

Polyocular and hybrid communication

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Forms of hybridity

- Hybrid-1: Hybrid institutions – (macro-)organizations that span across different function systems: e.g. central banks
- Hybrid-2: Hybrid phenomena – phenomena that fall between function systems (or internally differentiated sub-systems): e.g. power, derivative instruments
- Hybrid-3: Hybrid phenomena – phenomena that become visible as hybrid because they cannot be contained within a single perspective: e.g. mediation in the legal system
- Hybrid-4: Hybrid situations – units that don't fit, or are a mix of, the recognized forms of social systems: e.g. classroom
- Hybrid-5: Hybrid communication – communication that draws on different semantics or functional systems: e.g. in organic food chains; art and entrepreneurs (semantics)
- Hybrid-6: Hybrid object or problem – a complex object or problem that can only be observed by using multiple perspectives: e.g. “wicked” problems

Points we would like to discuss with you (as a means to focus your attention)

- Hybrid communication is a non-reflective communication across perspectives
- Hybrid problems are problems that cannot be addressed adequately from one perspective
 - they only become visible as a result of this inadequacy
 - a problem entails a solution and vice versa (problems and solutions are perspectival)
 - “wicked” problems are an example of hybrid problems
- Hybrid communication is problematic (not adequate in front of wicked problems in crossdisciplinary research)
- There is a need for a second order perspective and what we call polyocular communication

Forms of differentiation in our work

- Differentiation and focusing of scientific perspectives
- Internal differentiation of function systems such as law
- Differentiation and specialisation of organizational systems

Two articles sent for the conference on Hybrids

Second-order science of interdisciplinary research: A polyocular framework for wicked problems. (For special issue on Second-order science in Constructivist Foundations)

Regulation of Agroecosystems: A social systems analysis of Agroecology and Law. (For book on Law and Agroecology)

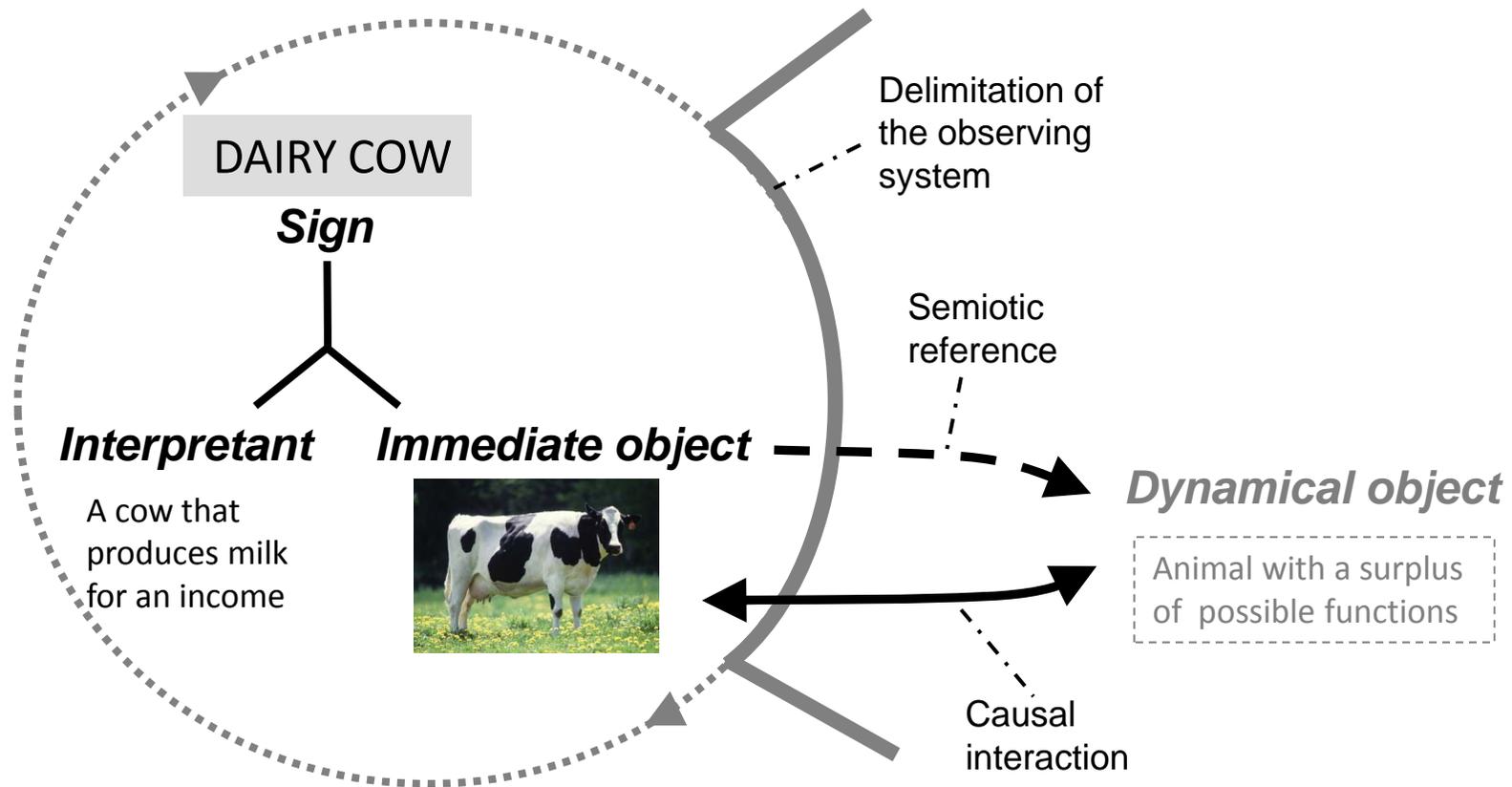
Principles of second order science of interdisciplinary research

