PROPOSAL FOR A MODEL TO ANALYZE COMMITMENT TO SUSTAINABILITY[1]

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Introduction

In recent years, sustainability has been singled out as a solution for different environmental problems and emerged as a pledge to make the relationship between man and nature more harmonious and less invasive. However, given that this concept is both wide-ranging and vague, sustainability can be appropriated by and used within very different discourses. Nowadays, almost all current forms of thinking agree with the idea that sustainability should steer decisions involving nature and that it should be a basic precept for guiding the actions of individuals.

The term sustainability is also present in the discourse of various organizations which seek to justify to society their impact on the environment and be able to legitimize their actions vis-à-vis society. Organizations acting in different sectors seek to associate their image to sustainability and demonstrate, by means of reports and other types of communication, how their actions are sustainable even if, for these companies, most changes are still only at the level of discourse.

The greatest problem in adopting a sustainable attitude relates to the difficulty in incorporating deep changes into a thought system which has always been strongly associated to institutions belonging to industrial society (MCDONAGH, 1998). Although efforts in seeking a more sustainable attitude are always positive and necessary, the indiscriminate use of the term sustainability may not lead to any significant changes in the relation between humanity and nature and, in this way, may just become a way for individuals to justify their actions, however environmentally degrading these may be.

Thus, it is important to find ways to evince how far the discourses and actions of individuals are effectively committed to sustainability. According to Hay, Duffy and Whitfield (2014), it is also important to note that although there is considerable research on sustainability, we are far from achieving a more sustainable society. It is therefore,

important to identify changes in the current patterns of discourse and actions associated to the environment. One way of conducting this analysis is by adopting a model which allows us to classify discourses and actions. Models of analysis can assist in this classification and subsequent discussions. Therefore, the aim of this study is to draw a theoretical model in order to guide studies which assess the sustainability commitment of individuals or collectivities.

In order to do so, following this introduction, the remainder of this article is divided in three parts. The next topic discusses sustainability as an environmental paradigm which is situated between two opposing paradigms: anthropocentrism and ecocentrism. In this part of the article, we also distinguish between the individualist and collectivist perspectives of these paradigms. There follows a presentation and discussion of the theoretical model proposed, using films as an illustration. To conclude, final considerations are presented, as well as suggestions for future studies using the proposed model, where we also point out its limitations.

Environmental paradigms

Despite the diversity of current environmental problems, nature continues to be predominately seen as a mere source of resources or a place for depositing the residues of human activities. There is no single explanation for this phenomenon, but the vision individuals have of the world is of utmost importance for elucidating this issue, as this vision encompasses people's system of ideas, belief and values which steer their attitude to the environment. The way individuals act towards the world is based on explicit and implicit suppositions about its essence (BURRELL; MORGAN, 1979) and these suppositions make up paradigms representing alternative realities (KUHN, 1996) or philosophical meanings which provide a vision of reality (MORGAN, 1980). These paradigms constitute the principles for organizing the thought systems which govern the perceptions individuals have of the world and define the logic of their discourses (MORIN, 2006).

The concept of paradigm was expanded by Pirages and Ehrlich (1974), who used the term "dominant social paradigm" to define the set of norms, beliefs, values and habits which make up the most common vision of the world within a culture. It is comprised of symbolic generalizations which are widely accepted by members of a community, models of relationships between objects of interest, as well as judgment criteria used for assessments. Cotgrove (1982) contributed to this debate by arguing that a paradigm is dominant because it is shared by dominant groups which use it to provide legitimacy to the institutions that sustain their interests, and not because it is shared by a majority.

The suppositions which underpin the paradigms accepted by individuals influence not only what they believe to be right or good, but also their values, beliefs, attitudes and behaviours. The relationship between these factors and the environmental behaviour of individuals was analyzed by Coelho, Gouveia e Milfont (2006), Stern and Dietz (1994), Stern, Dietz and Kalof (1993), Schultz and Zelezny (1999), and Vaske and Donelly (1999). According to these authors, together these values, beliefs and attitudes can form a cognitive system which can affect individual behaviour. Other authors such as Callicott and

Nelson (2003), Rees (2003), Taylor (1998) and White (1967) associated the destruction of the environment with attitudes, beliefs, values and actions of human beings towards the natural world, pointing to the relationship between the attitude of individuals and the growth in environmental crisis. Others still, such as Levin and Unsworth (2013), associate this problem to the context in which individuals find themselves, which also determines attitudes, beliefs, values and actions. This cognitive system is influenced by suppositions about the world and reality which precede it and which make up paradigms.

