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# GNDO and AgRelOn: Two Vocabularies for Cultural Heritage Authority Data

# One aspect of cataloguing is to show relations between publications and related entities

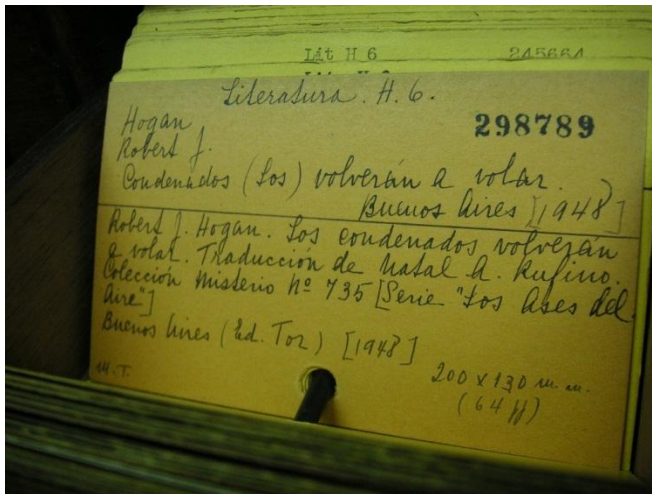
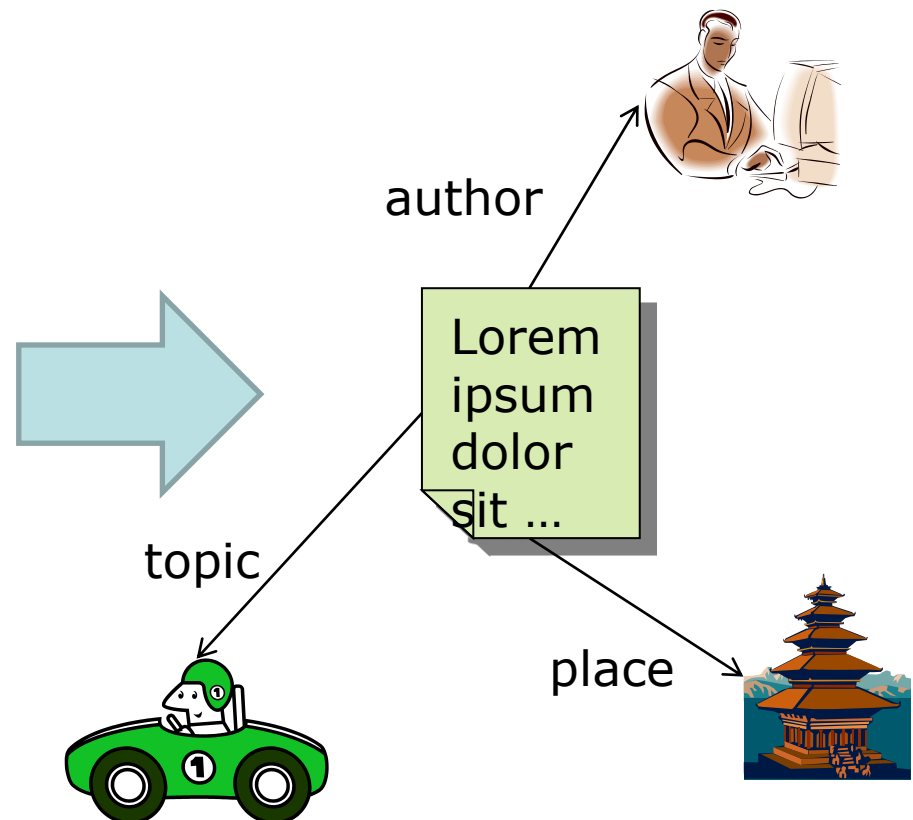


Photo by Beatrice Murch (CC BY-SA): <http://flickr.com/photos/blmurch/465623933/>



