

Combining Forces:
A New Discipline
to
Underpin Diverse Approaches
to
Research Integration & Implementation

Gabriele Bammer



Overview

Complex problems

Need for better balance in research methods

Fragmentation and overcoming it

A new discipline?



Population ageing

Sun control **Global warming** **Killer bacteria**
Education crisis **Boat People** **Stockmarket crash**
Sustainability **Rising hospital costs**
Organised crime
Terrorism **Biodiversity loss**



Complex real-world problems

Horn, R. E. and Weber, R. P. (2007), *New Tools For Resolving Wicked Problems: Mess Mapping and Resolution Mapping Processes*.
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Connected to other problems



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Kulla's Ripple by Tim Spellman

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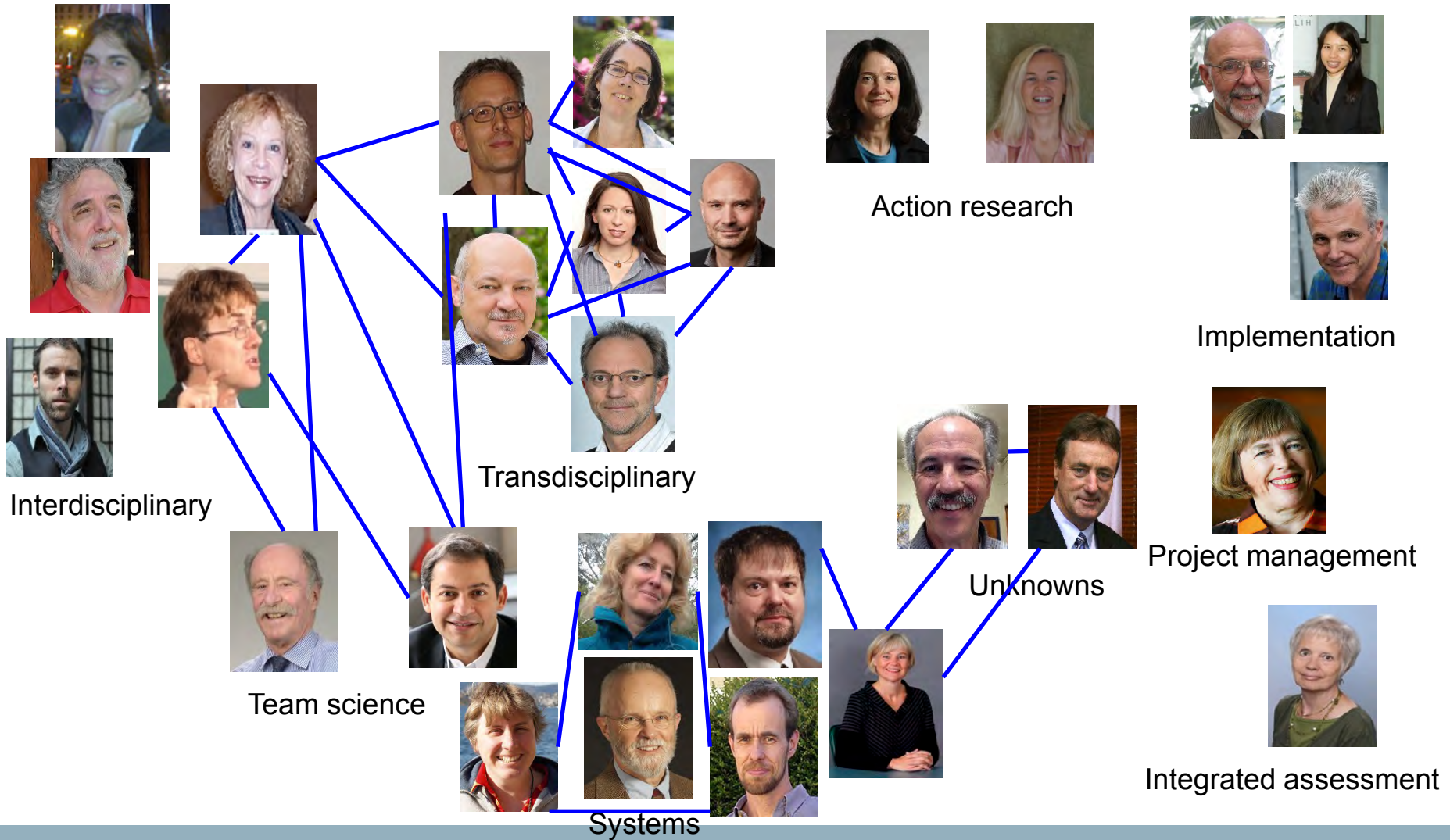




