

A Platform for a Pragmatic Metatheoretic Model for Information Systems Practice and Research

Roger Clarke

Xamax Consultancy, Canberra

Visiting Professor in the Research School of Computer Science, ANU
and in the Allens Hub for Technology, Law and Innovation, UNSW Law

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Motivation

- Support practice-relevant IS research
- Establish a sound basis for non-mainstream research
- Address important challenges in the IS profession and discipline esp. digital identity, data quality
- Achieve appropriate representation of natural objects, artefacts and animals, and particularly humans
- Achieve appropriate association of data with them
- Handle human sensitivities
- Pre-counter reviewers seeking an easy way to dismiss papers whose directions make them uncomfortable

A Platform for a Pragmatic Metatheoretic Model for Information Systems Practice and Research

- **Pure Research**

I want to discover and understand what is

- **Applied Research**

I have a research tool, so I'll use it

- **Instrumentalist Research**

There's a problem, so I'll try to solve it

- **'Pragmatism'**

- In Philosophy, concerned with understanding and action, not merely describing and representing
- In practice, approximates and articulates a layman's 'common sense' interpretation

A Platform for a Pragmatic Metatheoretic Model for Information Systems Practice and Research 'Metatheoretic assumptions and commitments'

- The most relevant elements of Metatheory:
 - Ontology – the study of existence
 - Epistemology – the study of knowledge
 - Axiology – the study of value
 - Methodology – the study of processes
 - Semantics, Linguistics, ...
- “Our ... methodology must be suitable for the environment which we study (ontology) and for how knowledge is to be obtained in that environment (epistemology), and our logic must conform to how our metatheoretic commitments indicate that arguments are to be made”

Key Aspects of Ontology

- The study of existence or 'being'
- Concerned with Phenomena
{Matter, Things, Events, Properties, ... }
- ...



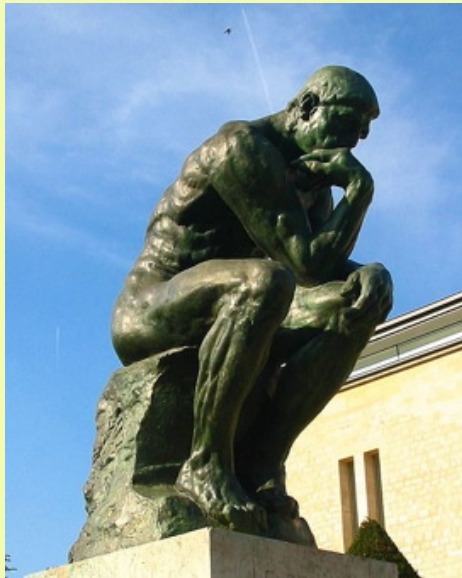
Materialism

Matter exists, independently of whether a human detects it.



Materialism

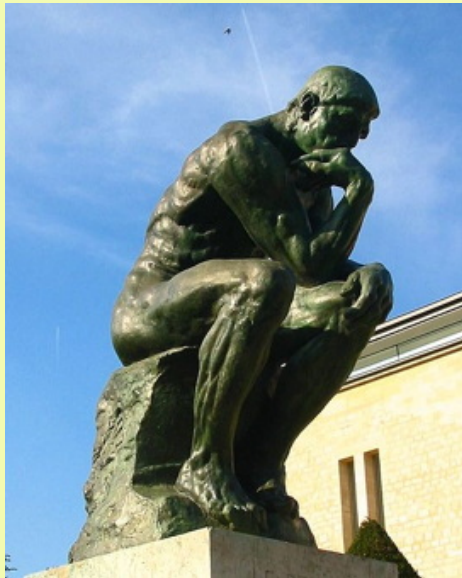
Matter exists, independently of whether a human detects it.



Cogito ergo est

Materialism

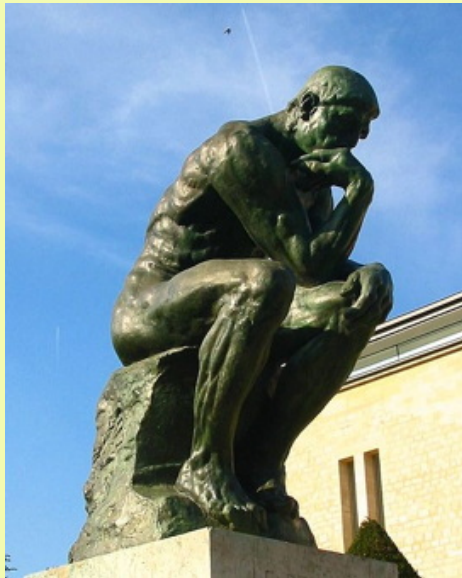
Matter exists, independently of whether a human detects it.



