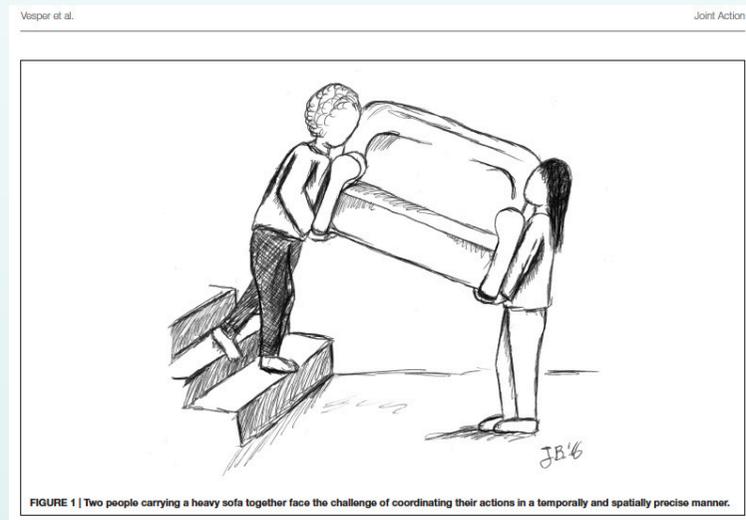




Interdisciplinarity and the Challenge of Diversity - integration and the lack of pluralism in academia



Dr. Machiel Keestra, Institute for Interdisciplinary Studies, UvA
Münchenwiler seminar, Uni Bern, online May 7, 2021

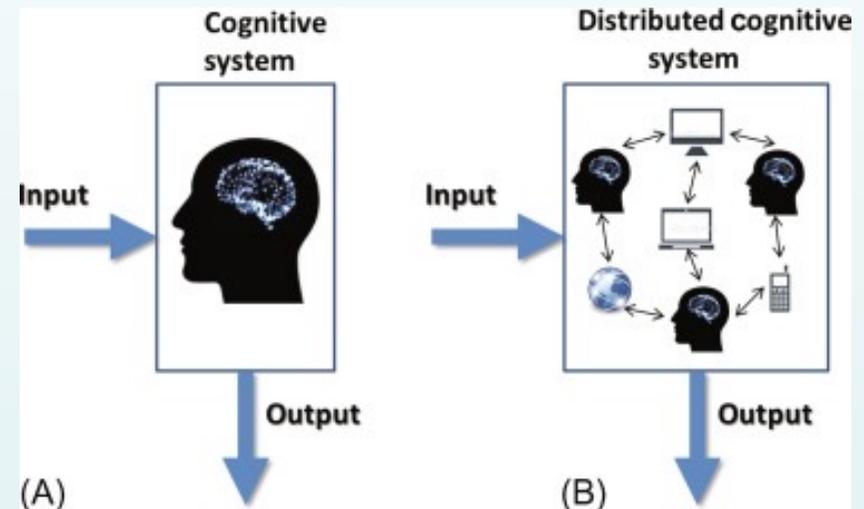


Joint action and joint cognition: recognizing and building upon differences



Bratman on joint action:

- shared goal
- separate purposes/aims
- meshed plans
- acknowledging differences re actions and goals/norms
- some stability is necessary



Pluralism is required!

(cf. Bratman, 1992; 2007 Structures of Agency; Keestra 2014 Sculpting the Space of Actions; fig. Vesper e.a., in Front. Psych. 2018; Hutchins 2000, fig. D'Angelo 2018;)

Interdisciplinarity - Integration as defining characteristic



“Interdisciplinary research is a mode of research in which an individual scientist or a team of scientists integrates information, data, techniques, tools, perspectives, concepts, and/or theories from two or more disciplines or bodies of specialized knowledge, with the objective to advance fundamental understanding or to solve problems whose solutions are beyond the scope of a single discipline or area of research practice.”