Environmental paradigms are usually classified as anthropocentric or ecocentric. Anthropocentrism is steered by the interest in maintaining human quality of life, health and existence. In order to do so, natural resources and the ecosystem must be preserved. On the other hand, in ecocentrism nature has a spiritual dimension and intrinsic value on which humanity depends (SCHULTZ, 2002). Thus, both anthropocentric and ecocentric environmental attitudes express a concern with the environment and an interest in preserving nature and its resources, although the motives behind environmental concern and interest are different.

However, given that both paradigms start from the idea of a humanity-nature dichotomy, a third paradigm is proposed based on sustainability. It suggests that this separation can be overcome.

The anthropocentric paradigm

The main concept behind anthropocentrism is the undeniable superiority of human beings. Thus, nature is always and exclusively valued from an instrumental point of view. There are two main ramifications of this concept: in the first, nature is fundamentally seen as an economic resource and, in the second, the importance of nature relates to satisfying a myriad of human interests which are not restricted to the economic dimension (ALMEIDA, 2008; CAMPBELL, 1983). This perspective presupposes an exchange relationship in which human beings preserve nature, but for their benefit. That is, the aim is to safeguard the existence and the quality of human life (COELHO; GOUVEIA; MILFONT, 2006).

Given continuous economic growth and technological innovation, current generations should only leave stocks of assets which are at least the same size as current ones for future generations - a rationale underpinned by a selfish, linear, instrumental and rational line of thought (GLADWIN; KENELLY; KENELLY, 1995). Technological rationality is dominant because it is consistent with the production of material wealth and accumulation (KILBOURNE, 2004). This paradigm also presupposes continuous progress and the constant need for development, trusting that science and technology will solve problems, based on a strong commitment to free-market economy and private property (ALBRECHT et al., 1982).

From this point of view, the Earth is seen as inert and passive and therefore its exploitation is legitimate. Nature is strong and resistant to disturbances and damages caused are generally reversible. Natural resources are virtually inexhaustible, due to the infinite capacity of human nature to exploit and substitute them whenever scarcity arises. There

is no reason, therefore, for taking drastic or alarmist actions, given that environmental damages are exaggerated. There is enough time for scientific development to understand and prevent potentially serious and irreversible damage. This vision is associated to atomistic individualism, reductionist analyses and positivist and monologic forms of rationality. It is also linked to conceptions which see system structures as hierarchical and isolated where the dominant metaphor is mechanics. From this point of view, humanity is seen as separate from and superior to nature. Humans are the only beings who have intrinsic value and, therefore, the right to rule over the natural world which only exists for their own benefit (GLADWIN; KENELLY; KENELLY, 1995).

In the anthropocentric vision, economy is seen as a system which is linear, closed and isolated from nature. It is also the site for the movement of values between industries and families. Growth is seen as positive and the greater the growth, the more positive its outcomes. This expansionist strategy is enough to generate resources for environmental protection, reduce pollutant emissions and foster the adoption of cleaner technologies. It can also alleviate poverty, improving the quality of life of disadvantaged groups. Nature is a commodity - it can be seen objectively and can be valued and quantified in monetary terms (GLADWIN; KENELLY; KENELLY, 1995).

The idea that economic growth should occur at any cost can result in a series of negative effects, as cited by Rohde (1998): continuous and permanent growth, disregarding the fact that the planet is finite; ever-increasing accumulation, in terms of materials, energy and wealth; disrespect for biophysical limits; modification of the fundamental bio-geo-chemical cycles; the destruction of life-sustaining systems and an expectation that technological progress will attenuate the effects of growth. Furthermore, the view that there is a need for constant economic growth may be linked to ever-increasing materialism which, according to authors such as Hurst et al. (2013), is negatively associated with attitudes and behaviours necessary for environmental preservation and conservation.

Although it is recognized that the suppositions underpinning this paradigm could legitimize environmental destruction, it continues to predominate, even if there are other visions which are opposed to it, such as ecocentrism. Despite this opposition, individuals are not thought to have exclusive views. It is understood that they hold a wide and varied set of suppositions which steer their actions. These are complex, conflicting and badly-defined.

