Introduction to linked data

Using Linked Data Vocabularies

Why reuse vocabularies

- Someone else has thought through the issues
  - many of these vocabularies have had a lot of effort put into their design
- Other people will understand the widely used ones
- There may be software designed to process them
- Enables reuse of data from different sources
  - helps with linking data – reduces information friction

Example - Codelists

- We often encounter situations where we use a controlled vocabulary
  - bathing water quality: good, excellent, …
  - status values are often from a controlled vocabulary
  - appointment request: morning or afternoon
  - film classification: U, PG, 12, 12A, 15, 18, NR
  - estate type: freehold, leasehold
- Commonly represented in data by a code, e.g. "am"

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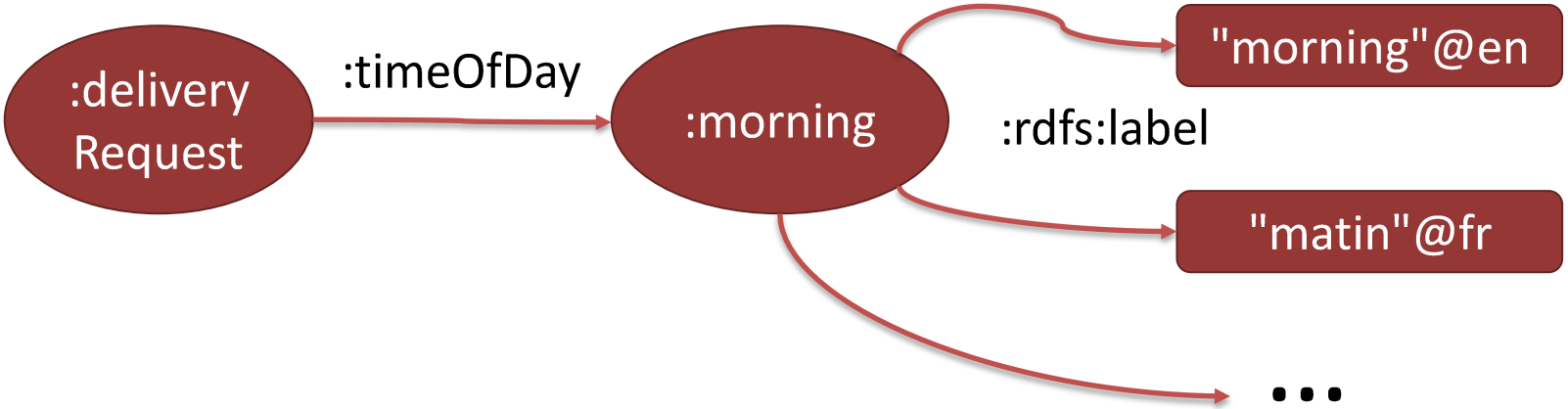
We could do this

- this reflects what is typically done with non RDF representations
- it gives us no way to say anything about what we mean by 'AM'
- Will a French or a German or a Chineese person know what it means?

Better to do this



- If we give the controlled vocabulary term a URI we can then say things about it.

