Australian National University

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

Gun control

Global warming

Killer bacteria

Education crisis

Boat People

Stockmarket crash

Sustainability

Rising hospital costs

Organised crime

Biodiversity loss

Terrorism

Complex real-world problems

Horn, R. E. and Weber, R. P. (2007), *New Tools For Resolving Wicked Problems: Mess Mapping and Resolution Mapping Processes*.
http://www.strategykinetics.com/files/New_Tools_For_Resolving_Wicked_Problems.pdf

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Kulla’s Ripple by Tim Spellman

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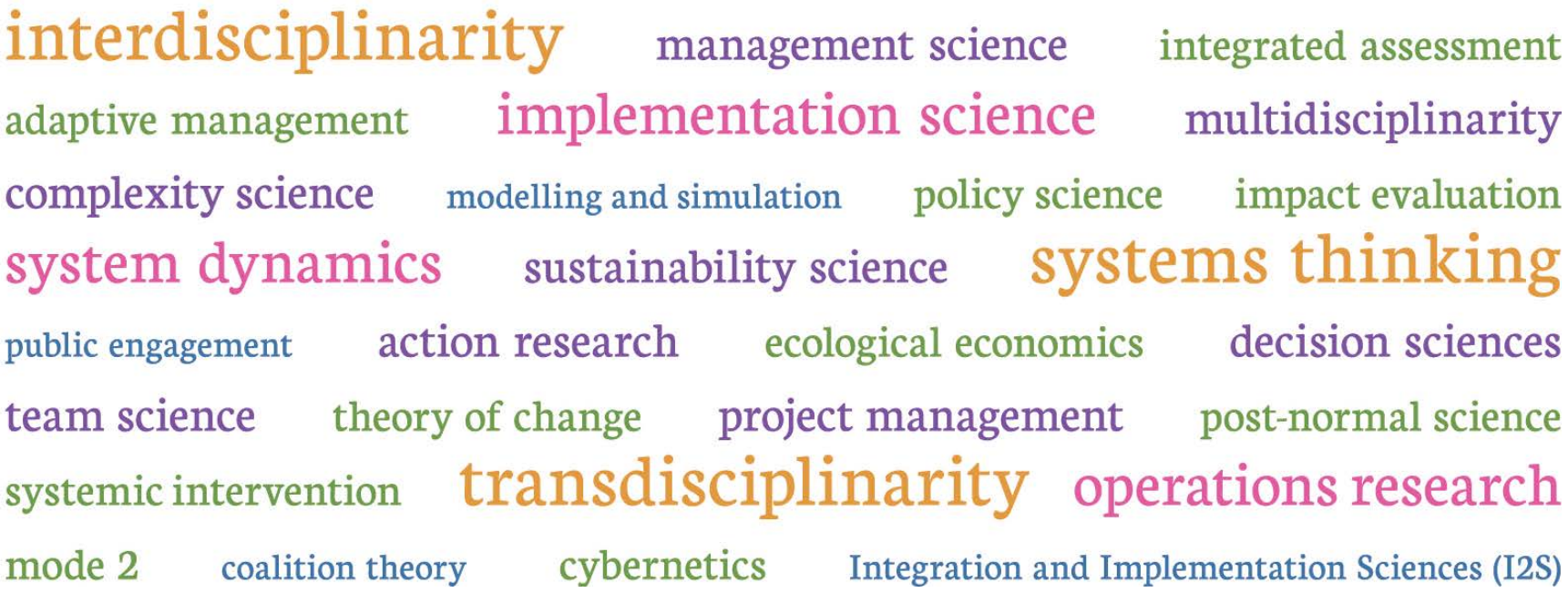
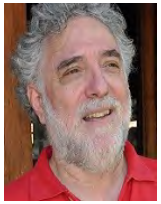
Overcome fragmentation… in existing approaches to complexity

