THE A, B, C'S OF RELATIONAL VALUES: ENVIRONMENTAL VALUES THAT INCLUDE ASPECTS OF BOTH INTRINSIC AND INSTRUMENTAL VALUING

Anna Deplazes-Zemp[1*], Mollie Chapman[2]

[1] Ethics Research Institute (ERI), University of Zurich, Zollikerstrasse 117, CH-8008 Zurich, Switzerland

[2] Department of Geography, University of Zurich, Winterthurerstr. 190, CH-8057 Zurich

* Corresponding author: deplazes@ethik.uzh.ch

ABSTRACT

In this paper we suggest an interpretation of the concept of 'relational value' that could be useful in both environmental ethics and empirical analyses. We argue that relational valuing includes aspects of intrinsic and instrumental valuing. If relational values are attributed, objects are appreciated because the relationship with them contributes to the human flourishing component of well-being (instrumental aspect). At the same time, attributing relational value involves genuine esteem for the valued item (intrinsic aspect). We also introduce the notions of *mediating* and *indirect* relational environmental values, attributed in relationships involving people as well as environmental objects. We close by proposing how our analysis can be used in empirical research.

KEYWORDS

cultural ecosystem services, eudaimonia, intrinsic values, instrumental values, relational values

Let us imagine a particular forest in which we played as children and where we still sometimes go to take a walk to think through a difficult decision. In this forest we know the little clearing, where we sometimes see deer at dusk and a place with wild raspberries in summer. This forest is simultaneously a home to us and a place for a change of scene. We admire its beauty and the diversity of living beings it entails and we cherish it because it makes us feel healthy and connected to our home. We clearly ascribe value to this forest, but

what type of value is this? Do we value the forest instrumentally for the sake of its contribution to our well-being or do we attribute intrinsic value to it, when we value it for its own sake? In this article we argue that neither of the two value categories can capture the described value of the forest; we are faced with a third type of environmental value, namely relational value.

Recently environmental relational values have received attention not only as a concept in environmental policy (Pascual et al. 2017, IPBES 2018) but also as a tool in the social sciences, to investigate how people actually value nature (Chapman et al. 2019, Klain et al. 2017, Sheremata 2018). In environmental policy, ecosystem services have commonly been used to understand the value of nature to humans since the publication of the Millennium Ecosystem Assessment (e.g. MEA 2003). A subcategory, cultural ecosystem services, were later defined as: 'ecosystems' contributions to the non-material benefits (e.g., capabilities and experiences) that arise from human–ecosystem relationships' (Chan et al. 2012: p.9). The 'relational value' concept was proposed in part as a response to some of the shortcomings of the 'ecosystem services' metaphor. While 'relational value' retains the central element of human-ecosystem relationships it diverges from the idea of values as services provided by ecosystems. Instead, relational values, the authors emphasize, are 'preferences, principles and virtues associated with relationships' (Chan et al. 2016: p.1462). Relational values were proposed to add a hitherto missing component in the dominant discussion on how people value their natural environment: an account of values that are both non-instrumental yet anthropocentric[1] and the possibility to break the intrinsic/instrumental value dichotomy (e.g. Pascual et al. 2017, Tallis and Lubchenco 2014) .

In this paper we seek to connect the above empirically-oriented literature to the discourse in environmental ethics as a philosophical discipline, which—we hope—can be enriching for both fields. Empirical research benefits from the logic and structure of philosophy, which may strengthen some of the theoretical underpinning and help to communicate the complex concept to a wider audience. Environmental ethics will gain from the grounding in real world examples to challenge theoretical assumptions and to adapt theory to the normative 'untidiness' of environmental conflicts. In that sense, this study is aimed at increasing our analytic understanding of differences and similarities between the three

---

[1] We interpret 'anthropocentric values' as the values brought forward in anthropocentric arguments for environmental protection i.e. arguments based on the value that nature provides for humans as the only entities with direct moral considerability.

categories of environmental values and to develop a framework to facilitate empirical analysis and identification of relational values.

We draw on environmental philosophy to propose the integration of the relational value concept into a value-pluralistic account of environmental ethics. In doing so, we aim at retaining some of the core elements of relational value as described in the non-philosophical literature: 1) relational values are different from instrumental and intrinsic values; 2) relational value is about human relationships facilitated by, as well as directly with, nature; 3) the objects of relational value are not substitutable; and 4) relational value is connected to eudaimonia. We adhere to these core elements to connect the relational values and environmental ethics literatures, and for a consistent account of relational value across disciplines. However, our account of relational value differs in two respects. First, we understand principles, preferences and virtues, as responses to relational value rather than speaking of these three normative concepts themselves as values, as suggested in the quote above. While this is an important distinction for an environmental ethics analysis, we think we capture the original definition's meaning. Second, some authors understand eudaimonic values (values that contribute to human well-being by supporting a good, flourishing life) as a subcategory of relational values (Muraca 2011, Himes and Muraca 2018, Chan et al. 2018). We discuss relational values *as* eudaimonic values.

We start our analysis by describing relational valuing as a type of valuing that includes aspects of instrumental and intrinsic valuing. Then, we argue that relational values can play a role in both antropocentric as well as physiocentric[2] arguments for the importance of nature. Finally, to account for the complexity of relational values encountered in empirical data, we introduce the notions of mediating or indirect relational values that concern relationships in which usually both humans and natural items play a role as valued objects. In this article we thus develop a philosophical analysis of how people value environmental objects when relational, instrumental or intrinsic values are attributed; in so doing, we focus on the structure or 'syntax' of these values. We provide neither an ontological theory of what constitutes environmental values nor any normative arguments as to why or under which conditions these values deserve moral consideration.

---

[2] Following, for instance, Ott, Dierks, and Boget-Kleschin (2016), we use the term 'physiocentric' as an umbrella for positions which attribute moral considerability to non-human entities in the natural environment, i.e. pathocentrism, biocentrism, and ecocentrism (see also Krebs 1999).

ENVIRONMENTAL VALUES

In this article we understand environmental values as values ascribed by people to natural items in the environment such as individual animals and plants, but also whole landscapes, ecosystems, species, the whole of nature/earth, or anything else in our natural surroundings. While the philosophical literature on values often understands 'valuing' as 'desiring' (e.g. Korsgaard 1983, Kagan 1998), in environmental philosophy valuing usually means 'attributing importance, or relevance'. Environmental objects can be so valued in an instrumental, intrinsic or relational sense and all of these values are used in arguments for environmental protection. Each of these three types of environmental value is attributed in virtue of another feature of the object (its usefulness, its own properties, or its relationship with the valuer). When relational value is attributed to an object, that object is valued in virtue of the particular relationship in which it stands to the subject. In the relational values literature this is called 'the content' of value, valuation or valuing (Himes and Muraca 2018, Chan et al. 2018)[3]. While relationships are the content of relational valuing, in the case of instrumental values, we value an object in virtue of its being useful to satisfying human needs and interests. We thus refer to 'usefulness' as the content of this type of valuing. Analogously, we suggest that the content of intrinsic valuing would be the object's own properties, in virtue of which it is being valued.

VALUING RELATIONS

In the first chapter of their book *Environmental Values,* John O'Neill, Alan Holland and Andrew Light observe that natural environments matter to us humans in different ways. The authors describe three modes, in which we *relate* to our environments:[4]

> First, we live from them – they are the means to our existence. Second, we live in them – they are our homes and familiar places in which everyday life takes place and draws its meaning, and in which personal and social histories are embodied. Third, we live with them – our lives take place against the backdrop of a natural world that

---

[3] We speak of the content of *valuing*, because our analysis focuses of valuing in the sense of attributing environmental value. Himes and Muraca speak of relationships as the content of *valuation* (2018), Chan, Gould and Pascual refer to *values* that are relational in content (2018).