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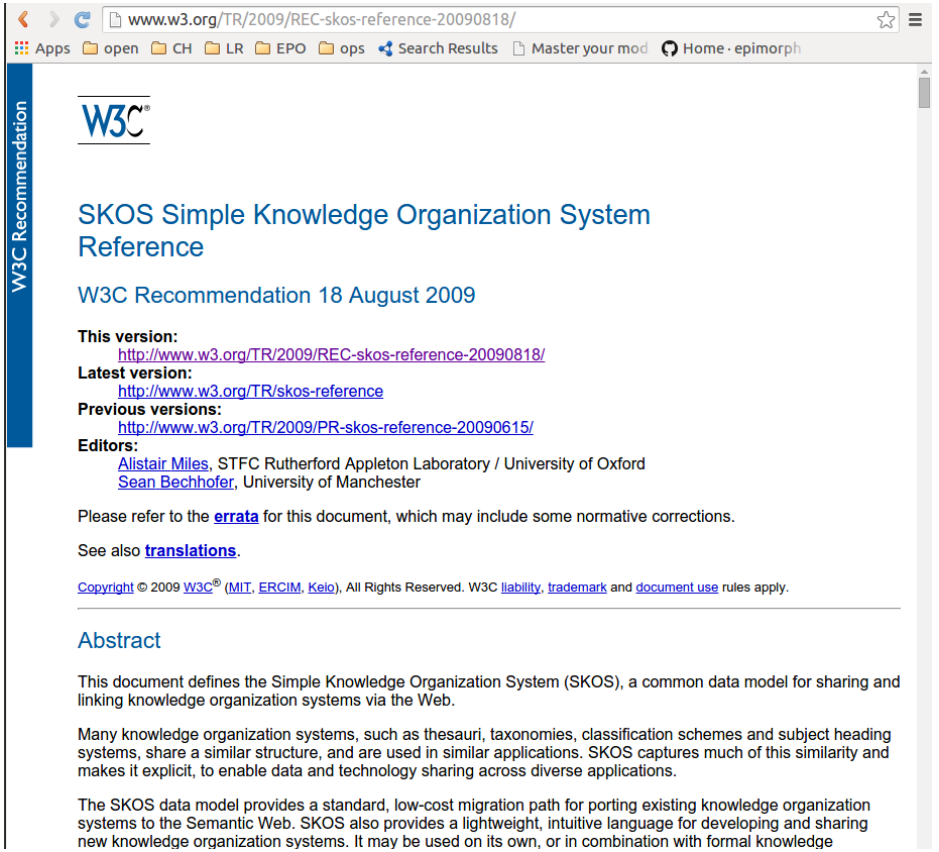
SKOS: A standard vocabulary

- Codelists
- Taxonomies
