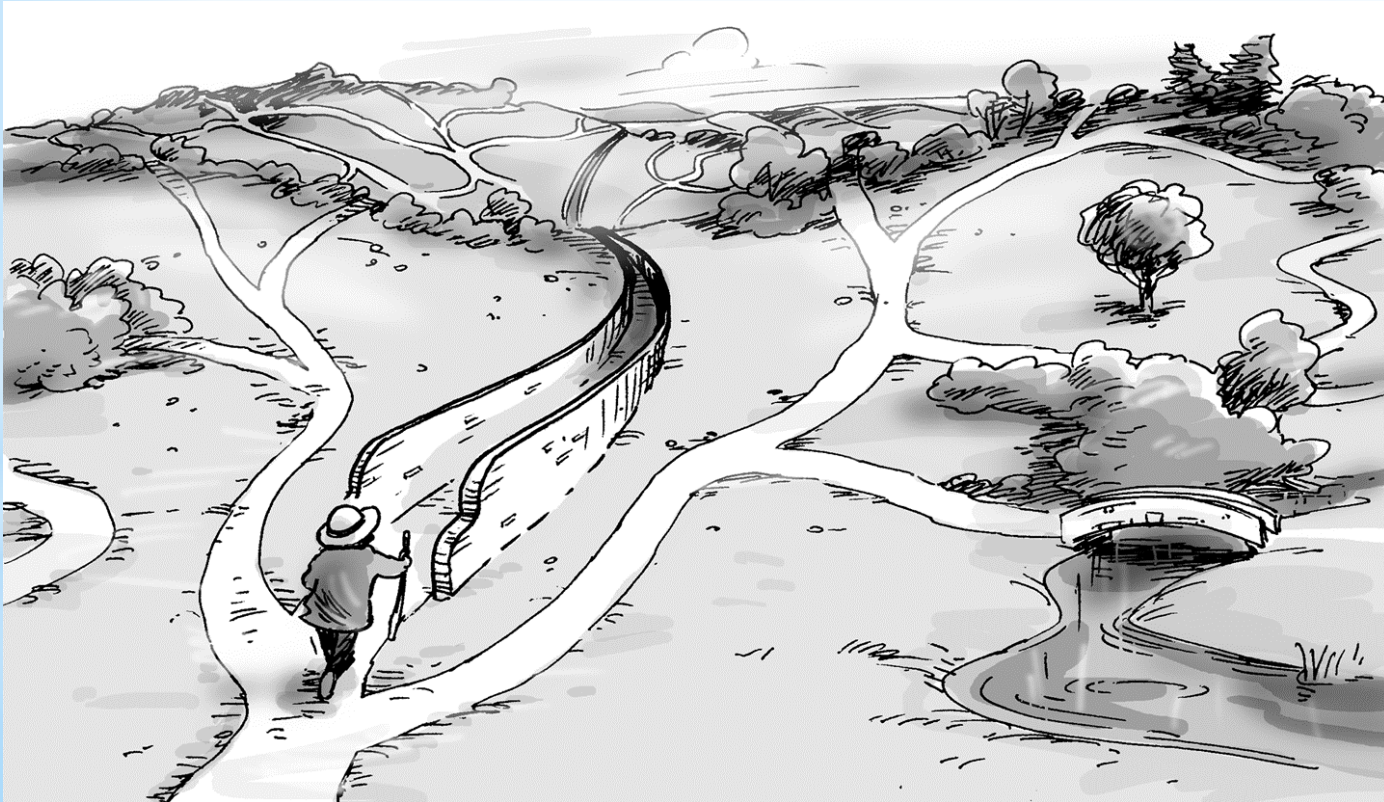


12th European IFSA Symposium  
Harper Adams University, UK  
Final plenary Friday 15 July



