



Dealing with the social complexity of
environmental conservation :
Challenges of interdisciplinary and
stakeholder-involving research

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Outline

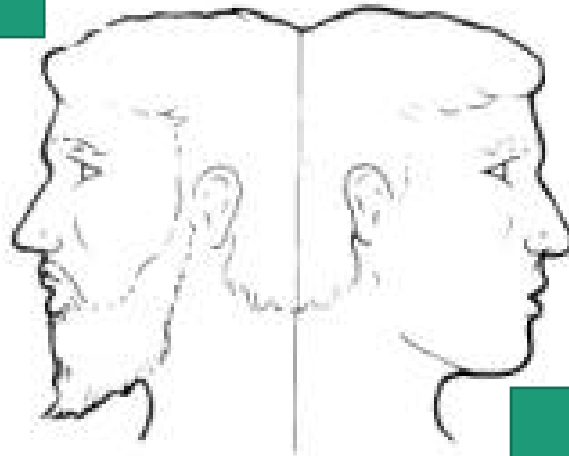
1. What social complexity do we have to deal with?
2. How can transdisciplinary research deal with it?
3. What are the challenges of this type of research?

What social complexity? The case of ecosystem services (ES)

- Ecosystem Services : a « taken for granted » concept
- Neglect of uncertainties and controversies