[4] Arias-Arévalo et al. and Himes & Muraca used a similar distinction, changing the 'living with' category into 'living for' probably in order to highlight an 'altruistic' aspect often associated with intrinsic values (Arias-Arevalo et al. 2018, Himes and Muraca 2018).

existed before us and will continue to exist beyond the life of the last human, a world that we enter and for which awe and wonder are appropriate responses. (2008: p.1)

As noted by others (Arias-Arevalo et al. 2018, Himes and Muraca 2018), these modes of relating with the environment, with their different ways in which natural environments matter to us, recall the three categories of environmental values: instrumental (living from), relational (living in) and intrinsic (living with).

Depending on how people relate to a natural item (to which we refer here as the valued object) they ascribe different types of value to it. We call these relations between the valuer and the valued object 'valuing relations'. To prevent misunderstandings, we use the terms 'relation' and 'relationship' with different meanings. 'Relation' stands for the valuing relation between the valuing subject and the valued object. In contrast, the term 'relationship' refers to the content of valuing in the case of relational values. We thus speak of valuing *relations* for all three types of environmental values, but of *relationships* as the content that is specific for relational values.[5]

This understanding of valuing relations is compatible with both subjective and objective theories of value, particularly if value objectivism is understood in a weak sense as, for instance, represented by Nicolas Rescher, who writes:

> The question of whether or not (and if so to what extent) a state of affairs has value does not ask whether you or I or X values it: it is not a question about the personal, idiosyncratic, subjective stance of particular individuals. Rather what it asks – impersonally, generally, and objectively is whether people should value it – that is whether, given the realities of the human situation, ideally reasonable and conscientious people are well advised to value it. (2005: p.122–123).

The valuing relation refers to the connection between the valuing subject and the valued object, which is established by a valuing process that plays a role in subjective as well as objective value theories. The two types of theory disagree concerning what happens during this valuing process. While value subjectivists hold that the valuer *generates* values in the

---

[5] Likewise, Chan, Gould and Pasqual highlight that '*all values are relational in origin*' (here: *relation* between *A* and *B*) whereas with the concept of 'relational value' they focus on those that are „relational in content' (here: *relationship* between *A* and *B*) (2018: p.A3).

valuing process, value objectivists understand the process in these relations as *a recognition* of value or of evaluative features associated with the object. We will thus use the phrases 'value ascription' and 'value attribution', to include objectivist and subjectivist views.[6]

THE DIFFERENT DIRECTIIONALITIES OF VALUING RELATIONS

Building on the works of Muraca and O'Neill *et al.* we start from the relation between the valuing subject and the valued object to examine the differences between the three categories of environmental values. To distinguish and compare the valuing relations behind intrinsic, instrumental and relational values, we describe them as being directional. The distinction between the different directions in environmental valuing relations is developed not as an ontological theory but as a heuristic tool to illustrate similarities and differences between the different types of environmental value. In short, the intrinsic valuing relation is described as unidirectional, directed from the valuing subject A to the valued object B: $A \rightarrow B$. The relation of instrumental valuing is described as unidirectional from the object B to the subject A: $A \leftarrow B$ and that of relational valuing as bidirectional between object and subject: $A \leftrightarrows B$ [Figure 1, Table 1].[7] In this understanding of directionality, the direction of the valuing relation is not determined by the direction of the valuing process, which always directs from subject A to object B. Instead, the direction of the valuing relation illustrates whether the value is oriented towards the valuing subject (instrumental values $A \leftarrow B$) or is appreciated by the subject as something in the object (intrinsic value $A \rightarrow B$). We are not claiming that the instrumental valuing relation is an inversion of the intrinsic valuing relation, which it cannot be due to the entirely different roles of subjects and objects in valuing relations. In our account, an environmental object cannot take the role of a valuer.[8] The directionality says something about why and how the object is being valued; it is valued for the sake of the valuer ($A \leftarrow B$) or for the sake of the object itself ($A \rightarrow B$). In that sense, this heuristic model illustrates towards which element the respective valuing relation is oriented. Accordingly, instrumental values

---

[6] We consider our interpretation of 'value ascription' and 'value attribution' also to be compatible with Muraca's 'relationalist value theory', which has been developed as an alternative to value objectivism and subjectivism (Himes and Muraca 2018, Muraca 2011). However, we do not endorse Muraca's Whiteheadian ontological assumptions according to which 'relations are ontological prior to and constitutive of entities rather than being conceived as external link(ing) between them'(Muraca 2016: p.19).

[7] The representation of the relational valuing relation as bidirectional seems intuitively plausible since other authors have depicted relational values with double-headed arrows between valuing subject and valued object, albeit without explanation on how the bidirectionality should be understood (Chan et al. 2016, Piccolo 2017).

[8] As will be elaborated later, our account excludes non-human valuers for intrinsic and relational (not for instrumental) valuing. We acknowledge that other knowledge systems may be based on other views on non-human valuers.

are sometimes described as 'anthropocentric values' (centering on the human valuer as the morally considerable entity) and intrinsic values as 'non-anthropocentric values' (centering on the not necessarily human object as a morally considerable entity) (e.g. Pascual et al. 2017, Piccolo 2017). Let us now have a closer look at these three valuing relations with their respective directions.

Intrinsic valuing

Many authors have highlighted that 'intrinsic value' is an ambiguous concept and that its different meanings often tend to be conflated (e.g. Korsgaard 1983, Kagan 1998, McShane 2016, O'Neill 2003, Rabinowicz and Rønnow-Rasmussen 2004). Most authors in environmental ethics highlight that entities with intrinsic value are valued for their own sake, an interpretation of intrinsic value which is sometimes called final value (e.g. McShane 2016, Rabinowicz and Rønnow-Rasmussen 2004). The contrast-category to intrinsic value, in this sense, is instrumental value, which is attributed if something is valued as a means to an end for the sake of those for whom it is useful. The final value interpretation of intrinsic value is often distinguished from a 'Moorean' understanding, according to which intrinsic value is based on the intrinsic properties of the valued object (e.g. O'Neill 2003). This property-based account of intrinsic value has been widely criticized (e.g. Kagan 1998, Korsgaard 1983, Rabinowicz and Rønnow-Rasmussen 2004). Environmental and animal ethics theories often imply a notion of 'intrinsic' value that is also based on particular properties of the value bearer, for instance, animal ethicists who argue that animals have intrinsic value due to their sentience (e.g. Regan) or biocentrists who argue that living organisms have intrinsic value because they have a good or interests of their own (e.g. Goodpaster 1978, Taylor 1986, Varner 1998). According to these authors, attributing intrinsic value means: to value entities on account of their own, valuer-independent properties. In other words, intrinsic value is attributed to an object in acknowledgement of its particular properties independently of the relevance that the object has for the valuer. To value an item in this sense, means to value it for its own sake. In such an interpretation of intrinsic value, final value is thus associated with certain valuer-independent properties of the object. In many cases the listed properties are intrinsic properties. However, such an account of intrinsic value is also compatible with the notion of valuing an entity in virtue of a relational property such as 'rarity'. The relevant aspect about these properties is that they are *not related to the valuer* (in contrast to cases of instrumental and relational value). Relations to other natural items (such as in case of rarity)

are not excluded by this understanding. Therefore, in spite of the reference to the item's own properties, this account of intrinsic value is not identical with the widely criticized Moorean account according to which the relevant properties are not based on relations to any other object.

Returning to the valuing relations described by O'Neill et al, intrinsic value is ascribed in the relation of living *with* our natural environments (O'Neill et al. 2008). In our account we describe this relation as a valuing direction from the valuing subject *A* towards the valued object *B* ($A{\rightarrow}B$). By highlighting that they live *with* the object, valuers express their respect for it as a full 'partner' in their environment; they therefore value it for its own sake. The valuing relation is insofar directed towards object *B* as the value is ascribed to or 'remains' in *B*. *A* acknowledges this value in *B*, and appreciates *B* for its own sake.

Instrumental valuing

As a second type we discuss the valuing relation associated with instrumental value, 'living *from* nature'. As indicated by the preposition 'from' this relation can be seen as being directed from the valued object *B* to the valuing subject *A* ($A{\leftarrow}B$); *A* values *B* in virtue of its usefulness for *A*. The valuing relation is directed from *B* to *A* because in the end it is *A* who benefits from the value; the value 'is oriented towards' *A*. Objects which are being valued in this instrumental sense are valued as a means to the satisfaction of interests and needs of *A,* which is a component of *A*'s well-being.