*and other*

## Social and technological transformation of farming systems: Diverging and converging pathways



Source: Ison, 2010 Systems practice: how to act in a climate change world

# Dr Chris Blackmore

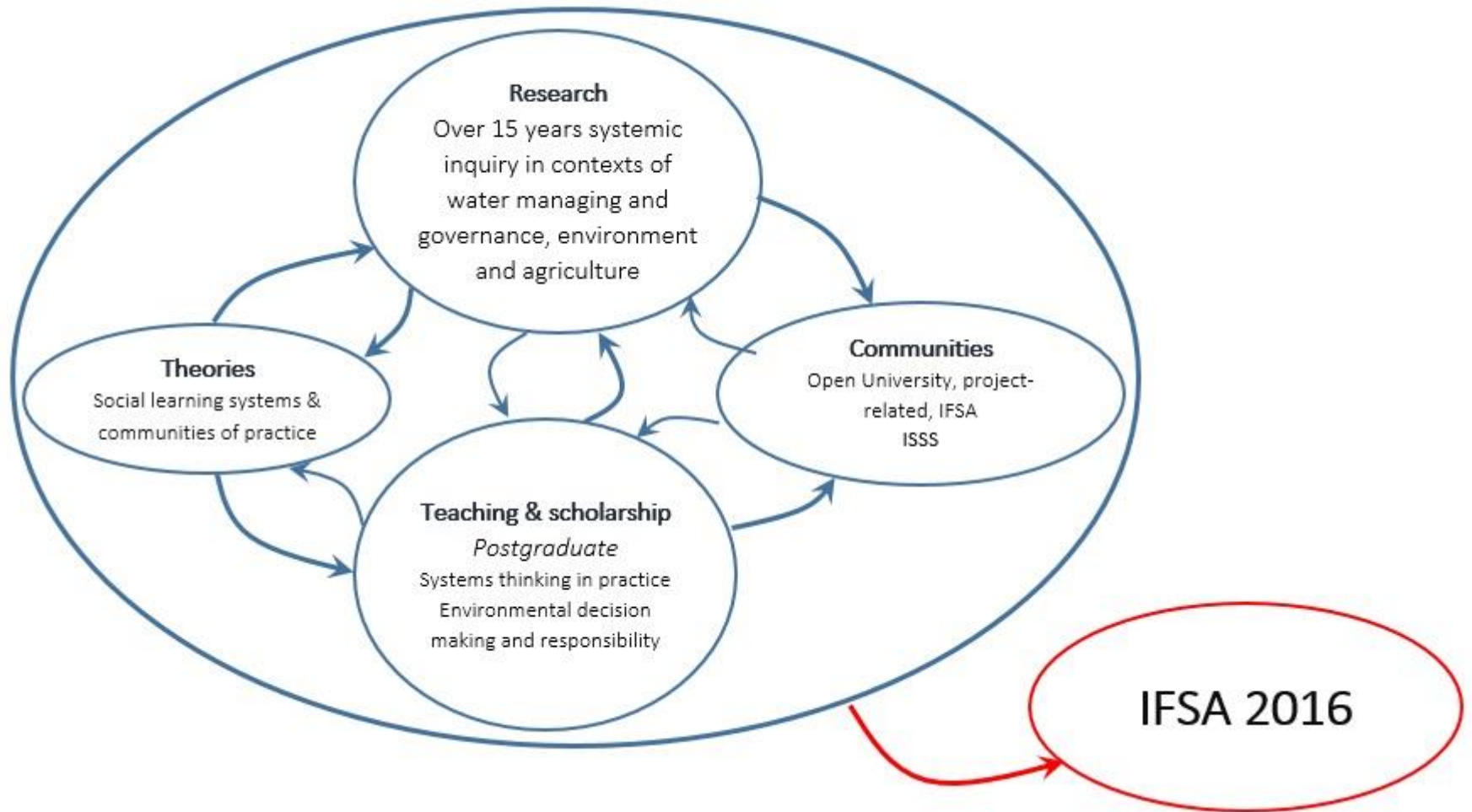
Senior Lecturer in Environmental and Development Systems  
Engineering and Innovation Department  
STEM Faculty  
The Open University  
Milton Keynes  
UK

