modeling closer to



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this thing exists

Where is our thing now?

this thing exists

Fundamental Assumption Something requires something else

-this thing exists

Fundamental Assumption Something requires something else

The something and the else are distinguished by their differences. In this case the edge of the thing against the backdrop of different color. To be different is to have at least one separating property.

this thing disappeared

this thing reappeared

Fundamental Assumption Recollection requires identification

this thing reappeared

Fundamental Assumption Recollection requires identification

Identification is a search process by which circumstances are matched against available data, ending in one of two outcomes: an identity is established or not. Recollection requires a memory of available data and to it assigned identities.

-this thing:

- is orange
- is round
- is centered
- ... disappeared briefly



-is this the same thing?

it is also orange it is also round but it is no longer centered ∴ it is new *or* it is moved



-this other thing:

is orange is round is *not* the centered thing ∴ is new

-this thing:

- is orange
- is round
- is centered
- : disappeared briefly



-this thing:

is orange

is round

is centered

: disappeared briefly

Fundamental Assumption Identities can be assigned to things

#42



-this thing:

is orange

is round

is centered

: disappeared briefly

Fundamental Assumption Identities can be assigned to things

When something is sufficiently different from something else to be distinguishable, it can be given a **unique immutable eternal** identity.

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Fundamental Assumption Identity is the only immutable





Fundamental Assumption Identity is the only immutable

Everything about a thing may change over time, except its identity. Identities persist even after things have perished, because we can still recollect them.



D02109

FF3403

What is orange?

FF4F00

FD720E

FF9009

D02109

FF3403

What is orange?

Fundamental Assumption Values are imprecise with deferred evaluation

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What is orange?

Fundamental Assumption Values are imprecise with deferred evaluation



FD720E

FF9009

Someone will at some time evaluate **the actual value** against an imprecise description and determine if a thing can be said to be described by it or not. Everyone who encounters *"thing has value"* will revaluate the imprecision.



FF3403

What is orange?

Fundamental Assumption Values are imprecise with deferred evaluation

Important Consequence

Information is subjective and contextually incomplete



FD720E

FF9009

Someone will at some time evaluate **the actual value** against an imprecise description and determine if a thing can be said to be described by it or not. Everyone who encounters *"thing has value"* will revaluate the imprecision.



are all orange are all round but have different positions ∴ they are similar



Fundamental Assumption Similar things can be classified

these things:

are all orange are all round but have different positions ∴ they are similar



Fundamental Assumption Similar things can be classified

Some properties of a thing may be shared with other things, and these may then be classified by a unique label. Such labels produce sets of things.

these things:

are all orange
are all round
but have different positions
∴ they are similar



are "Dots" are "Colored Dots"



are "Dots" are "Colored Dots" are "Points" are "Scattered Points"

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Fundamental Assumption Classification is neither unique nor universal

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are "Dots" are "Colored Dots" are "Points" are "Scattered Points"

Fundamental Assumption Classification is neither unique nor universal



There may be several valid and possibly hierarchical classifications, of which some can be subjectively preferred in different situations.





Fundamental Assumption Classifications are not infallible

Orange courtesy of Wikipedia, Evan-Amos, <u>CC BY-SA 3.0</u>



Fundamental Assumption Classifications are not infallible

Even classifications may change over time as new properties become available.

Fundamental Assumption Things may turn into new things

Orange juice courtesy of Flickr, Marco Verch, CC BY-SA 2.0



Fundamental Assumption Things may turn into new things

If a thing becomes sufficiently different it may warrant the designation of new identities, indicating that this thing has now become something else. When or if this happens is open for debate.

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#43 #555





What have we learnt?

Something requires something else Recollection requires identification Identities can be assigned to things Identity is the only immutable Values are imprecise with deferred evaluation Information is subjective and contextually incomplete Similar things can be classified Classification is neither unique nor universal Classifications are not infallible Things may turn into new things

What have we learnt?

Something requires something else Recollection requires identification Identities can be assigned to things Identity is the only immutable Values are imprecise with deferred evaluation Information is subjective and contextually incomplete Similar things can be classified Classification is neither unique nor universal Classifications are not infallible Things may turn into new things

How do we approach this?

Through a *posit* in transitional modeling:

$$[\{(,),\ldots,(,)\},\sim,\sim]$$

The least amount of structure that lets us express pieces of imprecise information and subjectively uncertain opinions about them.

Transitional Modeling

Is still producing models, but aims at being better at capturing reality than existing techniques. Many other modeling techniques, including those within Ensemble Modeling, can be derived as special cases.

All models are wrong, but some are useful. – George Box

Anchor Modeling

