Does the real world fit into a general feature model? (for EuroSDR DMWorkshop)

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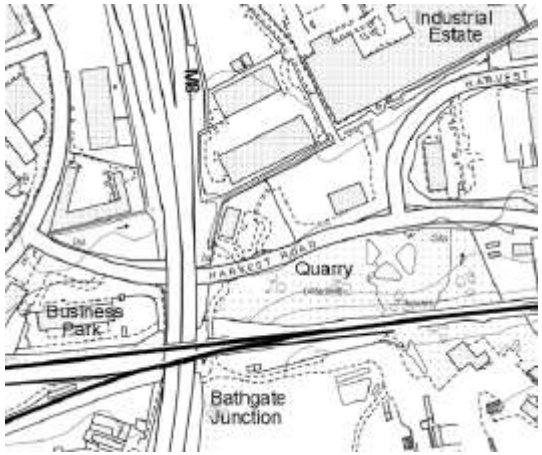
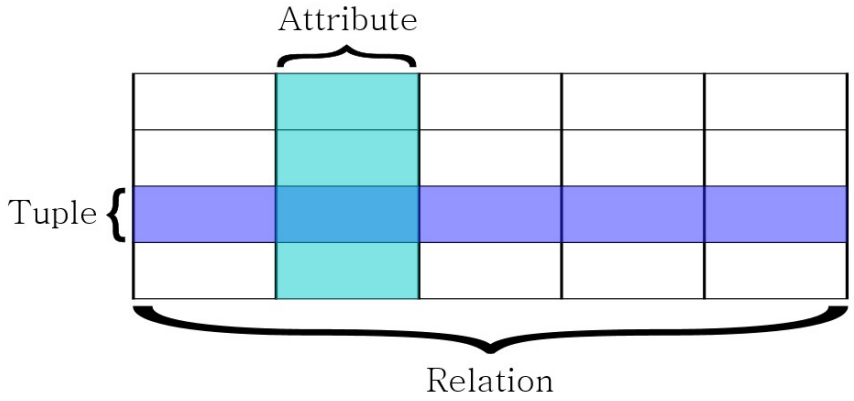
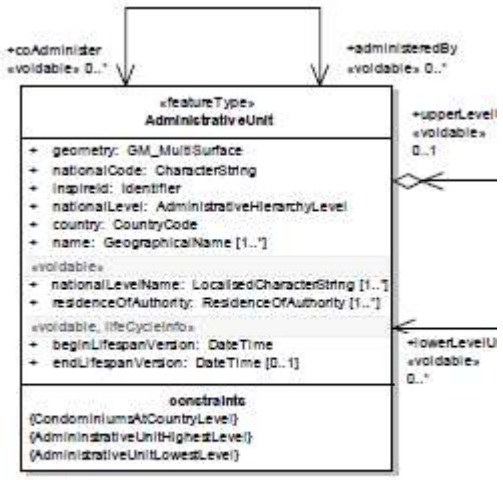
A brief history of ~~time~~ GI data modelling

- Paper: symbols, lines, area fill, text
- Raster
- Points, lines, polygons, text - Vector cartography
- General Feature Model
  - Implemented as relational or tree structured
  - (& coverages)
- Linked / graph data



