

Séance 5

La Nature a-t-elle un prix ?

- Fiche de lecture présentée par Jennifer Guarini

Title	Beyond ecosystem services : valuing the invaluable
Authors	Gunton, RM, van Asperen, E, Basden, A, Bookless, D, Araya, YH, Hanson, DR, Goddard, MA, Otieno, G and Jones, GO
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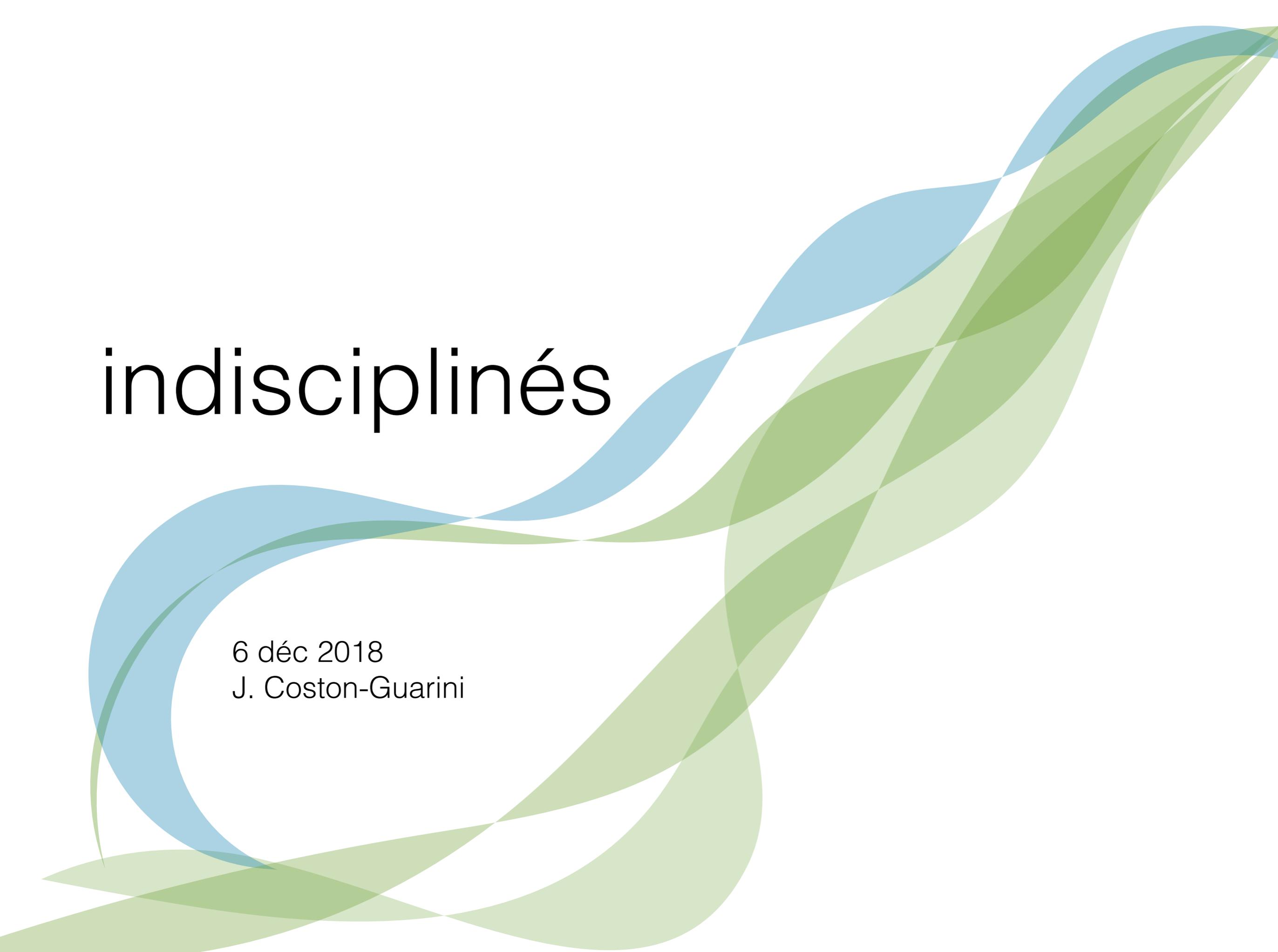
- Histoire vécue présentée par Marie Bonnin

- Débat animé par Rémi Mongruel.

Axe Indisciplinés

Animation de l'axe : Olivier Ragueneau et Marie Bonnin

indisciplinés

The background features a series of overlapping, wavy, ribbon-like shapes in shades of light blue and light green. These shapes flow from the bottom left towards the top right, creating a sense of movement and depth. The shapes are semi-transparent, allowing the colors to blend where they overlap.

6 déc 2018
J. Coston-Guarini

Opinion

Beyond Ecosystem Services: Valuing the Invaluable

Richard M. Gunton,^{1,2,*} Eline N. van Asperen,³
Andrew Basden,⁴ David Bookless,^{5,6} Yoseph Araya,⁷
David R. Hanson,² Mark A. Goddard,⁸ George Otieno,⁹ and
Gareth O. Jones²

The ecosystem services framework (ESF) is advantageous and widely used for itemising and quantifying ways in which humans benefit from natural places. However, it suffers from two important problems: (i) incoherence of definitions and (ii) a narrow approach to valuation, inadequate to represent the full range of human motives for conservation and the diverse interests of different stakeholders. These shortcomings can lead to a range of problems including double-counting, blind spots and unintended consequences. In this opinion article, we propose an ecosystem valuing framework as a broader and more rigorous way to deliver the benefits currently sought from the ESF, without the conceptual problems.

Positive points

“widely used”