- W3C recommendation
- Widely used and respected



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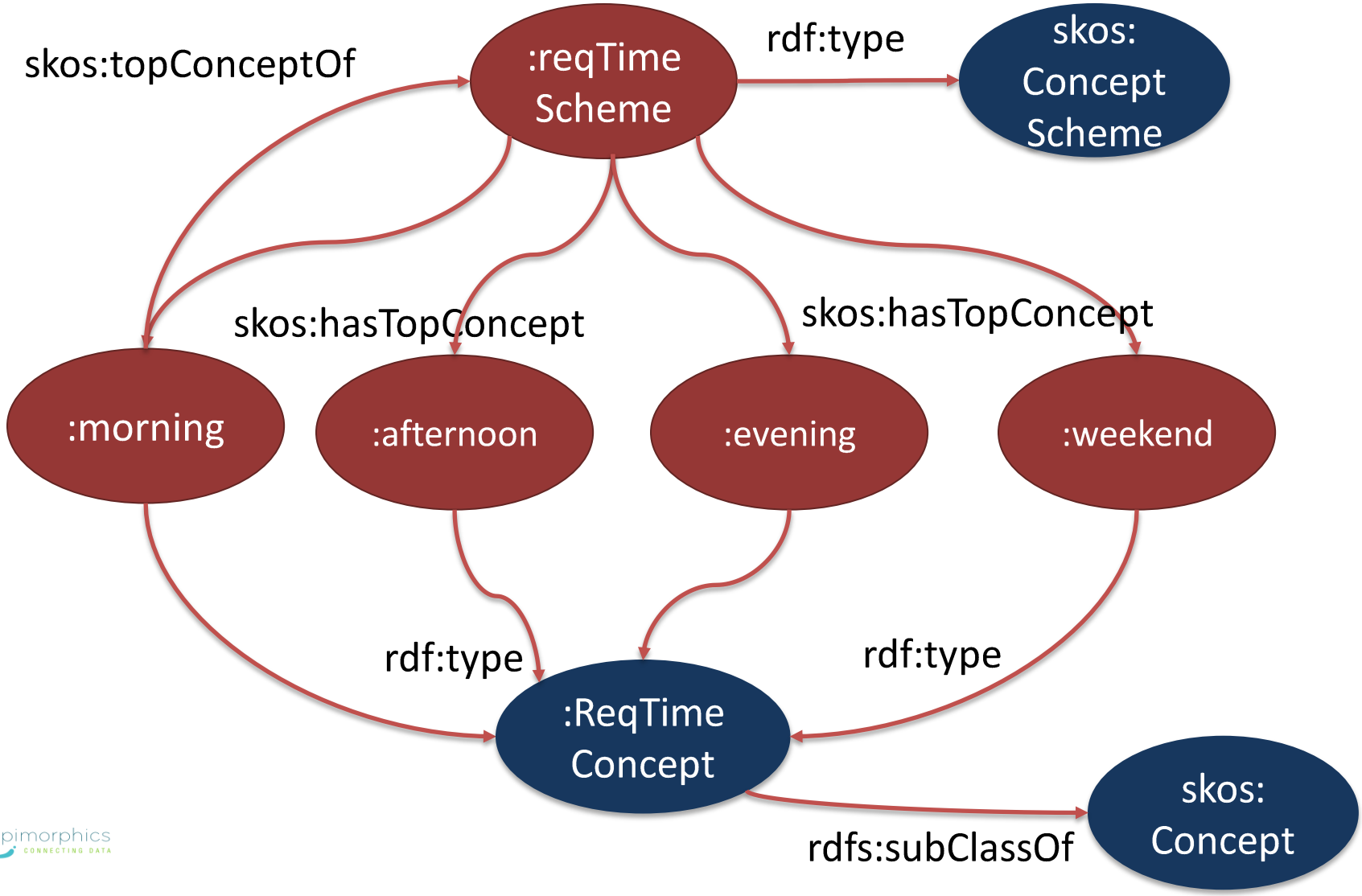
SKOS Concept Scheme