Ready made science

Stable knowledge
Consensus



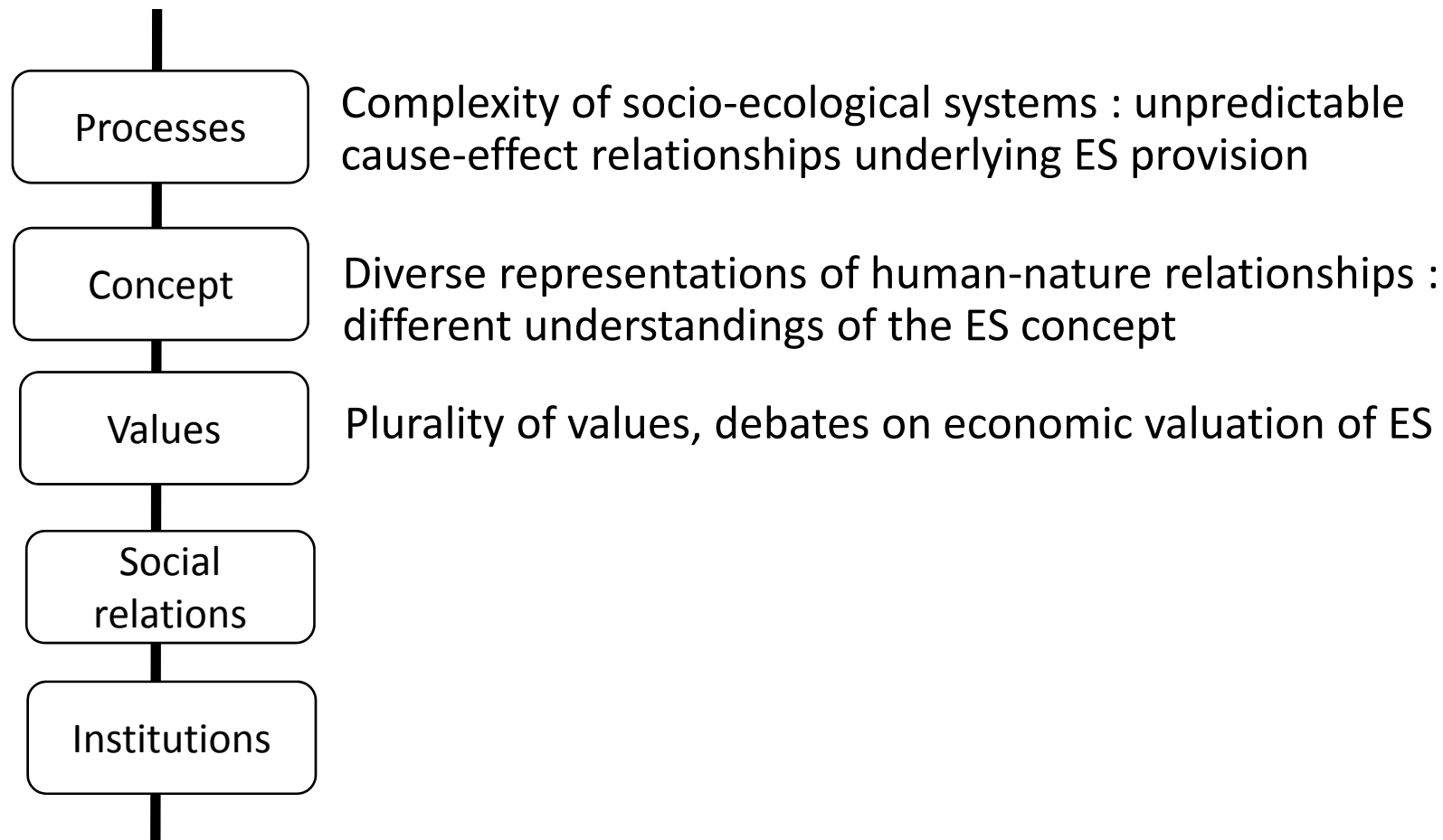
Uncertainties
Controversies

Science in the making

Latour (1987)

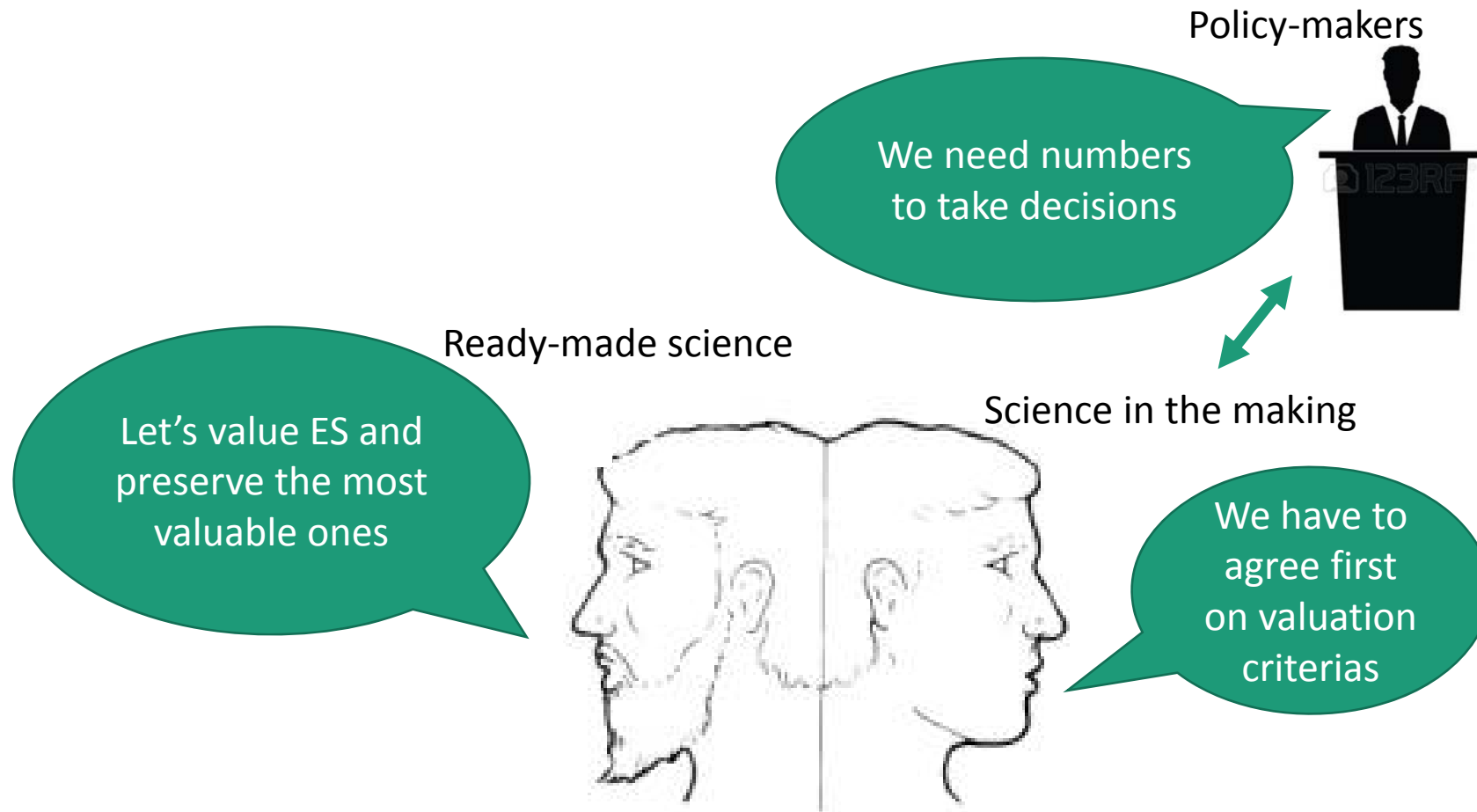
Barnaud & Antona (2014). Deconstructing ecosystem services : uncertainties and controversies around a socially constructed concept. *Geoforum*

