

Information Systems and Trans-disciplinarity: Reflections on the centrality – or otherwise – of the IT artefact

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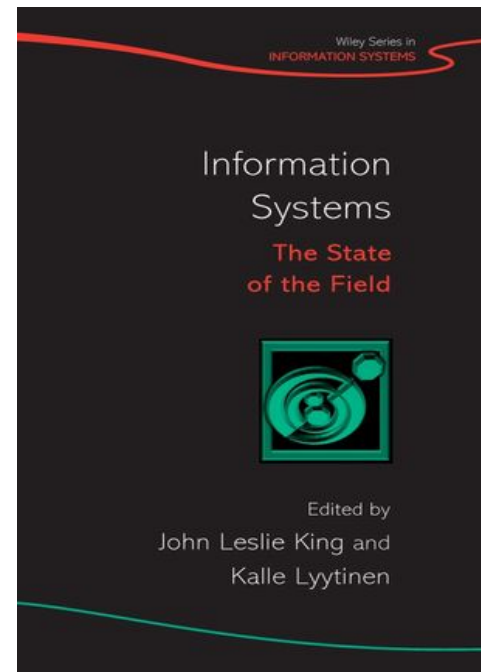


Yesterday's agenda

- Desperation in the ranks!!
- A return to the IT artefact?
- A modernist perspective:
angst



- Change as crisis



Today's agenda

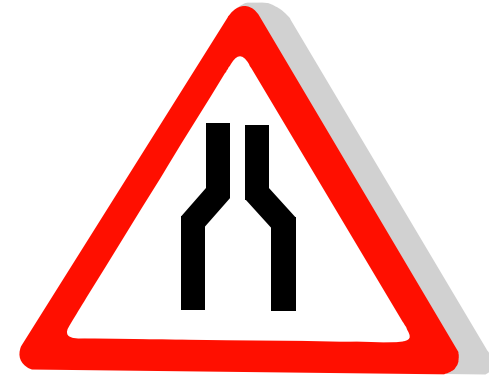
- Desperation in the ranks!!
- A return to the IT artefact?
- A modernist perspective: angst
- Change as crisis or natural growth?
- Innovation and creativity – “Mode II” thinking – trans-disciplinarity
- Reflections on
 - Data, information, and IS
 - Developments in the IS field
 - Debates – past and present
- Strength through diversity, innovation and growth



Narrowing or expanding the boundaries of IS research?

- **Should the road narrow?**

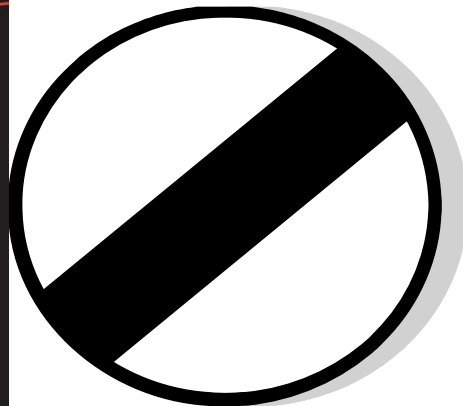
Benbasat & Zmud; Weber:
the IT artefact; IS design



- **Or become more broad?**

Robey: flexibility; “cleaning the
mirror” (John Coltrane)

Hirschheim & Klein:
against “techno-
centrism”



The centrality of the IT artefact?

- Orlikowski & Iacono:
“... the IT artifact is a critical intellectual focus for the field ... emerging IT artifacts are the persistent meaningful forms of entrée of most everyone in our community ...”
- Benbasat & Zmud:
“We conceptualize the IT artifact ... as the application of IT to enable some task(s) embedded within a structure that itself is embedded within a context(s) ... refocusing IS research on issues of design ...our concern is with bounding the phenomenological domain of IS scholarly journals.”



The centrality – *or otherwise* – of the IT artefact

- Klein & Hirschheim:
“The principle problem with focusing primarily on the IT artifact is that it uses the ambiguous acronym ‘I’ for information, when ... no artifact can produce information or its nobler cousin ‘knowledge’ ... we must reiterate the important observation (Whinston & Geng, 2004) that research interests of scholarly communities – and hence, the institutional structures and phenomenological boundaries of scholarly journals – are continuously evolving.”