Relational valuing

We now turn to the third way in which individuals, processes and places in our environment matter to us: living *in* these environments (O'Neill et al 2008). This type of mattering to us was described in the forest scene at the outset and is captured by the concept of 'relational value'. If *B* (e.g. the forest) matters to *A* in this way, then *A* values *B* in virtue of a particular relationship that *A* has with *B*. Relational values are often associated with eudaimonia (e.g. Chan et al. 2018, Knippenberg et al. 2018, Muraca 2011). We understand eudaimonia in an Aristotelian interpretation as human flourishing that is achieved through living 'a good life' in the sense of a meaningful, virtuous life. Eudaimonia as human flourishing is another component of human well-being besides the component of satisfaction of needs and interests (which is targeted by instrumental values). Relationships, in virtue of which relational value is

being attributed, are themselves components of human flourishing. When subject A values B in virtue of such a relationship, A attributes meaning and significance to B, which comes with a sense of responsibility, care, and genuine esteem for object B (Chan et al. 2016, Chan et al. 2018, Jax et al. 2018, Knippenberg et al. 2018, West et al. 2018).[9] Consequently, the object in question is also valued for its own sake but in a different way than in case of intrinsic value. A house plant (B), for-instance, can have meaning and significance for someone (A). A then values *this* plant for its own sake even if A does not value other plants for their own sake. In this case A thus values B for its own sake based on its relational not its intrinsic value.

One of the characteristic features of relational values, as highlighted by other authors (e.g. Himes and Muraca 2018, Muraca 2011, O'Neill 2019), is that B cannot be substituted by another item of the same type, because A stands in a relationship with this particular B. In the forest scene described earlier, the relationship with the forest depends on unique and specific features of and experiences in that particular forest.[10] In contrast, in instrumental valuing the object is substitutable because the same usefulness can be realized by other objects.

A valuer A can simultaneously ascribe relational *and* instrumental *and/or* intrinsic value to an object B. For instance, a farmer (A) may attribute instrumental as well as relational value to a cow (B). After the cow's death, its instrumental value can be replaced by another cow, which also gives milk. However, the particular relational value of the first cow is lost. A new relationship may be formed with a new cow (B), to which the farmer (A) again attributes relational value. But the new cow has another meaning for the farmer (A), it is part of a different relationship and the farmer (A) thus attributes a qualitatively different relational value to B.

Such an understanding of the subject-object relation in relational valuing is depicted by the bidirectionality ($A \leftrightarrows B$). A values B, because B contributes to A's flourishing and thus to A's well-being; this is the aspect that relational value has in common with instrumental value and that gives the relational valuing relation the $A \leftarrow B$ direction. However, the component of

---

[9] This focus on 'meaning' in a third type of environmental values can also be found in Simon James' discussion on constitutive values (James 2019, 2020). He introduces these values with the proposition that 'in many cases […] natural entities have value, not because they are means to certain ends, but because they are parts of certain meaningful wholes' (2019: p.3). In a recent article James uses the term 'constitutive value' to describe the value of the meaningful relationship and he uses 'cultural value' or 'relational value' to refer to the associated value of the natural entity involved in the meaningful relationship (2020).

[10] Environmental relational values do not necessarily concern specific places or organisms as objects B. A subject A can ascribe relational value to a species. A may form a particular relationship with, for instance, a fish species B with particular spiritual, aesthetic, or cultural significance. Here the individual fish can be substituted for another fish of the same species, but the species itself cannot be substituted for another species. The species is the object of this valuing relation.

well-being to which instrumental value contributes is the satisfaction of needs and interests, and object *B* is valued on account of its usefulness towards this purpose. In contrast, when relational value is attributed, *B* is valued for its contribution to human flourishing as a component of well-being.[11] Such a contribution to human flourishing is achieved rather than received. Achievement involves a certain attitude and behavior towards the valued object *B*. This type of relationship between *A* and *B* is thus characterized by a sense of responsibility and care in *A* for the object *B*.[12] As a result of this relationship *A* also values *B* for its own sake not only for its positive effect on *A*. Relational value has this aspect in common with intrinsic value, it gives the relational valuing relation the *A*➔*B* direction. In relational valuing the two directions always occur together. The contribution to well-being cannot be enjoyed without attributing significance and meaning to *B*. In turn, this attribution is always associated with a specific relationship as a component of human flourishing. The bidirectionality is not to suggest that relational valuing combines instrumental and intrinsic valuing but only that certain aspects of ascribing the other two types of value occur when relational values are being attributed. In each direction, relational valuing is different from the respective unidirectional valuing. Relational valuing contrasts with instrumental valuing, with respect to the component of well-being that is involved and with respect to the substitutability of object *B*. And unlike intrinsic value, relational value depends on a relationship with the valuer, which is the basis for the esteem for the object.

Based on this description of bidirectionality (*A*⇆*B*), we can now address some of the critical comments brought forward against the relational value concept. Patrik Baard seems to suggest that it was introduced to replace the concepts of instrumental and intrinsic value (2019). Our interpretation of relational value shows how it can be understood as a complementary environmental value category. Baard further states that relational value 'can be accommodated in the instrumental and intrinsic value distinction' (2019: p.196). Indeed,

---

[11] To distinguish between the two different types of contribution to human well-being, some authors (Krebs 1999: p.67, Muraca 2011, Ott 2003) speak of 'eudaimonistic intrinsic value' as value that refers to '"good" as ends for humans' in contrast to instrumental values, which refer to '"good" as means for humans' (Ott 2003: p.159). This type of values is similar to what we call 'relational value' here. However, in spite of the reference to 'intrinsic' in the name 'eudaimonistic intrinsic value' these authors do not emphasise the meaning and significance that valued objects have for the subject. Moreover, our account of relational value seems to be somewhat narrower, as we discuss the relational values of the objects with which the subject stands in a relationship rather than referring to the value of relationships themselves or of associated experiences.

[12] We are not claiming that all human-nature relationships are bidirectional in this sense, there are also exploitative relationships. However, in an exploitative relationship the object is valued only in virtue of its usefulness not in virtue of its relationship with the valuer, consequently it is *not* the relationship that is the content of valuing and no relational value is ascribed.

our framework illustrates how one can draw on the distinction between instrumental and intrinsic value to explain relational value. John Piccolo is concerned that a concept of 'relational value' would aim at replacing arguments based on intrinsic value and he asked for a clearer description of how intrinsic and relational values can coexist (2017). The analysis at hand provides such a description and hopefully shows that the concept of 'relational value' can be used alongside that of intrinsic value.

Finally, Maier and Feest consider the concept of 'relational value' unhelpful because all values are relational (2016). We have shown how the valuing relations between instrumental, intrinsic and relational valuing can be distinguished. Moreover, echoing Himes and Muraca (2018), it is not the valuing relation but the relationships—in virtue of which objects are valued—that give relational values their name. However, we agree with Maier and Feest's request for more normative work on relational values, though that is beyond the scope of this paper. Next we address the question: to what extent are relational values necessarily elements of anthropocentric arguments and how do they connect to physiocentric positions?

RELATIONAL VALUE FROM THE POINT OF VIEW OF NON-ANTHROPOCENTRISM

For ethical anthropocentrists the moral significance of nature depends on its relevance to humans; only humans are directly morally considerable and only humans are valued for their own sake. In contrast, physiocentrists argue that other items in nature should be valued and morally considered for their own sake. Some critics as well as supporters describe relational values as explicitly anthropocentric albeit not instrumental values (e.g. Pascual et al. 2017, Piccolo 2017). As mentioned before, the literature describes eudaimonic relational values as contributing to human well-being by enabling human flourishing rather than providing usefulness (Chan et al. 2018, Knippenberg et al. 2018, Muraca 2011). Does such a reference to human well-being require an anthropocentric position? We think not, because this contribution to human well-being as flourishing goes along with genuine esteem for the valued object. This connection is well explained by John O'Neill (1993) who echoing Aristotle invokes the example of friendship as an analogy to natural items.

