

Article

Culture-Sustainability Relation: Towards a Conceptual Framework

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Abstract: Several individual scholars and international organizations have attempted to conceptualize “culture” in its different meanings in sustainability. Despite those efforts, a tangle of different approaches are being used, reflecting the various disciplines and policy aims. In this paper we propose an interdisciplinary framework for identifying the different roles of culture in sustainability in an attempt to guide the research and policy activities in this complex field. The framework is comprised of three representations defined by a literature review on “cultural sustainability”, which are further explored through eight organizing dimensions that mark the similarities and differences between the three representations. The article reveals that the three representations are partly interlinked and that they also reveal gradients in the dynamics of the system, as well as in the human/nature interface.

Keywords: culture; sustainability; sustainable development; cultural sustainability; interdisciplinary framework

1. Introduction

Sustainability and culture have been widely discussed, but until now they have only seldom been explicitly combined. Notions of “sustainability” and “sustainable development” persist in policy and research despite of the criticism and the skepticism they have faced due to vagueness and ambiguity since the term “sustainability” was first introduced. The new sustainable development goals, recently introduced by United Nations, illustrate this well. “Culture” is also widely discussed and debated across scientific disciplines and policy domains, and in the sustainability debate it is gaining attention as an aspect of its own [1–6]. However, a recent analysis of the scientific discourses on “cultural sustainability” [6] revealed that although “cultural sustainability” is used in a number of meanings and contexts, there are only very few attempts to bring “culture” and “sustainability” together in an analytical and systematic way. Culture is still often analyzed within or as part of social sustainability [7–9]. However, we argue it is important and necessary to explicitly integrate culture in sustainability discourse, as achieving sustainability goals essentially depends on human accounts, actions, and behavior which are, in turn, culturally embedded.

In this paper we tackle the challenge to combine culture and sustainability in an analytical framework. Conceptual frameworks aim to clarify and relate concepts in order to make them useful tools in research through description or categorization [10]. Attempts to frame culture in sustainability

have appeared in policy documents [11,12] and in scholarly works [1,7,13–15]. However, most of these texts, as well as some other work related to this theme, have a specific thematic scope, such as cultural planning [15], arts [4], heritage [16], changes in values [17], or cultural industries [18]. Culture is also often explicated via the anthropological method of intensive case studies, which has yielded valuable insights of cultural aspects of sustainability but has not provided explicit information on how the results can be interpreted within the frame of sustainability. On the other hand, recently-introduced frameworks and concepts, such as biocultural diversity, ecosystem services, capabilities, socio-ecological system approaches, as well as actor network theory or eco-arts, do consider human and environmental aspects in a culturally sensitive way. However, these theories or frameworks do not directly contribute to sustainability discourses, nor do they always make culture explicit, and cultural aspects easily remain separated from the policy debate and policy-making.

In this paper we build an interdisciplinary framework for relating culture and sustainability in order to go beyond sectoral and disciplinary approaches, and to make the research and policy choices regarding culture in sustainability discourses more explicit and conscious. The framework is based on three roles of culture identified by the review paper on scientific discourses of cultural sustainability [6]. We consider these three roles as representations of culture in the sustainability framework, and analyze them against eight dimensions. Those eight dimensions in turn valorize different aspects of both culture and sustainability in order to promote the operationalization of culture in sustainability research and policy. The paper is structured as follows: after this introduction, we discuss the need for an interdisciplinary approach to overcome some of the conceptual challenges related to disciplinary approaches. In the third section we introduce the three representations and the main characteristics of the eight dimensions. Finally, we discuss implications of the framework for research and policy-making, as well as future research needs.

2. Setting the Scene

Building a framework of sustainability calls for justification of the use of sustainability instead of the commonly-used term sustainable development, which is often used as a synonym for sustainability. Sustainable development became popular from the Brundtland's Commissions report "Our Common Future" [19]. The concept of sustainable development is often criticized of being in favor of growth, efficiency, and the increase of technology, although development can also be considered in a qualitative way [20]. Sustainability, on the other hand can be understood not only as a universal goal to be achieved, but as a procedure or continuously evolving "imaginary world" [21]. In the beginning of this paper, we use the concept of sustainability to refer to both sustainability and sustainable development, but later our analysis reveals that these concepts receive different meanings in the three representations explored here. Acknowledging the limitations of the "pillar approach" to sustainability, we use it as a basis for our analysis, because it is a commonly known and widely used approach to sustainability both within the research and policy.