A gold medal for navel gazing?

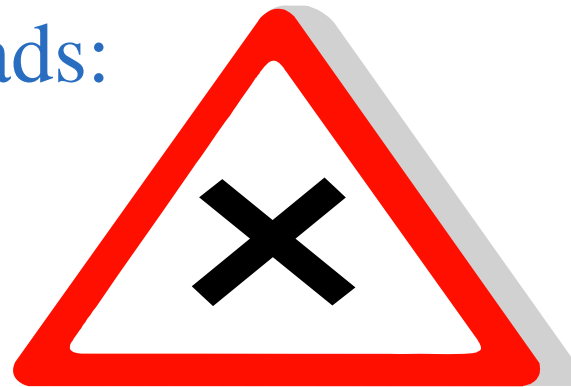
- 1970: Zani's "blueprint for MIS"
- 1973: Langefors' "theoretical analysis" of IS
- 1980: Keen's call for a "cumulative tradition"
- 1985: Galliers' "paradigm" for IS
- 1986: Culnan's "intellectual development"
- 1987: Culnan's "intellectual structure"
- 1989: Banville & Landry: "can MIS be disciplined?"
- 1991: Backhouse, Liebenau & Land: the "discipline" of IS
- 2001: Orlikowski & Iacono "desperately" seeking the "IT in IT research"
- 2003: Weber – "still desperate"!



Cross roads

- “What happens if the field of IS goes away?” (Markus, 1999 – see also Lucas, 1999)

- The crossroads:

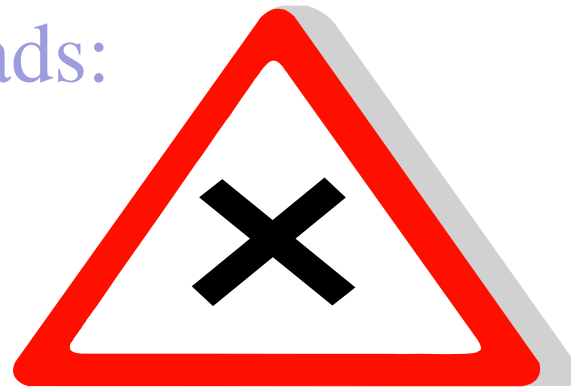


- Either a truly important business field
- Or different aspects devolve into other business fields

Cross roads - revisited

- “What happens if the field of IS goes away?” (Markus, 1999 – see also Lucas, 1999)

- The crossroads:



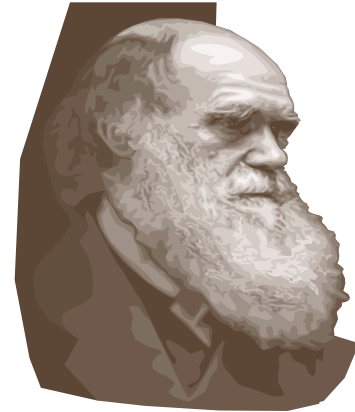
- Either a truly important business field
- Or different aspects devolve into other business fields
- **Or both!**

My argument

- Natural **evolution** *versus* the early Kuhnian (1961) worldview underpinning the ‘IT artefact’ perspective
- A monistic vision of science
- **Revolution** required for any movement away from the ‘core’
(cf. Banville & Landry, 1989)



Lenin



Banville & Landry

- “[Adherents to this view] use the term paradigm [core] as meaning [that] members of a scientific discipline ...always know:
 - precisely the relevant research topics
 - ... the appropriate research methods and
 - the proper interpretation of results.”

(1989;49)

What price ...

- Dynamism?
- Diversification?
- Innovation?