appears as a conciliatory approach
in conflictual situations

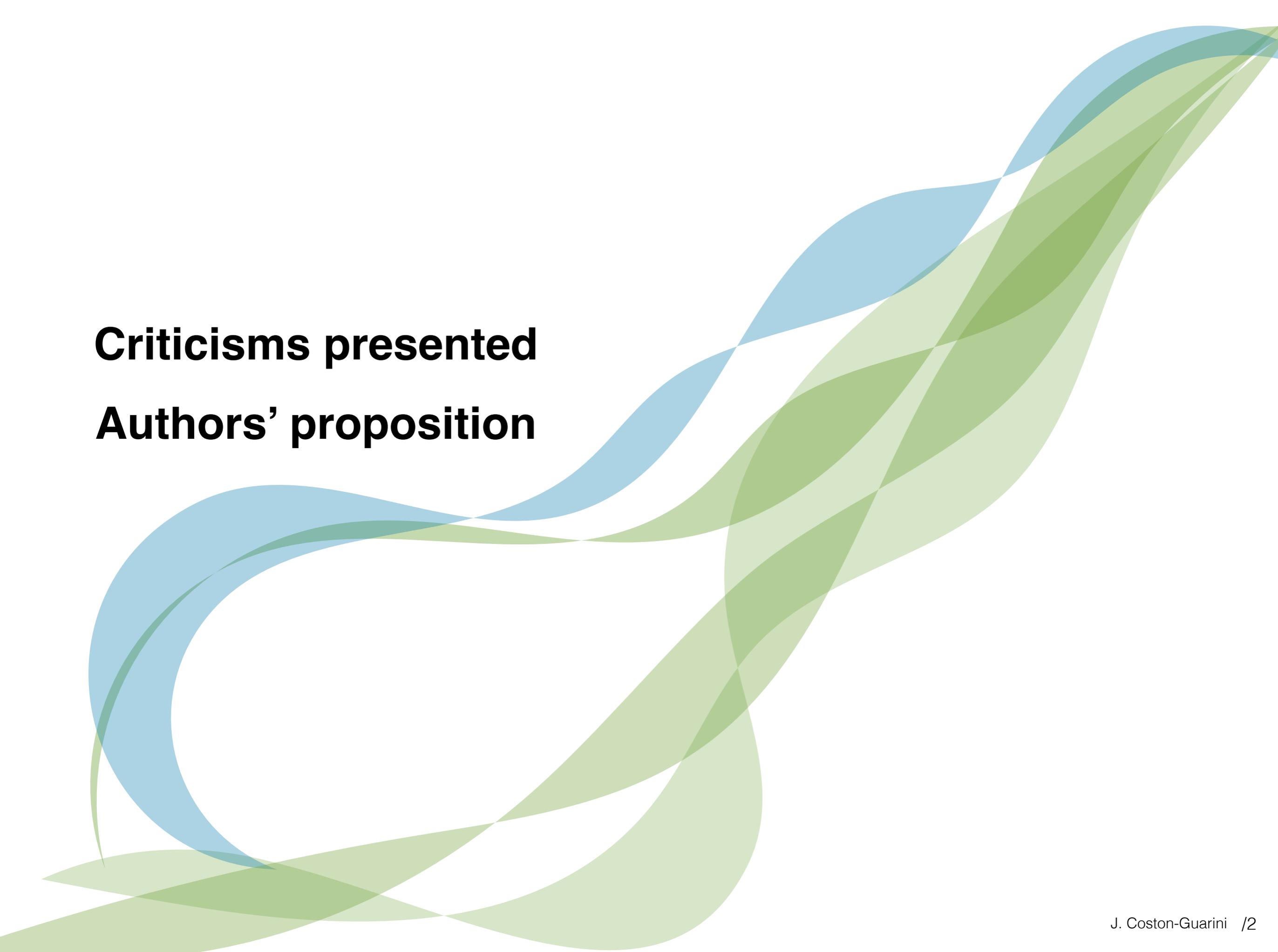
Criticisms

“incoherence of definitions”

“narrow approach to valuations,
inadequate to represent the full range of
human motives”

Proposes in the article

To replace ES with “Ecosystem
Valuing” (EV), which authors suggest would
redress some of the obvious conceptual
weaknesses of current approaches

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Criticisms presented
Authors' proposition

Criticisms presented

values, value, valuing are multi-dimensional concepts

only one aspect of valuing, economic, has taken center stage in ES



*Transformation of an idea, “sustainable development”,
through application of ES, into “natural” capital
markets to convince*

Criticisms presented

The problem of getting stuck with vague definitions

“A definition encompassing all [*existing ESF*] definitions would have to be very broad – something like ‘those ecological processes and their effects that certain humans appreciate’. However, thanks to the existence of appreciative ecologists, such a definition would have unlimited scope.”

*vague definitions lead to “double-counting”
when attempting to audit or evaluate ES and
identify beneficiaries*

*absence of fundamental notions and
measures of value and values shared by all
human societies*

Criticisms presented

values, value, valuing are multi-dimensional concepts

only one aspect of valuing, economic, has taken center stage in ES



*Transformation of an idea, “sustainable development”,
through application of ES, into “natural” capital
markets to convince*

Authors' Proposition

“What is needed is **a framework that consistently distinguishes ecological processes from human modes of appreciating them.** A proper treatment should be intrinsically multidimensional and recognise mutual human–environment relationships involving diverse stakeholders.”

Authors' proposition

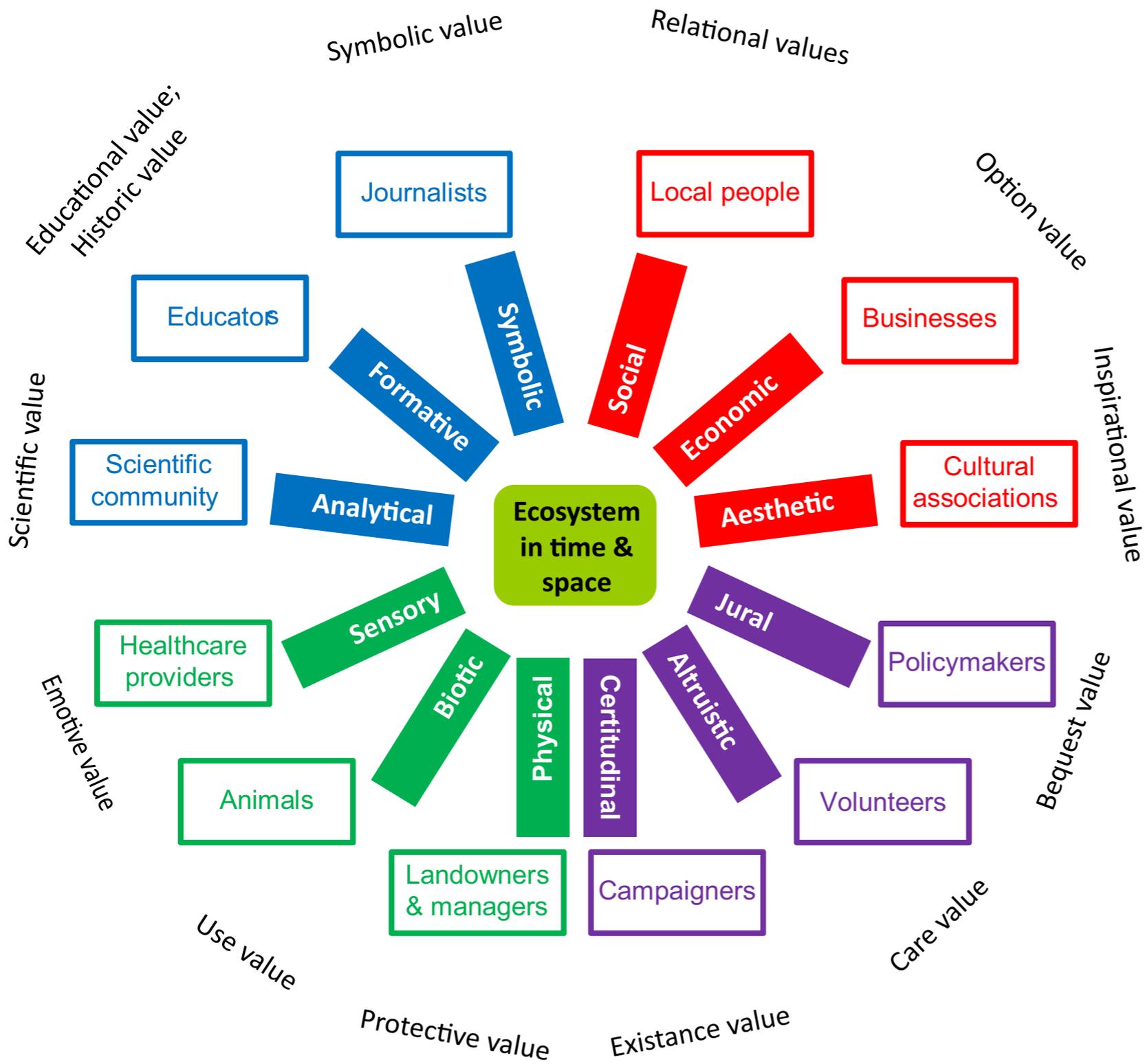
“... conservationists should avoid the language of services altogether and adopt a framework that recognises diverse aspects of human valuation for specified people and places. To facilitate this, we here propose an ecosystem valuing framework (EVF).”