Although scholars and policy-makers are increasingly interested in the integration of sustainability and culture, this task is an arduous one. First, culture brings additional challenges to the already ambiguous and vague notion of sustainability [20,22]. Doubters assert that the concept of culture is too broad and complex to be included in sustainability, as culture can mean anything from networks of meaning, to a way of life, to high culture and arts [14]. Second, compared to the environmental aspects of sustainability, for example, cultural analysis often requires special methods. This "methodological separatism" often results in excluding culture from the analysis [23]. Third, the concepts of culture and sustainability are also interlinked: culture can be seen both as fundamental for, and a result of, any development [24], which makes it difficult to explore and discern their relationship. Fourth, we argue that leaving culture out of the debate might also be the result of political resistance: it can be assumed that introducing culture in sustainability as a "fourth pillar" or in some other specific role would change the status quo in sustainability research and policy. Finally, sustainability has been seen as an integration of, or a win-win-win situation between,

ecological, economic, and social dimensions [25] and typical objects of research are the state of the environment, social structures, economic viability, institutional, and governance arrangements. Introducing culture into the sustainability debate means that human beings – their values, behavior and ways of life – should be included in the analysis. This implies not only methodological questions but also many normative questions as well.

Although we aim for more analytical approaches for culture in sustainability, we hold that “cultural sustainability” or “culture in sustainability” are boundary concepts [26], meaning that they are subject to social, political, and scientific processes of negotiation, interpretation, and adaptation and that they escape any final definition. Referring to Hirsch Hadorn *et al.* [27], we contend that to effectively cope with a conceptual complexity and understand the different roles and meanings of culture in sustainable development, one must employ interdisciplinarity and, to some extent, transdisciplinarity. The importance of combining and entangling different epistemological traditions in the context of sustainability has already been recognized and mapped [28,29] and has, for instance, been reconfirmed in the sustainability conferences in Rio (1992) and Johannesburg (2002), as well as in an enormous body of scientific literature (for an overview, see [30]).

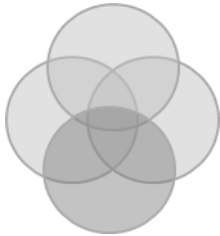
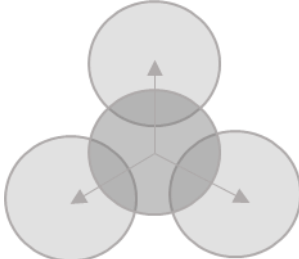
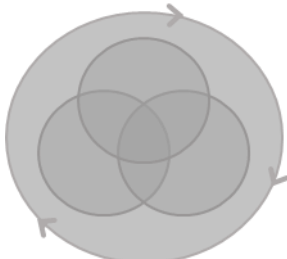
The framework introduced in this paper is the result of the four-year research network COST IS1007 “Investigating Cultural Sustainability” (2011–2015) [31]. The network was comprised of researchers from multiple disciplines ranging from social and humanistic sciences, to geography and environmental planning. During a series of workshops, various dimensions of culture and sustainability and a draft of this framework were discussed, triangulated, adapted and refined. Following Kagan [31] (p. 61) the process used can be labeled as “interdisciplinary transversal learning”: striving for unity in a complexity of knowledge while integrating different ways of knowing through practices where researchers from one discipline borrow and adapt methods and metaphors from other disciplines, within the wider shared system of science.

3. A Conceptual Framework for Culture and Sustainability

3.1. Three Representations of Culture in Sustainable Development

By reviewing and analyzing scientific peer-reviewed papers using the concept of “cultural sustainability”, Soini and Birkeland [6] found seven storylines of “cultural sustainability” and proposed three roles of culture in sustainable development, which are redefined here as “representations” [25] (see Table 1.).

