



Analysis

On the relation between ecosystem services, intrinsic value, existence value and economic valuation



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ABSTRACT

Various attempts have been made to amalgamate the concepts of intrinsic value and ecosystem services, often with a stop-over at the economic concept of existence value. These attempts are based on a confusion of concepts, however. In this article, two types of non-use values are distinguished: *warm glow value*, related to the satisfaction people may derive from altruism towards nature, and *existence value*, related to the satisfaction people may derive from the mere knowledge that nature exists and originating in the human need for self-transcendence. As benefits to *humans*, warm glow and existence values can be considered ecosystem services. Neither warm glow value nor existence value represents benefits to nature itself, however. Intrinsic value lies *outside* the scope of the wide palette of ecosystem services.

Although the concept of ecosystem services does not cover benefits to nature and the intrinsic value of such benefits, intrinsic value is not necessarily incompatible with economic valuation. Although a deontological ethics does not allow economic valuation of nature as an end in itself, consequentialism does. In consequentialism, however, intrinsic value is not attributed to nature itself, but to *benefits* to nature. These benefits can be economically valued on the basis of benefit transfer.

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1. Introduction

A long-standing debate exists between those who ground the conservation of nature primarily on our moral duties to protect nature for its own good (see e.g., McCaulay, 2006; Soulé, 1985) and those who ground it on nature's vital importance for ourselves as human species (see e.g., Daily, 1997; Fisher et al., 2008). The second group has often claimed that the moral appeal to nature's *intrinsic value* has proven incapable of slowing down, let alone stopping, the continuing decline of the world's ecosystems. Over the past 50 years, humans have changed ecosystems even more rapidly and extensively than in any comparable period in human history (MEA, 2005a: 16; see also Butchart et al., 2010). Central to the second approach is the concept of *ecosystem services*, defined by Fisher et al. (2008: 2051) as 'the aspects of ecosystems utilized (actively or passively) to produce human well-being'. The concept of ecosystem services is wide-ranging. It includes not only *provisioning services* such as food, water, timber, and fiber, but also *regulating services* such as the regulation of climate, floods, disease, wastes, and water quality; *cultural services* that provide recreational, esthetic, and spiritual benefits; and *supporting services* such as soil formation, photosynthesis, and nutrient cycling (MEA, 2005a). In line with this approach, economists have attempted to translate ecosystem services into monetary terms for both cost–benefit analysis and the development of economic instruments (see e.g., Kumar, 2010). Proponents of the ecosystem

service approach have often assured that it is only meant as an *additional* reason for conservation *on top of* any moral duties towards nature (see e.g., Costanza, 2006; Costanza et al., 1997; Fisher et al., 2008). Conservationists have not been convinced, however, and warn that increased public attention for nature's *instrumental value* may erode public attention for nature's intrinsic value (see e.g., Bowles, 2008; Kosoy and Corbera, 2010; McCaulay, 2006). Moreover, both ecologists and economists often believe that intrinsic value is a deontological concept, i.e., that something with intrinsic value ought never to be treated as mere means to other ends. Interpreted as a deontological concept, intrinsic value cannot be captured in monetary terms (see e.g., National Research Council, U.S., 2005: 38), and will therefore be overlooked entirely once cost–benefit analysis is applied (Redford and Adams, 2009).

In spite of the clear conceptual distinction between intrinsic and instrumental value, various attempts have been made to amalgamate the concepts of intrinsic value and ecosystem services in order to remove the objections of nature conservationists. According to Chan et al. (2012: 15), for example, "even though biocentric values are not considered to be measures of benefits for people, it is crucial that ecosystem services valuation provide space for their expression in a manner commensurate with anthropocentric values". Particularly, it has been tried to link the concept of intrinsic value to *cultural ecosystem services*, often with a stop-over at the economic concept of *existence value* (see e.g., Gee and Burkhard, 2010). The Millennium Ecosystem Assessment, for example, states that "many people do believe that ecosystems have intrinsic value. To the extent that they do, this would be partially

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reflected in the existence value they place on that ecosystem, and so would be included in an assessment of its total economic value” (MEA, 2003: 133–4). According to the Millennium Ecosystem Assessment, existence value is a cultural ecosystem service (Daily, 1999; MEA, 2005b: 34). Raymond et al. (2009) add intrinsic value under cultural ecosystem services in their assessment of community values and threats (see also Burkhard et al., 2009; Chan et al., 2012), while according to Reyers et al. (2012: 504) “it appears that it is often the complexity of intrinsic and instrumental values – and the narrow interpretations of the latter [i.e., by excluding existence value, MDD] – that makes the common ground they share appear smaller than it actually is.”

The purpose of this article is to argue that the present attempts to amalgamate intrinsic value and ecosystem services are based on a confusion of concepts, partly due to the wide variety of definitions of intrinsic and existence value available in the literature. I will define and delineate some of the central terms in the discussion differently from previous authors with the aim of obtaining a more logical and comprehensible breakdown of terms. The purpose of this article is twofold. First, to define intrinsic and existence value as mutually exclusive concepts and argue that while existence value can indeed be considered a cultural ecosystem service, intrinsic value is incompatible with any ecosystem service. Second, to argue that although intrinsic value is incompatible with ecosystem services it is not necessarily incompatible with economic valuation. Note that throughout this article the term economic valuation is synonymous with monetary valuation, while the term nature stands for non-human beneficiaries of conservation, although which entities are to be considered such beneficiaries depends upon one’s moral views. The setup is as follows. In Section 2, I first discuss the meaning of intrinsic value in deontological ethics and consequentialism, and the scope of such value. In Section 3, I discuss the options for including intrinsic value in economic valuation. In Section 4, I discuss the meaning of the concept of existence value. In Section 5, I discuss how the concepts of intrinsic and existence value are related to ecosystem services and economic valuation.