Aspectual theory + Value theory = EVF

“For a given real place and a specified stakeholder, then, we ask ‘how’ the stakeholder appreciates the place in these kinds of ways. That is, the aspects are adverbs rather than nouns. ”

An application of the “consequentialist” ethics, that is evaluating the consequences of decision in terms of relative “goodness brought about” and as opposed to the “deontological approach” for motivating decisions in the common “good”

Authors' proposition



“An assessment ought to consider all the aspects for (i) a specific place and relevant stakeholders, or (ii) specific stakeholders and all relevant places.”

stakeholder groups
aspect of experience

Figure 1. The Suite of Aspects for Valuing Ecosystems Is Shown As Rays Emanating from an Ecosystem (Site) of Interest

Authors' proposition

Trying to fit specific examples into different definitions

Table 1. A Selection of Ecosystem Services and Their Qualification under Some Prominent Definitions^{a,b}

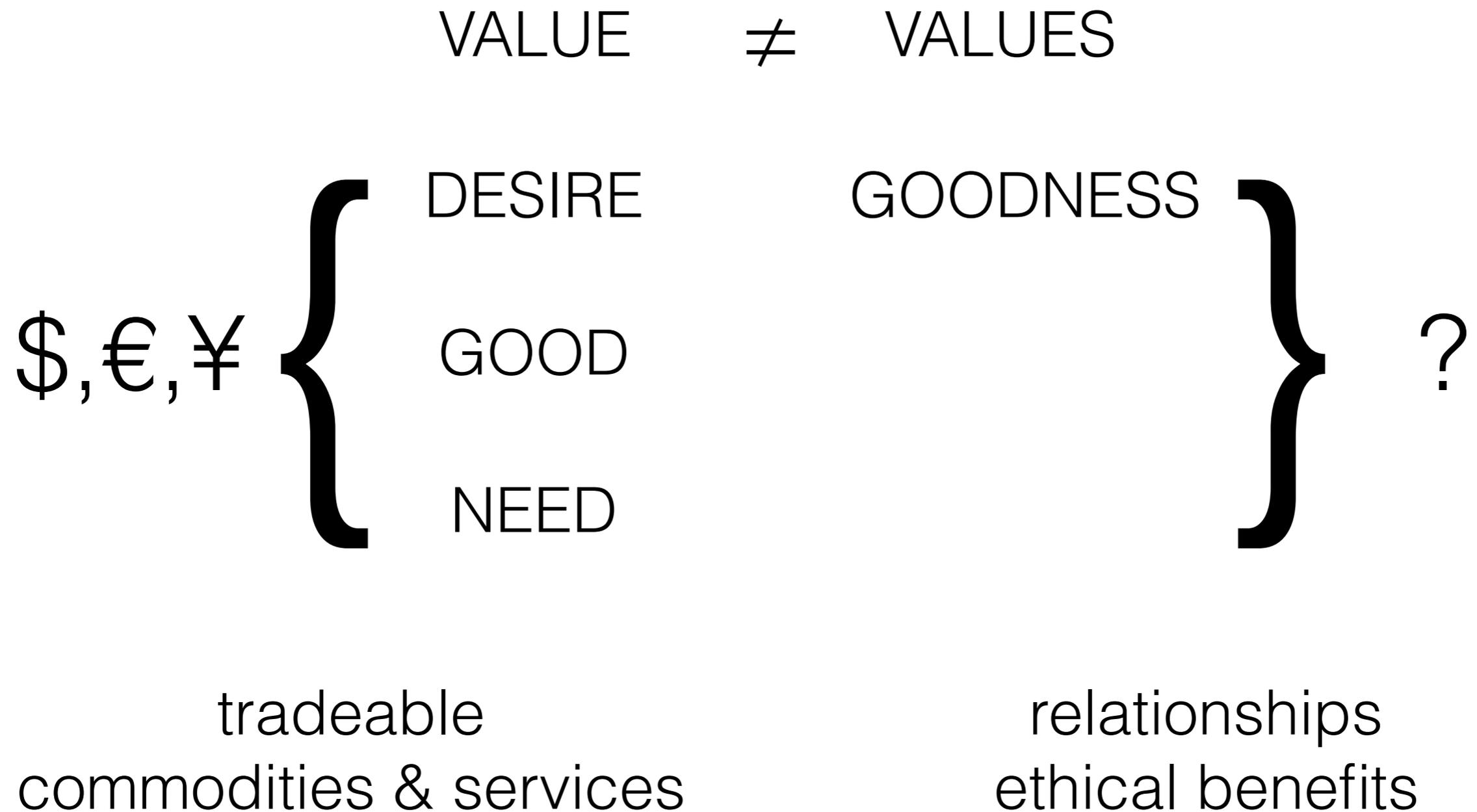
Ecosystem service	. . . is an ecological process/function	. . . is an ecological output/contribution	. . . is a human benefit
Insect pollination ^c	1	0	0
Climate-change reduction ^c	1	?	0
Soil formation ^c	1	1	0
Water supply	0	1	1
Food provision	0	1	1
Recreation (opportunity)	0	0	1
*Insect reproduction	1	?	0
*Photosynthetic release of oxygen ^d	1	1	1
*Profit from rising timber prices	0	?	1

^a1, qualifies; 0, does not; ?, may qualify in some situations.

new EVF

***test statements from authors**

Authors' proposition





other ways to think about value: an experience working with heritage collections

[From a 2012 presentation I gave on valuing archives and scientific collections]

Dépôt de E. CHATTON
UNIVERSITY OF CALIFORNIA
DEPARTMENT OF ZOOLOGY
BERKELEY

Dear Professor Chatton:

here are a few titles
be added to the list of papers on
which I sent to you a few days ago.
Kolacev is quite old, but it has been
Metcalf and Overbeek de Meyer; it seems
good work. A much older paper which I
is Carnoy's account of the mitosis
in a long article on arthropod cytolysis
volume of La Cellule; I have never
this. Schouten's study of 1937 includes
a Zelleriella sp. of the Engystoma hyper-
endamoebae. The papers of Fortner and of
Hefley are worthless; I am suspicious of his
identifications.