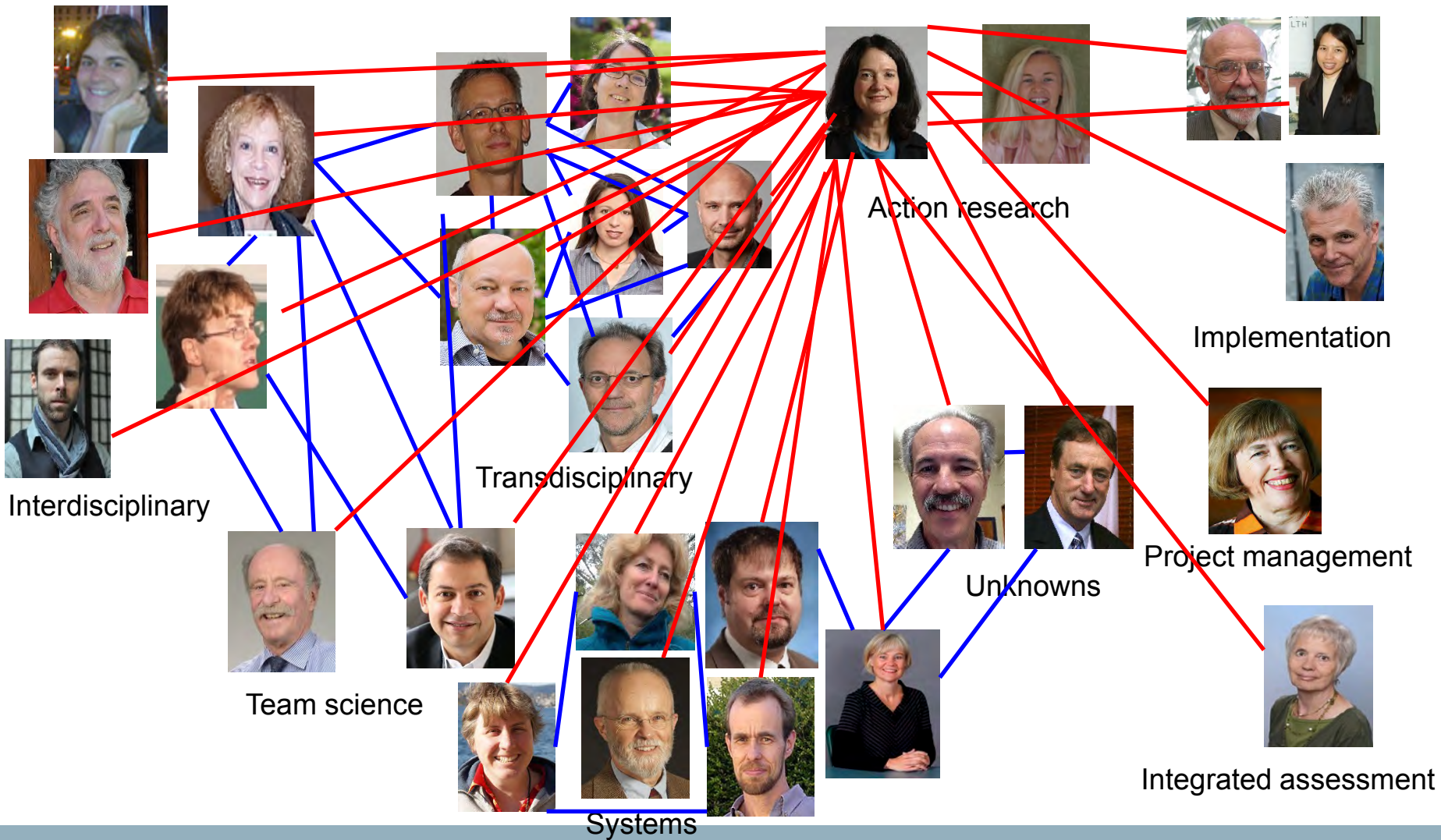
Overcome fragmentation... in existing approaches to complexity

interdisciplinarity management science integrated assessment
adaptive management **implementation science** multidisciplinary
complexity science modelling and simulation policy science impact evaluation
system dynamics sustainability science **systems thinking**
public engagement action research ecological economics decision sciences
team science theory of change project management post-normal science
systemic intervention **transdisciplinarity** operations research
mode 2 coalition theory cybernetics Integration and Implementation Sciences (I2S)

Fragmented research communities...



Bringing people together...



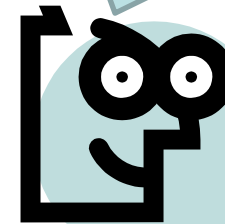


Fragmented research
communities
=
Fragmented resources

Organise repositories...

