agreement with the current literature on space production, which considers human beings as allocated and the environment as a web of relationships that include also the human subject [73–77]. More specifically, Soja [78] suggests that there is a strict interaction between social and spatial phenomena because human beings live in a spatial dimension in addition to social and temporal dimensions. Space is a social product: Spatial phenomena influence social phenomena [79] and vice versa [80,81]. Spatiality is an intrinsic dimension of the human: “Our relationship with space is that of a being that dwells in space relating to its natural habitat” [82] (p. 55).

Finally, if the view that acknowledges vulnerability as an anthropological condition of mankind is accepted, we suggest the characterization of this different anthropological framework of vulnerability with a normative proposal, linking the vulnerable conditions of human beings to an ethics of care. Since people are dependent on others to varying degrees, the only moral response to our vulnerable constitution is a caring behaviour, i.e., an attentive attitude towards the conditions of fulfilment of oneself and of the others, including the environment. This implies the recognition that care ethics has double-intertwined dimensions: it includes both the need for care and the need to care (cf. also [21] (p. 138), [48] (p. 247), [54], [83,84] (p. 52), for a similar proposal).

This different perspective may be better understood in the context of the environmental pillar of sustainable development where we assume a relation of reciprocal dependency and co-constitution between the human and the natural world. Human beings receive from the commitment with nature, the possibility to disclose and enrich their lives and perspectives [23] (pp. 205–206), [85] (p. 511), [86] (pp. 239–240). More specifically, in contrast with standard views, we assume that the role of the environment is not merely to provide the material resources to satisfy our needs, but to enter into a relationship with us and make our life worthwhile [22].

From this different insight on the relationship between human beings and nature, we propose a redefinition of environmental sustainability as the capacity of human beings to take care of their relationships with the natural world [22], where both human beings and the environment can find proper conditions to enrich their lives and to prosper [52].

Our proposal for sustainable development brings to the foreground the quality of the relation between human beings and the environment in order to foster the conditions for reciprocal wellbeing [23] (p. 287). Therefore, our perspective based on the ethics of care makes it possible to go beyond the current paradigm of sustainable development whose main concern is the reduction of environmental footprint. We want to overcome the limitations arising from considering the environment in its instrumental function, as we believe that the roots of the ecological crisis are to be found in the breaking up of the constitutive relation between human beings and the natural world [84]. However, in the ethics of care perspective, every relation is considered unique and unrepeatable, which implies that it is difficult to formulate universal principles that can be translated into actions [23] (p. 288). This is the case also with respect to our proposal for sustainable development: in order to support care relationships between human beings and the environment, we cannot rely on standard norms but on policies that can provide different answers to the various situations.

In the rest of this section, we propose three criteria related to care relationship between human beings and the environment that can function as guidelines for sustainable development policies. The first one is acknowledgement. As Pelluchon advocates, we can take care of others only when we acknowledge the reciprocal dependency among the various subjects [23] (p. 284). As consequence, a caring relation with the environment presupposes that we acknowledge that the relationship between us, as humans, and the environment is decisive for our reciprocal wellbeing and fulfilment. The second criterion is attention, since caring about the other requires being able to assess his specific needs [87]. It indicates the capacity of the caregiver, i.e., of the human subject, to grasp those conditions, which can promote the fulfilment of both the humans and the environment in their reciprocal relationship (and, vice versa, which relational conditions hinder their joint well-being). However, the concrete promotion of these conditions requires a third criterion of sustainability, namely responsibility [23] (p. 290). It stands for the human capacity to provide concrete and adequate answers to the needs of wellbeing of both human beings and the environment. From this perspective, therefore, we damage the environment—and, together with it, also human life—when we do not provide an adequate answer to what is required by our relation with the environment, i.e., when we fail in our responsibility towards it [84] (p. 53).

### 5. The Elderly and Sustainable Development: Best Practices

In the previous sections, we have critically questioned the anthropological framework that is at the basis of current views on sustainable development and we have suggested an alternative perspective triggered by a philosophical analysis of the ageing process. We have focussed on the features of frailty and vulnerability often associated with the elderly, but we have shown that they reveal a possible condition of every human being. Vulnerability reveals the interdependence of human and non-human beings, including nature, to promote reciprocal support in the form of care.

The elderly are usually associated with being in need of care; however, we believe that they can play an important role in sustainable development if we work on their environmental attitudes and behaviour. We can facilitate their involvement in reducing environmental footprint and stimulate their volunteering activities in care practices of other human beings and especially of the natural world. Existing surveys show that only a small percentage of the elderly are volunteering for environmental organizations and activities [13].