Sincerely yours,
John R. Mohr
John Luther Mohr

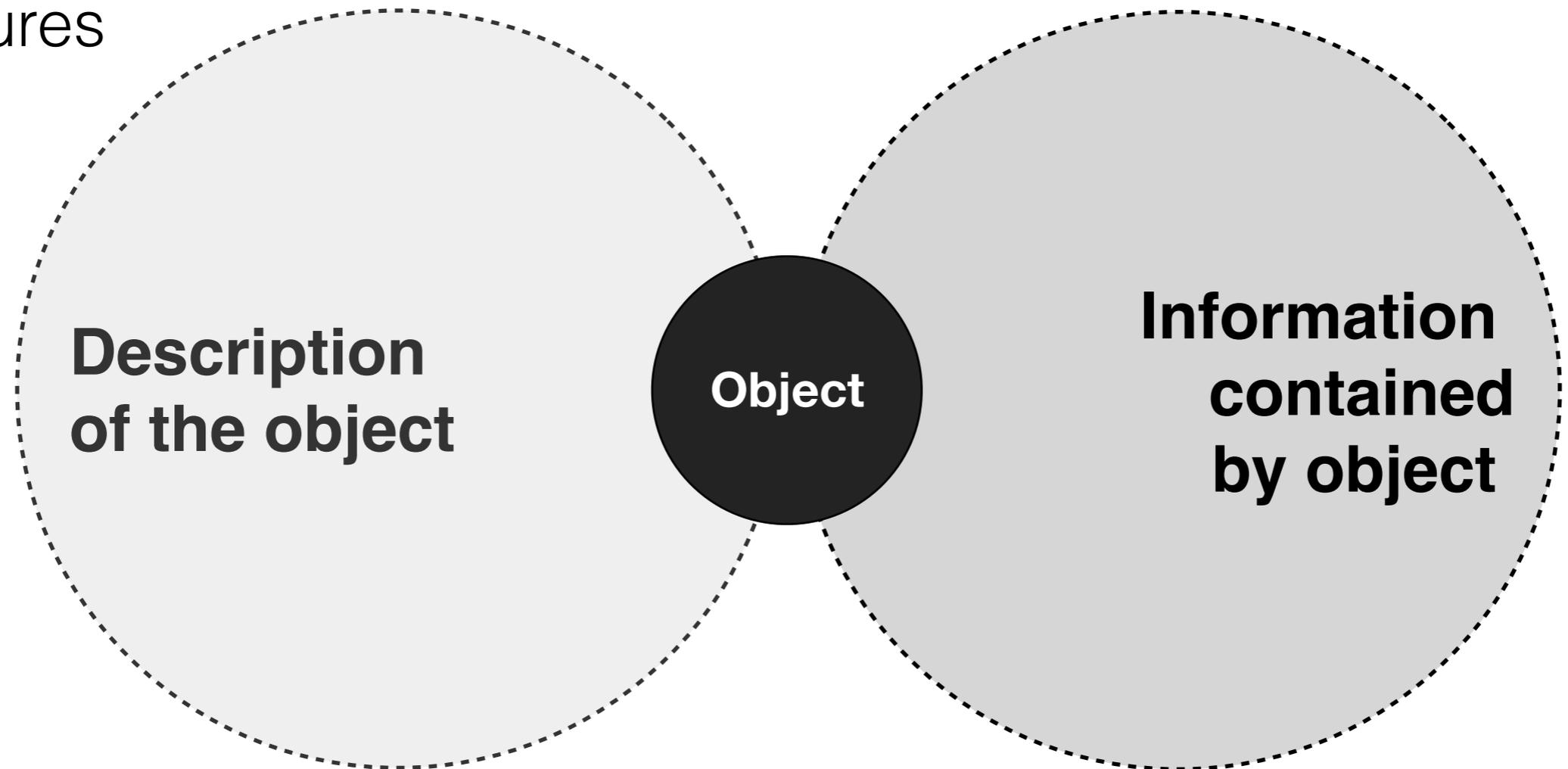
Value depends on what we think we know about something

T.P
B IV &
MOH
↓

T.P
B IV Q
PEN

CHARACTERISTICS

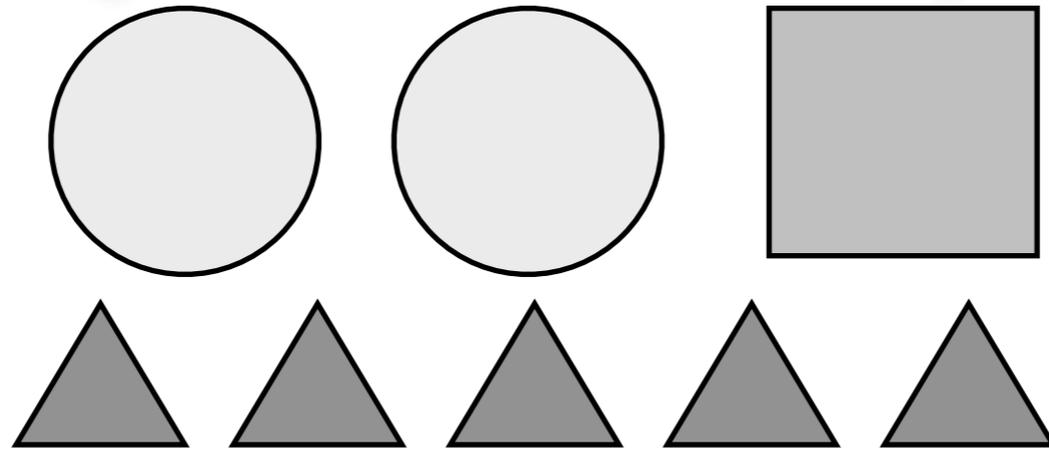
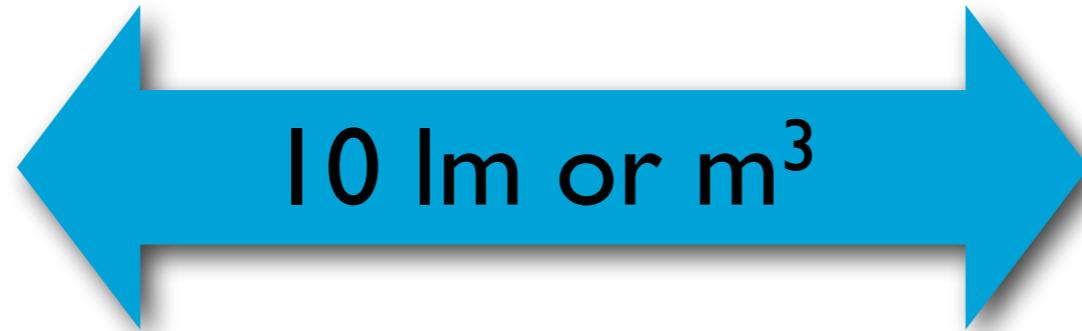
measures