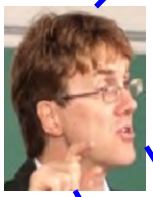


Fragmented research communities…







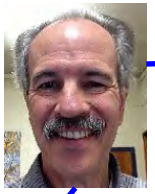




Interdisciplinary
Transdisciplinary

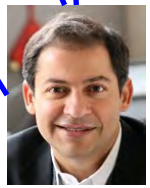

Action research



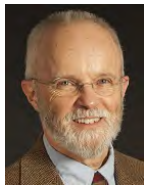
Implementation


Unknowns

Project management


Team science

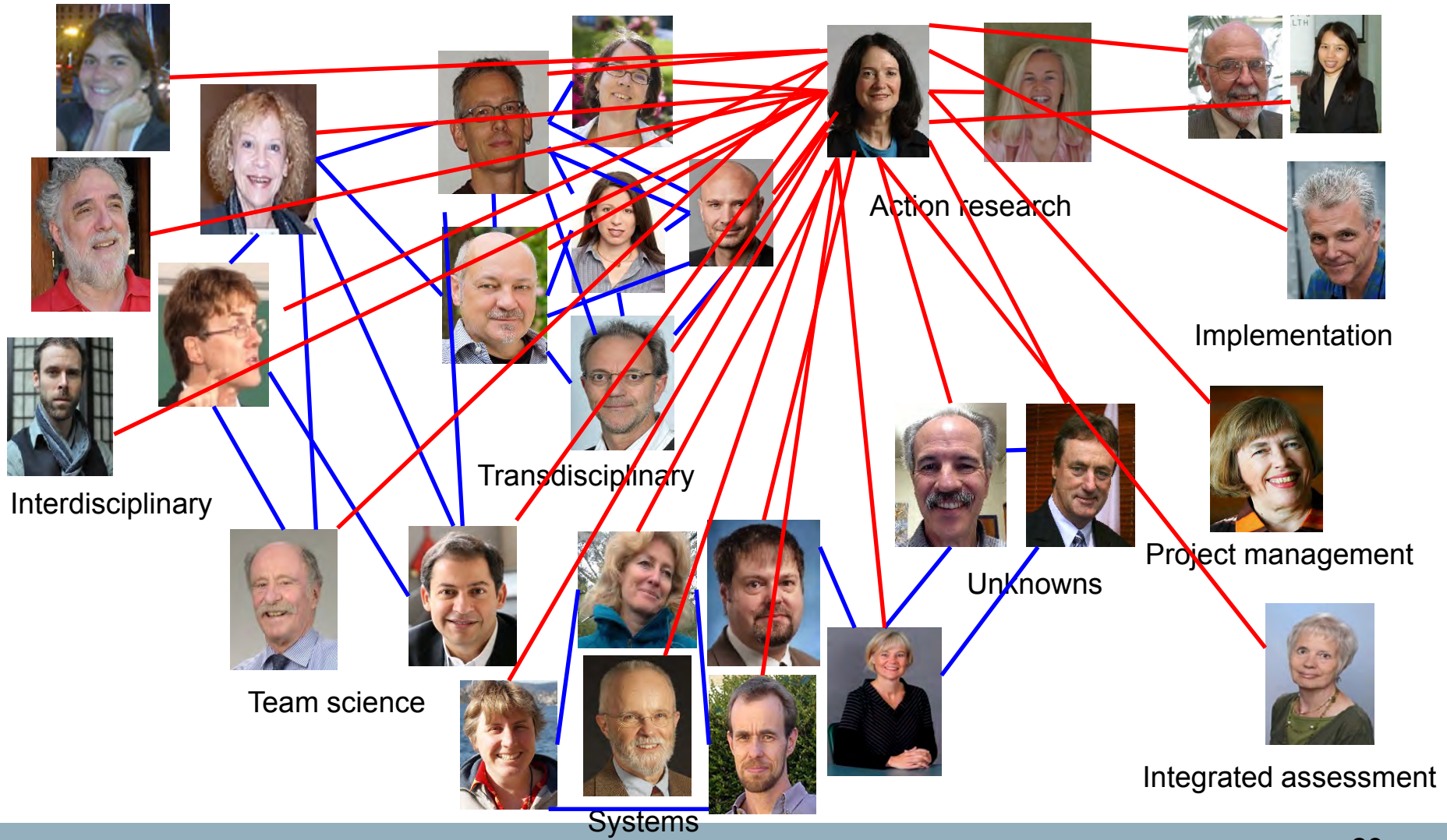




Systems


Integrated assessment

Bringing people together…



Fragmented research communities