Post-modernism

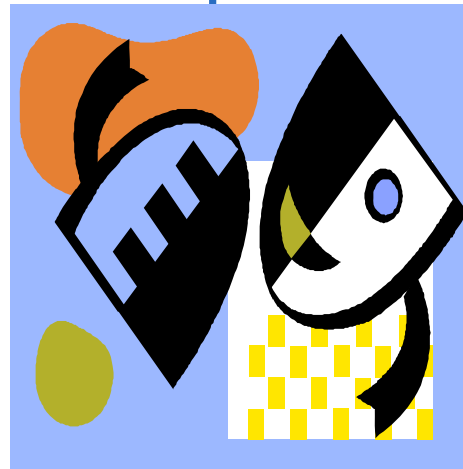
Post-modernism rejects:

- Boundaries
- Rigid genre distinctions



Post-modernism emphasises:

- Pastiche
- Parody
- Bricolage



Post-modernism

Post-modernism favours:

- Reflexivity
- Self-consciousness
- Fragmentation
- Discontinuity
- Ambiguity



Post-modernism emphasises:

- The destructured
- The decentred
- The absence of solutions

Modernism

Modernism, like post-modernism,
presents:

- Fragmented view of human subjectivity
- History
- The world we live in

But does so with a measure
of ... **Angst!**



Those with angst

- “Desperate” for discipline
- Seek unity
- Focus on the IT artefact
- Lament coherence lost
- Search for ...

“the core” ... “the Holy Grail”
of IS

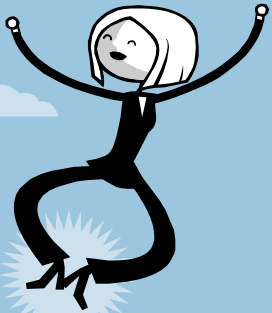


The post-modernist perspective

“Post-modernism, in contrast, doesn’t lament the idea of fragmentation, provisionality, or incoherence, but rather celebrates all this. The world is meaningless? Let’s not pretend that we can make meaning then, let’s play with nonsense; let’s enjoy the incongruities, the range of stances we take, and the emergence – the new knowledge that arises from the confluence of ideas emanating from our different worldviews. Let’s continue to explore terra incognita. Who knows what we might find ... ‘Don’t worry, be happy’.

Galliers, 2006; 326*

(*drawing heavily on Mary Klage’s course syllabus on modern critical thought at the University of Colorado)



Innovation and creativity

- “Mode II” thinking (Gibbons, *et al.*, 1995)
- Knowledge creation
- Emergence
- Trans-disciplinarity



Information Systems

- Let's unpack the term ...
- “The roots of IS are to be found in a number of different fields. One is Information Theory. Another is Systems Theory. A third comes from ... Change Theory.”



Lundeberg, et al., 1995

- cf. Trans-disciplinarity

Information

- “... that collection of data, which, when presented in a particular manner and at an appropriate time, improves the knowledge of the person receiving it in such a way that he/she is better able to undertake an activity or make a decision.”

Galliers, 1987

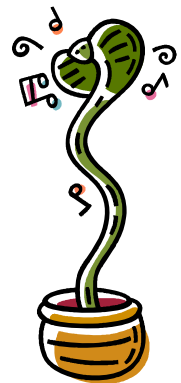


Information and data

- Information: enabling and contextual
- Data: context-free; ‘raw material’
- Consequences:
 - Within the boundary of an IS there must be attribution of meaning
 - IS comprises data manipulation (machines) and transformation of data into information (humans)
 - IS design requires explicit attention to purposeful human action/decisions

Systems thinking

- Two concepts: boundary; emergence
- Boundary:
 - A social construction (e.g., Berger & Luckman, 1966; Bijker, Hughes & Pinch, 1987)
 - “If we can define a system’s boundaries (and there may be a number of different kinds), then we have said something important about the system’s environments” (Checkland, 1985)
- Emergence:
 - ‘The whole is greater than the sum of the parts’



The early years

- Dickson, 1968:
 - “Management information – decision systems”
- Blumenthal, 1969:
 - “MIS: A framework for planning and development”
- Langefors, 1973:
 - “Theoretical analysis of Information Systems”

A potted history of IS

From ...