CONTEXT
relationships

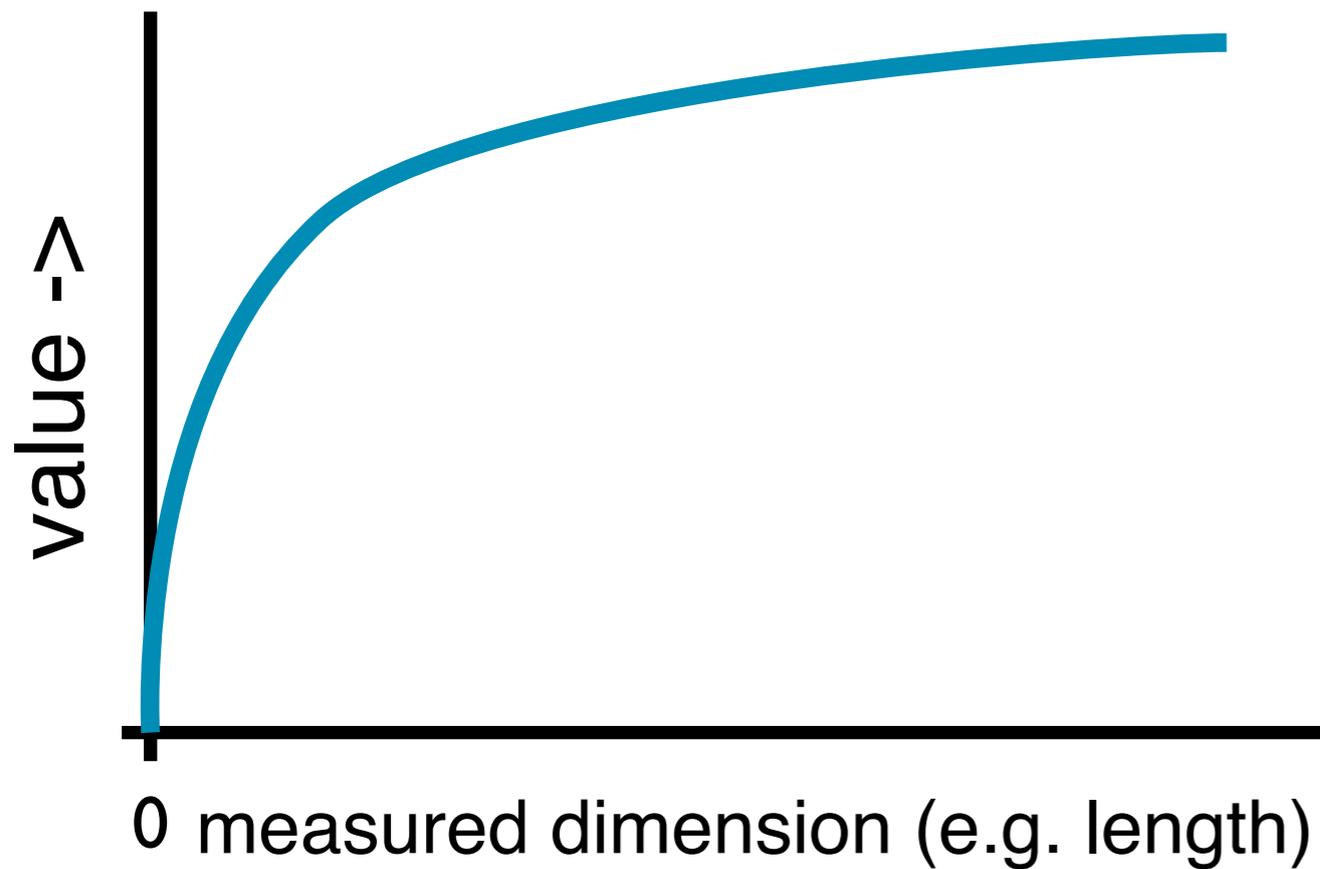
Different ways of estimating the value of heritage collections