The ecocentric paradigm

Ecocentrism is the belief in the non-instrumental value of ecosystems and the ecosphere, whose equilibrium requires the restriction of certain human activities (ALMEIDA, 2008). The term ecocentrism was adopted by the proponents of *deep ecology*, during the 1970s, in order to put forward the idea that all life has intrinsic value (KORTENKAMP; MOORE, 2001). It is argued that nature, together with everything that exists within it, has a value beyond that which is associated to its human utility. According to Gladwin, Kennelly and Krause (1995), this vision is used with different connotations, varying from philosophies which are based on the belief that there is an order in nature, for example,

conservationism as conceived by Aldo Leopold and his *land ethics* to movements such as *deep ecology* which reject man's domination over nature. The suppositions underpinning ecocentrism are usually evident in the belief systems of animal rights activists, ecofeminists and ecologists who argue for restoration, organic producers, bio-regionalists, and followers of the Gaia hypotheses, as well as other more radical environmental activists (GLADWIN; KENELLY; KENELLY, 1995).

Ecocentrism argues that the Earth is the mother that gives life and builds a web in which human beings find themselves. The planet is seen as alive, active, fragile and sacred. All things are connected and this system is not hierarchical, but established by the egalitarian interaction of its interconnected parts. In addition, the main ethical principal within this perspective is that there should be no interference with the natural evolution of these systems. Here the predominant metaphor is organic: all things are interconnected and there are internal processes and relationships taking place between the various parts. The notion that humanity occupies a privileged position in nature is rejected, since non--human nature is considered to have intrinsic value which is independent from human value and human awareness, thus placing restrictions on the rights of humans to use and alter nature. Natural resources should be used exclusively to satisfy vital survival needs. Actions are considered correct when they preserve the integrity, stability and beauty of biotic communities and any counter tendencies are undesirable (GLADWIN; KENELLY; KRAUSE, 1995).

A pre-eminence on non-human lives is also dependent on a reduction of human population which, according to Daily, Ehrlich and Ehrlich (1994), should not have exceeded two billion. Humanity and the natural world are entering a collision course which may result in the deterioration of the world and in chaos, given the lack of radical and urgent reforms (KAPLAN, 1994). Gladwin, Kennelly and Kennelly (1995) add that almost all production and welfare are totally dependent on the health, integrity and abundance of the ecological system and that there are no plausible technological substitutes for the most critical and non-renewable natural resources and life-supporting functions.

Within this perspective, the economy should take into account that human wellbeing is a function derived from the Earth's wellbeing and that material growth increases environmental and social costs over and above the benefits production and consumption may bring. Growth is making humanity and the rest of nature poorer, not richer. Thus, this paradigm has similarities to ecological-economics in that it sees economy not as separate from the environment, but integrated, inseparable and completely contained within it, forming a subsystem whose growth is dependent on the ecosphere and with a limited size (DALY, 1992; REES, 1995; REES 2003).

Economy is dependent on energy and available materials and it should be subjected to the second law of thermodynamics which states that nature is the producer and economy, the consumer. Economy requires a continuous input of energy and raw materials from nature in order to sustain the production of goods and services. From this point of view, the most important flows are not financial, but the unidirectional flows of energy and materials which are thermodynamically irreversible. Their source is the ecosystem and their target the economic subsystem, only returning to the ecosphere in a degraded

form. It is precisely these flows which supply the economy and, at the same time, limit its growth (REES, 2003).

Sustainability-centrism as a new environmental paradigm

As opposing paradigms, anthropocentrism and ecocentrism seem to cancel each other out. Both end up being criticized because the former does not allow for the conservation of nature and the latter does not allow for social development. In an attempt to overcome the limitations present both in the anthropocentric and the ecocentric perspectives, sustainability has been heralded as a new paradigm (GLA-DWIN; KENELLY; KRAUSE, 1995). The concept of sustainability gained more importance, both in the media and amongst scholars, from the 1980s onwards when environmental problems became more evident and levels of exploration of natural resources became a concern.

Although sustainability is strongly linked to the notion of sustainable development, there are some theories which have begun to dissociate these two concepts. Today we see terms such as sustainable society, sustainable businesses and sustainable management. Thus, we begin to separate the notions of development from sustainability and to foster the idea that not only development, but all human actions need to be sustainable both in terms of their means and ends. Boff (2010) adds that sustainability and capitalist development cancel each other out. It is important to safeguard society - and not the interests of human production. This requires a type of development which can adequately satisfy the needs of everyone, including those of the biotic environment, so as to maintain a dynamic balance, recover losses and be open to novel forms of development.