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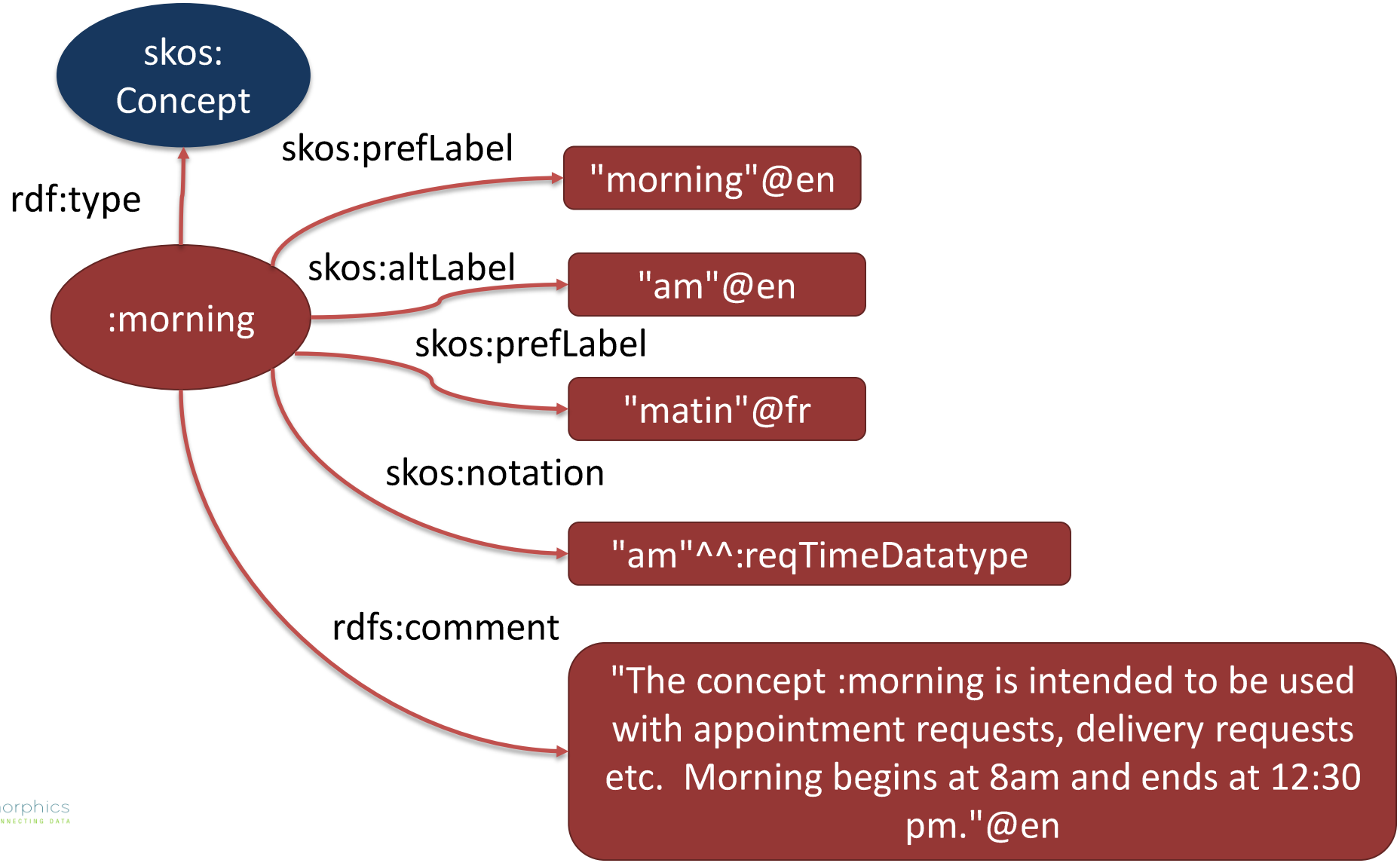
For each Concept