By the amount of space it occupies

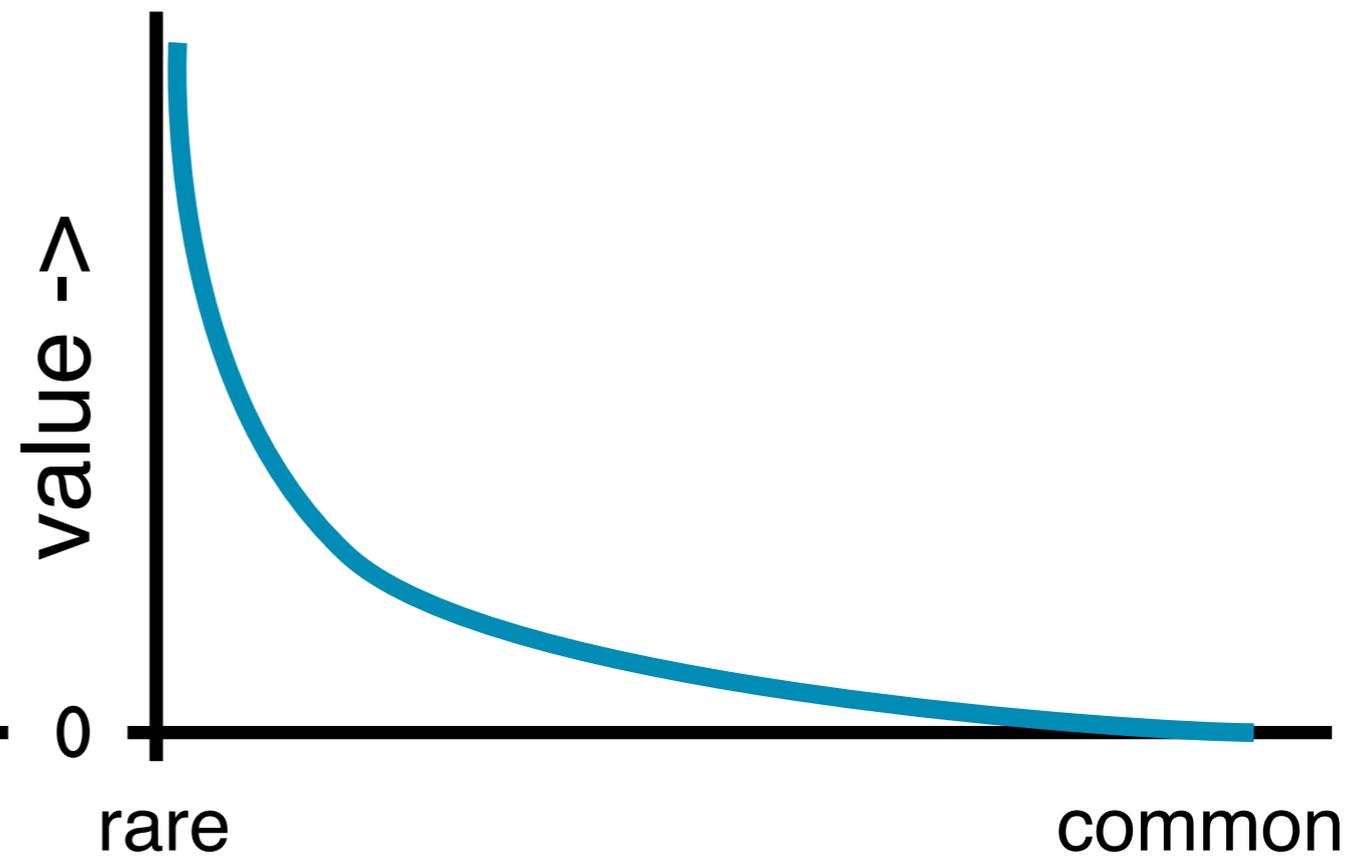


Entity	Abundance
object	8
collection	1
categories	3

Different ways of estimating the value of heritage collections

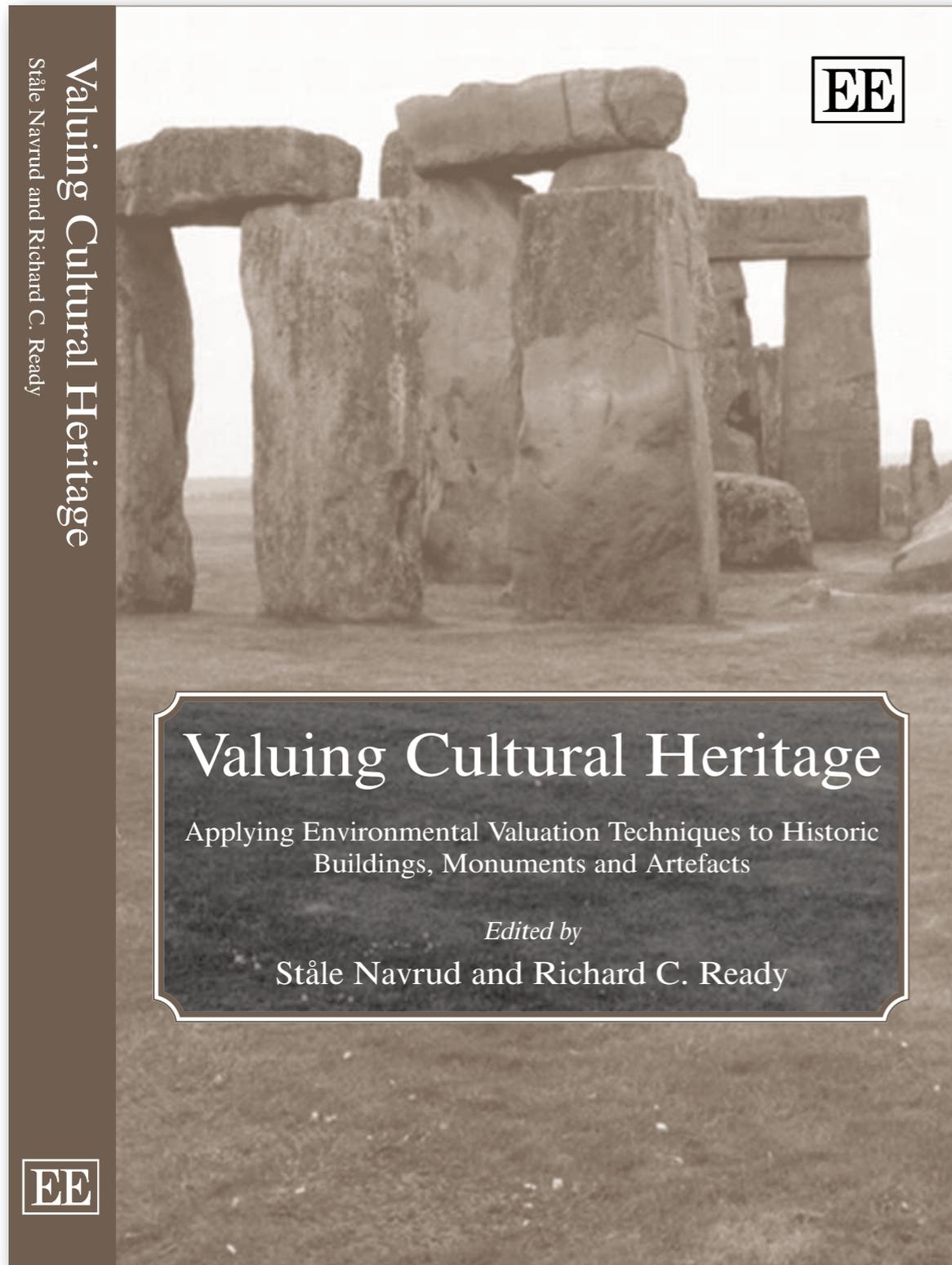


Value calculated from the sum of the number of occurrences of the object as represented by a dimension like weight or length



“Trophy” Value estimated from the number of occurrences of object (frequency)

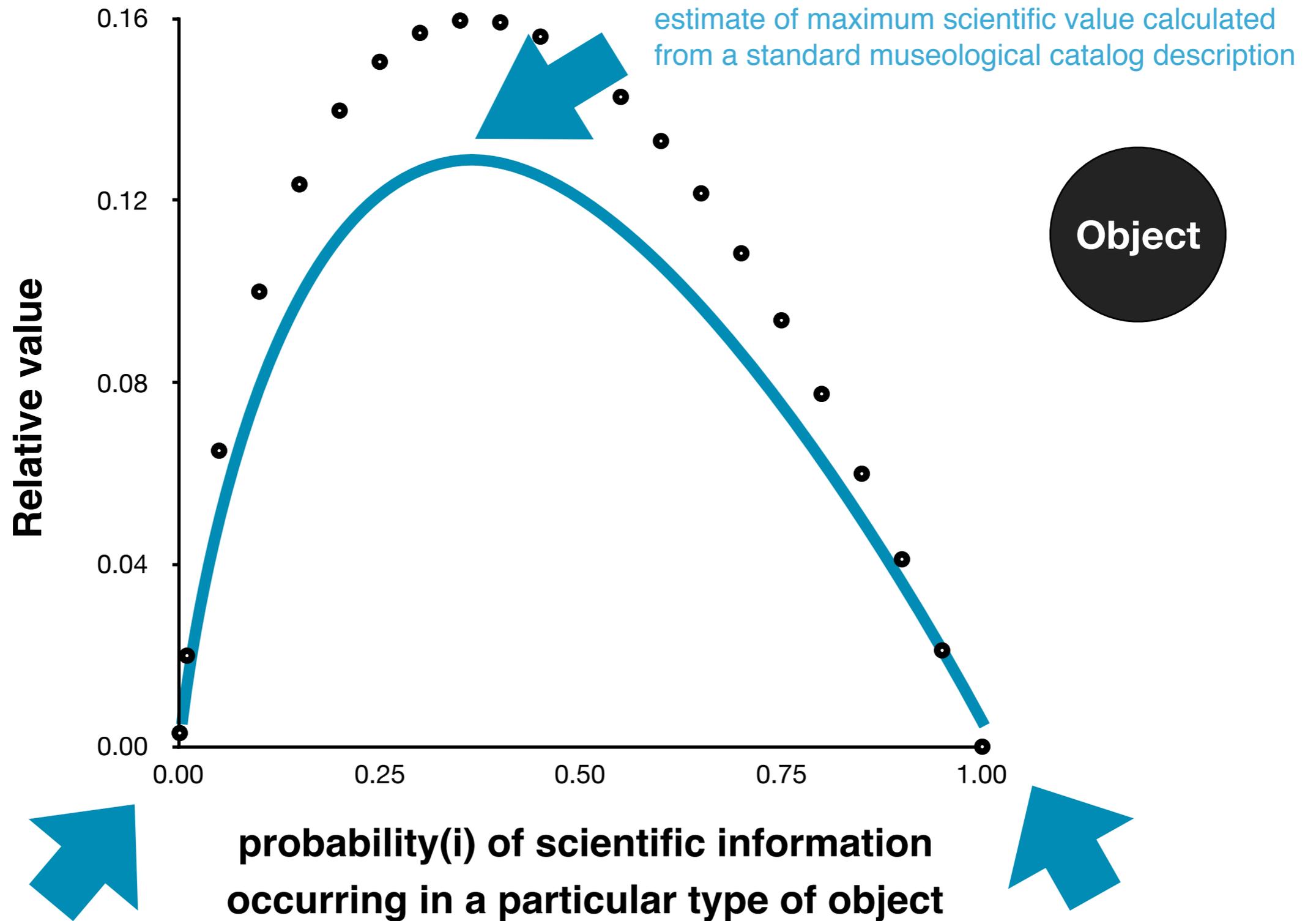
Different ways of estimating the value of heritage collections