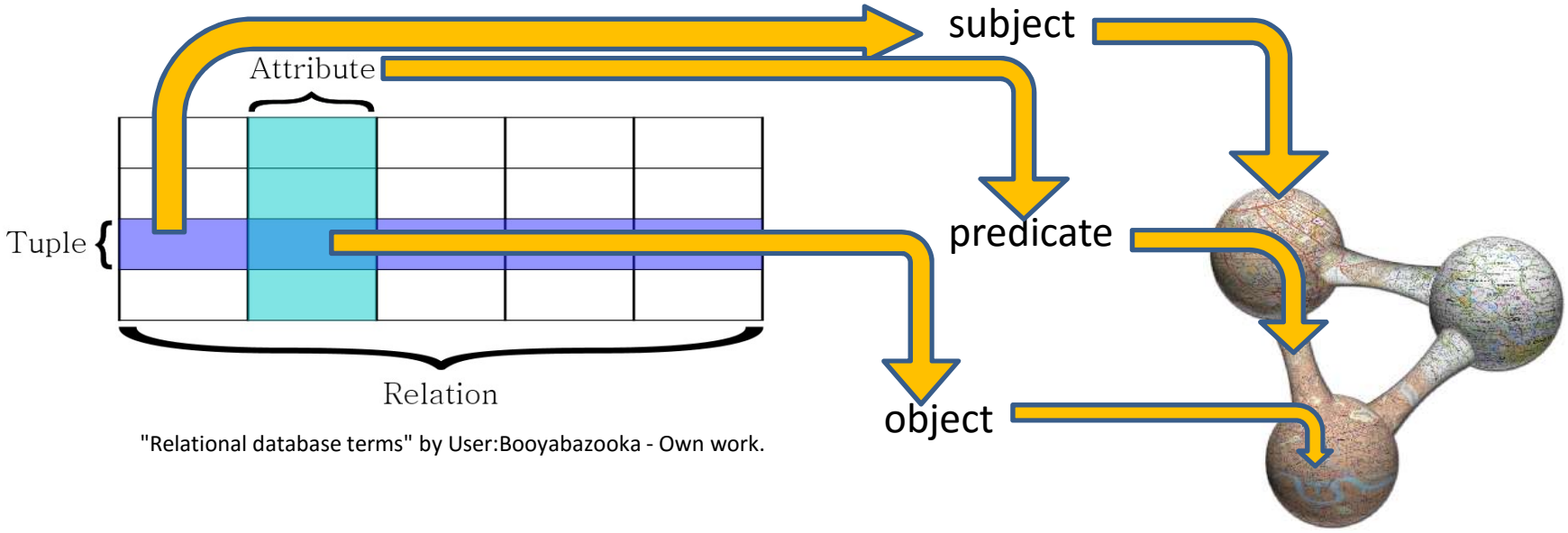


"Relational database terms" by User:Booyabazooka - Own work.



Open & closed data models?

- Linked data people criticise relational data models as ‘closed’:
  - “Closed world assumption”: any statement that is true is known to be true
- Is linked data any different?



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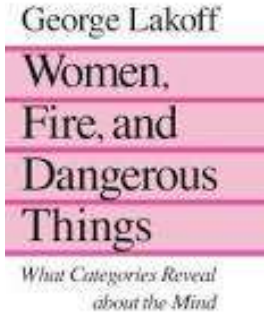
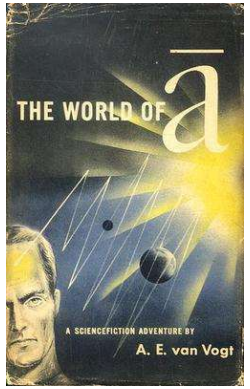
Whose ~~line~~ classification is it anyway?

- Is your building the same as my building?
- Aristotle or null-A?
- Women, Fire, and Dangerous things





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Open & extensible classifications

- GFM treatment of unknown, uncertain, and new values
- Open Street Map
  - Crowd source the classification
- Ordnance Survey's GeoBase-04
  - A sea of components
  - Areas with form & function
- Schema-aware software

- Can we ever know enough about our domain?

Pros & cons – my thoughts: GFM-based models

- with explicit, documented, classification!
- Relational or tree structured (XML)
- Most people classify things
  - Can match the way communities think
- Can be adjusted to new knowledge
- Can perform and scale
- …not (necessarily) closed, in either sense

✔ Performance

✘ Effort to extend

Pros & cons – my thoughts: Graph data models

- ‘linked data’
- Can be used to explore
- Can be useful for combining disparate data
- Hierarchical (tree) models
- Fit some kinds of things
  - ✔ Easy to extend
  - ✘ Performance

Other conceptual models exist:

- cartographic
- raster / grid / coverage

What do you think?

- Can GFM-based implementations be open and extensible? and still perform?
- Can we ever know enough about a domain to completely model it?
- Are generic data models useful?
- Do extensible code lists break interoperability, and even software?

- Do you have an (organisational) approach to estimating how much you don’t know?

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