INFORMATION-AS-CONCEPT

PRELIMINARY QUESTIONS

- DIKW Hierarchy/Pyramid/et all.
  - Concept has been around ethereally forever, but probably first in the 70s (Wallace, 2009)
    - Why is it necessary?
    - Have the concepts of the attributes changed? Specifically, information?
    - What are the practical applications of the DIKW hierarchy?

- Information-as-thing
  - Buckland's 1991 Article
    - But… is it? Really?
    - How has the perception of information-as-thing changed over time?
    - What are its practical applications? How does that affect the DIKW hierarchy, etc?

INFORMATION-AS-THING

- Though not the piece on the subject, sparked ensuing ontological debate that continues
  - Some believe that it is too restrictive
    - Luciano Floridi's Philosophy of Information (1999)
    - Information is abstract (Dineen, JD. Brauner, C. 2017)
      - represented in a physical or digital object
  - Does the basic premise of information-as-[x] hold up?
    - Buckland defends it through its evolution
    - Issues with simplicity of information-as-knowledge (Dineen, JD. Brauner, C. 2017)
    - Issues with information-as-process

DIKW HIERARCHY

- Why is it necessary?
  - Organizing> helps structure the deliberation of what it is to “know”

- Current reception:
  - Not wrong, per se
  - Some argument that it causes laziness in data collection (Frické, M. 2009)
    - Can be reductionist (“operationalist”)> forces concepts into groupings that are too convenient
    - too instinctual instead of heuristic
  - *Cultural* meanings of terms like data, information, et all, change through different pressures

APPLICATIONS OF DIKW

- Can be found in a wide variety of real-world applications
  - Big Data
    - Analytics
    - Database Mgmt
    - Machine Learning
  - Data Sharing between governments
  - Business Management Theory

- Not hard to imagine its application to just about anything

INFORMATION

- Ever-evolving, deliberated topic
- Different definitions to different people in different situations
- Must information be confined to –as-thing, etc.?
- Philosophy of Information
  - Introduced in the late 90s, lots of works by Luciano Florini
  - Recent notions that information is some permutation of
    - abstract
    - Objective
  - Information in the context of Semiotics
    - Study of the use of symbols & signs

INFORMATION AS ABSTRACT

- Is information purely confined to a physical entity?
- What happens to the knowledge gained if it's no longer in the physical object that was observed?
  - Book on how to garden is loaned out from library and returned; has the reader lost the information gained upon return?
  - Information-as-knowledge, in Buckland's sense, would say that the knowledge is "a copy" of the book
    - This abandons its own idea that information is the book itself
  - Information as an abstract means the information would be "how to garden."
    - If the information were not actually how to garden, i.e. the reader now kills grass and plants, it would not in fact be information at all

-(Dinneen, J.D. & Brauner, C. 2017)

INFORMATION AS OBJECTIVE

- More mathematically driven
- Uses semiotics

- Questions
  - Is poetry information if it isn't "true?"
  - Context
    - Symbols without context: are they anything?

Levels of information			Reasons for it not to be information		
Form	**Dimension**	**Example**	**Problem**	**Example**	**Name**
Differences, marks, tokens, e.g., indexical signs	Environmental / physical	Tree rings, cloud chamber tracks, animal tracks, door knock, geological strata	No difference or causal relation	Randomly generated differences, hard disc wiped clean	Void or blank
Signs involving some form of coding, eg iconic signs	Syntactic	Maps, icons, instruments, graphs and charts, pictures	Not well-formed	Pdf file with wrong coding	Garbage
Signs that are purely symbolic	Semantics	Natural and artificial languages, websites, databases	Well-formed but not meaningful or untrue	"Green dreams sleep furiously" Computer output from test data	Gibberish or mis-information
Speech acts, conversations, communications	Pragmatics	Questions, commands, requests, commitments	WFD, meaningful and true but not sincere or appropriate	Lies, deviance	Dis-information

Semiotic Level	Function	Different Modalities at each Level that can affect Meaning
Empiric	Transmission	Speech, handwriting, gestures, printing, electronics (SMS, email, social media etc.)
Syntactic	Data representation	Binary, digital, figures, maps, diagrams, pictures
Semantic	Expression of meaning	Same thing said differently; tone of voice, body language, sub-text, emotion
Pragmatic	Purpose/effects	Illocutionary and perlocutionary effects, deception
Social	Context	Norms, functions, context, distortion, suppression, the media

Mingers, J. Standing, C. (2018)

IMPLICATIONS

- Information is everywhere
- The DIKW hierarchy and information-as-thing are not wrong
  - Beyond the basic frameworks they present
  - There is more nuance than such a simplistic, if mostly accurate, model

- Concerns about aggregation of data> the information overload
  - What data is being aggregated and in what groupings? Voluntarily collected or not? What presumptions are being made?
  - misinterpretations of the corresponding information from data> therefore knowledge as well
    - Consequences of mistaking knowledge as information if Information doesn't have more consensus or common understanding(s)
  - If information requires some processing from the data stage, the effects from misconstrued information (which is not really information at all) being widely disseminated are unimaginable

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