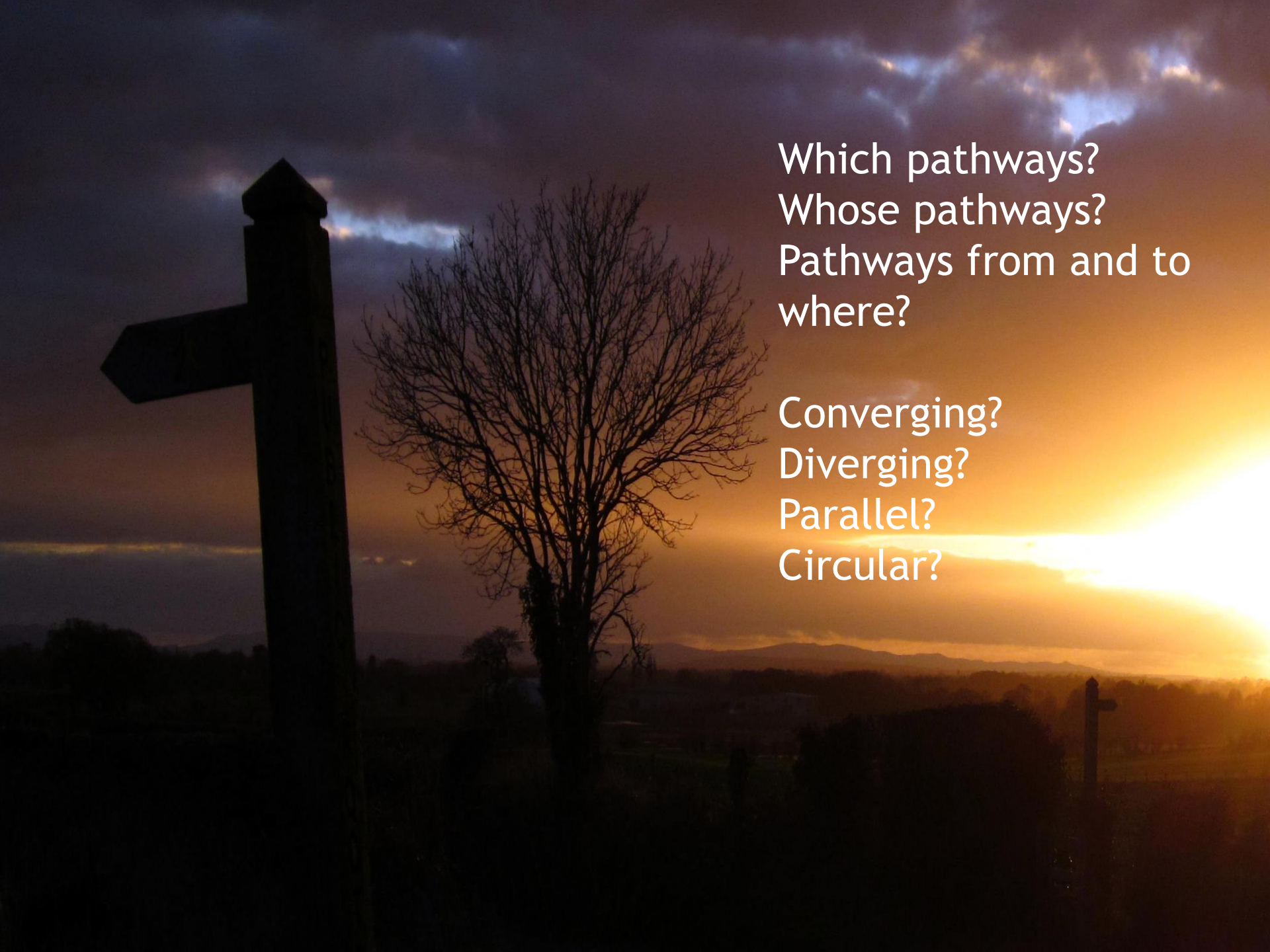
## IFSA pedigree

2002, 2004, 2006, 2010, 2012, 2014, 2016

IFSA 2016 roles: national group, theme 5 co-ordinator, workshop 5.7 co-convener & presenter, field trip tour guide, PhD course co-leader & facilitator, accommodation provider, microphone holder, local stakeholder, taxi driver, tourist adviser.....

# Chris Blackmore's trajectory....





Which pathways?  
Whose pathways?  
Pathways from and to  
where?

Converging?  
Diverging?  
Parallel?  
Circular?

# The Road Not Taken by Robert Frost

TWO roads diverged in a yellow wood,  
And sorry I could not travel both  
And be one traveller, **long I stood**  
**And looked down one** as far as I could  
To where it bent in the undergrowth

**Then took the other,** as just as fair  
And having perhaps the better claim  
Because it was grassy and wanted wear  
Though as for that the passing there  
Had worn them **really about the same**

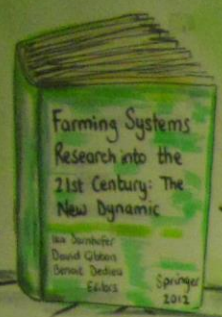
And both that morning equally lay  
In leaves no step had trodden black.  
**Oh, I kept the first for another day!**  
Yet knowing how way leads on to way,  
**I doubted if I should ever come back....**

I shall be telling this with a sigh  
Somewhere ages and ages hence:  
Two roads diverged in a wood, and I -  
I took the one less travelled by,  
And that has made all the difference.