Based on experiences from large interdisciplinary research projects and a perspectivist theory of science.

Second-order science of interdisciplinary research must:

1. draw on the observations of first-order perspectives
2. address a shared dynamical object
3. establish a shared problem
4. rely on first-order perspectives to see themselves as perspectives
5. be based on other rules than first-order research

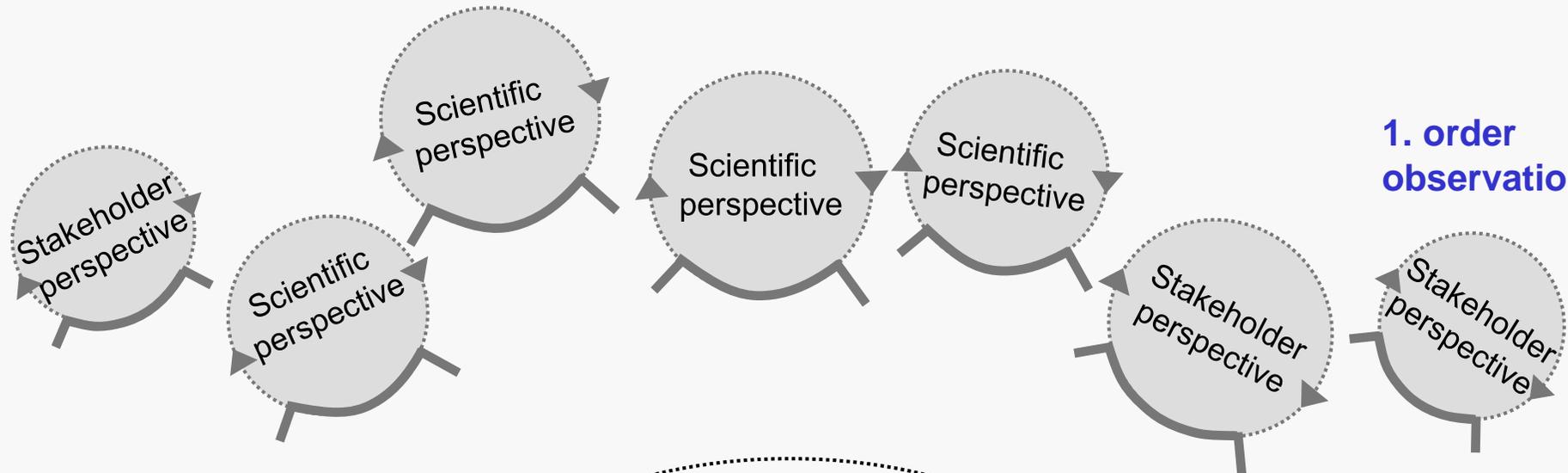
Semiotic and autopoietic model of a scientific perspective