(Nat. Academies of Science, 2005; in Menken & Keesstra, eds., Introduction to Interdisciplinary Research, 2016)

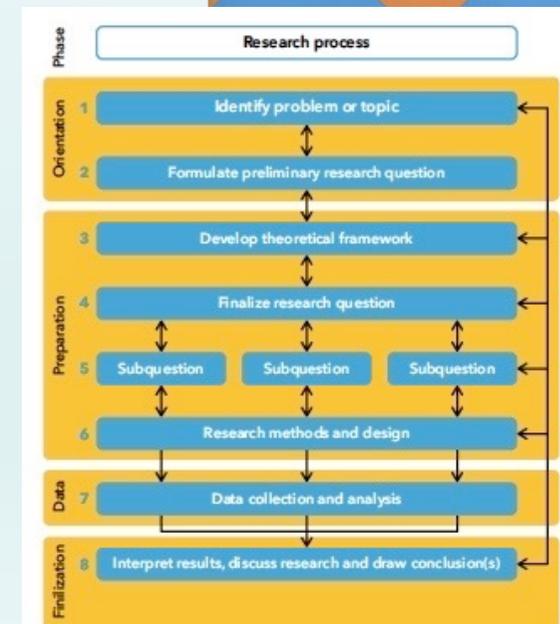
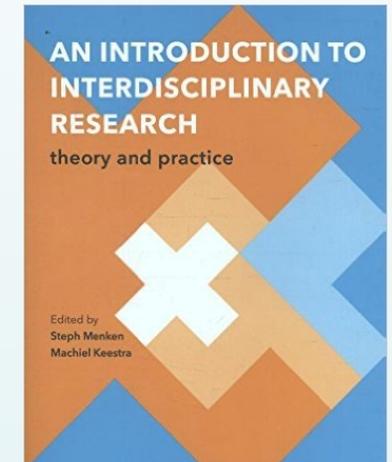


Figure 9 The IIS model for interdisciplinary research

Unification as longstanding implicit epistemological goal - now replaced by pluralism



“Still, all interdisciplinary activities are rooted in the ideas of unity and synthesis, evoking a common epistemology of convergence.”

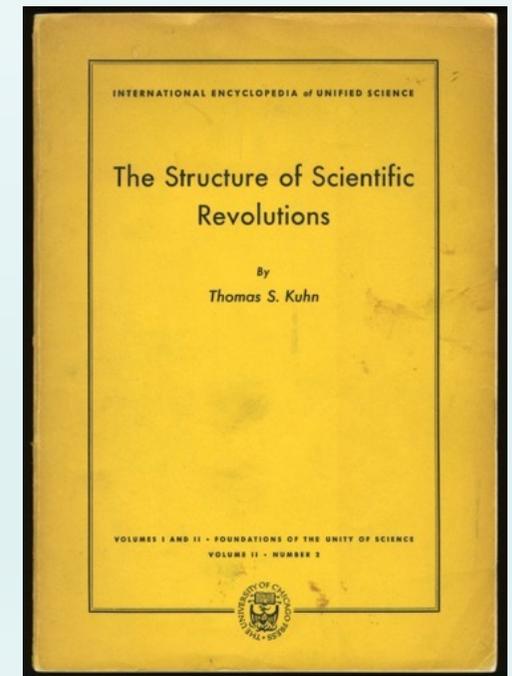
(Klein, *Interdisciplinarity: History, Theory, and Practice*, 1990, p. 11; Cf. Micro-reduction table from Oppenheim & Putnam, 1958; Kuhn’s *Structure of Scientific Revolutions*, published in *International Encyclopedia of Unified Science*, 1962)

The accompanying list gives the levels we shall employ;¹⁰ the reader may verify that the six conditions we have listed are all satisfied.

- | | | |
|---|-------|-------------------------------|
| 6 | | Social groups |
| 5 | | (Multicellular) living things |
| 4 | | Cells |
| 3 | | Molecules |
| 2 | | Atoms |
| 1 | | Elementary particles |

Any whole which possesses a decomposition into parts all of which

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Now: pluralism of (explanatory) perspectives, in search for robustness



Robust property = stable under variable conditions

Robust knowledge = valid from independent (explanatory) perspectives

(Fig. Kitano 2004; Menken & Keestra 2016)