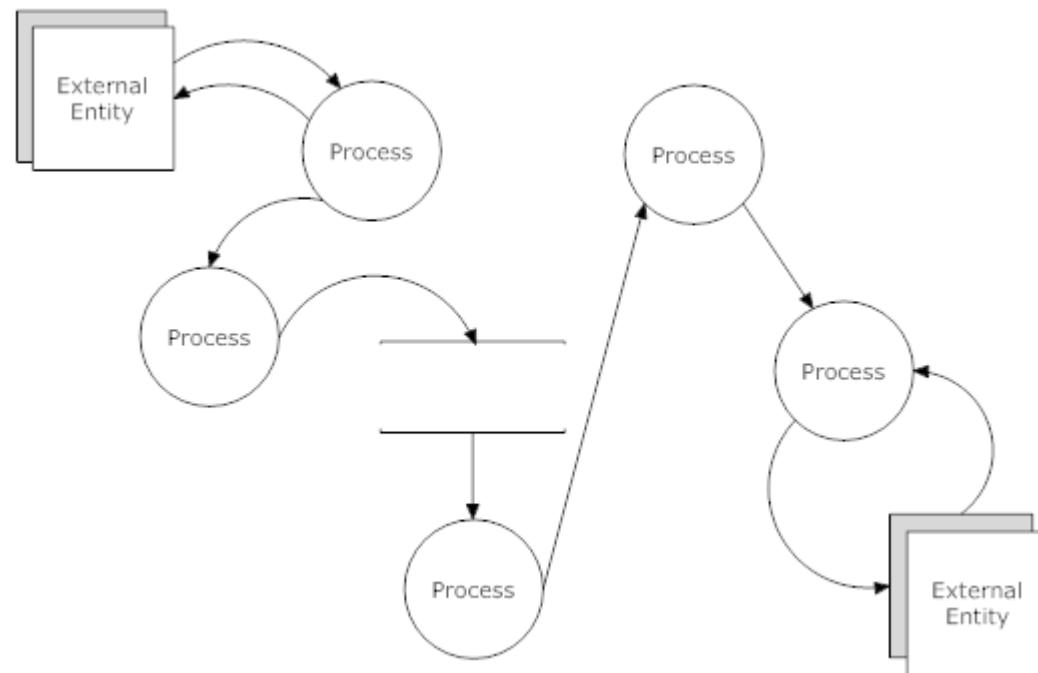
A potted history of IS

To ...