Cogito ergo est
I think it is, therefore it is

Materialism

Matter exists, independently of whether a human detects it.



Cogito ergo est
I think it is, therefore it is

Idealism

Everything exists in the human mind.
The 'real world' I think I see is only an idea.
That idea may be shared, but not identically

Key Aspects of Ontology

- The study of existence or 'being'
- Concerned with Phenomena
{Matter, Things, Events, Properties, ... }
- The Bunge-Wand-Weber (BWW) ontological model
- The Hiedeggerian onto-epistemological model
- Bunge's Systemist Ontological Model (BSO)
From Things to Systems; Inter-relationships plus Holism

A Pragmatic Ontological Model

- **The Dualism postulate:**
 - There are material realities (the Real-World)
 - There is internal 'mind-stuff'
(the spiritual, intellectual or Abstract-World)
- **Real-World Phenomena and Properties**
The wavelength of electromagnetic radiation,
hardness and brittleness of things, changes
- **Abstract-World Ideas**
Numbers, colours, hardness, brittleness, time,
lists of the intended functions of artefacts

Epistemological Aspects

- The study of knowledge and its sources
- **'Empiricism'** – knowledge is from sensory experience
- **'{Logical} Positivism'** – nothing is innate; if it can't be observed and/or measured, it merits no consideration
- **'Scientism'** – science is the only valid approach
- **'Apriorism'** or **'Rationalism'** – knowledge can be innate and/or derived from human reasoning

The Search for ~~Truth~~ Truce

- Blend sensory experience and reasoning
- Allow for varying criteria for 'truth', e.g.
 - Proof of truth
 - Belief of truth [?]
 - Reasonable presumption of truth (evidence)
 - Working assumption of truth (postulate)
- Recognise different forms of knowledge
-

Recognise Different Forms of Knowledge

- **‘Codified Knowledge’** (Empiricist / Positivist)
Expressed
In text, defined dialect, flowcharts, formulae, blueprints, ...
Disembodied, but communicable among people
Capable of delivering a coherent body of information
to individuals in particular contexts
- **‘Tacit Knowledge’** (A-Priorist / Rationalist)
Exists in a particular person
Informal and intangible
Not readily communicated

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Categories of Tacit Knowledge

- **Acquaintance Knowledge**
“Having sensory experience of”
Concerned with objects
- **Procedural Knowledge**
“Knowing how to”
Concerned with skills
- **Propositional Knowledge**
“Knowing that”
Concerned with assertions

A Pragmatic Epistemological Model

- “An open attitude toward any kind of epistemological foundation that might work”
- “Epistemological and methodological diversity”
- “Disciplined methodological pluralism”
- Empiricism, if non-human entities predominate
 - Guidance systems for aircraft and spacecraft
 - Heavily-automated production control /inventory systems
- Rationalism, in systems with human involvement or significant impact on humans

Axiological Aspects



- The study of value(s)
- A **'Virtue'** dimension of 'good / bad'
(Loose even mystical criteria?)
- A **'Deontic'** approach, related to duty or obligation
on a 'mandated / optional / forbidden' dimension
- A **'Utilitarian'** or **'Consequentialism'** approach
based on the impacts or outcomes,
which depends of clarity of purpose (Teleology)
- Positivism assumes a common denominator
- Antipositivism rejects that as fantasy

Axiology in IS


- Dominance of a narrow interpretation, based on **Economic and Financial** factors – 'shareholder value'
- **Social and Environmental** factors?
Triple-bottom-line reporting / 'people, planet and profits'
Corporate Social Responsibility (CSR)
- **Human** values?
 - Hedonism, Conservation, Openness to Change, Self-Enhancement, Self-Transcendence
 - Conservation: Conformity / Obedience, Tradition / Humility / Devoutness, Security / Social Order
- Multiview, Soft Systems Methodology, Participatory Systems Design, Value-Sensitive Design