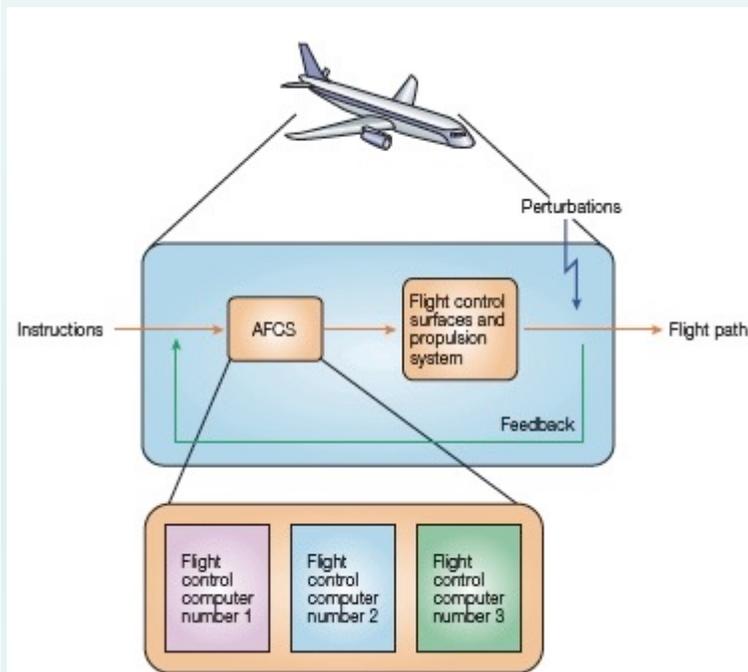


Figure 2 | Explaining robustness – the aeroplane example. The concept of robustness

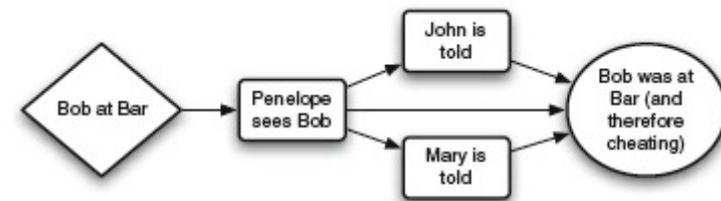
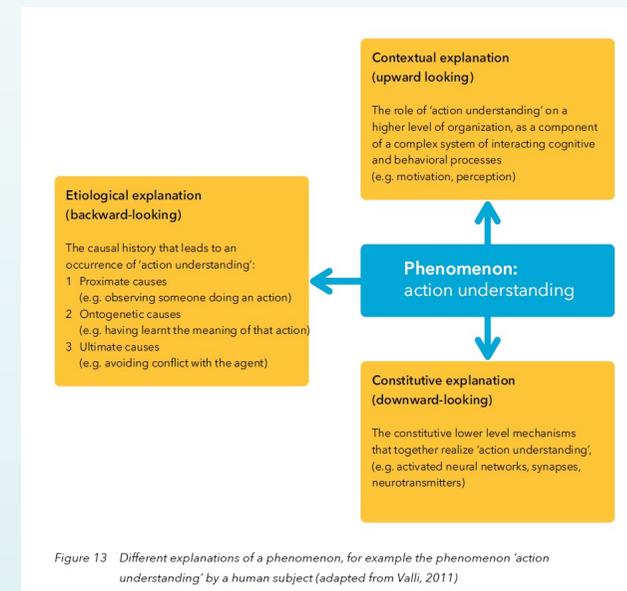
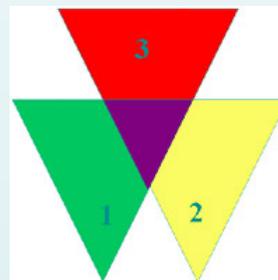


Fig. 4 Robust detection breaks down when the paths are not independent

Transdisciplinary research: increasing robustness by including extra-academic stakeholder perspectives



Transdisciplinary science involves:

- Experiential knowledge
- Values, norms, and interests
- Implementation concerns

during phases of

- problem framing
- research
- integration & implementation of results

(Hirsch-Hadorn e.a. 2008: Handbook of Transdisciplinary Research; fig. Jahn 2008;)