2. Intrinsic Value

In environmental economics and environmental philosophy, the concept of intrinsic value has often been related to a deontological ethics (see e.g., Barbier et al., 2009: 249; Callicott, 2006; Chee, 2004; National Research Council, U.S., 2005: 31; Spash, 1997; Jax et al., 2013). Consequentialism, on the other hand, has often been related to anthropocentrism, the normative view that the nonhuman world has value *only* because, and insofar as, it directly or indirectly serves human interests (Goulder and Kennedy, 1997; Sagoff, 1996).¹ The purpose of this section is to argue that this strict connection between the concept of intrinsic value and a deontological ethics is unfounded. See for detailed discussions of the concept of intrinsic value e.g., Elliot (1992), Rønnow-Rasmussen and Zimmerman (2005) and Zimmerman (2010).

Consequentialism is the view that normative properties depend only on consequences. The paradigm case of consequentialism is classic utilitarianism, the claim that an act is morally right if and only if that act maximizes utility, where utility can be defined as pleasure, happiness, desire satisfaction, or ‘welfare’ in some other sense. According to deontological ethics, in contrast, the rightness of an act is generally not determined by its consequences but by conformity with a moral norm, such as Immanuel Kant’s second formulation of the categorical imperative: ‘Act in such a way that you treat humanity, whether in your own person or in the person of any other, never merely as a means to an end, but

¹ Sometimes the term anthropocentric is not used to deny nature’s intrinsic value, but to indicate that what humans value will always be from a human (or anthropocentric) point of view (Hargrove, 1992). As Callicott (1989: 133) states: “The source of all value is human consciousness, but it by no means follows that the locus of all value is consciousness itself.”

always at the same time as an end.’ To illustrate the difference: according to consequentialism, a child may be tortured to force her father to tell where he has hidden a time bomb if doing so saves many lives; according to a deontological ethics, we are not allowed to do so whatever the number of lives we thus believe to save.

Because consequentialism holds that choices are to be morally assessed solely by the states of affairs they bring about, consequentialists must specify which states of affairs are *good*, i.e., intrinsically valuable (Alexander and Moore, 2012). Hedonistic consequentialists, such as Jeremy Bentham (1789) and Peter Singer (1974), attribute intrinsic value to *experiences* such as pleasure and the absence of pain. All sentient beings, such as humans and dogs, are able to experience pleasure and pain, but that does not mean humans or dogs themselves have intrinsic value; their pleasure and absence of pain do. For a perfectionist consequentialist, however, intrinsic value would not lie in experiences such as pleasure, but in objective goods such as development according to one’s nature and realization of one’s capacities (Hurka, 1993). Attfield advocates ‘biocentric consequentialism’, based on the idea that intrinsic value lies in the good or well-being of *all* living entities (Attfield, 1995, 1999, see also Varner, 1998).

In contrast to consequentialists, deontologists do not aim at optimizing or maximizing the good. The concept of intrinsic value therefore has no specific meaning within a deontological ethics. Nevertheless, the concept of intrinsic value is often connected to a deontological ethics when it is said that *people* have intrinsic value, for example. What is meant, however, is that people have *moral status* or *rights*, i.e., that they are entitled not to be treated as mere means to other ends. A deontologist would not claim that a world with *more* people is therefore a *better* world. Which entities have moral status or rights in a deontological ethics depends on the possession of certain properties. Kant believed this property to be rationality. According to Tom Regan (1983: 243), however, all ‘experiencing subjects of a life’ – animals with beliefs, desires, perception, memory, emotions, a sense of future, and the ability to initiate action – have intrinsic or inherent value. According to Regan, we are therefore not allowed to experiment on animals, whatever the benefits for humans. Paul Taylor (1986) attributes intrinsic value to all ‘teleological centers of life’, i.e., to *all* individual living entities (see also Goodpaster, 1978), while some deontologists attribute intrinsic value to ecological wholes such as species, populations, biotic communities, and ecosystems (see e.g., Callicott, 1980, 1989; Leopold, 1949).

The purpose of this short overview has been neither to defend a particular choice between deontology and consequentialism, nor to defend a particular scope of such theories. To what extent intrinsic value extends beyond human beings (deontology) or beyond human well-being (consequentialism) remains a controversial issue in environmental ethics. This short overview merely shows that it is not the case that consequentialism is inevitably anthropocentric while a biocentric view would only be compatible with a deontological ethics, as some authors seem to suggest. Biocentric consequentialism exists as well. Intrinsic value means different things for deontologists and consequentialists, however. When the term intrinsic value is used within a deontological context, what is meant in fact is *moral status*. What has moral status is not allowed to be harmed for the greater good to others. Within a consequentialist framework, it is not nature itself that has intrinsic value, but nature’s *well-being*, i.e., the *benefits* to nature. Dependent upon one’s moral views, these benefits may refer to pleasure and the absence of pain, meaning that all and only sentient beings can be benefitted, or to development according to one’s nature and realization of one’s capacities, meaning that all and only living beings can be benefitted. These benefits to nature may be weighed against, and thus outweigh or be outweighed by other goods such as human well-being.

3. Intrinsic Value and Economic Valuation

Whether the concept of intrinsic value is compatible with economic valuation depends upon one’s moral view. As has been argued in the

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