> It is constitutive of friendship of the best kind that we care for friends for their own sake and not merely for the pleasures of profits they might bring. To do good for friends purely because one thought they might later return the compliment not for their own sake is to have an ill-formed friendship. Friendship in turn is a constitutive component of a flourishing life. (O'Neill 1993: p.24)

According to O'Neill it is thus an inherent element of friendship that friends are valued for their own sake; only then does friendship contribute to human flourishing and well-being. If someone only appreciates their friend *in order to* feel better, this is not a case of real friendship and the positive effect on human well-being does not occur. Friendship in this case could be understood as a relationship in virtue of which relational values are being attributed in a social rather than an environmental context,[13] but analogies can be drawn to relational *environmental* values. If *A* ascribes relational value to a particular forest (*B*) with the associated attribution of meaning and significance, *A* values this forest for its own sake, not only because of its beneficence for *A*. The forest is thus directly morally considerable for *A*, which is not the classical anthropocentric position. However, it is not a classically physiocentric position either, because the moral considerability is connected to the relationship that *A* has with *B*.

Furthermore, the relational value concept captures central ideas of non-anthropocentric theories in environmental ethics: that attitudes of moral agents, context of moral interactions, and specific relation to the valued object are ethically relevant (e.g. Warren 1990, Palmer 2010) and that humans live in a community with other organisms (e.g. Callicott 1999, Naess 2003).

Relational value scholars such as Kai Chan and Terre Satterfield suggested earlier that the concept of 'cultural ecosystem services' may capture not only 'anthropocentric' but also 'biocentric values' (Chan et al. 2012). Shifting from cultural ecosystem services to relational values can be understood as a reinforcement of this physiocentric aspect. While capturing a physiocentric worldview with ecosystem services seems somewhat contradictory, the relational value concept creates a basis to account for non-anthropocentric ideas. In our account, this is illustrated by the bidirectionality of the relational valuing relation in which the contribution to human well-being is valued as an aspect that is common with instrumental valuing and the genuine esteem for the valued object as a common feature with intrinsic valuing. The latter aspect could also be called a physiocentric element, because it entails the element of valuing environmental objects for their own sake. According to our interpretation it is thus not accurate to describe relational values as purely anthropocentric. It follows from

---

[13] In case of friendship as a relationship with other people we obviously not only attribute relational, but also intrinsic value. However, we also attribute intrinsic value to people who bully us; the difference between our valuing of a bully and of a friend is that we *also* attribute relational value to a friend.

the simultaneous focus on both the meaning for the human valuer and the moral considerability of the valued environmental objects, that neither of them is really at the center of moral consideration. We thus suggest that argumentation based on relational values is best described as 'non-centric'.[14]

INDIRECT AND MEDIATING VALUES

So far, we have described direct valuing relations between a valuing subject *A* and a valued object *B*. However, in many situations people value their natural environment in association with a third party, for instance, another person or a community. We distinguish two types of such values involving third parties; first, *mediating* relational values, which are attributed to an environmental item *C* because it mediates a relationship of valuer *A* with a third-party *B*. Second, *indirect* relational values, in which *A* values the environmental object *D* due to the relational value that *D* has for third party *B* (for an overview see [Figure 2]).

Although not called by these names, mediating and indirect relational values are important categories in the relational value literature. In the first article that suggested relational environmental values as a concept for environmental policy (Chan et al. 2016), the authors distinguished between 'relational values involving the human collective' and relational values that are 'primarily individual'. In the 'primarily individual' case, *A* values *B* because of the direct valuing relation between *A* and *B*. When the human collective is involved, the valuing relation has three parties. For example, if valuer *A* values the environmental item *C* because *C* provides a vehicle for *A* to connect with other people *B,* this is a case of *mediating* relational values. In the case of *indirect* relational valuing, the valuer *A* might attribute *indirect* relational value to the environmental item *D,* because *D* is important to *A*'s community *B*.

Mediating values

In certain situations a valuer may value an environmental item, for instance a forest, not only because of the particular relationship that the valuer has with this forest itself, but also because the forest has a special meaning and value as a place in which the valuer goes for walks with her elderly parents. Here, the forest is valued because it mediates or facilitates the

---

[14] We agree with Barbara Muraca, who suggested in conversations that the same point could also be captured by discussing relational values as 'pluricentric'.

relationship of the valuer with her parents. We speak of a mediating relational value of the forest in this case. The valuer *A* values the forest (*C*) because it mediates and to some extent serves a constitutive function in the relationship of *A* with the directly valued object, the elderly parents (*B*). This is not the same as a situation in which *A* values the forest instrumentally for providing an opportunity for a walk with her parents. In the instrumental case any other place that provides an opportunity for a nice walk has the same value. In case of a mediating relational value, walks in this particular forest are one aspect of the relationship that *A* has with her parents (*B*). If the forest were closed or cut down, not only the opportunity to take a walk would be lost, but also one part of the common memories that *A* shares with her parents—an element of their relationship that cannot be substituted. Besides this attribution of mediating relational value, *A* may at the same time attribute direct relational values to the forest for its particular meaning to *A* independently of her parents (*B*). In addition, *A* certainly attributes not only relational but also intrinsic value to her parents. To understand the value that the forest (*C*) has for *A*, it is important to consider all these values, including the mediating relational aspect.

Is there also a category of mediating *instrumental* value? In a way all instrumental values are mediating by serving as a means towards satisfying particular needs or interests. However, we discuss environmental valuing here as attributing importance to environmental objects. In this sense mediating instrumental value is involved if an object (*C*) is valued because it mediates the instrumental value of another object (*B*), which on its part serves to satisfy particular needs. Let us think of a child (*A*), who likes to collect and eat hazelnuts (*B*). In order to crack these nuts, the child uses a stone (*C*). One could say this stone has mediating instrumental value because only thanks to the stone (*C*) the child (*A*) can enjoy the nuts (*B*). However, in context of instrumental values the distinction between direct and mediating values may be less useful than in case of relational values, because most items could be described as having direct or mediating instrumental value depending on the purpose associated with their usefulness. In the example, the stone is useful for the purpose of eating nuts. Nuts would themselves be of mediating instrumental value if the purpose is defined as nutrition, which is of mediating instrumental value for the purpose of survival.[15]

---

[15] We do not discuss mediating intrinsic values, because intrinsic values are, per definition, not dependent on mediating factors.

Indirect values

We speak of indirect valuing when the valuer *A* values an environmental object *D* because of its importance for *B,* who is directly valued by *A*. For instance, I (*A*) consider a certain tree (*D*) to have indirect relational value not because it is particularly meaningful to me, but because it has relational value for my best friend (*B*) whom I (*A*) value directly.

We can distinguish between indirect instrumental value, indirect intrinsic value and indirect relational value depending on how *B* (my best friend in the above example) values the environmental object *D*. If *B* values *D* instrumentally, for instance if *B* values the tree (*D*) because of its apples, *D* has indirect instrumental value for me (*A*) as *B*'s friend. If *B* is a biocentrist and attributes intrinsic value to trees such as *D*, I (*A*) may treat trees with a particular respect to honor *B'*s particular view and thereby I attribute indirect intrinsic value to trees (*D*). There is also a valuing relation between me (*A*) and my friend (*B*), however, in this article we focus on environmental values, therefore the type of value attributed to the environmental object *D* is of more interest than the valuing relation between *A* and *B*.

Environmental valuers

Could indirect values also involve non-humans as a third-party *B*? [16] In such cases *A* would value the environmental object *D* indirectly because of *D*'s relevance for another environmental object *B*, which is directly valued by *A*.