In order to achieve sustainability, minimum levels of austerity, sobriety and simplicity must prevail, so that the limits imposed by the availability of environmental resources are respected. This is the only way we can attempt to attenuate the actions of the second law of thermodynamics within the economic process which leads to inevitable entropic degradation. However, market mechanisms, in which immediate profits become the main objective of the modern economy, result in the exhaustion of resources and mean that people acquire far more goods than they really need (CAVALCANTI, 1998).

Gladwin, Kennelly and Krause (1995) alert to the fact that the sustainability paradigm is still in its embryonic stage, although it has already made contributions which are needed to overcome the radical differentiation between human and economic activities and the natural systems brought about by modernity. The monist ethics adopted both by anthropocentrism and ecocentrism is rejected within the perspective of sustainability in favour of a pluralist ethics. This vision is complemented by Norton (1991) who argues that the ethics of sustainability reinforces political, civil, social, economic and cultural human rights.

The sustainability perspective preconizes awareness that the global ecosystem is finite, has a static size, is materially closed and vulnerable to human interference, as well as having limited regenerative and assimilative capacities. It therefore proposes a search for alternative technologies which can conform to the principles of assimilation,

regeneration, diversification, restoration, conservation, dissipation, perpetuation and circulation (GLADWIN; KENELLY; KENELLY, 1995).

Sustainability also leads towards the view that a prosperous economy depends on a healthy environment and vice-versa. A green and just economy is seen as a possibility, wherein ecological and social externalities are internalized. Although it is hoped that the market allocates resources in an efficient way, other political instruments and economic incentives are needed to place preventive restrictions on activities which use natural resources and exclusively employ market criteria (GLADWIN; KENELLY; KENELLY, 1995).

An important change which led to sustainability being considered a new paradigm was the positioning of States and supra-national institutions in solving environmental problems. Redclift (2005) argues that ecological systems and the environment must be considered as being potentially managed by the State and international organizations. This is the greatest change since the principle of sovereignty emerged and in the first reports on sustainable development, it was seen as an obstacle to progress.

According to Redclift (2005), the imposition of a market economy on the global environment has led to disastrous results. The focus on the choice of individuals and groups, expressed in terms of market preferences, led to an increase in the disparities between social demand and allocation by the market. Within the terms of neoliberal orthodoxy, international political economy precepts argued for economic adjustments, for which there would be almost no social provision. From this point of view, environmental protection and the values of cultures were expressed in terms of markets and prices which could not reflect their real importance.

This change in perspective brought about by sustainability would readily change human actions. Nature could no longer be seen only as a provider of resources and the destination of the residues of productive processes. The relationship between nature and humanity needs to account not only for the fact that humanity affects nature, but that nature also affects individuals. Thus, reviewing conceptions about the separation between humanity and nature became essential.

Humanity and nature: a duality reviewed

Both the anthropocentric and ecocentric perspective have in common the separation between man and nature. This dichotomy means that these conceptions are partial and, therefore, not appropriate for solving the conflicts which may emerge from this separation. According to Hoffman and Sandelands (2005), prevailing paradigms are influenced by two principles from Descartes' metaphysics which distinguish mind from matter and mind from nature. Thus man becomes the only subject, and nature an object. The question then is which has priority? In anthropocentrism man prevails over nature and in ecocentrism nature prevails over man.

Both the anthropocentric and the ecocentric visions are problematic in ecological terms. Whereas the anthropocentric perspective reveals an exploitative and manipulative attitude towards the environment, the non-anthropocentric view may risk being misanthropic and socially irresponsible by marginalizing the problems faced by less ad-

vantaged economic classes and ethnicities. Thus, whilst natural life and the natural world are peripheral in anthropocentrism, in ecocentrism it is humanity which appears to be incidental. In the search for a non-anthropocentric paradigm, the focus becomes not a value for humanity, but for the biota or life in general (MICKEY, 2007).

An alternative to this dichotomy emerged through the study of religion and ecology. It is based on an anthropocentric ethics in which human and environmental values are not expressed in terms of an opposition between the centre and the periphery, but in terms of an intimate relationship between humanity and the rest of the world. Although prevailing forms of thinking still aim to banish irrationalities of myth, religion and superstition in favour of the doctrines of liberty and equality, faith in human intelligence and universal reason, leading to human happiness (SOUSA, 2003), such visions have started to be criticised.

In studies seeking to conciliate humanity and nature, some authors use the term anthropocosmic to explain this relationship. When Mickey (2007), studied the genealogy of the term anthropocosmic, he returned to the arguments of Mircea Eliade for whom humanity and the cosmos are totally interconnected. Ethical and religious explanations of this term are also analyzed, such as Confucius' vision of the world in which Heaven and Humanity are united and encompass the interaction between the individual, the community, the natural world and the cosmos. Miller (2001) argues that Taoism shares this anthropocosmic vision by suggesting a reciprocal relationship between human beings, their social systems and the natural environment.