We claim that social media can play an important role in changing attitude and behaviour among the ageing population since the number of seniors active on social media is growing rapidly [88]. However, a social media analysis of Dutch users reveals that older adults are less concerned with themes related to nature and sustainability than younger people are.

More specifically, in the context of the European project Grage (Gray and Green in Europe: elderly living in urban areas—[www.grageproject.eu](http://www.grageproject.eu)), we have carried out a behavioural analysis of Dutch users based on social media data extracted from Twitter. We have grouped users in two age groups corresponding to two life stages that are related to the active working life of the individuals (i.e., below 55 years) and post retirement (above 67 years). We have carried out a behavioural analysis on the basis of hashtags, which are a social media specific feature used to index keywords or topics in Twitter.

In Table 1, differences can be noted with respect to the theme of sustainability where hashtags related to it are only present among the younger age group, where users belonging to it tweet about this subject in a work-related context. Similarly, a difference can be noticed with respect to the hashtags related to nature that are used by the younger group more than by the group of the older adults.

We hypothesize that the limited interest in older adults for themes related to sustainability could be a consequence of the anthropological model of sustainable development (which we have argued against). Since it is mainly related to the economic pillar, it is therefore more relevant for the under-55 group, which, as a more detailed analysis of the use of the hashtags reveals, focuses more on work and work-related issues, with news, occupational terms, entertainment and companies as the most popular topics. It should be noticed that the over-67 group shows an extensive use of location-tags: more than

three times as much as the younger group. A detailed analysis reveals that they use location hashtags to promote the city they live in, revealing thus as we have argued that they are more apt to take care of their relationship with the environment they live in. Therefore, we believe that the view of sustainable development based on the interdependence of human and non-human beings that we have presented in this paper might appeal to the older adults and could be the way to involve them more actively in the sustainable development debate. In this way, older adults would not only be a challenge for sustainable development, due to their consumption of resources; rather, they can be considered as a resource to tackle both environmental and social concerns: they can act as innovators in the context of sustainable development.

**Table 1.** Distribution of the 100 most frequent hashtags into content categories.

Category	Examples in English	% over-67	% under-55
Arts/photos/design	Photography	4.7	1.2
Companies	[names of companies]	0	11.6
Economics	Financing	0.9	3.1
Entertainment	top2000	18.2	12.3
Events/conferences	congresIC	0.6	4.1
Sustainability	40dayssustainable	0	1.3
Locations	Iceland	20.2	6.6
Mood/emotions	Proud	3.2	1
Nature	Bees	0.6	4.3
News	Brexit, [names of Dutch newspapers]	9.4	29.8
Occupationalterms	website, qualifofhealthcare	0	14
Politics	[Names of political parties and laws]	30.8	0.8
Research/univers	RadboudUMC	0.3	0.8
Social/people	AbeltAsman	2.6	0
Sports	NedMex, OS2012	2.9	2.3
Twitter-tags	dtv ( <i>durftevragen</i> , <i>daretoask</i> )	0.3	4
Other	Wastepaper	5.3	1.2

Furthermore, in a country such as The Netherlands where nearly 80% of the people between 45 and 65 years old are active on social media, it could be relevant to understand how social media can be used to capitalize on the interest of the “older adults of the future”, i.e., the under-55 group, for topics concerning nature and sustainability in order to stimulate their volunteering and caring activities.

In this respect, Japan is at the forefront, since it precedes other countries in acknowledging ageing as an urban issue: by 2030, one in every three people will be 65+ years old in Japan, and one in five people will be 75+ years old [89]. Therefore, policies are being implemented to engage the elderly population in productive activities. The aim is to redesign the community bond unravelled by the widespread individualism in Japanese society, giving the opportunity to retired people to carry out caring activities at the intersection between agriculture, food and community support [89].

Preliminary research suggests that these voluntary activities, especially when they concern the care for the natural environment are restorative experiences and can benefit human beings [90,91]. Older adults look for beautiful natural sites in order to engage in the experience of witnessing nature’s scenic beauty and re-creating human spirit [92,93]; in this respect, even mountain and desert landscapes can offer spiritual healing and comfort [94]. Volunteering activities might also have additional benefits [95,96] since they tend to involve physical activity and thus promote health [13,97,98] reducing, consequently, expenditure for health care systems and the connected risks of social marginalization.