Uncertainties and controversies around ES



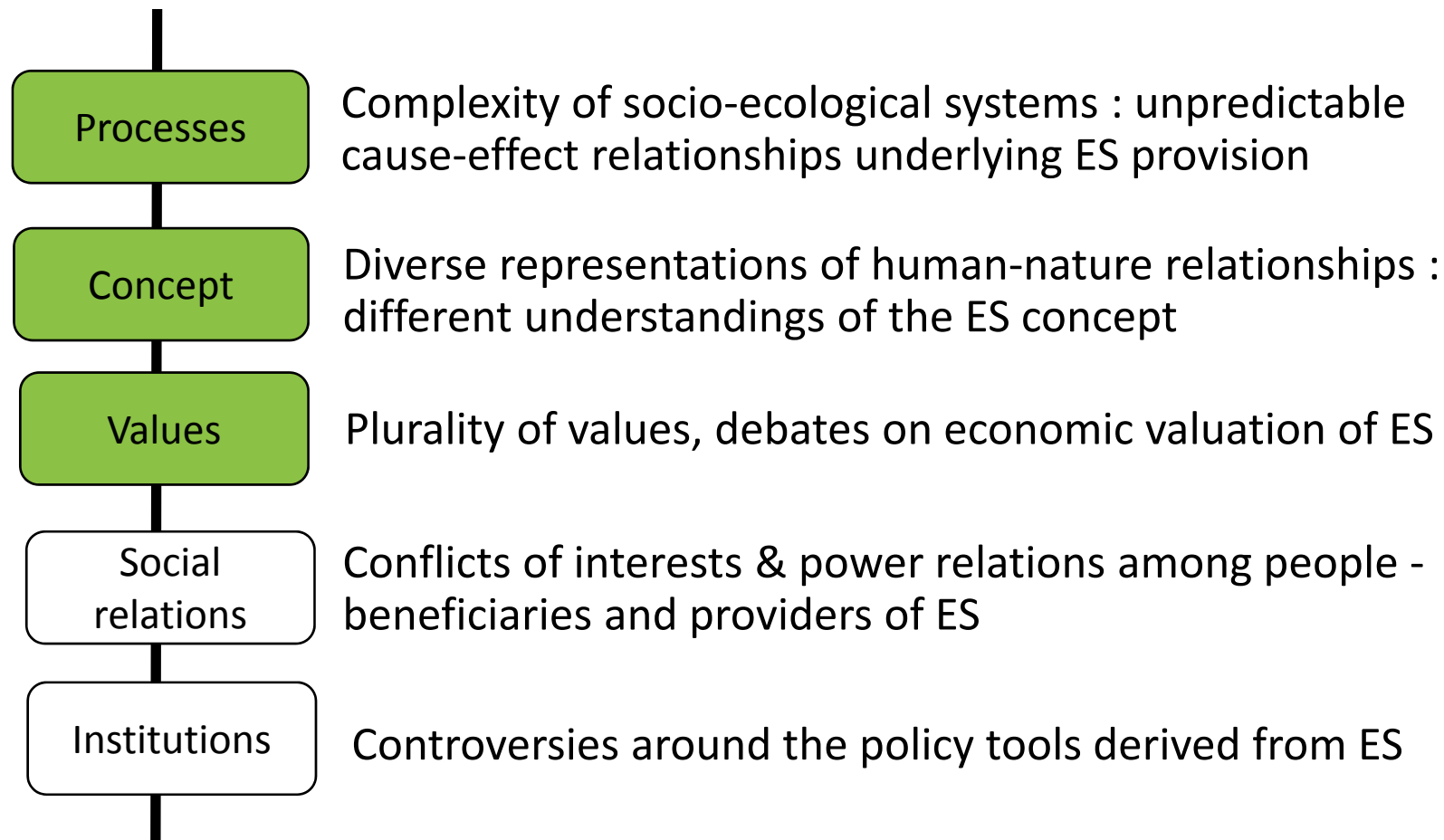
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Plurality of values. Ex : debates on economic valuation of ES