A similar perspective to the anthropocosmic vision is the theocentric view, based on the metaphysics of Roman Catholic Christianity, differing from that which guides the anthropocentric and the ecocentric visions (HOFFMAN; SANDELANDS, 2005). Although White (1967) argues that Christianity is the main cause of ecological problems, particularly because of the writings in Genesis, Hoffman and Sandelands (2005) which defend the Church's pre-Cartesian metaphysics, prior to the Reformation. Relations between God, humanity and nature were acceptable as part of faith, without questions, recourse or appeals to personal interpretations. Truth came prior to subjective experience, individual reason and the set of experiences which today we call science. Thus, different from the metaphysics underlying both the terms anthropocentrism and ecocentrism which only define humanity and nature, the metaphysics of faith, involving three terms, defines both humanity and nature in relation to God, who created both. Humanity and nature are, in this way, at the same level, there is no preference for one over the other.

The adoption of the sustainability-centrism point of view should start from the idea that humanity and nature are integrated and, therefore, should not be analyzed as distinct and independent categories. However, integration needs no longer be exclusively based on theology or anthropocosmology, but on the evidence that humanity is an integral part of nature. Integration cannot be seen from the point of view of one party prevailing over the other, but as an inter-relationship where one mutually influences and is influenced by the other. All human action affects nature, even if in an indirect or superficial manner. Similarly, all natural phenomena affect humanity to some extent.

This mutual dependency requires moderation in the relationship between humanity and nature, given that being aggressive to one party can be self-harming. Humanity's

aggressiveness towards nature leads to self-damage. Adapting to changes in nature, which are often the consequence of human action, involve greater costs than adapting to natural laws. Adaption to natural laws would prevent a loss of natural resources and services which are indispensable to human life, thus making human adaptation to sudden changes in the natural system unnecessary.

Ecological ethics is often portrayed as a Manichean struggle between a number of positive values and attitudes against negative values. On the one hand, there is the spectre of ecocentrism, preservationism and a return to nature, on the other, the spectre of anthropocentrism, utilitarianism and the conquest of nature. The challenge is finding a position between the optimism of neo-classical economic theories - where market expansion and technological revolutions ensure permanent economic growth, thus solving all problems - and the pessimism of Malthusian biologism with its ever-present expectation of the collapse of humanity due to the uncontrolled growth of population and lower environmental limits for this growth. From an ethical point of view, these visions are equivalent, given that both pessimism and optimism as based on an apparent incapacity of human consciousness to attain the common good and regulate social life - on one side the market solves everything, and on the other, nothing does. Necessary changes cannot be based on technical solutions or historical determinism, but on a change of our basic values and attitudes, guided by ethics (LEIS; D'AMATO, 1998) which depends on superseding the prevailing paradigm.

The Relationship between the different environmental paradigms and a proposal for a theoretical model

In their analysis of the different positionings associated to man-nature relations (anthropocentrism and biocentrism) and man-society relations (communitarianism and/or collectivism and individualism), Leis and D'Amato (1998) proposed Chart 1 in which the *alpha* and *beta* categories encompass those who defend values and attitudes which hierarchize the human species, establishing a greater distance between man and nature, whilst the *delta* and *gamma* categories include those who search for a greater ethical balance between the various aspects involved in the human-nature relationship.

When analyzing the relationship between man and society it is observed that positionings in *alpha* and *gamma* posit an ontological-ethical commitment towards the individual and a greater distance between the individual and society, whilst *beta* and *delta* are inspired by greater egalitarian integration of individuals in society. Whereas *omega* is not an ecological ethics ramification, it provides an integrating and synergistic meaning to the scenario developed. It is a meta-ethics, a point of higher consciousness which lights the two-pronged (material-spiritual) evolutionary path of humanity. "It does not suppose the hegemony or the prevalence of particular models, values or practices, but their equilibrium and mutual integration, so that they can be synergistically empowered" (LEIS, D'AMATO, 1998, p. 91). According to the authors, omega is the intelligibility core of the eternal movement between diversification and unification which operates in actual reality. It is opposed to conflict and sees co-operation and complementation at a higher level in terms of evolution.