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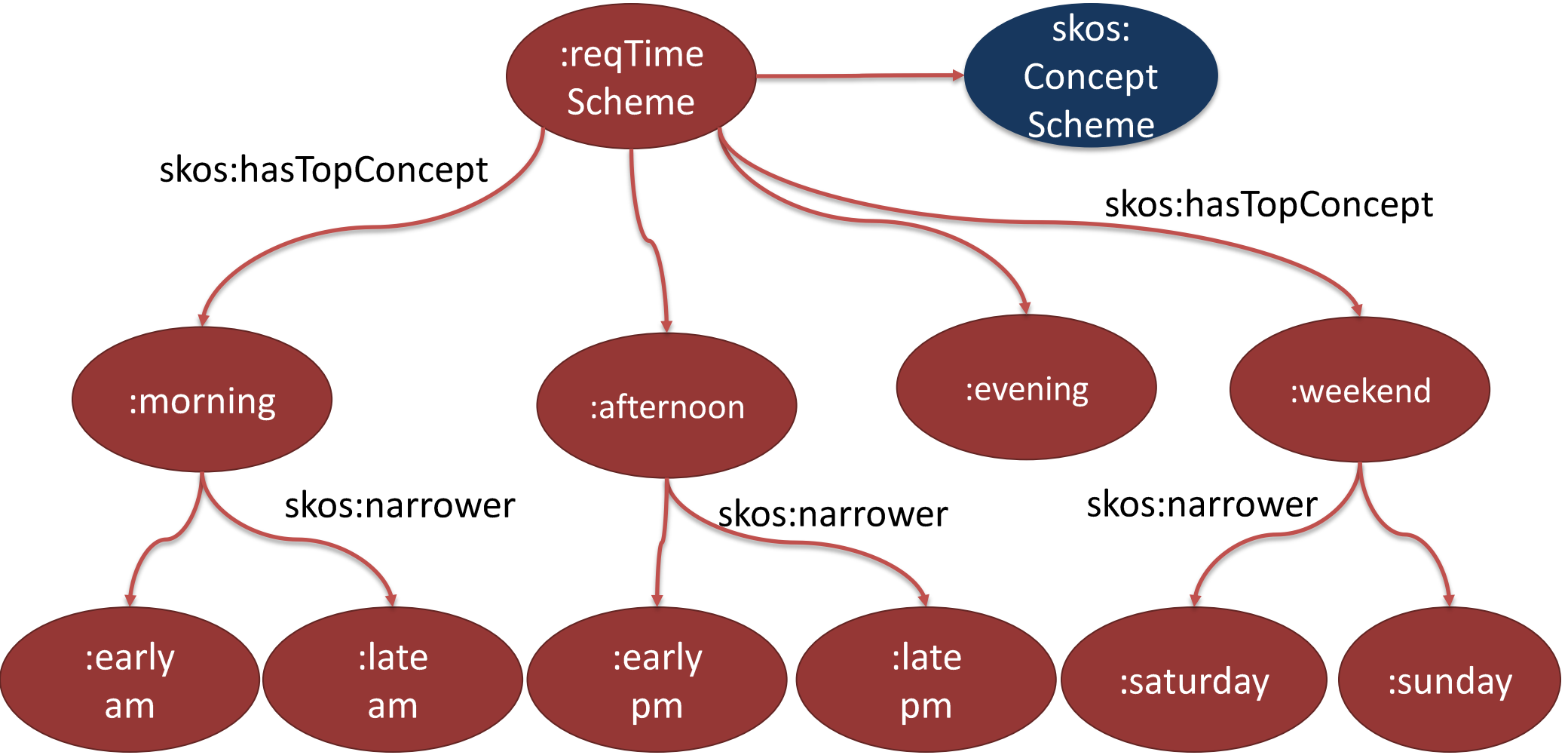
Exercise