## Libraries keep those related entities in so-called authority files

*ICONCLASS*  
*LC-NAF* *VIAF* *LCSH*  
*DDC* *SÄO*  
*TGN* *STW* *RAMEAU*  
*GND* *AAT*

# There are no standard vocabularies to represent all kinds of authority data in RDF

## Investigated vocabularies:

### Library and cultural heritage vocabularies

- CIDOC CRM
- DC
- EDM
- MADS
- METS
- MIX
- MODS
- RDA
- SKOS

### Vocabularies for agents and agent relations

- BIO
- FoaF
- genont, srcont
- RELATIONSHIP
- SIOC

### Vocabularies for meta-statements

- OPMV
- Provenance Vocabulary

# We saw a need for a comprehensive authority model for our linked data service



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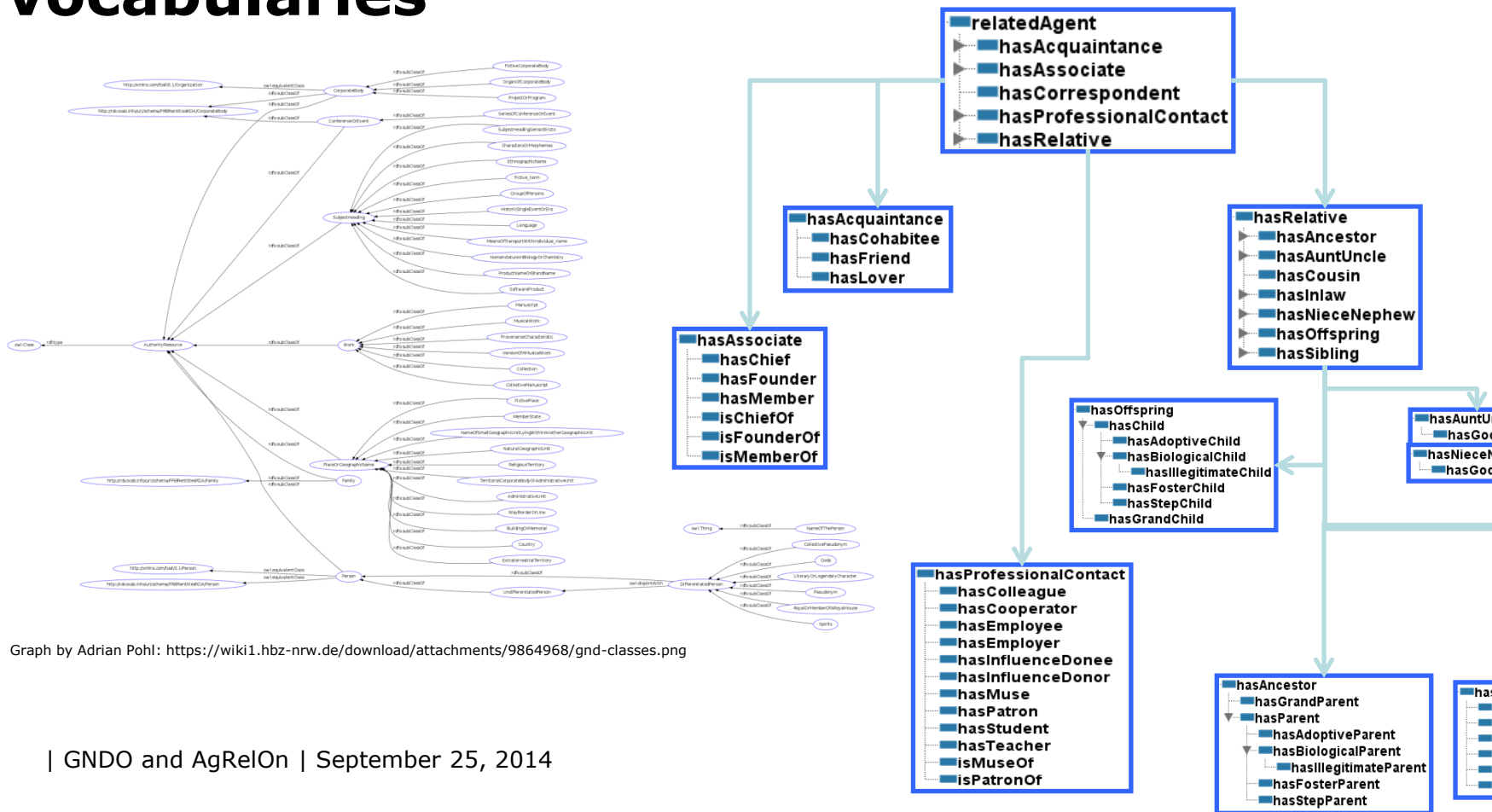