Table 1. The three approaches and eight structuring dimensions for exploring the culture-sustainability relations. In the figure (adapted from [31]) on the second row the light grey circles represent the three pillars (ecological, economic, and social) of sustainability, and the dark grey culture. Culture is “a fourth pillar” (left diagram), culture mediates between the three pillars (central diagram) and culture is the foundation for transformation towards sustainability (right diagram), where arrows indicate the ever-changing dynamics of culture and sustainability.

	First: Culture <i>in</i> Sustainability	Second: Culture <i>for</i> Sustainability	Third: Culture As Sustainability
			
Definition of culture	culture as a capital	culture as a way of life	culture as a semiosis

Culture and development	culture as an achievement in development	culture as a resource and condition for development	development as a cultural process
Value of culture	intrinsic	instrumental and intrinsic	embedded
Culture and society	complementing	affording	transforming
Culture and nature	human perspective on nature	interaction of culture and nature	nature constituent of culture
Policy sectors	cultural policies	all policies	new policies
Modes of Governance	hierarchical governance, 1st order	co-governance, 2nd order	self-governance, meta-governance
Research approach	mainly mono- and multidisciplinary	mainly multi- and interdisciplinary	mainly inter- and transdisciplinary

The first representation considers culture as if it had an independent role in sustainability: it becomes the fourth pillar of sustainability. This representation stands for *culture in sustainability*, and sees cultural sustainability as parallel to ecological, social, and economic sustainability. Here the importance of conservation, maintenance and preservation of cultural capital in different forms as arts, heritage, knowledge, and cultural diversity for the next generations, as well as culture as an independent pillar from social sustainability, are recognized. The second representation refers to culture having a mediating role to achieve economic, social, and ecological sustainability. This representation, *culture for sustainability*, suggests that both material and immaterial culture are seen as an essential resource for local and regional economic development. It also implies that cultural values and perceptions need to be considered when aiming for ecological or social sustainability. The third representation considers culture as a necessary foundation for meeting the overall aims of sustainability. This representation, called *culture as sustainability*, encloses the other pillars of sustainability and becomes an overarching dimension of sustainability. In other words, sustainability becomes embedded in culture and leads to eco-cultural civilization (Table 1. the circles).

In this article these three representations are used as structuring principles for exploring the complexity of the culture-sustainability interface. The representations are deconstructed in an integrated and systematic way by using eight dimensions that characterize and highlight differences between them. These dimensions reflect and explore the representations in respect to the key concepts “culture” and “sustainability”. They also represent common science and policy debates in relation to culture and sustainable development (e.g., the value of culture, the role of policies, the consequences for governance and research). We propose that the conceptual framework (the combination of these three roles and eight dimensions) constitutes a kind of kaleidoscope to analyze the complexity of the relationship between culture and sustainability at meta level. For clarity, the eight dimensions are presented as a table (Table 1). However, they are conceptual “sortings” and not air-tight categories. Hence, in reality they are interlinked and partly overlapping. The conceptual framework should be taken as a whole and seen as a map for finding one’s way in the complex debate of culture and sustainable development. We now introduce each of the eight dimensions and the interpretation of the representations in respect to these dimensions.

3.2. Eight Dimensions for Describing the Three Representations

3.2.1. Definition of Culture

It has been argued that culture is one of the two or three most complicated words, because culture has become an important concept in several distinct, and often incompatible, intellectual disciplines and systems of thought [32] (p. 77). Culture is also an everyday concept, used in a number of ways and contexts. As a result, multiple definitions and categorizations of the concept of culture exist simultaneously. They reflect the various disciplines, schools of thought, (policy) objectives or cultural contexts and time/period where the concept is used [32,33]. In pre-modern