- Pick a code list for something you are familiar with
- Sketch out a concept scheme for it

Concept Schemes can be hierarchical



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A list of SKOS properties

- label properties
  - skos:prefLabel, skos:altLabel, skos:hiddenLabel
- skos:notation
- documentation properties (skos:note)
  - skos:changeNote, skos:definition, skos:editorialNote, skos:example, skos:historyNote, skos:scopeNote
- semantic relations (skos:semanticRelation)
  - skos:narrower, skos:broader, skos:related, skos:narrowerTransitive, skos:broaderTransitive
- mapping properties(skos:mappingRelation)
  - skos:closeMatch, skos:exactMatch, skos:broadMatch, skos:narrowMatch, skos:relatedMatch

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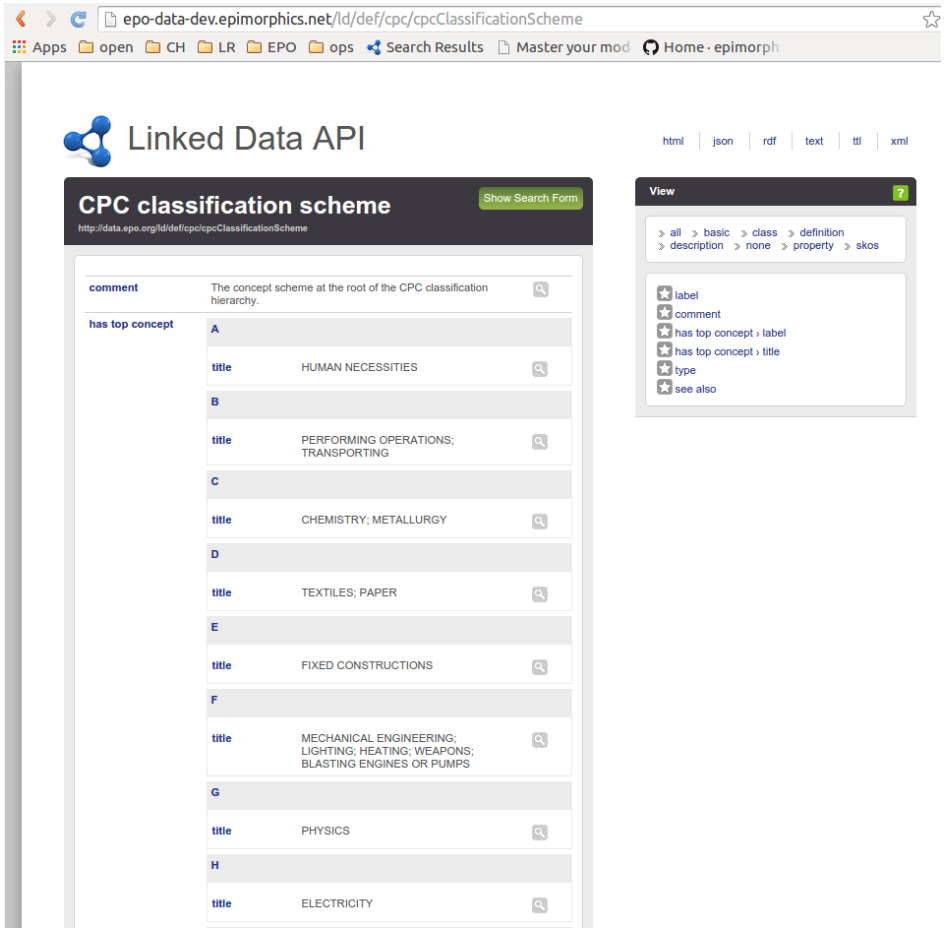
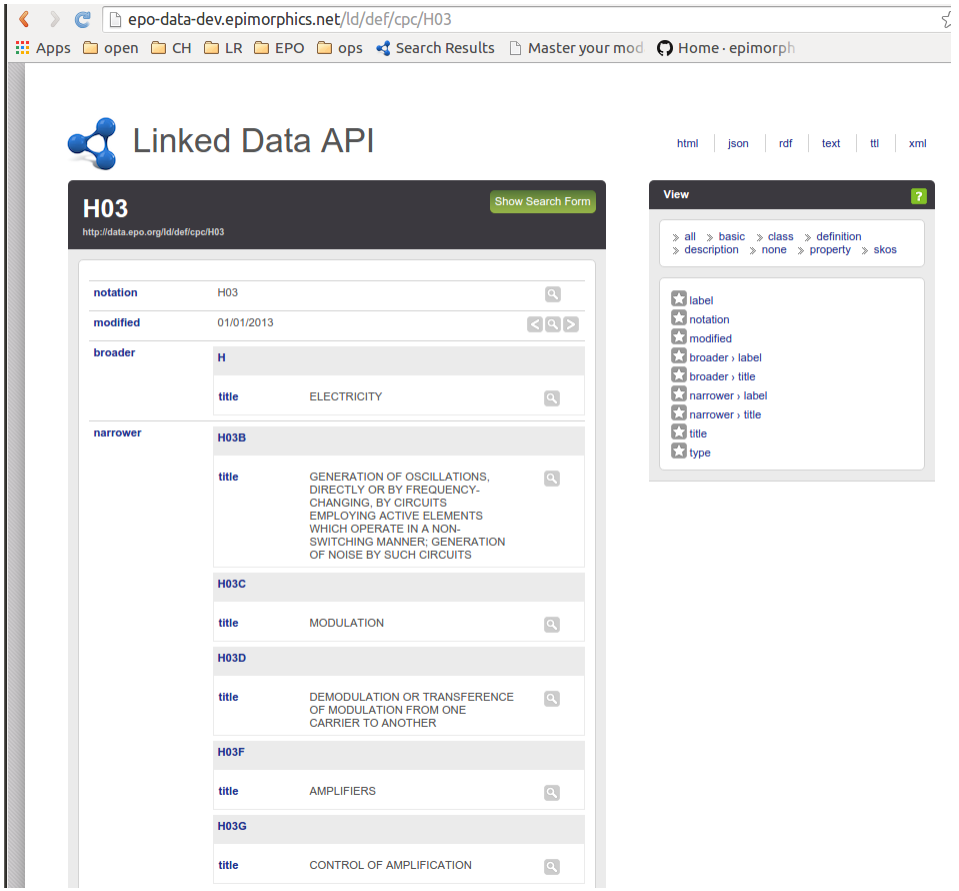
Example: the CPC classification scheme





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My point is …

- an illustration of a common use case
  - controlled vocabularies
- an example of a high quality vocabulary
- skos is a relatively simple vocabulary
  - broad range of application
- it is the product of a lot of careful design work
- and decades of experience from the taxonomy community