In case of *instrumental* values this seems to be possible. The valuer *A* can observe that an organism *B* depends on another natural item *D* for survival. *D* thus has instrumental value for *B*. If *A* directly values *B* (in the intrinsic, relational or instrumental sense) *A* attributes indirect instrumental value to *D.* For instance, a human valuer *A* cherishes the beauty of a patch of spring flowers in her garden (*B*) every year and she recognizes that the annual flowering depends on pollinators (*D*). Therefore, the flower-lover (*A*) attributes indirect instrumental value to the pollinators (*D*) due to their instrumental value for the spring flowers as non-human *B*s.[17]

---

[16] We would like to thank the ecologist Owen Petchey and Bernhard Schmid for raising this point.
[17] The case shows that indirect instrumental values involving non-human *B*s can be close to mediating relational values. If the flower-lover *A* values the pollinators (*C*) as mediators of her relationship with the flowers (*B*) it is a mediating relational value. If the flower-lover values the pollinators (*D*) acknowledging that they are important

What about indirect *relational* values involving non-human *B*s? These would be cases, in which a non-human *B,* which is directly valued by *A,* would attribute *relational* value to *D*. To answer this question, it is important to remember that we interpreted relational values as involving aspects of instrumental as well as intrinsic valuing. The intrinsic valuing aspect implies that the valuer attributes genuine esteem to the valued object and values it for its own sake. Indirect *relational* values involving a non-human *B* would thus imply that non-humans can attribute meaning, significance and genuine esteem to the other objects. We expect that this would require a high consciousness level, including the capability of moral reflection. We do not want to exclude the possibility that this might apply to certain non-humans, for instance apes, but this is not the usual case in ecological relationships. Therefore, we do not extend our discussion of indirect relational or indirect intrinsic values to cases involving non-human *B*s. However, we acknowledge that there may be other knowledge systems, which attribute the capacity of conscious valuing to a larger spectrum of non-human entities.

OUTLOOK AND APPLICATION

With the philosophical analysis of the relational value concept we aimed at describing this category of environmental values in distinction from intrinsic and instrumental value. For this purpose we constructed examples, in which such values were attributed, to characterize them [e.g. Table 1, Figure 2]. However, real world interactions with the environment are usually more complex and messy, and the different categories may not always be so clearly separable as in theory. In the following we show how our analysis of environmental values could be applied as a framework in empirical studies. We hope that the discussion of which values are involved can contribute to a better understanding of real-world cases, even if they are not as neatly classifiable as in theory. We will speak of this as the 'Syntax of Environmental Values Framework' because it distinguishes different types of values based on the syntax or structure of the valuing relations. In the following, we illustrate a potential application via two examples.

---

for the flowers (*B*) it is an indirect instrumental value. There may be good reasons to attribute both types of value, but whether one or the other type is being attributed reflects a different mindset of the valuer.

Example 1: Restoring the Creek Together

The first example serves to demonstrate how our framework might apply to a mediating object (*C* in the Syntax of Environmental Values Framework) as well as to relational values involving a collective as *B*. In the following quote from one of the author's studies on riparian restoration in Northwestern USA (Chapman et al. 2019: p468) a church property manager describes the importance of a creek restoration project for which his congregation has worked together on land donated to the church by one of its members.

> *What we're doing with the creek restoration [is] getting out there and actually planting a tree. Physically it's good for you because you get in the soil, that's good for you. And it's also good for you for the psychological part of it, just being out there and being outside. So, we want to preserve that, so we preserve the gardens, the creek, a little bit of the farm and then [invite kids from a] school. So [it's] a place to go and be. (Interview # 16, Puget Sound, Nov. 2014)*

In this case a direct relationship between each member (*A*) and the church community (*B*) is mediated and constituted by their mutual engagement in a meaningful activity of restoring of the creek (*C*). This relational value is eudaimonic in the sense that the relationships of one member with the rest of the community in the natural environment is 'good for you' as a result of a common engagement in a meaningful activity. This type of contribution to well-being is achieved rather than received, the benefits of 'getting in the soil' and being outside come with certain responsibilities and tasks, for instance, to continue to care for the creek. The common engagement in this meaningful activity strengthens and forms each member's relationships with the rest of the community (*B*). Restoring this particular creek by getting in the soil and being outside together provides not only physical and psychological benefits but also connects this community to a particular place. The project also allows the church members to build a relationship with kids from a school. In that sense we can understand the creek as the object realizing the value of the relationships amongst the congregation members and between the church and the school kids. At the same time, church members also ascribe *direct* relational value to the particular creek because of the meaning that it has to them not only as the place that strengthens the relationship with the community but also as a place in which the individual member connects with nature [Figure 3]. The direct relational value, which the creek has for each individual church member, is interwoven with

the mediated relational value that it has by strengthening the relationship between church members.

Example 2: Planting Bananas for Birds

A second example demonstrates how the Syntax of Environmental Values Framework can be applied to indirect values. Here we consider the following quote from another empirical study by one of the authors on Costa Rican farmer's relational values (Chapman et al. 2020).

> *Here I planted bananas and quite a few. I eat them and my family [too], but we eat maybe one of every 10 that grow. And sometimes the neighbors come, and they say 'the birds are eating the bananas. I want some, please give me some bananas'. And I say 'Yes, get a knife and take a child plant and plant it in your garden and in 2 years you will have bananas for yourself, because these bananas are for the birds and the birds can't plant'. We are destroying the birds, so I plant bananas here for them. And they come here to eat them, and I sit down to watch them (Interview # 20, Guanacaste, June 2016)*

Applying our framework, we might focus on the relational value between the farmer and the birds as the most salient in this quote. In this case, the farmer *(A)* values the bananas *(D)* due to their value for the birds *(B)*. We can see the bidirectionality in the direct relational value between the farmer *(A)* and the birds *(B)*: the farmer provides for the birds via planting bananas and by encouraging his neighbor to also plant bananas for the birds. In turn, the farmer enjoys watching the birds as they come to feed on the bananas. These bananas (*D*) thus have instrumental value for the birds (*B*) and indirect instrumental value for the farmer (*A*), for whom the birds (*B*) have direct relational value [Figure 4].

The quote can also be interpreted as a mediating relational value. The bananas (*C*) mediate or constitute the relationship between the farmer (*A*) and the birds (*B*). In that case, more emphasis is set on the bananas, these bananas have a particular meaning *because* they were planted for the birds. Perhaps the farmer enjoyed birds and saw that they were being harmed by human activities. So therefore, he plants bananas for them. The farmer then feels responsible to provide for birds both because we (people) have destroyed their ability to forage and because people can plant bananas and birds cannot. In planting the bananas, he both acts upon his sense of responsibility towards the birds and forms a relationship with the

18

birds.[18] These various interpretations show the importance of considering the context in analyzing any example.

The quote further demonstrates the layered nature of many valuing relations. In this case, one of every 10 bananas has a direct instrumental value (as food) for the farmer and his family. The other 9 bananas are indirectly instrumentally valuable for the famer and at the same time mediate the relational value between the farmer and the birds. Most examples will not divide neatly into bananas in this way; the layers of intrinsic, instrumental and relational valuing relations may be more difficult to disentangle in many cases. All these different ways in which valuing can be interpreted, as well as the 'layers' of involved values, are important to consider to understand how and why these bananas are important to the farmer.

Future Research Directions

We hope that the above examples have demonstrated the intended use of the Syntax of Environmental Values Framework—as a tool to structure and facilitate thinking about and analyzing relational values, but not as a closed model to exclude that which does not fit. To this end, a few key points about the limits and potential of this framework are necessary. Our framework serves as a model, or a structured way of thinking about the world, but not a full representation of values. In practice, most (if not all) relational values will be layered and complex, involving more than the simplified parties *A*, *B*, *C* and *D* in our framework. Equally valuable to cases where the framework neatly fits are those where it does not. Relationships are dynamic and multi-faceted and the hope with such a framework is to help analyze their key features, but not to exclude others.

To this end, we imagine the Syntax of Environmental Values Framework could facilitate research in several directions:

- What are the webs of relationships across human and non-human entities? (Himes and Muraca 2018). Which can be considered as relational values? What does each direction entail?
- While our framework was developed using a particular Western philosophical worldview, we recognize that the concept of 'relational value' was intended to encompass a greater diversity of worldviews. In what cases and to what extent does the

---

[18] We thank John O'Neill for this point.

framework help facilitate dialogue with other, including non-Western, knowledge systems (Gould et al. 2019)?

- What is the relationship between principles, preferences and virtues (which are part of the relational values definition given in Chan et al 2016) and relational values as we have defined them here?