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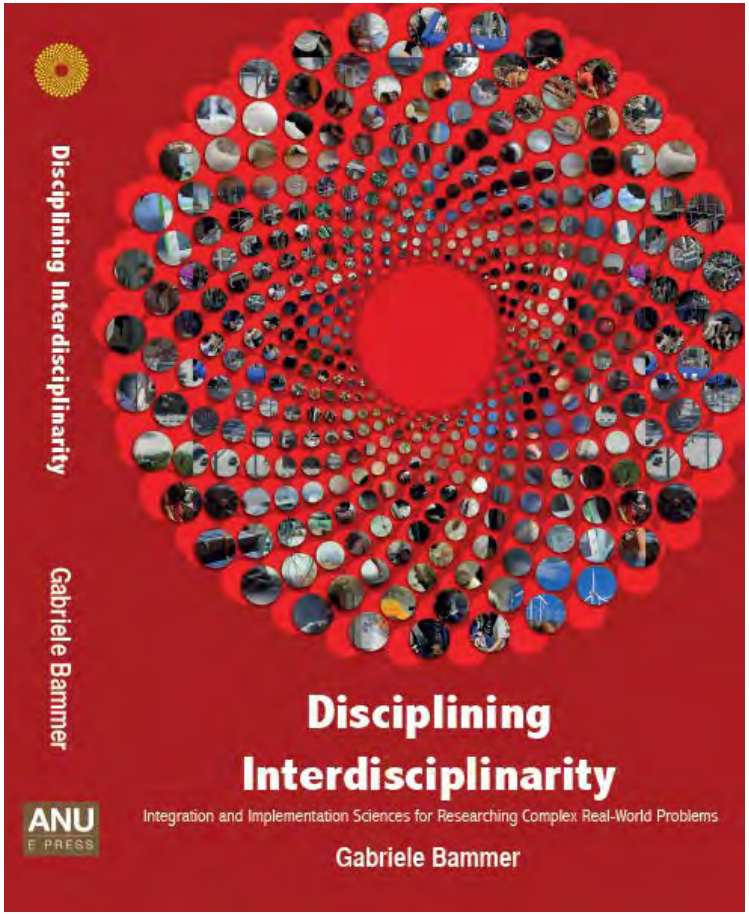
Fragmented resources

Organise repositories…

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:

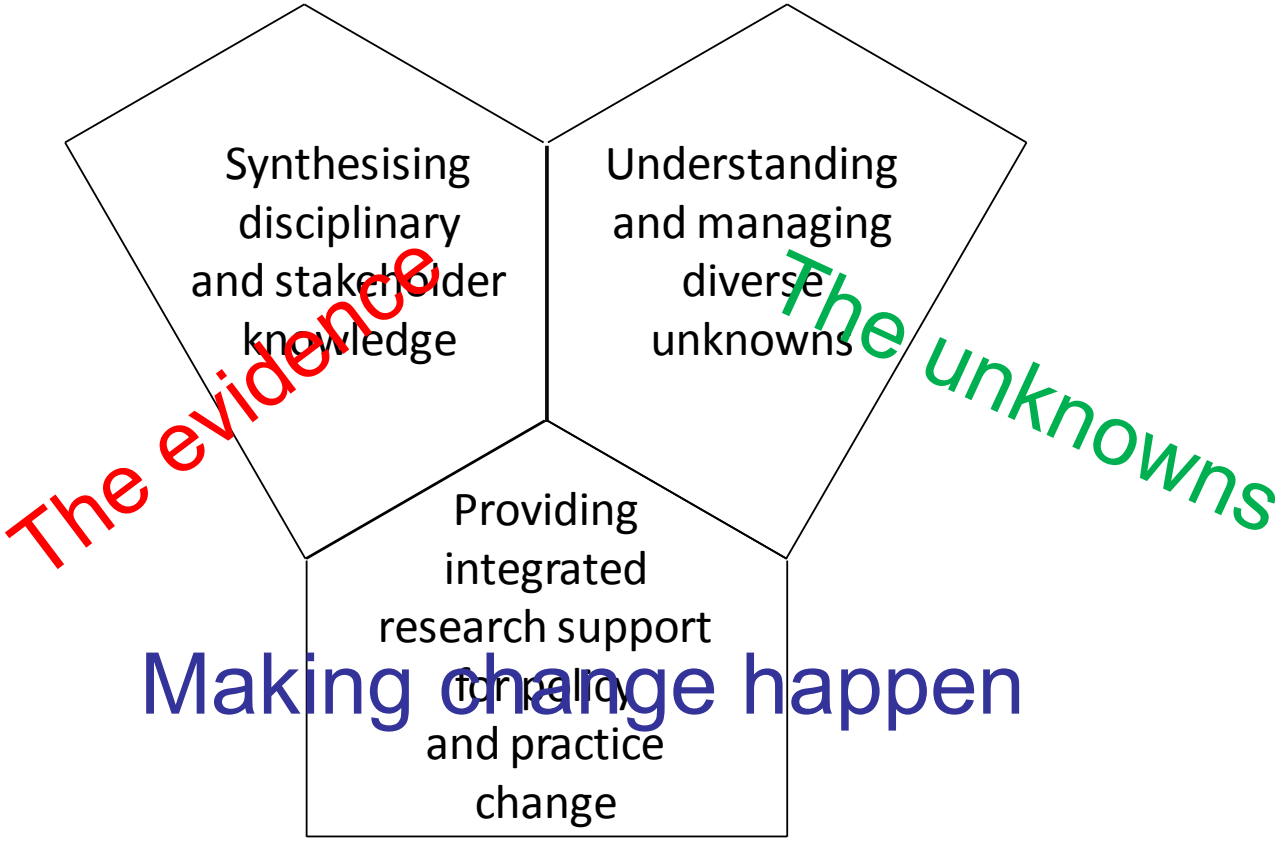
1. Differentiate kinds of 'interdisciplinarity': teams focused on complex problems
2. A new research style: *integrative applied research*
3. An underpinning discipline: *Integration and Implementation Sciences (I2S)*
4. A Big-Science project: *I2S Development Drive*