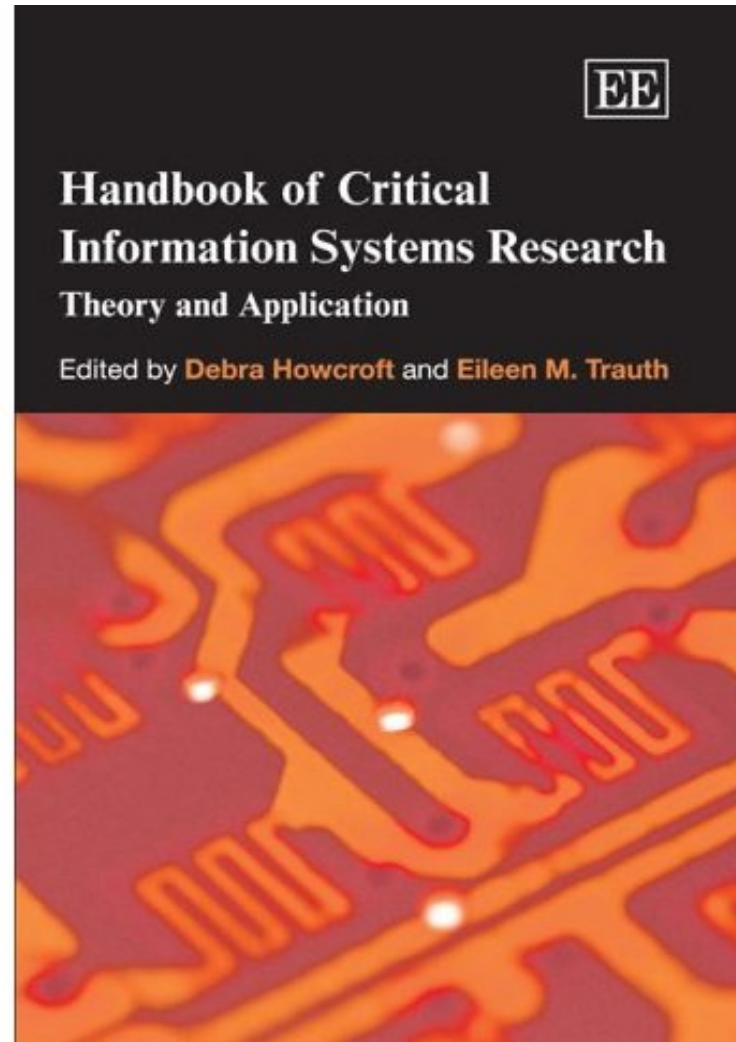
The tools of the trade

From ...