Researcher Perspective Theory

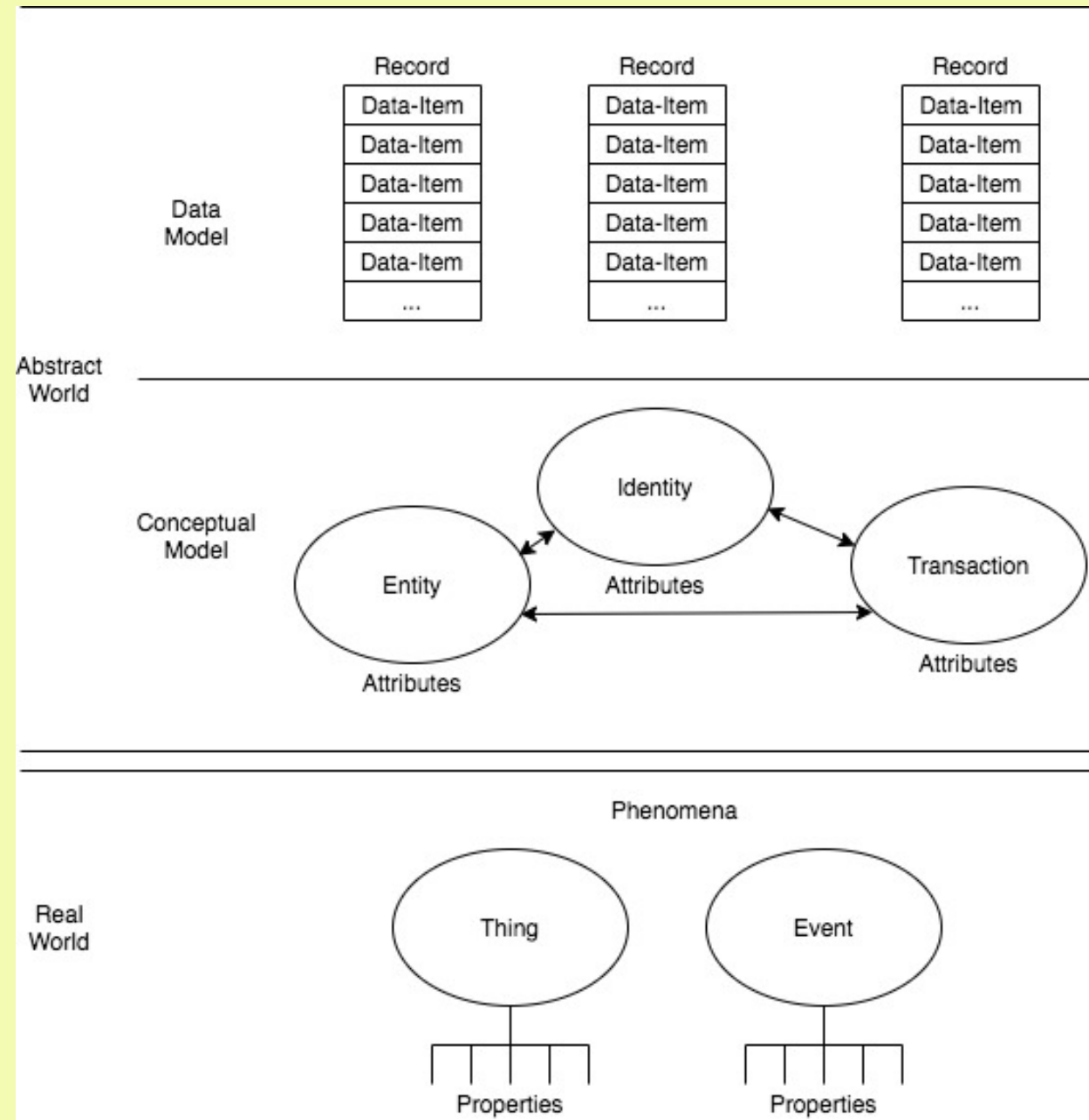
- c. 90% of papers on research of relevance to IS practice are Single-Perspective, i.e. all other stakeholders' interests are constraints on the primary stakeholder
- c. 90% of those papers privilege the System Sponsor
- Far less Single-Perspective other-than-System-Sponsor
- Little Dual-Perspective Research (cf. win-win!?)
- Very little Multi-Perspective Research (even in supply chain and network studies!?)
- IS Researchers score a Fail on axiological insight