Questions/Observations

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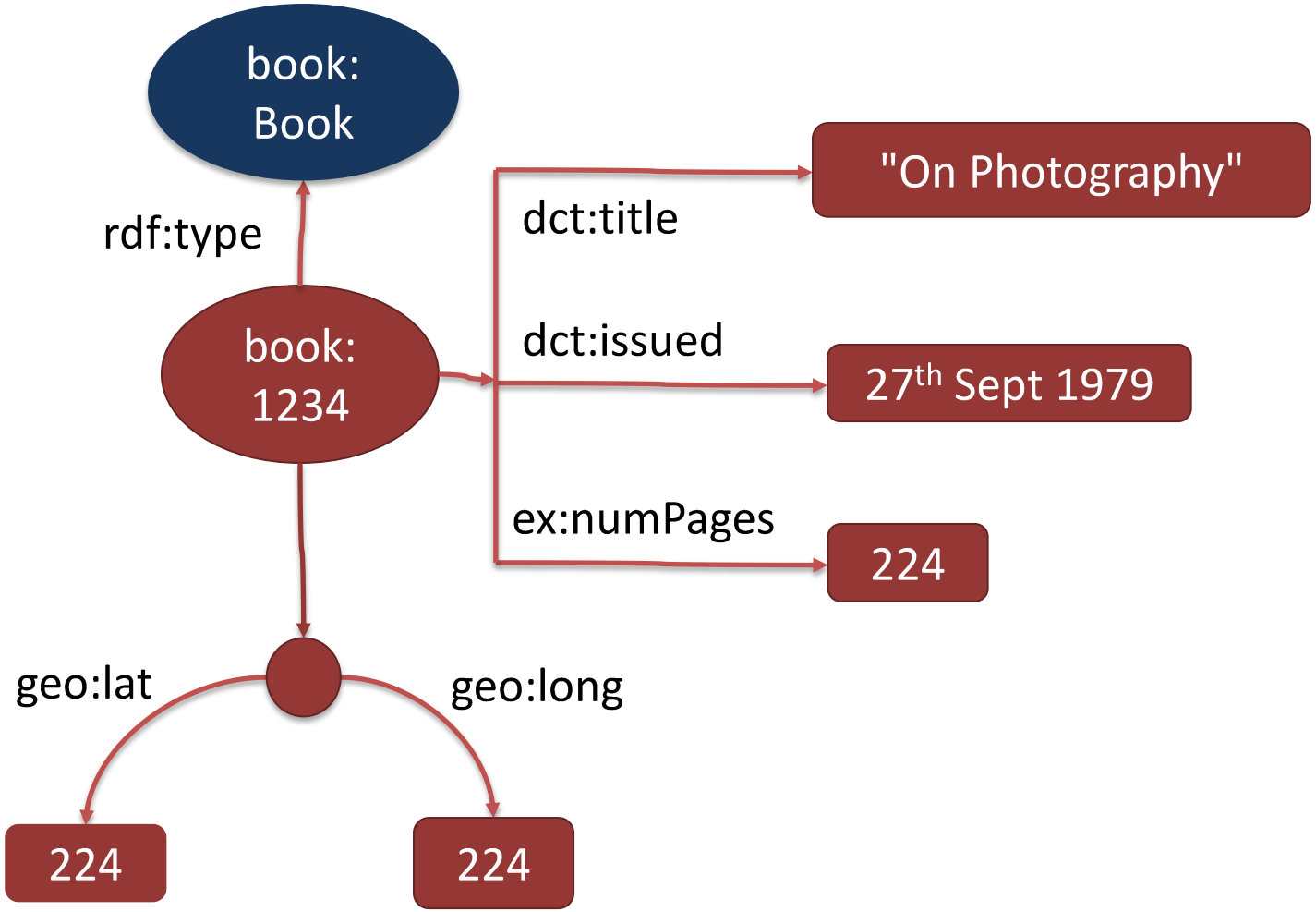
Bubble and Arc components



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