Chart 1 Ecological ethics approaches associated to the relationship between man and nature and man and society

Man-nature relations / Man-society relations	Hierarchical principle: anthropocentrism	Egalitarian principle: biocentrism
Egalitarian principle: Communitarianism and/or collectivism	beta	delta
Hierarchical principle Individualism	alpha	gamma

omega

Source: Leis e D'Amato (1998, p. 86)

However, it is argued that individualism is in opposition to sustainability, given that the latter, in its original version developed from the disciplines of biology and ecology, means the capacity of an ecosystem to maintain dynamic equilibrium for the survival of the greatest amount of biodiversity, including all beings (BOFF, 2010). Thus, based on the model of Leis and D'Amato (1998), this study proposes a theoretical model to position individualist anthropocentrism, collectivist anthropocentrism, sustainability-centrism, collectivist ecocentrism and individualist ecocentrism, as according to Figure 1. This model originally emerged from the notion of the existence of the main environmental paradigms: anthropocentrism, ecocentrism and sustainability-centrism. However, it sought to integrate the individual-collectivist axis, developed by Leis and D'Amato (1998), in order to determine the possible alternative visions which can emerge from the anthropocentric and ecocentric paradigms.
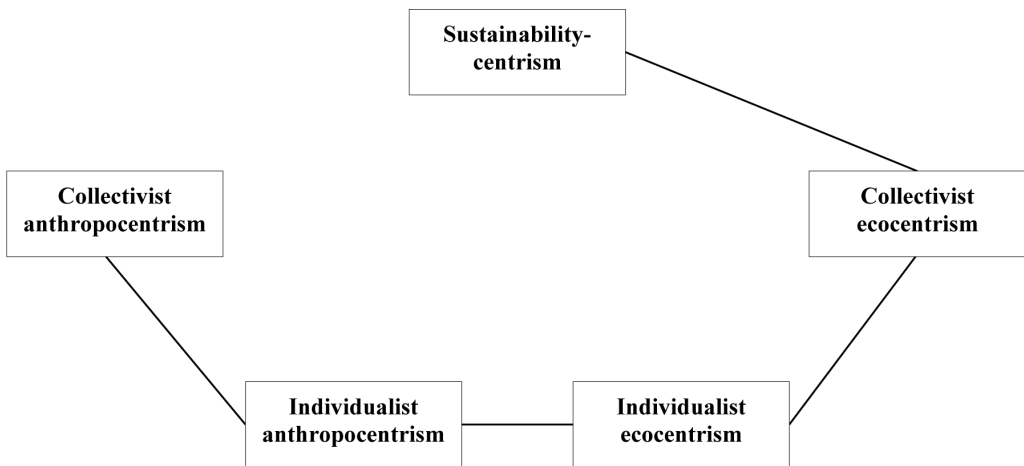
Figure 1 Relationship between the environmental paradigms addressed

The characteristics of collectivist anthropocentrism are the same as that of anthropocentrism in relation to the lack of any concern with nature over and above any benefits it may bring to humanity. Nevertheless, it is concerned for humanity as a whole, given that solidarity with other human beings is a significant characteristic. On the other hand, individualist anthropocentrism follows anthropocentrist precepts, by focusing mainly on the self and not showing any concern for humanity, only for certain groups such as a group of residents of a particular community, region or country, or a group of shareholders of a particular organization. Thus, as well as providing legitimacy for the exploitation of nature, without concern for its preservation or restoration, it also legitimizes the exploitation and marginalization of individuals within society itself.

Collectivist ecocentrism is concerned with the ecosystem so that all forms of non-human lives are respected and have intrinsic value. Preservationism is the most significant form of ecocentrism, in which a strong concern for nature and its preservation puts concerns for humanity into the background. On the other hand, in individualist ecocentrism concern for nature is also core, but it is restricted to a particular species or biome. It is therefore argued that a particular species or group of species should be preserved even if it comes to harm individuals or other non-human beings which do not belong to this group. The main focus of this positioning is the preservation of a species, which is analyzed from an individualist point of view so that its interactions with the environment or other species are only taken into account if there is potential harm to this species or group of species which are the object of preservation.

According to Figure 1, it can be observed that the collectivist forms of anthropocentrism and ecocentrism are more similar to an environmental paradigm based on sustainability, whereas individualist forms are more distant. This is because individualist forms are more concerned with the individual than with society, as in the case of anthropocentrism, or with a particular non-human species than with the ecosystem as a whole, as in the case of ecocentrism. Individualist versions of both the anthropocentric and the ecocentric paradigms are further away from the concept of sustainability.