times, culture referred to the action in real life-worlds and interaction with nature, which are essential aspects for anthropological use of the concept even today. Towards the modern era, the concept of culture was used to express cultivation of the mind, and later on the cultivation of humankind [32,33]. Since then, the relationship between culture and “arts and creativity” has been constantly negotiated challenging also the research and policy making [33]. Travelling through the history of the concept of culture, Raymond Williams created three main meanings of culture that have become popular both in research and policy: culture as (1) a general process of intellectual, spiritual or aesthetic development; (2) a particular way of life, whether of a people, a period, a group, or humanity in general; and (3) works and intellectual artistic activity. Yet, very often two definitions of culture are discerned: a “broad”, way-of-life based concept referring to all domains of human life, and a “narrow”, art-based culture referring to both the general process of intellectual and spiritual or aesthetic development and its results [32,33]. In the first representation (“culture *in* sustainability”), culture is seen as a general process of intellectual, spiritual or aesthetic development, as well as the results of intellectual and artistic work, which can also be called cultural capital in the Bourdieusian sense. The second representation (“culture *for* sustainability”) highlights culture as a way of life, referring to Williams’ second meaning of culture: culture regulates all spheres of life, and reflects and gives meaning to the environment as well. The third representation (“culture *as* sustainability”) opens up the broadest perspective for looking at human and social life as a whole. It is extending to semiosis and significations and their various influences both on intentional and unconscious behavior and functions over actions in human social life [34].

3.2.2. Culture and Development

We now explore the relationship between culture and development while bearing in mind the criticism of “sustainable development” as a concept promoting continuous growth and the politically laden concept of development. Referring to the Human Development Reports of the UNDP, Esteva [35] (pp. 16–17) described development *as a process* (“the enlargement of relevant human choices”) as well *as an achievement* (“the extent to which, in given societies, those relevant choices are actually attained”). Hence, development entails intentional as well as unintentional processes of change and evolution towards a new situation which is considered as “more developed” than before. Although we take this broad spectrum of development along, we stress that development is not an objectively definable concept, but rather a concept that is value-laden, culture-, context-, and time-specific and, hence, continuously being (re)negotiated.

In the first representation, development processes contribute to the achievement of establishing and recognizing culture and cultural diversity. This implies conservation, maintenance, and preservation of tangible and intangible culture and the diversity of cultural expressions. In the second representation, culture is seen as a resource for development and a means to conceptualize, regulate, and shape development processes. By grafting development endeavors onto the cultural contexts, they are translated in a culture-specific way to local conditions. An example is applying the principles of spatial planning, not in a generic way, but rather to adapt them to local conditions. The third representation refers to a fundamental paradigm shift, in which development as such is considered to be a cultural process. In this way, sustainability is no longer seen as a set of options that can be chosen or denied, or which can be integrated or not, but rather it becomes an inseparable part of a culturally-embedded development paradigm that is largely shared among policy-makers, citizens, public and private institutions, and so on.

3.2.3. Value of Culture

Within the cultural sector, there is a lot of discussion about the intrinsic and instrumental values of culture (e.g., [36]). A value is either intrinsic (also called inherent), meaning it is considered as in and of itself, or for its own sake; or a value is instrumental, meaning it is a means to acquire something else. In reality the distinction between the two is somewhat blurred: intrinsic values (such as peace) might also have some instrumental ends (such as a feeling of safety). In the context of culture, intrinsic value refers to the set of values that relate to the subjective experience of

culture intellectually, emotionally, and spiritually, while instrumental value refers to culture as a means for acquiring something else of value, e.g., social or economic impacts or intrinsic values [37].

In the first representation, culture has essentially an intrinsic value, an all-encompassing way in human existence. Consequently the intrinsic values of culture can be experienced in aesthetics, historical sites, heritage, scientific knowledge or artistic creation and, therefore, their sustainability is seen as important for example in the work of culture and art organizations, but also by many researchers [6]. In the second representation, the intrinsic value is considered as a necessary resource to achieve objectives such as those related to education, human well-being, economic development or environment. Therefore, in this representation when culture is facilitating development processes, it becomes instrumental as well. In other words, the intrinsic values and instrumental values of culture are interlinked. For example, a heritage site has both aesthetic and historical, hence intrinsic, values because it has been standing in its location for hundreds of years, but it also has an instrumental value for creating a sense of identity for people living close to that site or for raising economic well-being through tourism. In the third representation, the intrinsic and instrumental values of culture become both embedded in, and constitutive of, the cultural change.