Polyocular communication

Observations of observations made by the different perspectives

2. order observation



1. order observation

Dynamical object

0. order observation

Three pivotal phases of polyocular research

Phases:	1 – Shared problem	2 – Shared research	3 – Shared solution
2. order	Polyocular problem making <i>(addressing the wicked problem)</i>	Polyocular synchronization <i>(addressing the mosaic of phenomena)</i>	Polyocular understanding <i>(addressing the plethora of solutions)</i>
1. order	Perspectival descriptions <i>(self-descriptions, immediate problems)</i>	Perspectival observations <i>(immediate objects)</i>	Perspectival implications <i>(immediate solutions)</i>
0. order	Shared dynamical research object	Unfolding dynamical objects	Dynamical change and transition

Regulation of agroecosystems

Two main challenges for agroecological regulation

- The regulation of a certain aspect often does not lead to the intended outcomes
 - all regulation of autopoietic systems depends on self-regulation
- Regulation of one aspect often leads to unforeseen and unwanted side effects regarding other aspects.
 - this leads to an exponential growth in positive law on agriculture and environment
 - there is a need for a second order platform of agroecological regulation

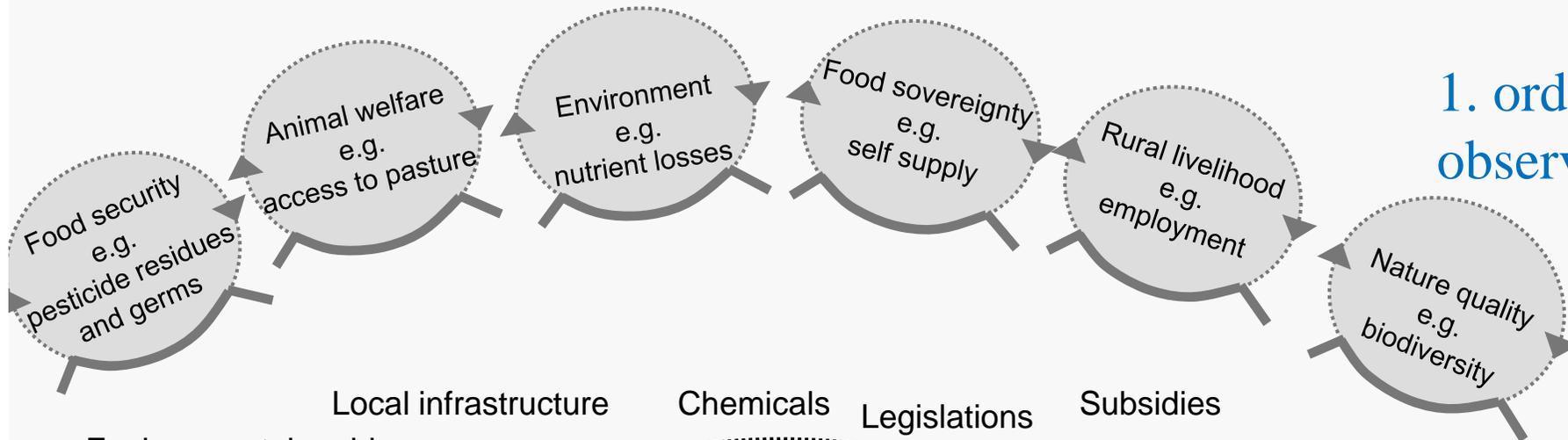
Agroecology

Observations of observations made by the single perspectives on sustainable agroecosystems