Public Goods are evaluated based on the **Willingness-to-Pay** expressed by a population **For Access** to a good or service

Different ways of estimating the value of heritage collections

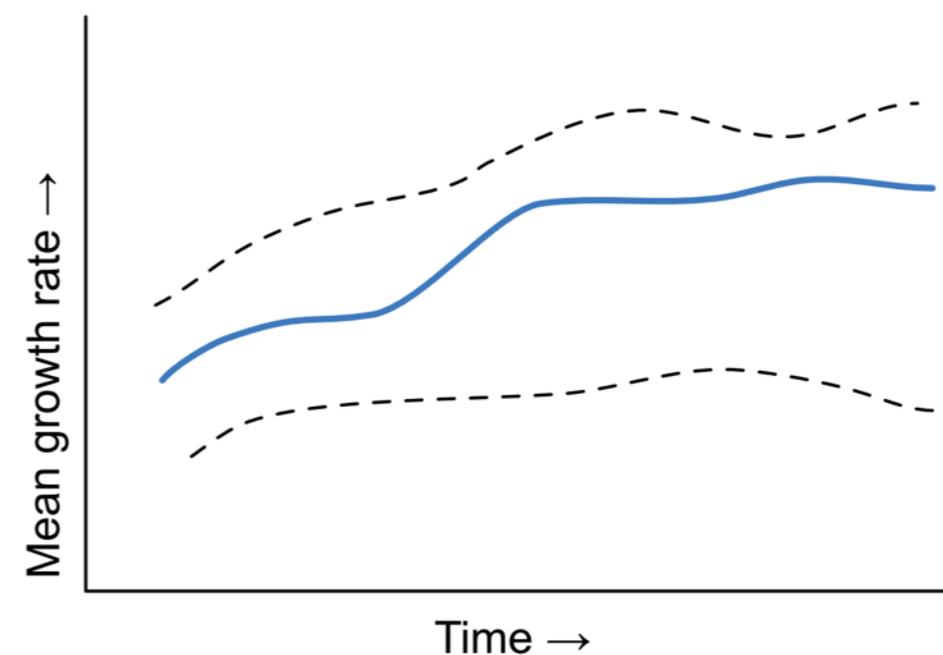
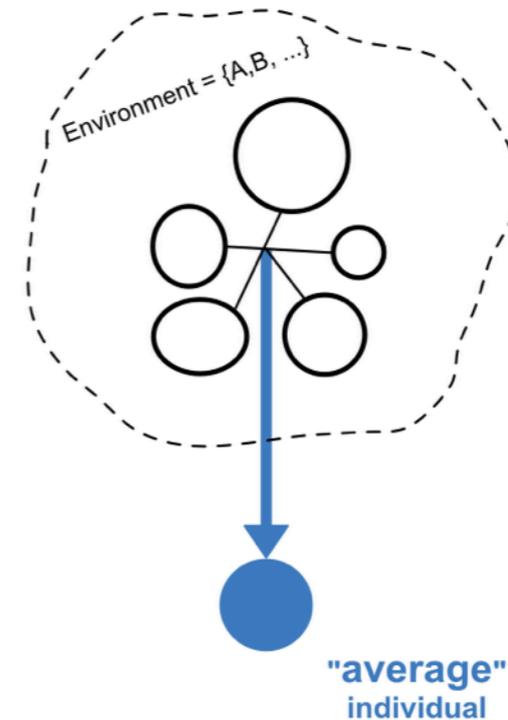
Application of the theory of information



Q. How to transfer epistemological advances between disciplines to “fit” with valuation schemes?

Ecology is the study of the interactions between organisms and their environment

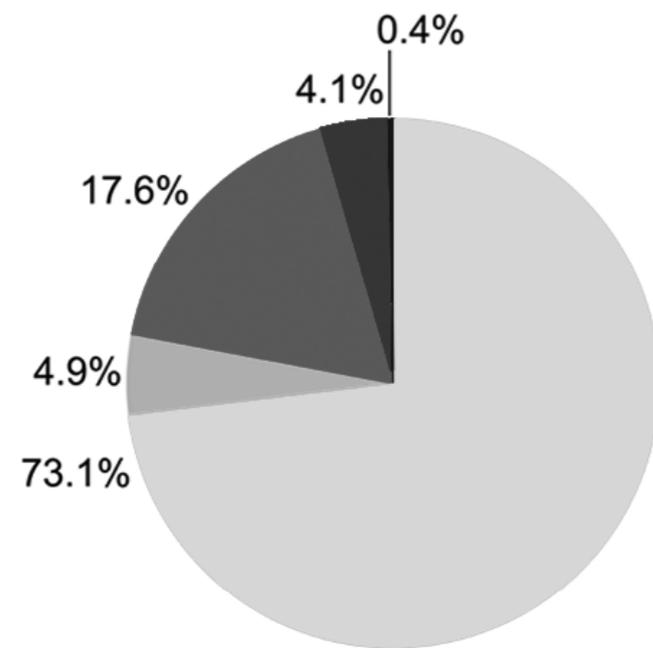
& over different spatial-temporal scales



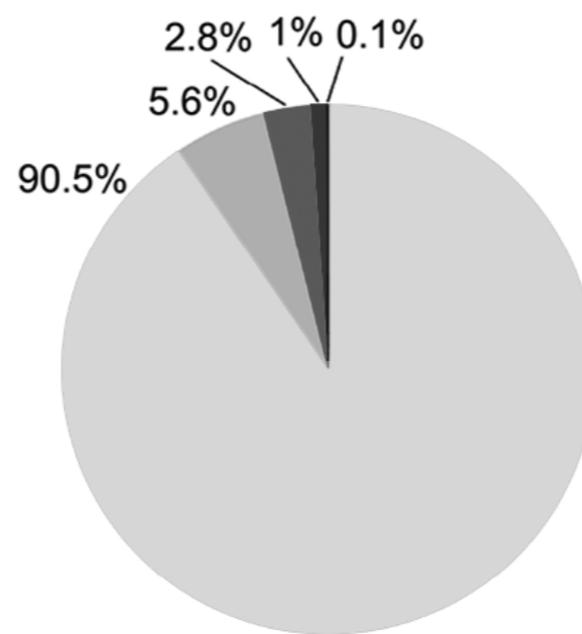
Q. How to transfer epistemological advances between disciplines to “fit” with valuation schemes?

ex. How many species are there on Earth?