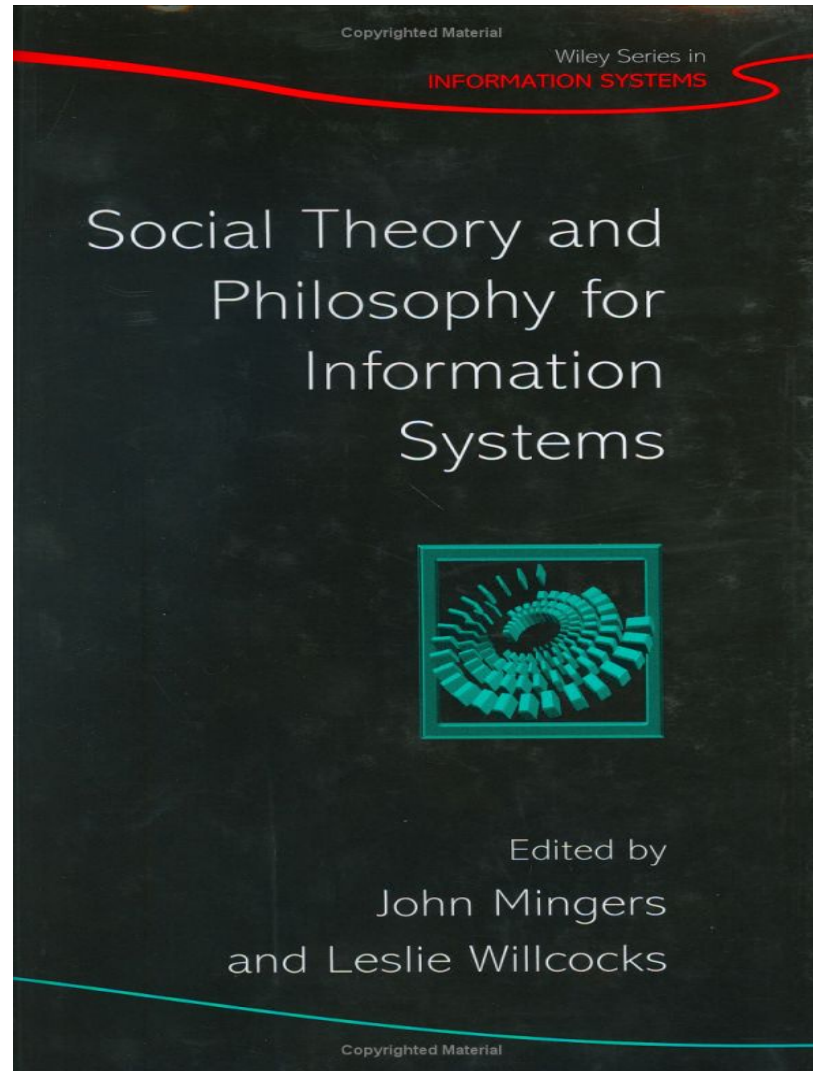
The tools of the trade

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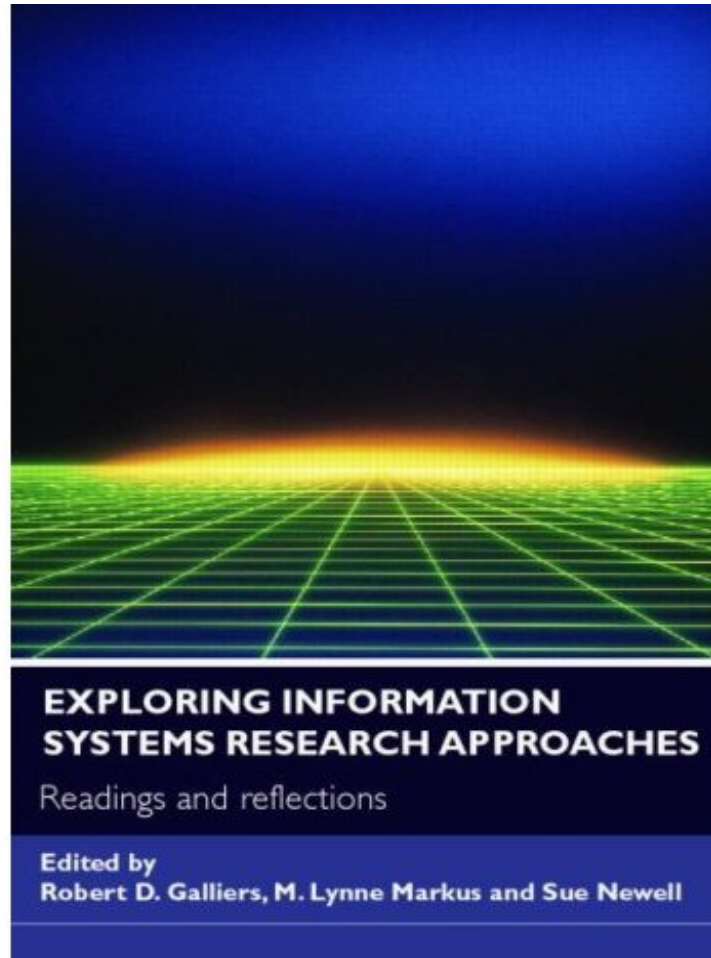
The tools of the trade

Or ...



The tools of the trade

Or even ...



The developing IS universe

- Impacts
 - Groups and GSS
 - Organisations
 - IOS and process improvements
 - Markets
 - Global, ethical and societal Issues

Research methods

- Varied
- “horses for courses”
- Multiple

A history of alternative perspectives

- Dearden, 1966, 1972:
 - “myth”; “mirage”
- Ackoff, 1967:
 - “Management misinformation systems”
- Rappaport, 1968:
 - “Another perspective ...”
- Emery & Sprague, 1972:
 - “Mirage or misconception ...”

A current debate

- Design science
 - determinism; control; optimal solutions; technology

versus

- Sociomaterialism
 - no control; distributed ethics; “design from nowhere” (Suchman); work practices

Knowledge creation: a new mindset

- “Rather than conceptualizing the process of knowledge creation as unidirectional (being part of a food change with IS at one end), we can conceptualize this process as multidimensional. IS scholars, along with scholars from other fields, can be seen as part of many knowledge creation networks throughout the world. The focus shifts to the linkages between networks.”

Baskerville & Myers, 2002

Strength through diversity

- “Our backgrounds, training and interests are very different. We must make that as a strength not a cause of argument.” (Keen, 1987)
- Ashby’s (1956) Law of Requisite Variety
- Boundary spanning ...and **boundary spanners** (Tushman & Scanlan, 1981)
- Bricolage; emergence; growth; development; expanding horizons
- “Don’t worry, be happy”



Back to the future?

- “These disagreements form part of the refiner’s fire that separates the slag from the steel. Those who bear the heat make the product stronger.”

King & Lyytinen, 2006: 354

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Kalle Lyytinen

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- “These disagreements form part of the refiner’s fire that separates the slag from the steel. Those who bear the heat make the product stronger.”

King & Lyytinen, 2006: 354

- “Once more unto the breach dear friends ... once more ...”