A Pragmatic Axiological Model

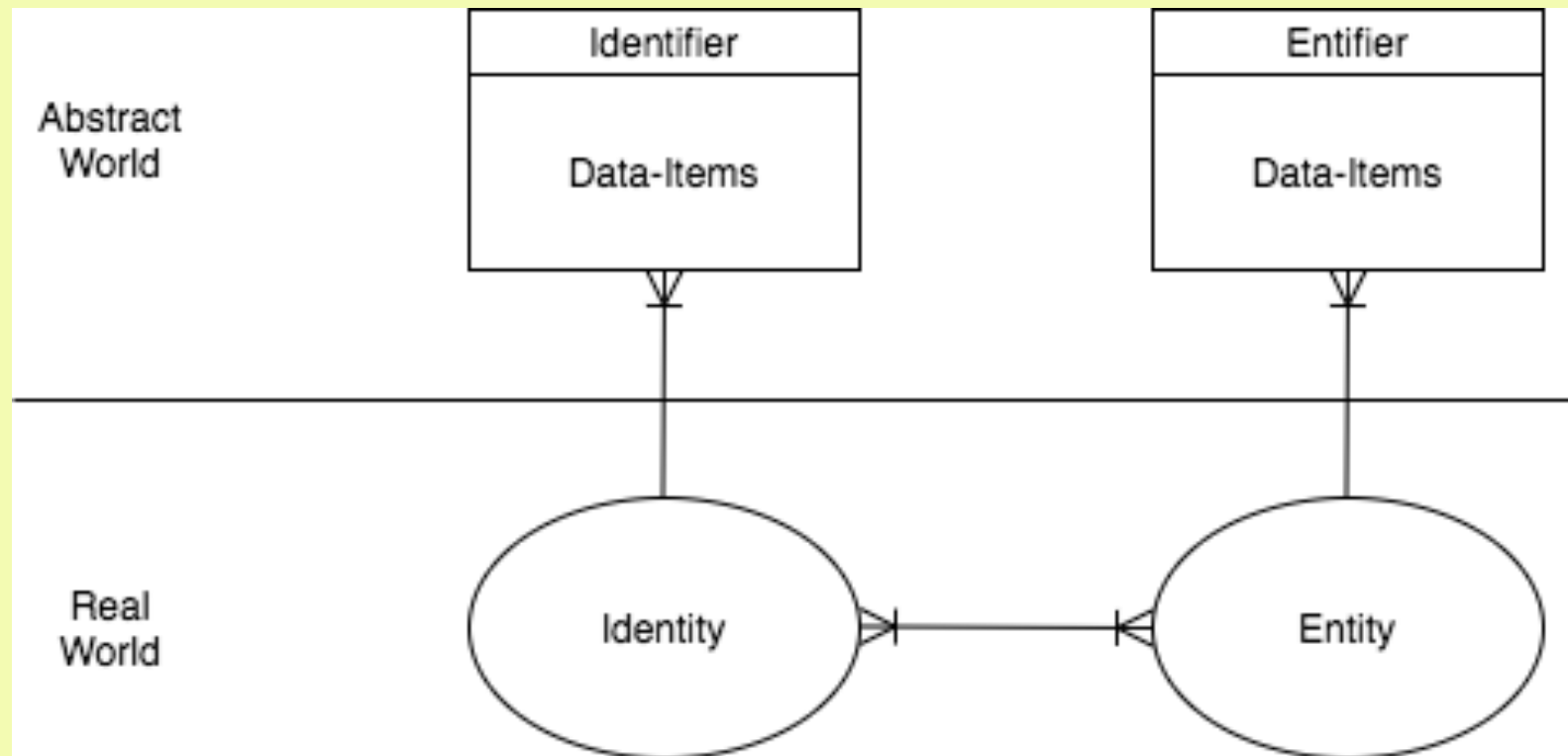
- “An open attitude toward any kind of axiological foundation that might work”
 - “Axiological diversity”
 - “Disciplined axiological pluralism”

 - Single-Perspective
 - System-Sponsor 90%
 - Other Stakeholder 5%
 - Dual-Perspective 3%
 - Multi-Perspective 2%
- 

Part of the Framework for Application of the Pragmatic Model



An Application to (Id)Entity Management



Agenda

- Motivation
- Why Instrumentalist and Pragmatic?
- ‘Metatheoretic assumptions and commitments’
- Ontological Aspects
- Epistemological Aspects
- Axiological Aspects
- Application

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