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:

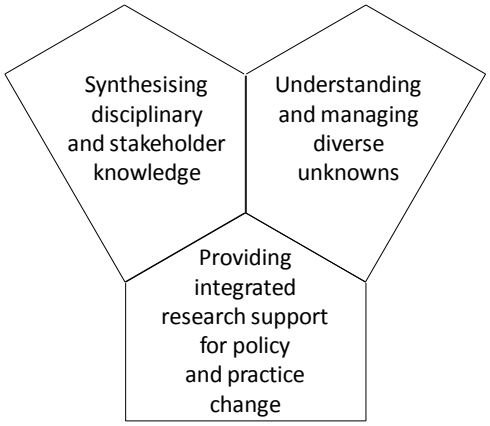
- knowledge synthesis,
- comprehensive consideration of unknowns and
- support from integrated research?

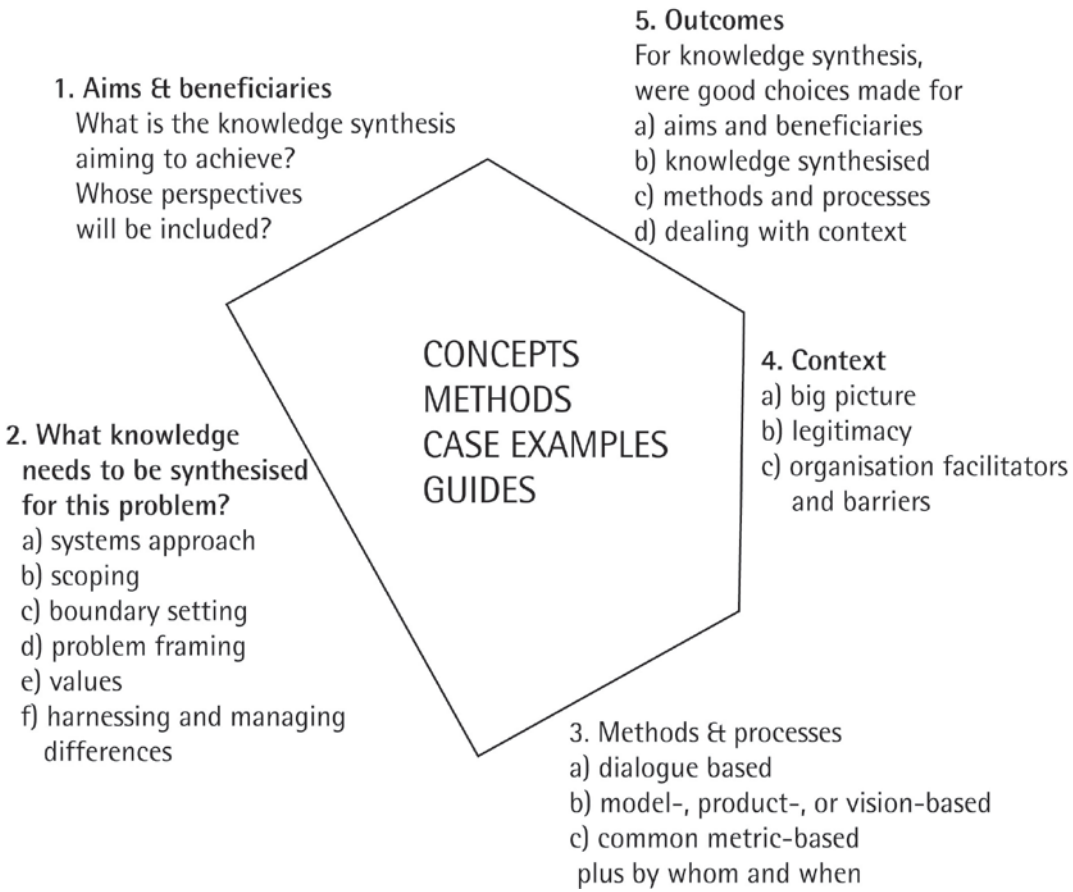
Five questions… Q5 Outcome?

How successful was:

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

Five questions… for Domain 1





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?

….