- What are the implications of bidirectionality for the original ecosystem services or newer Nature's Contributions to People frameworks? Both frameworks are based on a uni-directional contribution of nature to people. (How) can the concept of bidirectionality (of a genuine esteem for the natural entity) be incorporated into these frameworks? For example, what might Nature's Contribution's to People approach look like if it also considers capabilities of peoples to act in accordance with their esteem for natural entities?

- How can the proposed framework help in identifying the lines along which environmental conflicts might unfold? For example, different groups in a community might value the same environmental object in different ways (for some a forest might be instrumental for its income and so substitutable, whereas for others it may have relational value and thus not be substitutable)[19] A differentiated concept of 'relational value' might help mediating across different meanings.

SUMMARY AND CONCLUSION

In this article we introduced an interpretation of relational value starting from environmental ethics, considering the most central features attributed to this type of values. We described relational values with a bidirectional valuing relation and used the idea of 'directionality' as a heuristic device to structure analysis. In so doing, we characterized the bidirectional valuing relation as including aspects of instrumental and intrinsic valuing. The instrumental aspect was depicted with an $A \leftarrow B$ directionality, because the value is oriented towards the valuing subject A; in this direction, object B is valued for its contribution to A's well-being. At the same time, relational valuing involves an intrinsic valuing aspect, depicted by an $A \rightarrow B$ direction when A values B for its own sake. These two aspects are necessarily intertwined in relational values. In that sense, it is a eudaimonic contribution to human well-being, where well-being as human florishing is achieved by appreciation of object B within a relationship

---

[19] We thank Ralf Seppelt for this point.

with *B*. We refer to this connection, when we say that *A* values *B* in virtue of the relationship that *A* has with *B* or in other words, in case of relational values the content of valuing is the relationship.

The bidirectionality associated with relational values also illustrates how these values can be interesting for both anthropocentric and physiocentric positions. An anthropocentrist may argue for the importance of relational values with respect to their contribution to human well-being and recognize the esteem for *B* as a particular characterization of this type of well-being. A physiocentrist might argue the other way around: that esteem for the relationship partner, which is valued for its own sake, may be the predominant aspect of relational values but in contrast to intrinsic values, the respect associated with relational values is characterized by the special relationship in which *A* stands with *B*.

Finally, we introduced the notion of mediating and indirect valuing. If an environmental object *C* is valued by subject *A* because *C* mediates a relationship of *A* with a directly valued object *B,* we speak of *C* as the bearer of *mediating* relational value. We speak of *indirect* relational values in cases where an environmental item *D* is valued by the subject *A* because *D* has relational value to another valuer *B;* and where *A* values *D* out of consideration for *B'*s values. We close our interpretation and analysis of relational values by suggesting a definition:

> Relational values are the values that are ascribed when a valuing subject (*A*) values an object (*B*) in virtue of the particular relationship in which *A* stands to *B*. These values are based on a bidirectional valuing relation, which is characterised by a focus on the relationship and includes aspects of both instrumental and intrinsic valuing. Accordingly, relational valuing contains the appreciation of a contribution of *B* to *A*'s well-being (instrumental valuing aspect) as well as esteem for the valued object *B* for its own sake, associated with a sense of responsibility for this object (intrinsic valuing aspect).

REFERENCES

Arias-Arevalo, Paola, Erik Gomez-Baggethun, Berta Martin-Lopez, and Mario Perez-Rincon. 2018. 'Widening the Evaluative Space for Ecosystem Services: A Taxonomy of Plural Values and Valuation Methods.' *Environmental Values* 27 (1):29-53.

doi: 10.3197/096327118x15144698637513.

Baard, Patrik. 2019. 'The Goodness of Means: Instrumental and Relational Values, Causation, and Environmental Policies.' *Journal of Agricultural & Environmental Ethics* 32 (1):183-199.

doi: 10.1007/s10806-019-09762-7.

Callicott, J. Baird. 1999. *Beyond the Land Ethic, More Essays in Environmental Philosophy*. New York: Statae University of New York Press.

Chan, Kai M. A., Patricia Balvanera, Karina Benessaiah, Mollie Chapman, Sandra Diaz, Erik Gomez-Baggethun, Rachelle Gould, Neil Hannahs, Kurt Jax, Sarah Klain, Gary W. Luck, Berta Martin-Lopez, Barbara Muraca, Brian Norton, Konrad Ott, Unai Pascual, Terre Satterfield, Marc Tadaki, Jonathan Taggart, and Nancy Turner. 2016. 'Opinion: Why protect nature? Rethinking values and the environment.' *Proc Natl Acad Sci U S A* 113 (6):1462-5.

doi: 10.1073/pnas.1525002113.

Chan, Kai M. A., Rachelle K. Gould, and Unai Pascual. 2018. 'Editorial overview: Relational values: what are they, and what's the fuss about?' *Current Opinion in Environmental Sustainability* 35:A1-A7.

doi: 10.1016/j.cosust.2018.11.003.

Chan, Kai, Terre Satterfield, and Joshua Goldstein. 2012. 'Rethinking ecosystem services to better address and navigate cultural values.' *Ecological Economics* 74:8-18.

Chapman, Mollie, Terre Satterfield, and Kai M. A. Chan. 2019. 'When value conflicts

are barriers: Can relational values help explain farmer participation in conservation
incentive programs?' *Land Use Policy* 82:464-475.

doi: 10.1016/j.landusepol.2018.11.017.

Chapman, Mollie, Terre Satterfield, and Kai M. A. Chan. 2019. 'When value conflicts are
barriers: Can relational values help explain farmer participation in conservation
incentive programs?' Land Use Policy 82:464-475.

doi: 10.1016/j.landusepol.2018.11.017.

Chapman, Mollie, Terre Satterfield, Hannah Wittman, and Kai M. A. Chan. 2020. 'A
payment by any other name: Is Costa Rica's PES a payment for services or a support
for stewards?' World Development 129.

doi: ARTN 10490010.1016/j.worlddev.2020.104900.

Goodpaster, Kenneth. 1978. 'On Being Morally Considerable.' Journal of Philosophy, Inc.
75 (6):308-325.

Gould, Rachelle. K., Mahealani. Pai, Barbara. Muraca, and Kai. M. A. Chan. 2019. 'He 'ike
'ana ia i ka pono (it is a recognizing of the right thing): how one indigenous worldview
informs relational values and social values.' *Sustainability Science* 14 (5):1213-1232.
doi: 10.1007/s11625-019-00721-9.

Himes, Austin, and Barbara Muraca. 2018. 'Relational values: the key to pluralistic valuation
of ecosystem services.' *Current Opinion in Environmental Sustainability* 35:1-7.

doi: 10.1016/j.cosust.2018.09.005.

IPBES. 2018. *The IPBES regional assessment report on biodiversity and ecosystem services
for Europe and Central Asia*. Edited by M. Rounsevell, M. Fischer, Torre-Marin
Rando A. and A. Mader. Bonn: Secretariat of the Intergovernmental Science-Policy
Platform on Biodiversity and Ecosystem Services, available at:
https://ipbes.net/assessment-reports/eca (accessed July 2020)

James, Simon P. 2019. 'Natural Meanings and Cultural Values.' *Environmental Ethics* 41
(1):3-16.

doi: 10.5840/enviroethics20194112.

James, Simon P. 2020. 'Legal rights and nature's contributions to people: Is there a
connection?' *Biological Conservation* 241.

doi: UNSP 10832510.1016/j.biocon.2019.108325.

Jax, Kurt, Melania Calestani, Kai M. A. Chan, Uta Eser, Hans Keune, Barbara Muraca, Liz O'Brien, Thomas Potthast, Lieske Voget-Kleschin, and Heidi Wittmer. 2018. 'Caring for nature matters: a relational approach for understanding nature's contributions to human well-being.' *Current Opinion in Environmental Sustainability* 35:22-29.

doi: 10.1016/j.cosust.2018.10.009.

Kagan, Shelly. 1998. 'Rethinking intrinsic value.' The Journal of Ethics 2 (4):277-297.