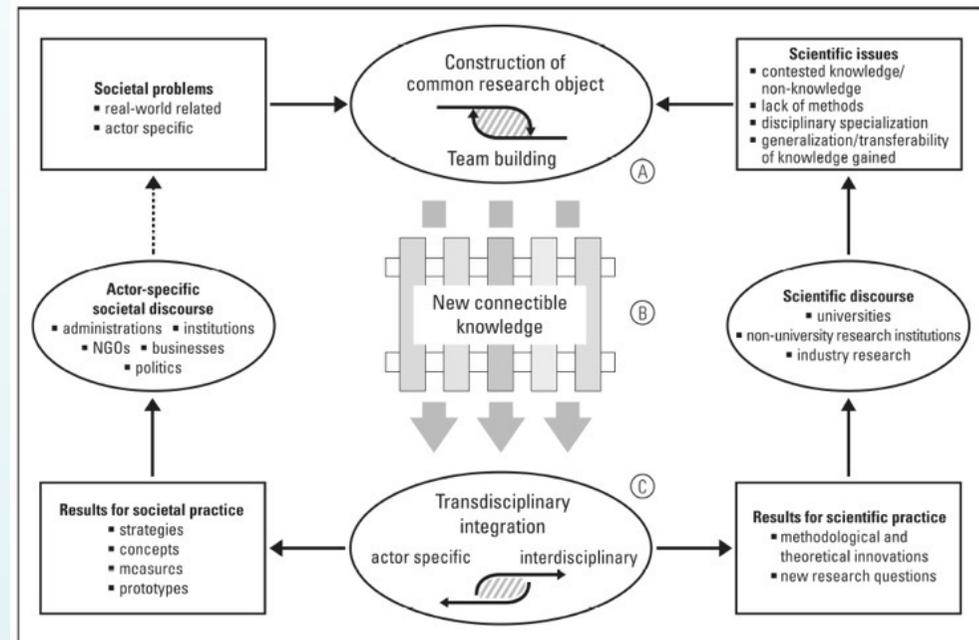


Fig. 3: Transdisciplinary research process—integrative approach (ISOE model)
Source: Jahn (2008): 31

Positionality of scientists matters - as disciplinarians and as individuals



Ethnic minorities in Europe:

- complete tertiary education depending on parental degrees:
 - 17% tertiary degrees when parents have only lower-secondary education, against
 - 63 % when parents have tertiary education.

(Crul e.a. 2010, Comparative integration context theory; Triventi 2013)

- prefer, more than majority:
 - medicine
 - law
 - IT
 - business
 - professional, rather than academic

(Pasztor, *Ethnic & Racial Studies*, 2012; Marginson 2016; Crul e.a. 2017)

‘Troubling paradox of widening access’ that affects participation in academia

Social and cultural capital are more important in higher education expansion that is at the same time:

- individualist
- meritocratic

with meritocracy assuming implicit social norms

(Morrison 2017, responding to *Higher education, social class and social mobility: the degree generation*, by Bathmaker, e.a. 2016)

Institutional barriers – how do they play out in interdisciplinary programs?

Non-traditional learners have greater challenges regarding interdisciplinary programs because:

- access is more difficult (less visibility, transparency)
- transfer out of ID credits is more difficult
- alternative modes of study difficult
- complicated study trajectories
- less clear job prospects

(cf. table from Schuetze & Slowey, 2002, 'Participation and exclusion: A comparative analysis of non-traditional students and lifelong learners in higher education')

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Table 3. Overview of institutional factors influencing participation from 'non-traditional' learners

Institutional factors	Criteria
System differentiation and coordination	<ul style="list-style-type: none"> - Horizontal and vertical differentiation - Articulation and transfer routes - Student choice and information - No dead-end routes - Equivalence of general and vocational routes - Coordination between different sectors/programs ('seamless web')
Institutional governance	<ul style="list-style-type: none"> - Institutional autonomy - Flexibility - Responsibility for lifelong learning assigned to senior administrator
Access	<ul style="list-style-type: none"> - Explicit policy for lifelong learners - Open or flexible access - Recognition of work and life experience
Mode of study	<ul style="list-style-type: none"> - Modular courses and credit transfer - Part-time mode - Distance learning - Independent study
Financial support	<ul style="list-style-type: none"> - Modes of financial support appropriate for non-traditional students, e.g. - Income contingent modes of loan repayment, an - Vouchers for non-traditional students
Continuing education opportunities	<ul style="list-style-type: none"> - Provision of relevant courses - Appropriate scheduling - Affordable fee levels



Stepping up the game: integrating pluralism while addressing academic ‘epistemicide’

Epistemicide entails the “destruction of the knowledge and cultures of these populations, of their memories and ancestral links and their manner of relating to others and to nature.”