To conclude, in light of these best practices, we claim that the non-functional (re)definition of sustainable development we have suggested allows to realize an authentic holistic perspective where all the three pillars—environmental, economic, social—are taken into account as reciprocally reinforcing each other.



## 6. Conclusions

In this paper, we have analysed the concept of sustainable development and critically questioned the anthropological framework that is at its basis. An innovative aspect can be found in the alternative view on sustainable development we have proposed, based on a philosophical approach, which is rooted in the concepts of frailty and vulnerability: two features that characterize old age. More specifically, we have shown that frailty is the condition to highlight the essential vulnerability that human beings share with all the other living creatures as a consequence of their embodied condition. Vulnerability makes human beings exposed to others: their essential vulnerability makes them neither independent nor isolated from other human (and non-human) beings, even though they actually have the capacity to autonomously disclose their values. As result, we redefine the relationship between the human and the natural world, as one of co-constitution and reciprocal sustenance and promotion. Therefore, we differ from current views on sustainable development that consider the environmental pillar simply as functional to human wellbeing and welfare [9]. We highlight the importance of a relation between the natural and human world in order to promote reciprocal support in the form of care.

The main implication of this view lies in a revision of current policies and practices of sustainable development which focus almost exclusively on a reduction of the quantity of resources being consumed. Instead, in the context of the care ethics framework proposed, sustainable policies and practices are meant to support people's active disposition to take care of both the other subjects and the natural world. The policies should follow the criteria suggested in Section 3: acknowledgement, attention and responsibility with the aim to avoid the maintenance of inequalities, as well as the creation of new forms of injustice [23,28]. In this respect, they promote a holistic perspective where social marginalization and the exploitation of nature can be both considered as unsustainable practices.

This perspective leads the way to a rethinking of sustainable development beyond the anthropological and intercultural limits of Western modern tradition. In fact, an additional implication of our proposal is that it highlights the importance of the relationships between human beings and the environment, and this vision is likely to be transculturally more accepted than current ones in non-Western societies, especially in those that stress the role of social relationships rather than that of individuals, as in Chinese society, which is still strongly based on the Confucian tradition [32,33].

However, the most innovative aspect of our work relies perhaps in having complemented the literature on sustainable development with a philosophical approach, having thus contributed with a new methodology based on a combination of a hermeneutic and phenomenological approach. It has revealed the vulnerable condition of the subject open to others, providing thus a humanities-inspired view into the technical debate on sustainable development. This inclusion of the philosophical literature into the debate has also benefitted the philosophical perspective and, more specifically, the ethics of care. Our innovative proposal indeed, reveals the possibility for care ethics to be decisive even outside the border of interpersonal and private relations, in which it is accused of being trapped [23,48,99].

In addition, the paper contributes to the debate on ageing since it provides a different account of frailty than that suggested by the active ageing (or successful ageing) and by the autonomy paradigm. It is not necessarily related to lack of autonomy and thus something one should fight, nor a social label associated with the elderly. We claim that it is an essential human possibility, a characteristic of our vulnerable anthropological constitution, which is not limited to old age [30]. As Butler [63] (p. 42) acknowledges, frailty demands a world where carnal vulnerability is not eradicated, rather safeguarded through the care of good relationship with the external world, without, therefore, being eradicated. Furthermore, we provide a more positive view of the concept of frailty and of vulnerability since the latter reveals a dependency that doesn't deny autonomy of the elderly and that does not only bring us in contact with other individuals that can hurt and break us but that can also contribute to our fulfilment and well-being.

Furthermore, we have shown that the elderly can be regarded as a resource both from a theoretical and a practical perspective and not necessarily as a problem for sustainable development. From a theoretical perspective, our analysis has taken the ageing process as starting point in order to highlight

the essential vulnerability of all human beings and not only of the elderly. This is an aspect that is hidden behind the current anthropological view on sustainable development based on a vision of human beings as free and autonomous, i.e., as self-determined and independent subject [25]. It has made possible the reconsidering of the vision of the subject that underlies contemporary environmental discourses, as in the case of sustainable development ([20], [23] (p. 320)). From a practical perspective, it is important to sustain the potential of human beings, including the elderly, to take care of both other individuals and the natural world, from environmental policies to volunteering activities. On the basis of social media data from various Dutch age groups, we have shown that themes such as sustainability and nature are less popular within the older adults age group (i.e., above 67). We have claimed that social media can play an important role in changing attitude and behaviour among the ageing population, as the number of seniors active on social media is growing rapidly.

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