# IFSA 2016 - What did we actually deliberate about?





Stems from our work



**Social and Technological transformation of farming systems**

#IFSA 2016

**Polarisation**

Front runners  
those behind

rich and poor

**No one trend**

Urban Rural

Tech Traditional

**Greening**  
of the landscape  
biodiversity

Land grabbing and land abandonment

Dramatically less family farms

Larger-agro farms corporations

consolidation of buyers increasing pressure on farmers

**organic focus**

robotisation  
precision farming

What significant social and technological changes have you seen in European farming systems in the past 10 years or so?





Nine snapshot examples  
from our workshops/visits  
held on Wednesday & Thursday

# From Friedrich Leitgeb on behalf of workshop 1.5

Pathways towards sustainability in the agricultural knowledge and innovation system: The role of farmers' experiments and innovations

Important issues from our fishbowl discussion:

- Farmers look for information on their own, using Internet or social media, so important for researchers to use these techniques - Sara
- Farmers experiments - Quentin
- Innovations need to consider research traditions, results, models from psych on creativity - Christian
- Role for farmers in existing agro research and complementary to traditional research - Jon
- Understand and discuss farmers experiments - Maxine
- Informal farming learning and knowledge - formal and informal - Talis
- Seeds forge development of resilient food system - Sylvia
- Antibiotics and farmers in French - not explored by many actors – Natalie
- Inclusive methods and tools for fostering participation
- Relations between farmers and researchers

.....and more

# From Boru Douthwaite on behalf of workshop 1.2

## Monitoring and Evaluation for Learning and Innovation

1. The workshop asked the question: “How does monitoring and evaluation work to help understand and foster learning and innovation?”
2. Eleven papers clustered to give an answer: “By fostering and supporting **reflexive learning** through specifying and revisiting program **theories of change** during implementation, helped by measuring changes in **capacity to innovate.**”
3. Four cross-cutting issues generated discussion:
  - \* How to be simple about complexity in monitoring, evaluation and learning (MEL) systems?
  - \* Who should carry out MEL and the pros and cons?
  - \* What should we measure? How? And who?
  - \* What is the learning in MEL and what is its use?
4. Next step: special issue of a journal?

## From Simon Fielke: 1.3 Using a co-innovation approach to improve innovation and learning.

Here are four key points from session that were shared across the multiple co-innovation projects presented.

- 1) appropriate facilitation of co-innovation projects/programs is critical
- 2) the time involved in including relevant stakeholders is significant in these iterative projects
- 3) collaboration depends on individual social skills and personalities - as Jeff explained some people just 'get' co-innovation and thrive off the uncertainty and others cannot handle it
- 4) the issue of how co-innovation continues to be resourced after the project life (how the organisations involved are able to find the commitment after the project end) was raised by all presenters as a concern

# From Thomas Aenis: Workshop 1.4 From farmer to "eco-preneur" in multifunctional agriculture and sustainable regional development: participatory curricula development and implementation of educational measures

- we had 4 papers from a broad field of educational settings: one on Farmer mentoring in Norway, one on strategic and activity planning of a school farm in Italy, one on a transdisciplinary spring school for students in Italy, and one on extension programming in the MENA Region.
- it is quite clear that curricula development needs case-specific forms of participation, of those who teach and those who learn
- what seems to be the key to success is to carry out a need analysis or situation analysis in an early phase of curricula design, in which target groups should be involved.
- Further research is needed to find out good practice and models on how (methods) to involve whom (multipliers, learners) in this need assessments and how to carry these out in a way that they are useful for curricula design (the factor time seems to be important...)

# From Thomas Aenis: workshop 2.6: Management of interdisciplinary and transdisciplinary research processes

- Three papers from different transdisciplinary project settings: sustainability assessment involving researchers and farmers associations; a consortium on sustainable land use in Northern Germany; and an "innovation group" in Germany
- The main point of discussion was on how to manage integration
- Integration is most important in early project phases and late phases and needs to be managed
- Experience shows that the basis for integration should be laid in early phases of the project
- The main question remaining is how and whom to involve in these early phases
  
- Reflection on workshops 1.4 and 2.6  
somehow similar results of the two workshops: **how to manage early involvement of "end users" in project planning and curricula development...**

From Paul Burgess: We ran two agroforestry sessions (which were attended by about 15-20 people) and one field trip (with about 30+ people). Agroforestry, put simply, is farming with trees.

There is an increasing interest in agroforestry in Europe; for example the French Government has established a national agroforestry plan. There are also national plans in the USA and Brazil.