Attitudes motivated by the individualist anthropocentric paradigm are portrayed in the film Erin (2000). When the main character starts working in a law office she discovers some documents regarding the sale of properties involving a company called Pacific Gas & Electric and the residents of a small town in California. She also finds some medical reports. Suspicions raised by the discovery of these documents lead her to investigate the situation.

She discovers that chromium-6, used by the company, had contaminated the water table which supplied water to the municipality, causing a number of diseases. The protagonist persuades local residents to file a law suit against the company and she gathers powers of attorney from approximately 600 families. The law suit is taken forward and the company is ordered to pay compensation to the victims of Chromium-6 contamination to the value of 400 million dollars.

This story portrays very well the situation in which profit is sought to such an extent by this given company's owners that all disregard for the population living close to their facilities becomes justifiable. When the first signs that contamination might have been

affecting local populations were identified, the company uses a number of strategies to conceal the case: it destroys incriminating documentation, it argues that Chromium-6 can be beneficial to health, it purchases the properties of individuals who have signs of being contaminated so that they move away from the company's facilities, seeking to prove their innocence at all costs.

On the other hand, the positioning associated to individualist ecocentrism can be illustrated by the film Gorillas in the Mist (1988), which tells the story of the journey of an American anthropologist, Diane Fossey, to Africa in 1967. She dedicated her life to the preservation of mountain gorillas, threatened with extinction because of indiscriminate hunting.

In this film, when the protagonist arrives in Congo, she finds herself in the midst of a civil war. From the moment she arrives, she is approached by a number of begging children. However, her only concern is finding people to carry her suitcases to the campsite so she can start her research with the gorillas. She ends up employing a few people to carry out some tasks to assist her in her research, thus indicating, that for her they were nothing more than mere labour hands and not part of the issues she wanted to address.

When she was over-ruled by the local population who wanted to expel her from the region because she was white and had different customs from them, she did not try to change the situation and become closer to them. Indeed, she started making fun of local beliefs, she insinuated she was a witch so as to take advantage of the situation and keep people away from her. She then started to blame the natives for hunting gorillas, despite the fact that this was their only source of income, the only way for their families to survive, and she started behaving as a witch to keep them away.

By only being concerned with the gorillas and disregarding the local population, she reveals how strongly she is influenced by individualist ecocentrism. Her only concern was to protect this species, even if in order to do so, it was necessary to subjugate all other species in the region, even human beings, and their beliefs. She did not see this sort of behaviour as wrong. It was necessary to protect the gorillas.

Both the cases of individualist anthropocentrism and ecocentrism indicate distance from the premises of sustainability which seek, above all, integration between human and natural interests. It is difficult to find examples of human societies whose lives could be classified as sustainable in the long term, particularly in films which are adaptions of real stories. However, there are examples in fiction which may fall within this perspective. An example is Avatar (2009) which describes a conflict in Pandora, where the human colonizers and the Na'vi start a war for the natural resources of the planet.

In the film, Pandora is inhabited by the Na'vi, a humanoid species which humans consider primitive. The Na'vi venerate nature, and development and the way they live their lives are sustained through harmonious cohabitation with the environment. In this relationship, nature is sacred and whenever something is taken from it, it is done with extreme care and respect. Although the same cultural and religious human values exist, preservation and conservation and the sustainable use of resources are respected.

In Avatar (2009), the exclusive aim of humans is to exploit Pandora's natural resources until these are exhausted, even if this means the extinction of the Na'vi and the

destruction of Pandora. The similarity with present day human attitudes is disconcerting. To a large extent, this is due to the visible similarity between the Na'vi and humans, which only reinforces our predominantly anthropocentric point of view.

Final considerations

Different paradigms, as different ways of thinking about particular issues, determine how individuals or groups of individuals see the world, their problems and possible solutions, in a given context. Considering that individuals develop their views of the world by living, growing and being educated within a particular socio-cultural environment, they do not often reflect on the paradigms which shape their comprehension about different problems and, therefore, do not consider that there may be alternative forms of thinking. Generally speaking, they are unaware of the way their view of the world affects their values, beliefs, attitudes and ethical positioning.

Environmental paradigms determine the way individuals deal with nature and how they position themselves with regard to different environmental problems. In relation to the different environmental paradigms, the anthropocentric and the ecocentric paradigms have been described as the most predominant. They have in common the separation between humanity and nature, given that the anthropocentric point of view argues that nature only deserves to be ethically considered as long as it affects humanity, whilst the ecocentric vision argues that nature has intrinsic value. It is believed that sustainability may form a third paradigm which supposes greater integration between humanity and nature.