3.2.4. Culture and Society

The relationship between “society” and “culture” is an interesting debate as such, but it also has important implications for distinguishing between social and cultural sustainability. A relevant question is how culture and society are different from, or constitutive of, each other. In the broadest sense, culture covers all the spheres of society and, therefore, becomes empty of meaning, and in its narrowest sense it can be considered even outside the society [33]. In the 1980s, as a result of the so-called cultural turn, culture started to gain a more prominent role in social research more broadly. Many of these works reveal the interlinked nature of culture and society, as is shown for example by Habermas’ [38] argument that constituents of the life-world are “individuals, culture and society”.

In the first representation, culture has a complementary role in the society: it is recognized as an important sphere of life besides the ecological, economic, and social aspects, and a sustainable society cannot be treated without taking cultural aspects into account. In the second representation, culture is considered as an engine of the functions of society and its evolution. Therefore, in this representation, we call its role “affording” [39]: culture affords sustainable society to keep running and evolve. The third representation suggests that culture is a change factor that may transform society. Thus, culture can be considered not only as a structural component, but as a necessary agency in the transformation towards a more sustainable society.

3.2.5. Culture and Nature

This dimension concerns the human’s relation to nature: how nature is defined, perceived, and experienced by humans. It entails the social and cultural approach to nature instead of seeing nature as a physical entity, environment, or the mere surroundings of people. Noel Castree [40] has discerned three ways to understand such “social natures”: knowing, engaging, and remaking. Knowing nature holds that there is no singular, objective knowledge of nature, only particular, socially-constituted knowledges, in the plural. This implies that knowledge reflects power relationships and also has material effects. Engaging with nature refers to practical interaction processes that take place between humans and nature within a specific socio-ecological system. In the words of Castree, “the physical characteristics of nature are contingent upon social practices” [40] (p. 13) and the boundaries between the two become blurred. Remaking nature refers to the manipulation of nature or shaping nature by humans.

We use these social natures as a starting point when exploring the dimension “culture and nature”. In the first representation culture is the general process of intellectual, spiritual, or aesthetic development leading to a human perspective on nature, and different ways of “knowing” nature. Consequently, culture includes the accumulated knowledges and experiences of nature. In

the second representation culture and nature interact in everyday life processes and nature is a contributor to and the result of all human practices. This dimension also denotes the differences between various cultural contexts and their respective interactions with nature. In the third representation, nature is a constituent of culture, in parallel with the economy and the social, and is (re)shaped by different meanings and symbols.

3.2.6. Policy Sectors

Different criteria of categorizing policies can be found, such as policy domains (e.g., agriculture, food, forest, regional, social, cultural and art policy, urban, rural, welfare *etc.*), scale (local, national, international) and use of various instruments (regulations, awareness raising, “carrots and sticks”). Until now, culture in respect to sustainability has been mainly (and most explicitly) treated by the international cultural policy [11,12,41]. Yet, cultural aspects have been implicitly discussed in environmental policies, for example in the ecologically-sound production and consumption, or in biodiversity conservation policies in relation to the role and rights of indigenous people, while culture is almost totally missing in many other policy fields.

The first representation is most clearly linked with the cultural policy, which is the area of public policy-making that governs activities related to cultural activities and arts. Generally, this involves fostering processes and institutions that promote e.g. cultural diversity and access to cultural works and experiences, but it also involves enhancing and promulgating the expressions of all people, especially those of indigenous, or broadly representative cultural heritage. In the second representation almost all policy fields covering different spheres of human life become relevant, as they are all inspired by culture. The third representation calls for cross-sectoral or totally new policies that intrinsically accommodate sustainability principles.

3.2.7. Modes of Governance

Governing can be considered as the totality of interactions in which public, as well as private, actors participate with the aim of solving societal problems or creating societal opportunities; attending to the institutions as contexts for these governing interactions; and establishing a normative foundation for all those activities [42]. Commonly phrased as a shift from government to governance, the notion of governance entails a process of interaction between different societal and political actors and the growing interdependencies between the two as modern societies become ever more complex, dynamic, and diverse.