In the workshops we discussed systems and practices in Italy, Portugal, France, Germany and the UK.

The first part of the field visit included a visit to Peter Aspin silvopastoral system which comprises a wide range of tree species and dairy cattle. Peter introduced trees into pasture to provide shelter, shade and fodder for his cattle. In a time of substantial volatility in the UK agricultural system, it is interesting that Peter developed his innovative systems without grant support. The visit generated much discussion and perhaps demonstrates that the most important “component” in any farm system is the initiative and enthusiasm of the farmer.

From John Reade: Six major points from the session that Peter Kettlewell and I carried out on robotics and automation today:

1. There are lots of exciting robotic, sensor, autonomous, and UAV technologies in development
2. It is good that much of this development is in conjunction with SMEs
3. Development requires collaboration between engineers, IT specialists, agronomists and biologists. No one group can develop these technologies alone.
4. Many positive and negative implications can be identified for these technologies. The risk is how humans use them though, rather than inherent risk with the technologies themselves.
5. Use of Responsible Innovation will ensure risk in development is reduced. This requires a large change in how innovation is approached.
6. The identified positives and negatives of these technologies are very similar to positives and negatives of previous technologies developed over the last 100 years or so. The way we focus on them is just framing us in our 'now'.



# From Ruth Nettles: Workshop 5.1 Developing agricultural advisory systems for innovation: Governance and innovative practices

7 papers providing case studies of privatised and privatising extension and advisory systems from: Australia, Norway, Germany, Peru and New Zealand, Sudan, Malawi

1. Theories, concepts and tools in researching advisory systems - is a growing field, strengthened by discussion and comparison amongst IFSA researchers
2. The session highlighted the importance of research about changes in advisory systems and their governance because:
  - Many changes are not seen/observed without research/analysis
  - Rapid changes in some countries
  - With diverse farming systems - different roles and needs of advisory services in innovation
  - Research can identify gaps, allow for reflection/purposeful action to counter-act negative impacts.
3. Co-ordination of advisory actors: platforms seen as important at local/territorial, sectoral and national arenas.
4. There are some “different outcomes than expected” occurring with privatisation in terms of farmers access to and use of private advisory services

Future research topics identified.

## **From Janice Jiggins: Workshop 5.7 There are other options: boundary issues in innovation system governance**

- States of systemic crises with dysfunctional structures and institutions: What is the way forward?
- Different histories and starting points.
- Transformation emerging outside, bypassing, or in collaboration but not driven by existing structures.
- Critical questions for any transformation: who benefits? who participates in shaping the transformation? Does the result contribute to resilience and wellbeing under climate change?



Source: Darnhofer et al 2012

Donald Schon (1973)  
*Beyond the stable state*

learning systems

Our society and all its institutions are in continuing processes of transformation ....we must learn to understand, guide, influence and manage these transformations.....become adept at learning...become able not only to transform our institutions, in response to changing situations and requirements; we must invent and develop institutions which are 'learning systems' ...systems capable of bringing about their own continuing transformation.

# A critical social learning system

.....is a collection of individuals who agree to act together as a coherent group of people who are prepared to 'collectively learn their way through' an issue that they all agree is problematic in some way or another to them all.

Bawden (2010)

Some reflections and  
feedback from some of  
our PhD students

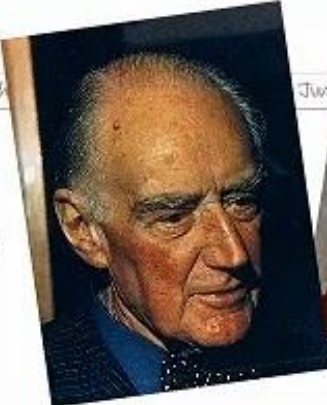
# The flux of events, ideas and people

...sively studied by psychologists and by students of artificial intelligence...we have a fairly explicit model of the way in which both...

...has been intensively studied by psychologists and by students of artificial intelligence...we have a fairly explicit model of the way in which both...