Klain, Sarah C., Paige Olmsted, Kai M. A. Chan, and Terre Satterfield. 2017. 'Relational values resonate broadly and differently than intrinsic or instrumental values, or the New Ecological Paradigm.' *Plos One* 12 (8).

doi: ARTN e0183962 10.1371/journal.pone.0183962.

Knippenberg, Luuk, Wouter T. de Groot, Riyan J. G. van den Born, Paul Knights, and Barbara Muraca. 2018. 'Relational value, partnership, eudaimonia: a review.' *Current Opinion in Environmental Sustainability* 35:39-45.

doi: 10.1016/j.cosust.2018.10.022.

Korsgaard, Christine. 1983. 'Two distinctions in Goodness.' The Philosophical Review 92 (2):169-195.

doi: 10.1007/1-4020-3846-1_8.

Krebs, Angelika. 1999. *Ethics of Nature*. Berlin: Walter de Gruyter.

Maier, Donald S., and A. Feest. 2016. 'The IPBES Conceptual Framework: An Unhelpful Start.' *Journal of Agricultural & Environmental Ethics* 29 (2):327-347.

doi: 10.1007/s10806-015-9584-5.

McShane, Katie. 2016. 'Is biodiversity intrinsically valuable? (And what might that man?).' In *The Routledge Handbook of Philosophy of Biodiversity*, edited by Justin Garson, Anya Plutynski and Sahotra Sarkar, 155-167. London, New York: Routledge.

Millenium Ecosystem Assessment (MEA). 2003. 'Ecosystems and Human Well-being, a Framework for Assessment.' available at: http://pdf.wri.org/ecosystems_human_wellbeing.pdf (accessed July 2020).

Muraca, Barbara. 2011. 'The Map of Moral Significance: A New Axiological Matrix for Environmental Ethics.' *Environmental Values* 20 (3):375-396.

doi: 10.3197/096327111x13077055166063.

Muraca, Barbara. 2016. 'Relational Values: A Whiteheadian Alternative for Environmental Philosophy and Global Environmental Justice.' *Balkan Journal of Philosophy* 8 (1):19-38.

doi: 10.5840/bjp2016813.

Naess, Arne. 2003 (1998). 'The Deep Ecological Movement: Some Philosophical Aspects.' In *Environmental ethics an anthology*, edited by Andrew Light and Holmes Rolston III, 262-274. Oxford: Blackwell.

O'Neill, John. 1993. *Ecology, policy and politics, human well-being and the natural world*. London, New York: Routledge.

O'Neill, John. 2003. 'The Varities of Intrinsic Value.' In *Environmental ethics an anthology*, edited by Andrew Light and Holmes Rolston III, 131-142. Oxford: Blackwell.

O'Neill, John, Alan Holland, and Andrew Light. 2008. *Environmental Values*. London: Routledge.

O'Neill, John. 2019. 'What is lost through no net loss.' *Economics and Philosophy*:1-20.

doi: 10.1017/S0266267119000191.

Ott, Konrad, Jan Dierks, and Lieske (eds) Boget-Kleschin. 2016. *Handbuch Umweltethik*. Germany: J.B. Metzler Verlag.

Ott, Konrad. 2003. 'Environmental Values and Comprehensive Environmental Assessment.' In *Environment accross Cultures*, edited by Eckart Ehlers and Carl Friedrich Gethmann, 153-172. Berlin: Springer.

Palmer, Clare. 2010. *Animal Ethics in Context*. New York: Columbia University Press.

Pascual, U., et. al 2017. 'Valuing nature's contributions to people: the IPBES approach.' *Current Opinion in Environmental Sustainability* 26-27:7-16.

doi: 10.1016/j.cosust.2016.12.006.

Piccolo, John J. 2017. 'Intrinsic values in nature: Objective good or simply half of an unhelpful dichotomy?' *Journal for Nature Conservation* 37:8-11.

doi: 10.1016/j.jnc.2017.02.007.

Rabinowicz, Wlodek, and Toni Rønnow-Rasmussen. 2004. 'A Distinction in Value: Intrinsic and For Its Own Sake.' *Proceedings of the Aristotelian Society* 100 (1):33-51.

doi: 10.1111/j.0066-7372.2003.00002.x.

Rescher, Nicholas. 2005. 'On the import and rationale of value attribution.' *Mind & Society* 4:114-127.

doi: 10.1007/s11299-005-0007-6.

Sheremata, Megan. 2018. 'Listening to relational values in the era of rapid environmental change in the Inuit Nunangat.' *Current Opinion in Environmental Sustainability* 35:75-81.

doi: 10.1016/j.cosust.2018.10.017.

Tallis, Heather, and Jane Lubchenco. 2014. 'A call for inclusive conservation.' *Nature* 515 (7525):27-28.

doi:10.1038/515027a.

Varner, Gary E. 1998. *In Nature's Interests?* Oxford: Oxford University Press.

Warren, Karen J. 1990. 'The Power and the Promise of Ecological Feminism.' *Environmental Ethics* 12 (2):125-146.

doi: 10.5840/enviroethics199012221.

West, Simon, L. Jamila Haider, Vanessa Masterson, Johan P. Enqvist, Uno Svedin, and Maria Tengo. 2018. 'Stewardship, care and relational values.' *Current Opinion in Environmental Sustainability* 35:30-38.

doi: 10.1016/j.cosust.2018.10.008.

	Intrinsic	Instrumental	Relational
Ascribed value	Intrinsic	Instrumental	Relational
Valuing Subject (who values?)	*A*	*A*	*A*

Valued Object (who/what is the original bearer of value?)	*B*	*B*	*B*
Valuing relation	Unidirectional (from *A* to *B*)	Unidirectional (from *B* to *A*)	Bidirectional
Content of valuing (in virtue of which object *B* is being valued)	Object *B*'s own properties	The usefulness of object *B*	The particular relationship that *A* has with object *B*
Example	I (*A*) value this tree (*B)* in virtue of of its own properties for its own sake.	I (*A*) value this tree (*B*) because of the shade (usefulness) that it provides.	I (*A*) value this tree (*B*) because of the significance it has for me as a tree that I know since my childhood (relationship).