**1.5 million species described
of 1 to 6 billion?**



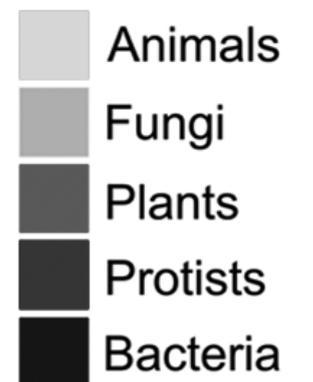
Wilson (1992)



Mora et al. (2011)



Larsen et al. 2017



and, in the past 25 years the “Tree of Life” has been transformed

Dépôt de E. CHATTON
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Sincerely yours,
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Which brings us back to the statement at the beginning: Value depends on what we *think we know* about something

T.P
B IV &
MOH
↓

T.P
B IV Q
PEN



Axe Indisciplinés

Histoire vécue:

Un exemple de programme de recherche sur l'histoire des services écosystémiques.

M. BONNIN

Le programme SERENA



- Un projet de recherche fondamentale issu de l'appel d'offre Systerra (2008) qui s'est déroulé de 2009 à 2013.
- Porté par 3 partenaires IRD, CIRAD et ISTEA
- Coordonné par P. Méral et D. Pesche
- Objectif : Analyse de l'émergence de la notion de SE (service environnemental ou écosystémique).



Des fiches repères pour l'action

- 12 fiches sur des thèmes variés
- Par exemple :
 - l'histoire du concept de SE,
 - Terminologies et classifications autour du concept de SE
 - Les SE dans les agendas internationaux
 - Les paiements pour SE
 -

Figure 3. Distinction entre service écosystémique et service environnemental

	Service Écosystème	Service Environnemental
Champ d'analyse/ Discours soutenu	Dépendance des humains vis-à-vis des écosystèmes	Problèmes d'environnement peuvent se résoudre par le marché
Représentation des relations nature-société		

Source : Rives (2013).



12 fiches pour comprendre et agir



8

**SERVICES ÉCOSYSTÉMIQUES
ET AIRES PROTÉGÉES**



- Fiche
- Chapitre d'ouvrage
- Communication dans un congrès international (Dope, Lexington, USA 2013).



The influence of Ecosystem Services on Protected Areas: a Social-Network Analysis

Rodary Estienne, Bonnin Marie,
Bidaud Cécile, Méral Philippe

Institut de Recherche pour le Développement (**IRD**), France

DOPE 2013, Lexington, february 28 -march 3, 2013

invaluable
*Valuations, Markets and Policies for
Biodiversity & Ecosystem Services*

IRD
Institut de recherche
pour le développement

Introduction

- Ecosystem Services as a strategic goal for biodiversity :
 - Global Strategy for Biodiversity (CBD CoP10, 2010)
 - New IUCN definition of PA, (2008)
 - Strategy for biodiversity conservation for European Union (2010)
- A study on the diffusion of ES in biodiversity conservation policies through an actor-oriented analysis based on
 - Analysis of literature
 - Interview



Two fields through which ES are being mainstreamed into conservation policies



- 1. The economic argument developed around ES in PA**
2. ES as an argument for new prioritization strategies : ES vs Biodiversity to map AP

ES as a last step in the economy of conservation

1. The Economy of PAs before ES
 - Economic arguments became an ancillary to ethical and ecological arguments in favor of wildlife conservation as a mid-XXth century.
2. The 90's : Diversification of Economic Mechanisms
 - PP partnership for bioprospection, contractualization of parks, commercialization of knowledge
3. SE, a new way to justify PAs
 - Lobbying role, new sources of funding
(Bishop and Emerton, 2005)





Two-fields through which ES are being mainstreamed into conservation policies

1. The economic argument developed around ES in PAs
2. ES as an argument for new prioritization strategies : ES vs Biodiversity to map PAs

Critical ecology of ES in PAs

1. Studies do not confirm a close correlation between strong ES areas and priority areas of conservation (Chan and al., 2006; Naidoo and al, 2008, Turner and al, 2007; Larsen and al. 2011).
2. These results reveal the complexity involved in articulating the two objectives on the same type of space.
3. ES diversify the objectives of PA but also justify an increase in their number (Herr, Pidgeon and Laffoley, 2011).
4. Link between ES and PAs also associates questions of institutional coordination.





Two levels of analyses
which allow to
distinguish
three main categories
of conservationist
positions

3 categories



Positivists



Tacticians



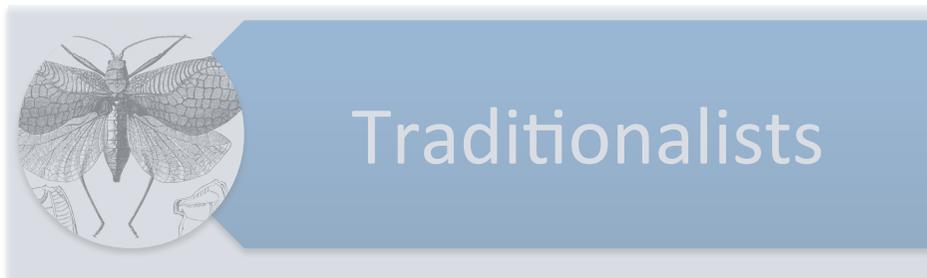
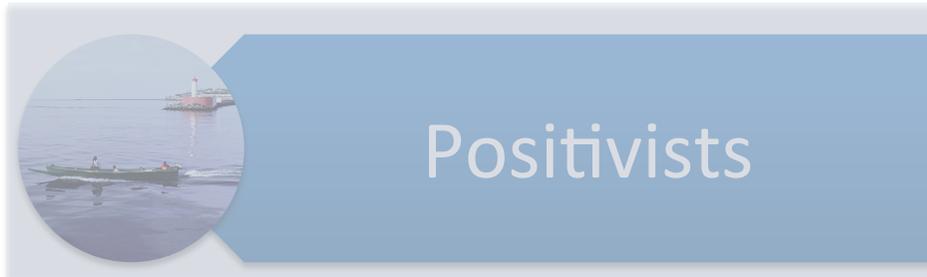
Traditionalists

- recognize the power of the concept
- maintain a biodiversity focus

Emergence of ES = a legitimization of their approaches and tools

Examples : Tuner and al, 2007 and 2012, WRI, PNUE, UNESCO...

3 categories



- identify ES as a practical tool
- are not shocked by the shift that has taken place towards economics.

Emergence of ES = multiple advantages

(Carter Ingram et al. 2012; Goldman and Tallis, 2009)



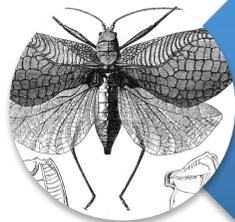
3 categories



Positivists



Tacticians



Traditionalists

- are skeptical about the use of the concept
- insist on the risks of ES being integrated into markets .

**Emergence of ES =
commodification of
biodiversity**

(Redford and Adams, 2009; Brockington, 2012, Robertson, 2006)



Thank you