October November December January February March June September October November December January Feb

Geoffrey Vickers



Peter Checkland



The flux of events, people and ideas

Time →



Aarhus  
2012



Berlin  
2014

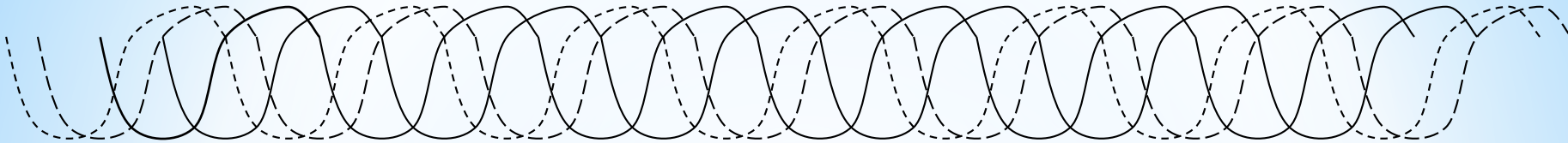


Shropshire  
2016

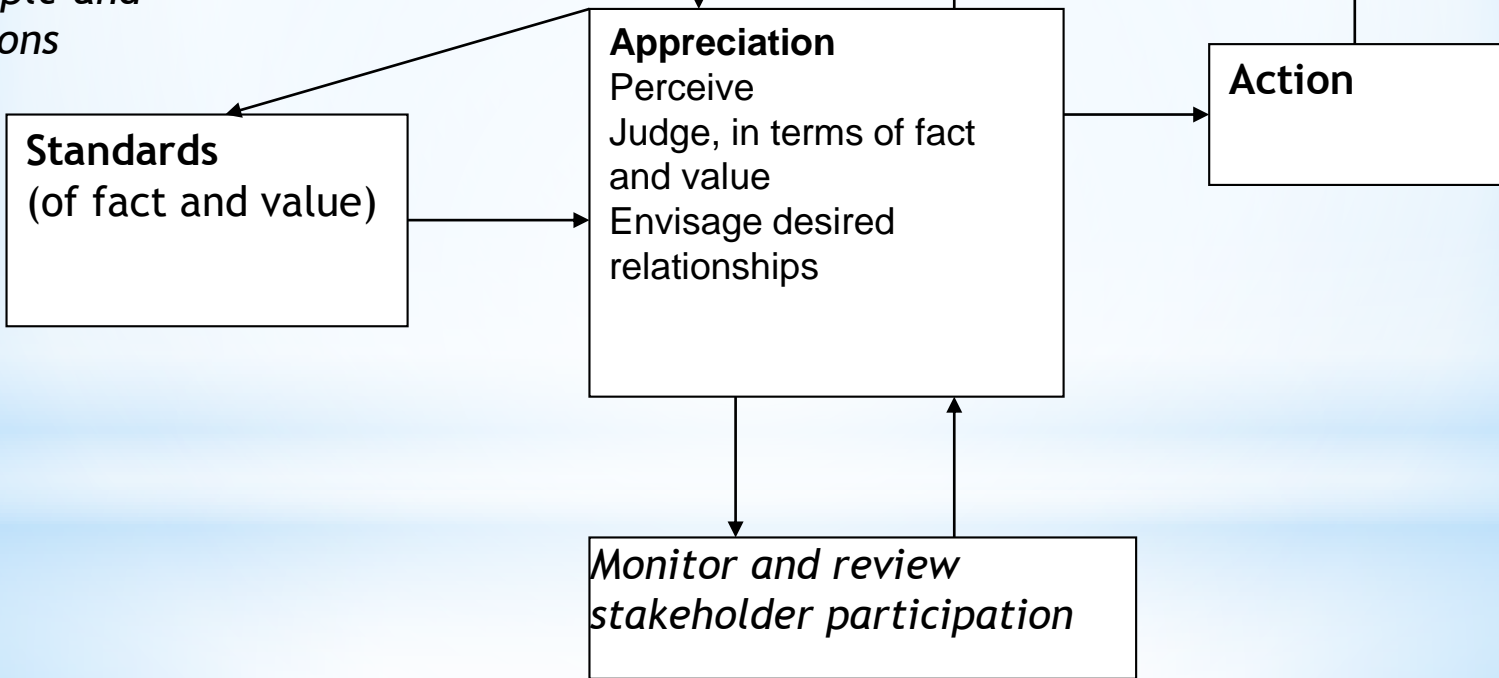


# Appreciating our process

time →



The flux of events,  
ideas, *people and*  
*organisations*



# Donald Schon (1973) in *Beyond the stable state*

## The emergence of ideas in good currency

### Ideas in good currency

- are potentially powerful for the formation of public policy
- change and emerge over time.
- lag behind changing events, sometimes in dramatic ways

Q1. What did we draw down from the flux of events and ideas in our IFSA symposium?



Q2. What ideas and actions will we now add to the flux?

Discussion in small  
groups and plenary