2. order observation

1. order observation

0. order observation



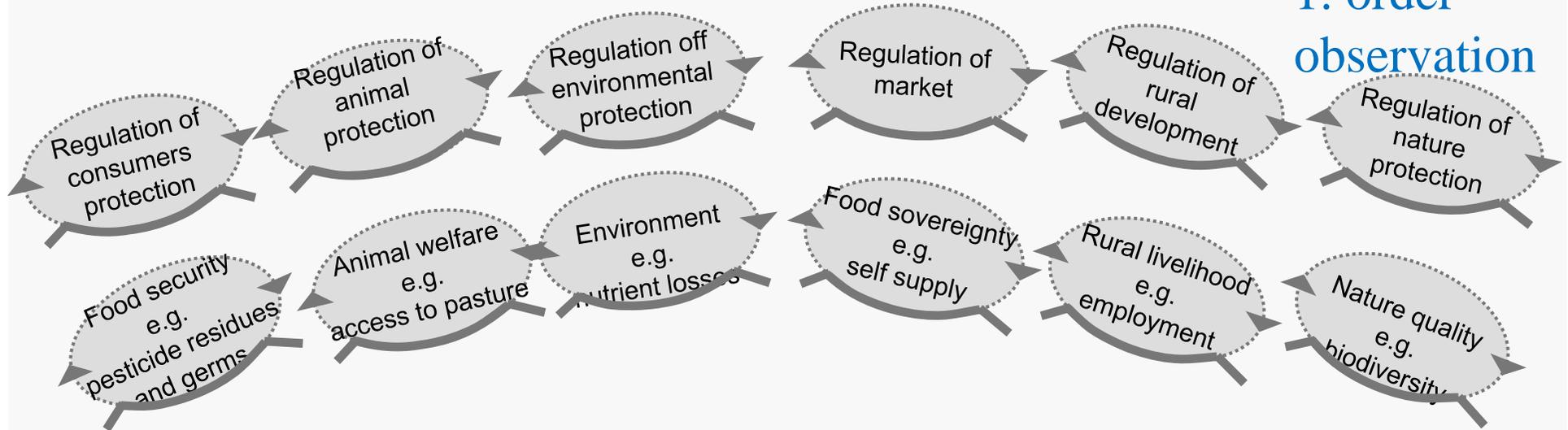
Forms of Regulation	Examples of measures	System reactions		Pros	Cons
		System logic	System values		
Legal injunction / prohibition	Green catch crops	The effect of the catch crop is very dependent on how the system is organised. If the rationale is not shared, the reaction can be contrary	Systems values plays only an indirect role	Possible to control	The real effect unknown and the side effect to the system unpredictable
Incitements: Taxes / subsidies	Pesticides tax	The sensitivity to taxes is dependent on both the values and logic of the system		It regulates directly on the target; less disturbance of the autopoiesis of the agroecosystem	High taxes to make all agroecosystems react. Leads to permanent dependence on taxes
Normative: Campaigns / information	Voluntary agreement on pesticide reduction	Will only be a part of the system's logic if it becomes incorporated in the system's values	Sensitivity is very dependent on values, some react very strongly in the intended direction while others react against	Cheap and little control. Co-constructive with the autopoiesis of the systems	Save the saved, agroecosystems that do not share the intention behind the campaign may react contrary

2. order observation

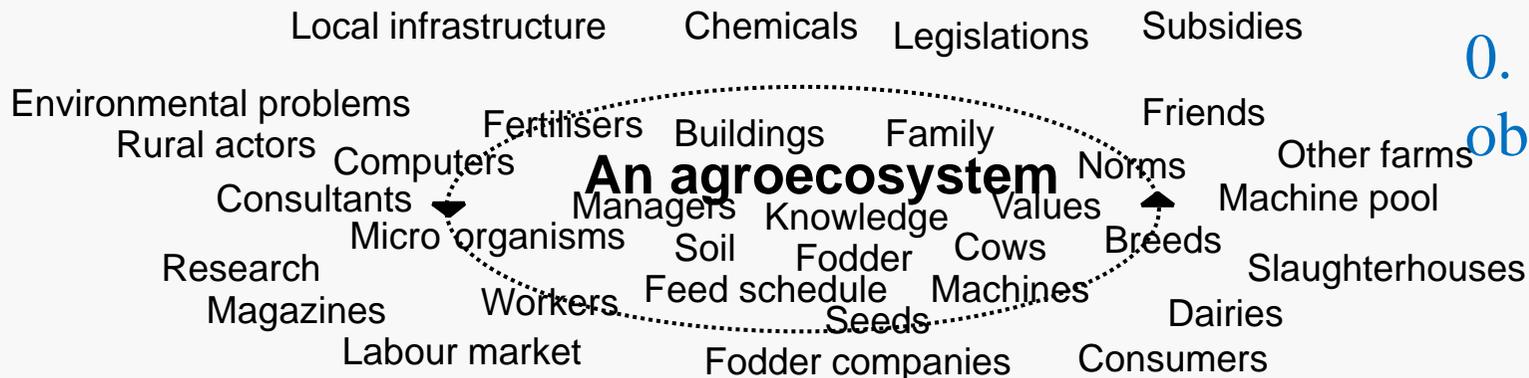
Agroecological regulation

Observations of observations made by the single perspectives on sustainable agroecosystems

1. order observation



0. order observation



Themes for discussion - based on our conclusions

- Hybrid communication is a non-reflective communication across perspectives
- Hybrid problems are problems that cannot be addressed adequately from one perspective
- Hybrid communication is problematic (not adequate in front of wicked problems in crossdisciplinary research)
- There is a need for a second order perspective and what we call polyocular communication
- Can hybrids be used as stepping stones to identify blind spots and work with multiple perspectives in polyocular communication?