The proposed model is a first attempt to characterize and associate the different environmental paradigms proposed, taking into account their individualist and collectivist ramifications. This proposal can contribute to the development of studies which aim to analyze the commitment of individuals and groups of individuals - who form different organizations - to sustainability and its principles.

Although this model can be adapted to guide similar analyses, this should be done with caution, given that all models are simplifications of reality and cannot take full account of real complexity. Bunge (1974) argues that the importance of developing models lies precisely in the fact that they allow for the simplification and emulation of reality and, in this way, they allow us to apprehend this reality and even make future predictions. However, he warns that they may be subject to interference from the personal preferences, intellectual passions and the baggage of knowledge of the proponents of such models. Furthermore, adopting a model should not be done in an acritical manner; it requires reflection on alternative ways of analyzing the phenomenon in question, thus avoiding excessive determinism during its analysis.

It is recommended that further studies seek to apply the model proposed in different contexts in order to improve it and to assess its validity and applicability.

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PROPOSAL FOR A MODEL TO ANALYZE COMMITMENT TO SUSTAINABILITY

Abstract: Sustainability has been pointed out as a solution for current environmental problems. However, this concept is presented in a broad sense, encouraging its use in many different speeches, not always demonstrating commitment to nature or humanity as a whole. In this context, this paper aimed to develop a model that could work as a guide for studies devoted to analyze individual and collective commitment to sustainability. On the elaboration of this work, it was considered that the different environmental paradigms determine how individuals or group of individuals deals with nature and how they position themselves on environmental issues. From the two predominant paradigms, anthropocentrism and ecocentrism, in its individualistic and collectivist approaches, it was proposed a third one, sustainability-centrism, which would overcome the dichotomy humanity/nature prevailing in the first two. The model proposed represents a first effort to characterize and relate the different environmental paradigms, allowing its adoption in empirical studies.

Key-words: Environmental paradigms; Sustainability; Anthropocentrism, Ecocentrism; Theoretical model.

Resumo: A sustentabilidade vem sendo apontada como uma solução para os problemas ambientais vivenciados. Contudo, esse conceito é apresentado de maneira ampla e vaga, favorecendo sua apropriação e utilização nos mais diferentes discursos, nem sempre representando comprometimento com a natureza ou com a humanidade. Nesse contexto, esse estudo elabora um modelo que pudesse orientar estudos que busquem analisar o comprometimento individual ou coletivo com a sustentabilidade. Na sua construção, considerou-se que os diferentes paradigmas ambientais determinam como os indivíduos ou grupo de indivíduos lidam com a natureza e se posicionam diante dos problemas ambientais. A partir dos dois paradigmas predominantes, o Antropocentrismo e o Ecocentrismo, em suas vertentes individualista e coletivista, propôs-se um terceiro, a Sustentabilidade-centrismo, que superaria a dicotomia humanidade/natureza predominante nos dois primeiros. O modelo proposto representa um primeiro esforço de caracterizar e relacionar os diferentes paradigmas ambientais, permitindo sua adoção em estudos empíricos.

Palavras-chave: Paradigmas ambientais; Sustentabilidade; Antropocentrismo; Ecocentrismo; Modelo teórico.

Resumen: Sostenibilidad se sugiere como una solución a los problemas ambientales experimentados. Sin embargo, este concepto se presenta en una manera amplia y vaga, favoreciendo su empleo en muchos discursos, no siempre representan cometimiento con la naturaleza o la humanidad como un todo. El presente estudio tuvo como objetivo desarrollar un modelo que podría guiar los estudios que buscan analizar el compromiso individual y colectivo con la sostenibilidad. En su construcción, se consideró que los paradigmas ambientales determinan cómo los individuos o grupos de individuos se ocupan de la naturaleza y opinan sobre las cuestiones ambientales. A partir de los dos paradigmas predominantes, antropocentrismo y ecocentrismo, en sus vertientes individualistas y colectivistas, hemos propuesto una tercera, la sostenibilidad-centrismo, que superaría la dicotomía humanidad/naturaleza vigente en las dos primeras. El modelo propuesto representa un primer esfuerzo para caracterizar y relacionar los paradigmas ambientales, permitiendo su adopción en los estudios empíricos.

Palabras clave: Paradigmas ambientales; Sostenibilidad; Antropocentrismo; Ecocentrismo; Modelo teórico.