Table 1. Comparison of intrinsic, instrumental and relational environmental values.
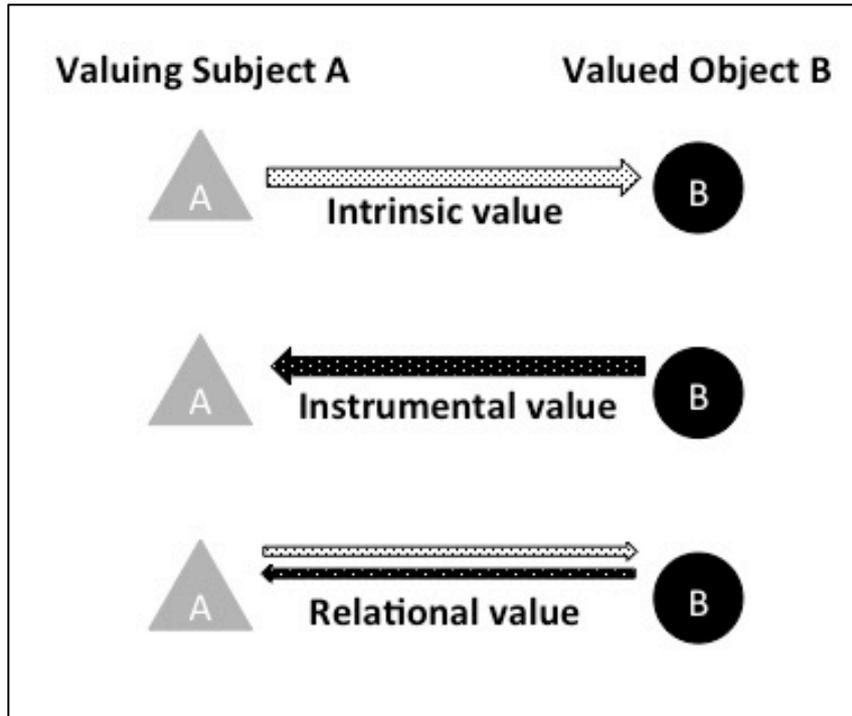
Figure 1. Directionality in environmental valuing. Schematic representation of the directionality in the valuing relations of different types of environmental values. Arrows illustrate how environmental values connect the valuing subject with the valued object, this is called the direction of the *valuing relation*. Each represents a different content of valuing: properties of the object for intrinsic values, usefulness for the subject for instrumental, and the object's relationship with the subject for relational. It must not be confused with the direction of the *valuing process,* which always goes from the valuing subject *A* to the valued object *B*. Arrows are drawn with different patterns to indicate that the instrumental valuing relation is not an inversion of the intrinsic valuing relation. Each of the two arrows depicting the relation of relational values is thinner than the arrow for the respective one-directional valuing relation to illustrate that valuing in case of relational values is *not* a combination of intrinsic and instrumental valuing but includes aspects that are shared with the other two types of values.
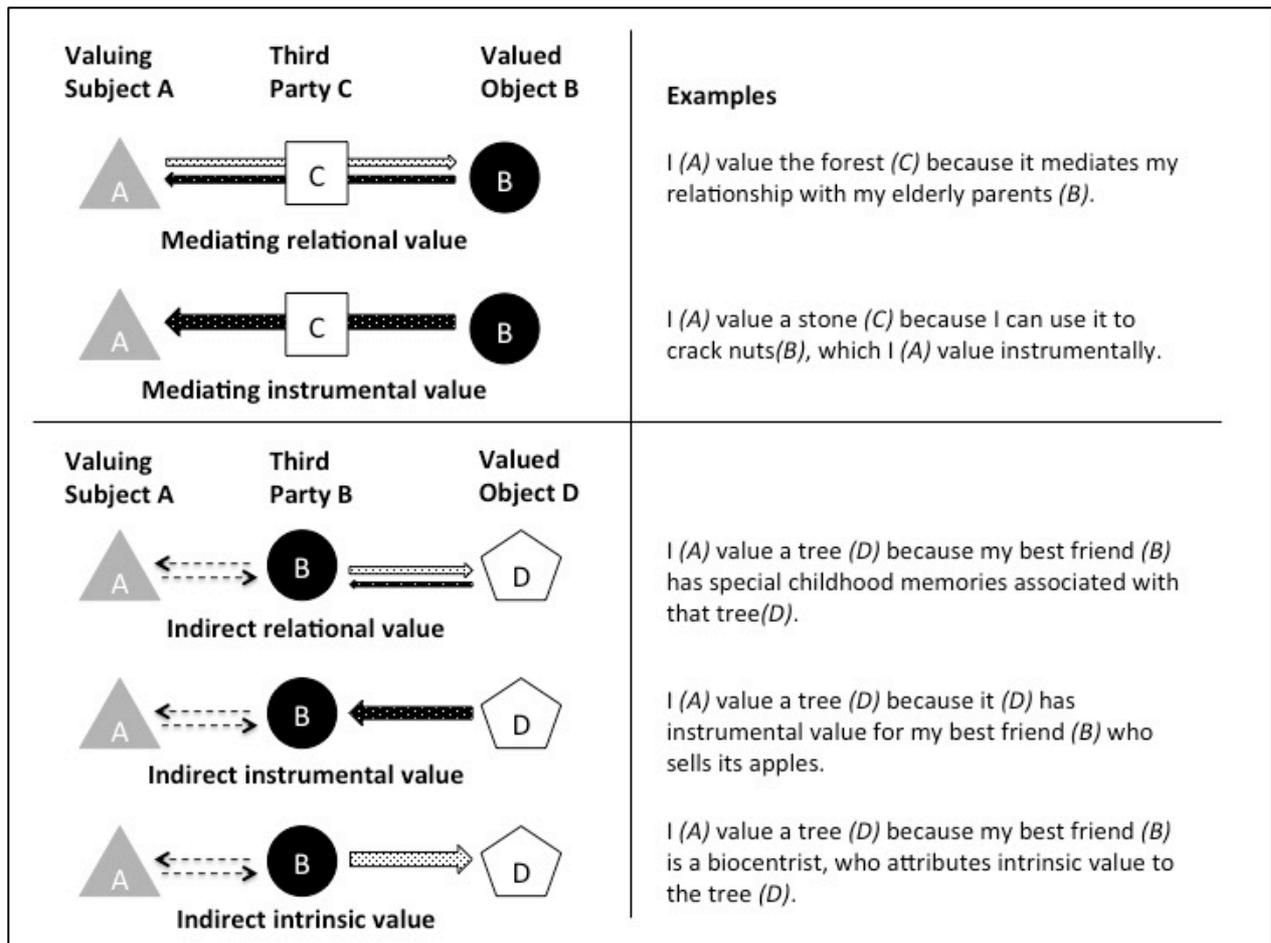
Figure 2. Mediating and indirect environmental values. Schematic representation of the directionality in the valuing relation of different types of environmental values involving third parties. The A-B valuing relation for indirect values is depicted with dotted lines, because it is not the focus of this analysis.
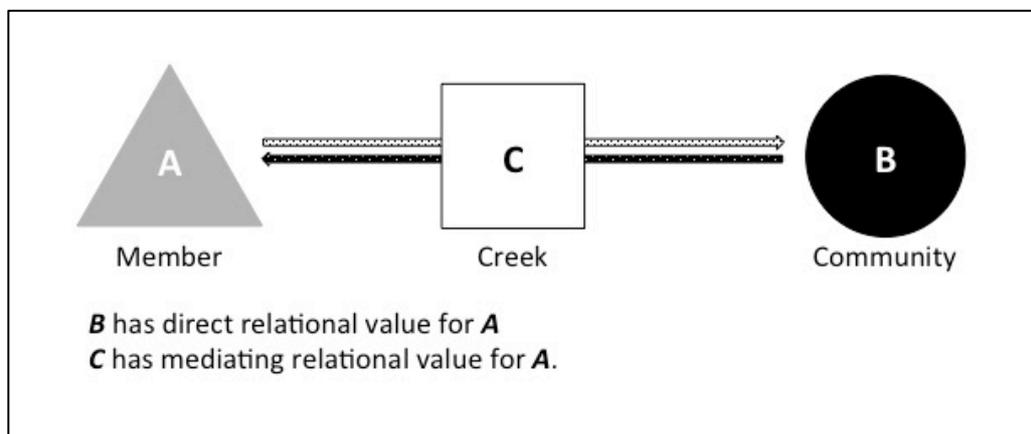

Figure 3. Example 1. Schematic representation of valuing relations in example 1.
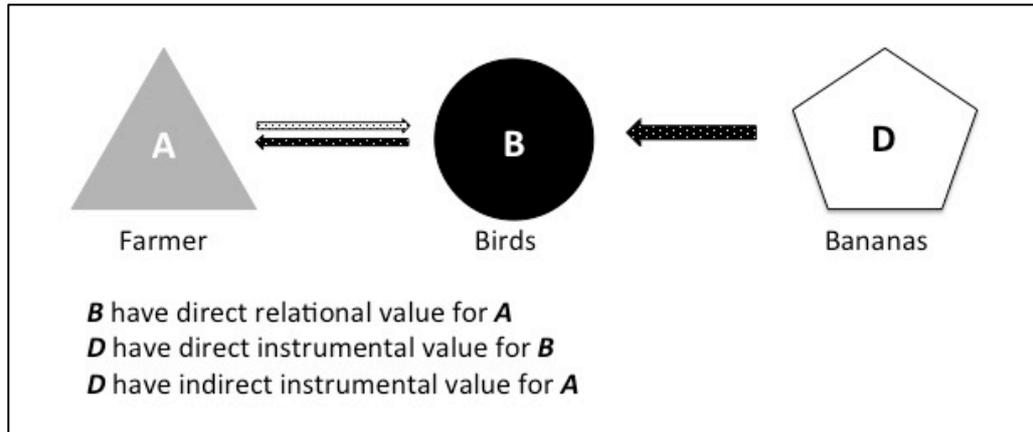
Figure 4. Example 2. Schematic representation of one interpretation of valuing relations in example 2.