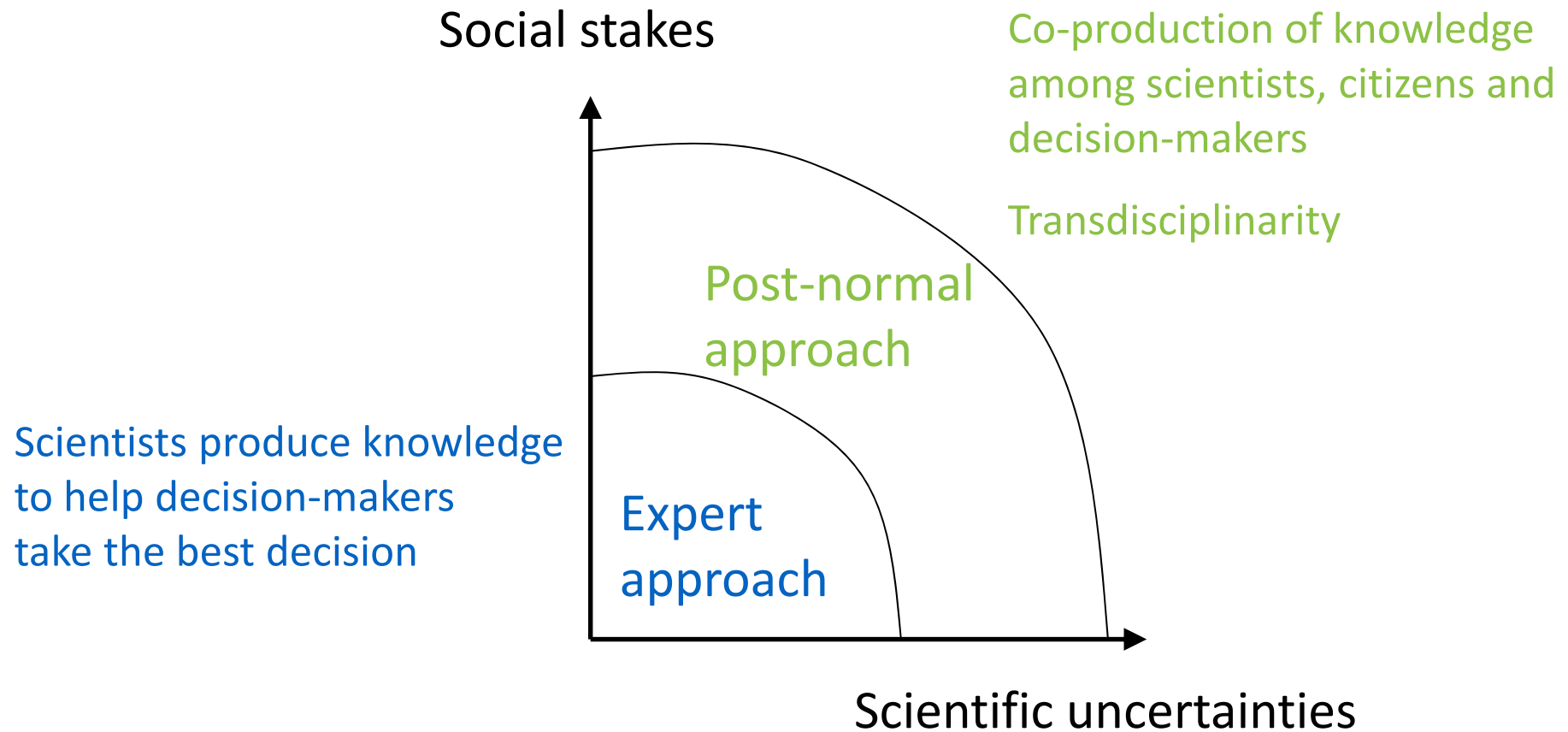


Adapted from Latour (1987)

Uncertainties and controversies around a ES, a socially constructed concept



How to deal with this social complexity?



What is transdisciplinarity?

