COMMENT

Biodiversity's option value: A comment on Maier (2018)

Daniel P. Faith

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Comment to: Maier, D.S. 2018. Should biodiversity and nature have to earn their keep? What it really means to bring environmental goods into the marketplace. *Ambio* 47: 477–492. <https://doi.org/10.1007/s13280-017-0996-5>.

In his review, Maier (2018) argues that current valuations of biodiversity and nature are merely “economic” (reflecting preferences, typically associated with “markets”) and lack normativity (reflecting what is good or right, and what ought to be acted upon). Maier argues that conservation, acting as an “economic sector” that “markets biodiversity”, may end up valuing projects that counter the persistence of aspects of nature. He concludes that “the single biggest threat to the environment and to nature may be a continued or increasing dominance of these principles”.

Maier includes biodiversity's “option value” among these economic valuations. He critiques option value of biodiversity through a lengthy analysis of my writings on this topic over the past 25 years. Here, I will counter Maier's interpretations of Faith's characterisation of option value, and will counter Maier's conclusion that it “holds little normative promise”.

As background, I draw on the historical perspective and review of biodiversity's option value found in my entry in the *Routledge Handbook of Philosophy of Biodiversity* (Faith 2017). Here, “biodiversity”, in accord with earlier work, is interpreted as living variation (reflecting the number of different species or other “units”). The option value of biodiversity then is linked to the current benefit that this variety provides in maintaining “options”, or potential unanticipated benefits, for future generations. Faith (2017) points to familiar examples of units providing benefits and argues that “maintaining a large number of

units (biodiversity) for the future will help maintain a steady flow of such beneficial units”.

Faith (2017) shows how this fundamental benefit provided by biotic diversity was recognised even before the term “biodiversity” was invented (around 1985). This early work is revealing also in suggesting normative aspects. For example, Haskins (1974) noted how “biotic diversity” maintains the possibility of future useful discoveries, and called for “an ethic of biotic diversity” in which such diversity is viewed as a value in itself and is tied in with the survival and fitness of the human race”. Faith (2017) also points to later work that similarly recognised a normative obligation to conserve biodiversity as a way to maintain options for future generations [for example, the “Loss of biodiversity” in the *Encyclical Letter Laudato Si' of the Holy Father Francis: On Care for Our Common Home* (Francis 2015)]. With these perspectives in mind, Faith (2017) concludes, “Biodiversity option value therefore links “variation” and “value”: providing a fundamental relational value of biodiversity reflecting our degree of concern about benefits for future generations”.

Surprisingly, Maier's “review” totally ignores this earlier review and Faith's characterisation of “option value” as a current value/benefit of biodiversity, with historical roots that support its normative standing. Instead, Maier invents the words he claims Faith might say, suggesting biodiversity option value is all about a definite *future* value: “To have option value is to be beneficial in the future [...]”. While there should be no doubt that this characterization derives directly from Faith's own words [...]”. Maier then uses this as evidence of options value's weak normative standing, as this “violates the stipulation of ignorance”. Maier's next claim then is presented as a way to “fix” Faith's ideas: “To do this in the spirit of his approach, let

us suppose that some thing need not necessarily be beneficial, but rather only that, with some plausibility, it be potentially beneficial”.

Maier then argues that, because anything and everything is potentially beneficial, option value so defined has weak normative standing.

In neglecting the historical analysis in Faith (2017), Maier (2018) makes a two-fold misrepresentation of the nature of the benefit associated with biodiversity’s option value: it is not a claim that having variety is a *definite future* benefit, and it is not a claim that variety is a *potential future* benefit. Instead, it is about biodiversity-as-variety as a *current* benefit, because this variety is recognised as maintaining options for future generations. In missing this core idea that living variation is a current good/benefit, Maier also misses its normative standing—we *ought* to act to conserve biodiversity and its maintenance of options because it is the right thing to do, given that we care about, and have some moral obligation to, future generations.

Maier includes biodiversity option value among his “economic” approaches characterised as “the single biggest threat to the environment”. The arguments reviewed in Faith (2017) suggest the opposite: a *lack* of appreciation of biodiversity’s option value might be the biggest threat to biodiversity: there is little else that compels us to act to conserve the full variety of life, when faced with competing needs/preferences of society. More work is needed on how regional/global biodiversity option value, considered normatively, should integrate with “preference” approaches, such as multi-criteria analysis (see Faith 2017 for related discussion).

Increased appreciation of biodiversity’s option value is apparent in the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). Maier criticises IPBES as committed to his claimed dangerous principles of economic valuation. Yet IPBES increasingly has been embracing a range of values of biodiversity and nature. These “nature’s contributions to people” include

biodiversity/variety as providing “maintenance of options” (Díaz et al. 2018)—thus, recognising that idea that biodiversity/variety is a current benefit to people, in maintaining options. The recent IPBES regional assessment for “Asia and the Pacific” (Davies et al. 2018) assessed the conservation status of biodiversity’s maintenance of options by estimating potential loss of phylogenetic diversity (see also Faith 2017). Here, concern about regional/global biodiversity loss was linked explicitly to biodiversity’s option value. Perhaps this illustrates how biodiversity does, normatively, “earn its keep”.

REFERENCES

- Davies, K., A. Rajvanshi, Y. Yeo-Chang, A. Gautam, A. Choi, A. Masoodi, C. Togtokh, H. Sandhu, et al. 2018. Chapter 2. Nature’s contributions to people and quality of life. In *IPBES Regional and subregional assessment of biodiversity and ecosystem services for Asia and the Pacific*, ed. M. Karki et al. Secretariat of the Intergovernmental Platform for Biodiversity and Ecosystem Services, Bonn, Germany.
- Díaz, S., U. Pascual, M. Stenseke, B. Martín-López, R.T. Watson, Z. Molnár, R. Hill, K.M.A. Chan, et al. 2018. Assessing nature’s contributions to people. *Science* 359: 270–272.
- Faith, D.P. 2017. A general model for biodiversity and its value. In *The Routledge handbook of philosophy of biodiversity*, ed. J. Garson, A. Plutynski, and S. Sarkar, 69–85. London: Routledge.
- Francis. 2015. Encyclical letter *Laudato Si’* of the Holy Father Francis: On care for our common home [English language version]. The Vatican.
- Haskins, C. 1974. Scientists talk of the need for conservation and an ethic of biotic diversity to slow species extinction. *Science* 184: 646–647.
- Maier, D.S. 2018. Should biodiversity and nature have to earn their keep? What it really means to bring environmental goods into the marketplace. *Ambio* 47: 477–492.

Daniel P. Faith (✉)

Address: Australian Museum Research Institute, Australian Museum, 1 William St, Sydney, NSW 2010, Australia.
e-mail: dan.faith@austmus.gov.au