Kooiman [42] has distinguished between “self”, “co-”, and “hierarchical” modes of governing. In hierarchical governance the focus is on the steering role of the state in respect to governance. The state has shifted its pattern of steering away from direct legislative intervention and control to more subtle forms of regulation and oversight. Co-governance is about how groups cooperate on a horizontal axis. It includes various forms of collaboration and stretches from network information to the practical establishment of public-private partnerships and regimes. Self-governance refers to the capacity of people to govern themselves, where actors come together to frame their own collective solutions. Kooiman also identified different orders of the governance (first, second, or meta orders) to illustrate the many different structures and levels of modern governance today. The first order governance refers to the day-to-day activities of governing while, in the second order governance, the institutions in which the first order governing takes place become the objects of governance. When the norms and principles for governing as a whole are the object of governance (includes first, second, meta governance, itself) it is possible to talk about meta-governance.

Following Kooiman's work, we contend that the first representation mainly concerns the hierarchical governance, e.g., a governmental cultural policy in the field of heritage conservation or arts. This does not necessarily exclude other forms of governance and/or involvement of various stakeholders including other policy sectors and citizens. In the second representation, the ideal situation would be a governance structure that stimulates the role of culture in SD, a second order governing. The third representation refers to modes of governance which can be associated with self-governance, but also totally new ones, implying the mode of meta-governance.

3.2.8. Research Approach

The last dimension explores how the three representations differ in terms of research approaches. An awareness and recognition of multidisciplinary approaches has existed in the field of sustainability research for a long time. In recent years, however, a strong impetus is found for going beyond multi- towards inter- and transdisciplinarity, to contribute to the sustainability problems, although many ontological and methodological challenges related to the inter- and, in particular, transdisciplinary sustainability research still need to be solved [43]. Obviously, all the research approaches (mono-, multi-, inter-, or transdisciplinary) can be relevant for each representation. The relevance of the selected research approach depends on the objectives of the research in question. Therefore, rather than describing what is the preferred or most common approach in each of the representations, we discuss what is characteristic in each of them.

As for the first representation, if culture is considered as a relatively independent dimension of sustainability, disciplines within the social sciences and humanities (such as cultural policy, archeology, education, art and cultural history, and aesthetics) become specialized and advanced research fields in relation to sustainability, either alone (monodisciplinary) or together (multidisciplinary). Inter- and transdisciplinary approaches are increasingly found within arts and humanities that aim for sustainability as well. In the second representation, the selection of disciplines is expanded to include all natural, economic, and social sciences to enable them to tackle all the dimensions of sustainability. Here, the need for interdisciplinary approaches that combine approaches and methodologies across the disciplines and participatory approaches becomes particularly important. Transdisciplinary approaches often combine non-academic and academic knowledge from different disciplines as well as artistic work, and offer a wider integrative framework that aims not only to increase the understanding of the complexity and uncertainty related to sustainability, but also to contribute to the societal transformation as required in the third representation.

4. Discussion and Conclusions

The aim of the framework introduced here is to clarify the three representations of the role of culture in sustainability by discussing and comparing them through the abovementioned eight dimensions in order to increase our understanding of the culture-sustainability interface in the academic world and beyond. In the following section we describe and discuss some general observations and draw on the implications of the framework for research and policies.

Although the representations were introduced as separate, they can also be seen as interlinked (see Figure 1). For example, the first representation, which emphasize the independent role of culture in sustainability and intrinsic values, can be seen as a necessary condition or means for societal transformation. Sustainability of cultural capital is also important in the second representation. For example local (cultural) knowledge of the environment can be seen as an essential resource and factor in nature conservation, local livelihoods and social well-being.

Second, the framework points out some gradients which can be described along the axes of inertia/dynamics and human/nature interface (Figure 1). The former refers to the gradient from a more stable state to a more dynamic state *i.e.*, from sustainability that is grafted on present societal (including cultural) conditions, to sustainability that is transformative for society as a whole. The latter refers to the nature/culture divide, *i.e.*, the gradient from a more anthropocentric condition to a more eco-centric condition. When moving from the first representation to the second towards the third, the ecological emphasis, but also the integration of cultural, social, and ecological aspects, as well as the overall dynamics, diversity, and openness of the representation, all increase. In the first representation, the aim is to give adequate and equal attention to the cultural aspects (such as cultural rights, cultural capital, *etc.*) within the prevailing sustainability research and policies. The second representation contains an understanding of a more functional role of culture in the broader context of sustainability, but the aim is rather to find more culturally sensitive/reformative approaches to sustainability, including culture as an explicit aspect while, in the third representation, the aim is to promote a transformation of society towards a more sustainable condition, broadening the understanding of nature as a form of human capital towards

a constituent of (sustainable) culture. It also implies that while the first and second representations address culture as a result or part of the (sustainable) development process with a certain goal, in the third representation it is rather a part of a constantly evolving process aiming for transformation. In this way, the third representation resonates better with sustainability (*cf.* Section 2) rather than with sustainable development.