Interdisciplinarity = multiple disciplines

Transdisciplinarity = multiple disciplines + stakeholders

Included in the whole research process (Roux et al. 2010)

- Mutual learning among diverse groups (Cundill et al. 2015)



Co-production of action-oriented & innovative knowledge

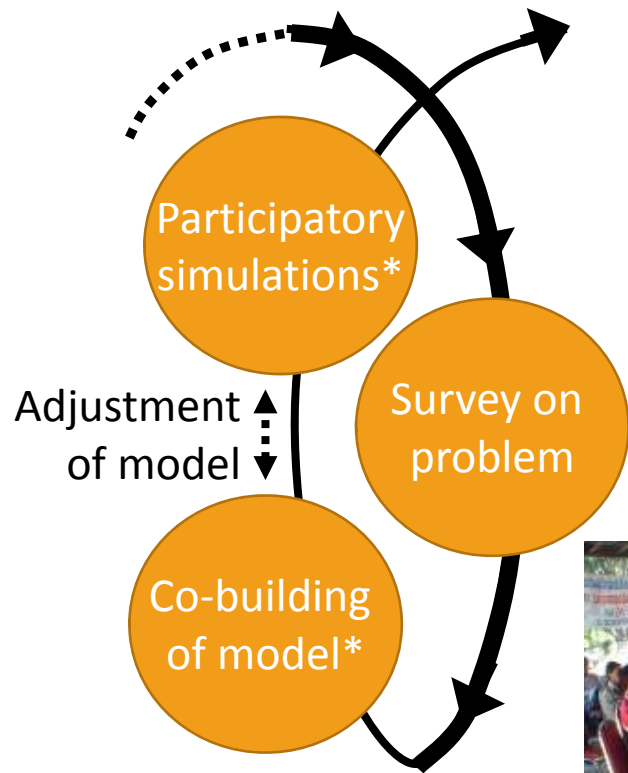
- Combining diverse types of knowledge (situated, scientific..)
- System thinking : awareness of interdependencies (Mathevet & Bousquet, 2014)
- « Out of the box » thinking: explore innovative paths (Berthet et al. 2015)



Accompany collective decision making in socio-ecological systems

- Social learning (Röling 2002)
- Integrative negotiation (Leeuwis 2004)
- Adaptive management (Lynam et al. 2010)

An example of transdisciplinary research: the Companion Modeling (ComMod) approach



* Role-Playing Games



* Agent-based models



ComMod

www.commod.org (Barreteau et al. 2003; Etienne 2014)

(Barnaud et al. 2008, 2010, 2013)

Challenges of transdisciplinary research

Intrinsic

Vertical

Horizontal

Challenges for implementing transdisciplinarity

Intrinsic

Vertical

Horizontal

- The ambiguity of participation (D'Aquino, 2007)
 - ➔ Ensure it is in participants' interest to participate
- The « participants » : a common-pool resource for participatory research (Barreteau et al. 2010)
 - ➔ Formulate clear and realist objectives

Challenges of transdisciplinary research

Intrinsic

Vertical

Horizontal

- Local results « only »?
 - Generic *versus* situated knowledge
 - Upscaling issue

➔ Design multi-level participatory methods (D'Aquino & Bah, 2014)

➔ Insert participatory processes in institutional contexts

- Build partnerships. Ex : Biosphere Reserves (MAB, UNESCO)

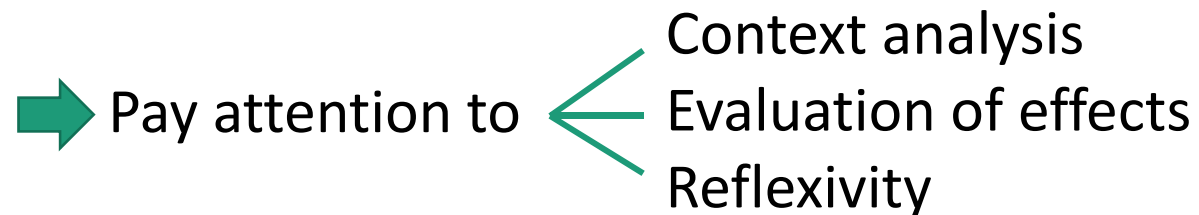
Challenges of transdisciplinary research

Intrinsic

Vertical

Horizontal

- Power matters : results serving the powerfull's interests?
- A dilemma : neutrality or non-neutrality? (Barnaud & Van Passen 2013)

➔ Pay attention to 

- Context analysis
- Evaluation of effects
- Reflexivity




Conclusion

« Une connaissance non simplifiante pour une action non mutilante »
- Edgar Morin, 1977 -*

* Non-simplifying knowledge for non-mutilating action

Thank you for your attention!

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