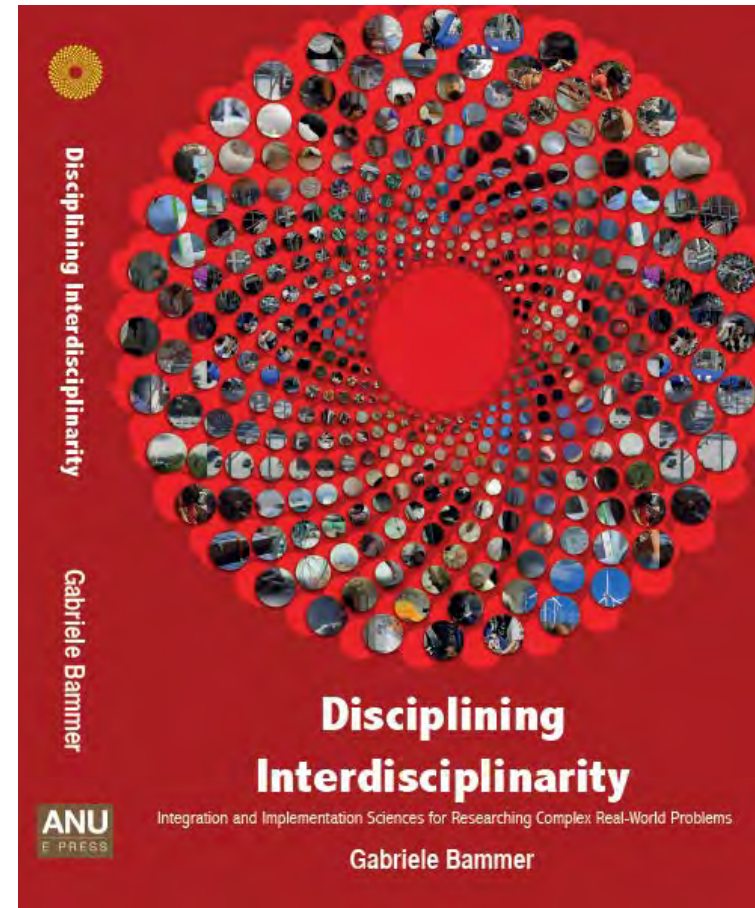


Undocumented evidence and experience



A possible way forward... 1

<http://epress.anu.edu.au/titles/disciplining-interdisciplinarity>



A possible way forward... 2

Four main proposals:

1. Differentiate kinds of ‘interdisciplinarity’: *teams focused on complex problems*

A possible way forward... 3

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A possible way forward... 5

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1. Differentiate kinds of ‘interdisciplinarity’: *teams focused on complex problems*
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3. An underpinning discipline: ***Integration and Implementation Sciences (I2S)***

A possible way forward... 6

Four main proposals:

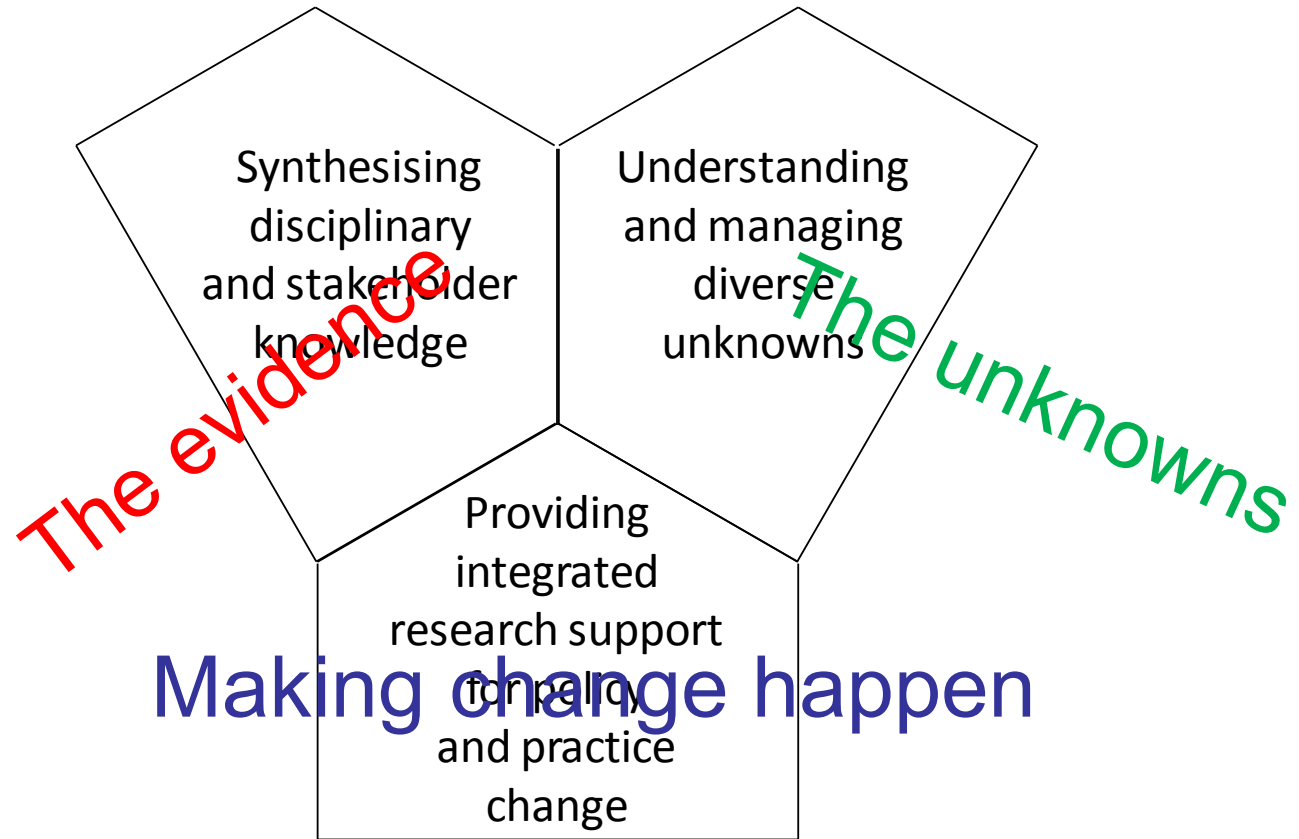
1. Differentiate kinds of ‘interdisciplinarity’: teams focused on complex problems
2. A new research style: *integrative applied research*
3. An underpinning discipline: *Integration and Implementation Sciences (I2S)*
4. A Big-Science project: *I2S Development Drive*

New framework for reporting: Integration & Implementation Sciences (I2S)

3 domains
5 questions



Three domains of I2S



Five questions... Q1 For what and for whom?

What is the integrative applied research aiming to achieve and who is intended to benefit?

Five questions... Q2 What is needed?

What is needed in terms of:

- knowledge synthesis,
- understanding and managing unknowns
- support from integrated research

Five questions... Q3 How?

How should the following be undertaken:

- knowledge synthesis,
- comprehensive consideration of unknowns
- support from integrated research

by whom and when?

Five questions... Q4 Context?

What circumstances might influence:

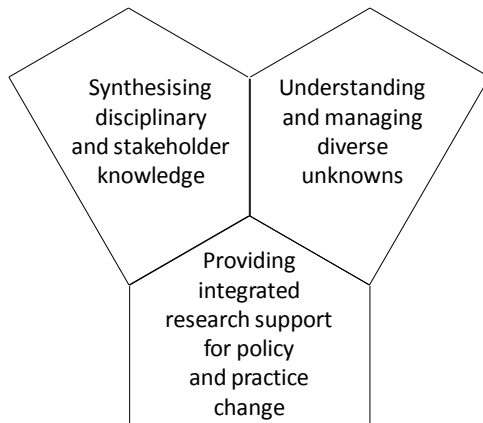
- knowledge synthesis,
- comprehensive consideration of unknowns and
- support from integrated research?

Five questions... Q5 Outcome?

How successful was:

- knowledge synthesis,
- comprehensive consideration of unknowns and
- support from integrated research?

Five questions... for Domain 1



1. Aims & beneficiaries

What is the knowledge synthesis aiming to achieve?
Whose perspectives will be included?

5. Outcomes

For knowledge synthesis, were good choices made for

- aims and beneficiaries
- knowledge synthesised
- methods and processes
- dealing with context

2. What knowledge needs to be synthesised for this problem?

- systems approach
- scoping
- boundary setting
- problem framing
- values
- harnessing and managing differences

CONCEPTS
METHODS
CASE EXAMPLES
GUIDES

4. Context

- big picture
- legitimacy
- organisation facilitators and barriers

3. Methods & processes

- dialogue based
- model-, product-, or vision-based
- common metric-based plus by whom and when

Key purposes of a discipline...

- Organised knowledge repository
- Identity and community of peers
- Quality control
- Power

Where next...

Over to you! On the basis the next three days:

Are there enough commonalities?

Do we want to be a community of peers?

Do we want to develop a new discipline?

....