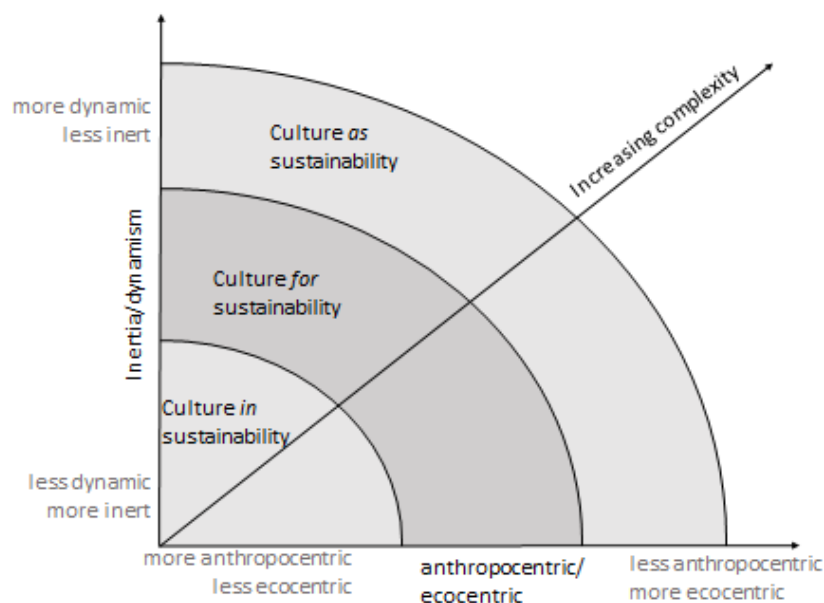


Figure 1. The relationships between the three representations and the main observations of the dynamics included in the eight dimensions discussed in this article. The figure has two main axes, one describing the inertia/dynamics of the system, and the other describing the human/nature interface (from more anthropocentric to more ecocentric). The figure shows the relationships between the various representations (they are not mutually exclusive) and the increased complexity as distance from the origin increases.

Following this, when moving from the first to second to third representations, policies become more diverse and multilayered, thus complex, as mirrored by the dimensions of policies and governance. This complexity is also reflected in research orientations, which also extend from narrow disciplinary based approaches towards transdisciplinarity. Obviously, this extension is also related to the phenomenological-semiotic definition of culture integrating both natural and human worlds at the level of meanings.

Although the first representation is presented as stable and anthropocentric, and the third as dynamic and more holistic and ecocentric, one should be careful not to interpret the proposed framework as a strict evolutionary or normative path: depending on their use, all three representations might be relevant in their contexts, whether theoretical, political, or practical. Furthermore, the framework and associated table should be used in a flexible way; for example, by looking at the different representations or dimensions from the point of view of a particular theme.

To conclude, the framework presented in this article shows remarkable differences in the way culture can be understood within the context of sustainability. Consequently, when working on culture in the context of sustainability, one should be at least aware of the way culture is addressed. However, while arguing the importance of making culture more explicit in sustainability policies and research, we also acknowledge the danger of this kind of representations to become binding and reducing the complexity of the reality, as Noorgaard [44] for example has pointed out concerning ecosystem services approaches. Acknowledging that many research activities are already taking place, such as in sustainability transformation research and socio-ecological research, we agree that nuanced research is needed that takes into account the special character of culture—not as a fixed object or category—within each of the three representations discussed above. As Proctor [23] has noted, as long as culture is not mentioned, it simply disappears and is, therefore,

not included in the analysis. Consequently, the value of the interdisciplinary framework presented here is to help the communication about culture and sustainability, but also position oneself or one's research, political discussion, or practical activity, in some of the representations, thus increasing the accuracy of those activities.

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