(Boaventura de Sousa Santos, 2016, ‘Epistemologies of the South and the future’, p. 17)

Cf. “the university in Africa was truly a ‘transmission belt’, to use Mazrui’s expression, (Mazrui 1978: p. 101) of the epistemological paradigm of the colonial conqueror”

(Ramose, 2015, ‘On the contested meaning of ‘philosophy’)

Aiming for actionable knowledge requires fundamental adjustments in academia



Action research continues where inter- & trans-disciplinarity stop, i.a. by additionally:

1. being guided by practitioners' concerns for practicality,
2. using participatory, democratic methods of collective problem solving,
3. helping to build capacity for *ongoing change* efforts.
4. aiming for 'flourishing of people, their communities and the broader ecology'

(Bradbury-Huang 2010; Fals Borda 2013)

Developing methods for inclusion of plurality of persons, positions, perspectives



Instead of only prioritizing scientific ‘solutions’, inter-/transdisciplinary teams must integrate science while:

- developing alternative representations of potential futures,
- providing participants with embodied & affective experiences
- enabling participants to sense, understand, and share them,
- facilitating deliberation about action options.

(Keestra, 2019, ‘Imagination and Actionability: Reflections on the Future of Interdisciplinarity’, <https://tinyurl.com/Keestra-Future-ID>)

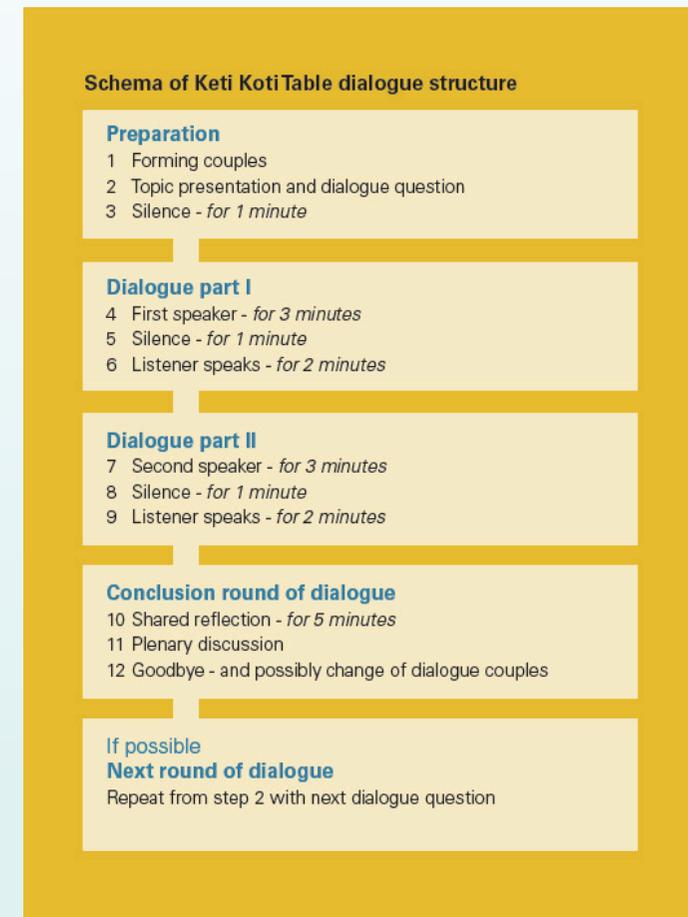
Building trust across boundaries: personal dialogue instead of topical debate



Dialogue is effective as it entails:

- Voluntary inter-group contact
- Perspective taking
- Decreased intersubjective anxiety
- Building trust
- Empathy

(Allport 1954; Keesstra 2004, 2020; cf. Broekroelofs & Keesstra [report] 2018; <https://www.ketikotitafel.nl/keti-koti-table>)



Example of dialogue question in academic context

- Have you ever experienced a feeling of loneliness, or being excluded, within the context of the university/ academia?
- Can you share the emotional impact of that experience?





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