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# So we ended up creating two new vocabularies



Graph by Adrian Pohl: <https://wiki1.hbz-nrw.de/download/attachments/9864968/gnd-classes.png>

# GNDO (GND Ontology) models the Integrated Authority File (GND)

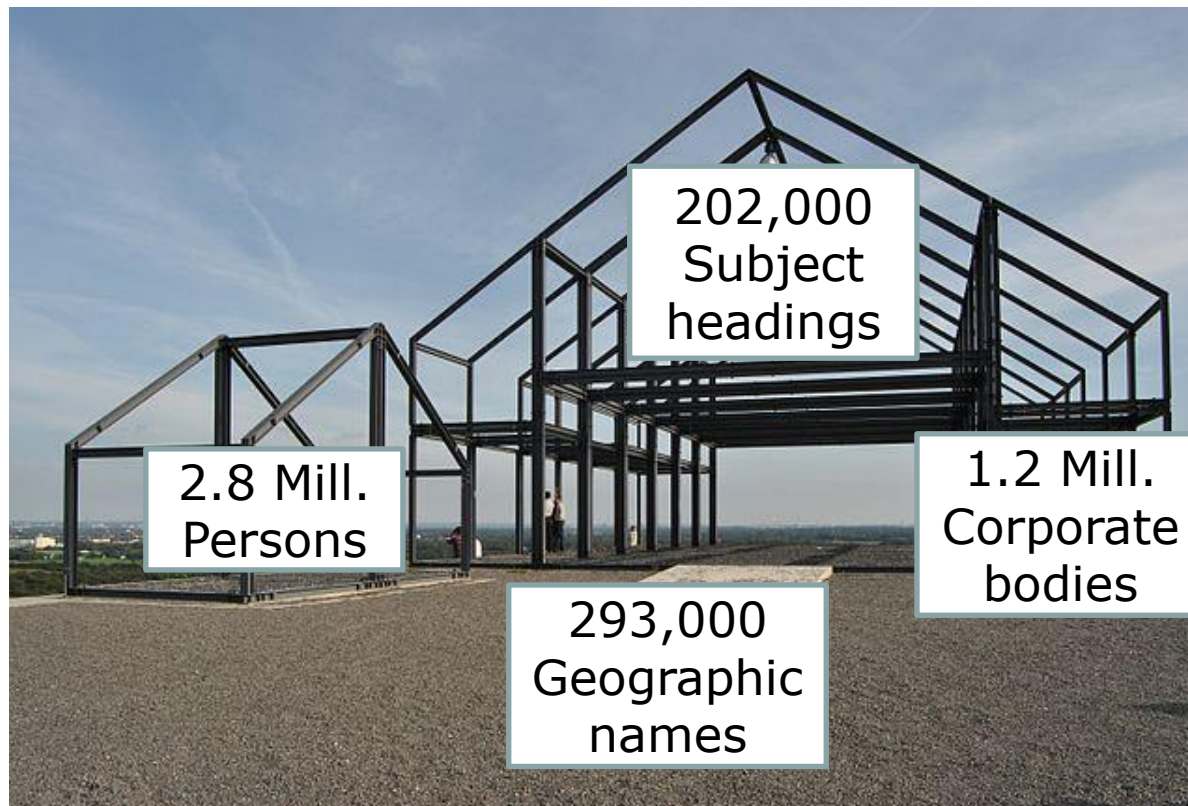


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**The GND (and the GNDO) uses seven main entity types**

*Persons*

*Subject  
headings*

*Conferences and Events*

*Geographic  
entities*

*Families  
Corporate bodies*

*Works*

## Many classes and properties in the GNDO are aligned with other, similar vocabularies

```
<!-- http://d-nb.info/standards/elementset/gnd#Person -->
```

```
<owl:Class rdf:about="#Person">
```

```
  <rdfs:isDefinedBy
```

```
    rdf:resource="http://d-nb.info/standards/elementset/gnd#"/>
```

```
  <rdfs:label xml:lang="de">Person</rdfs:label>
```

```
  <rdfs:label xml:lang="en">Person</rdfs:label>
```

```
  <owl:equivalentClass
```

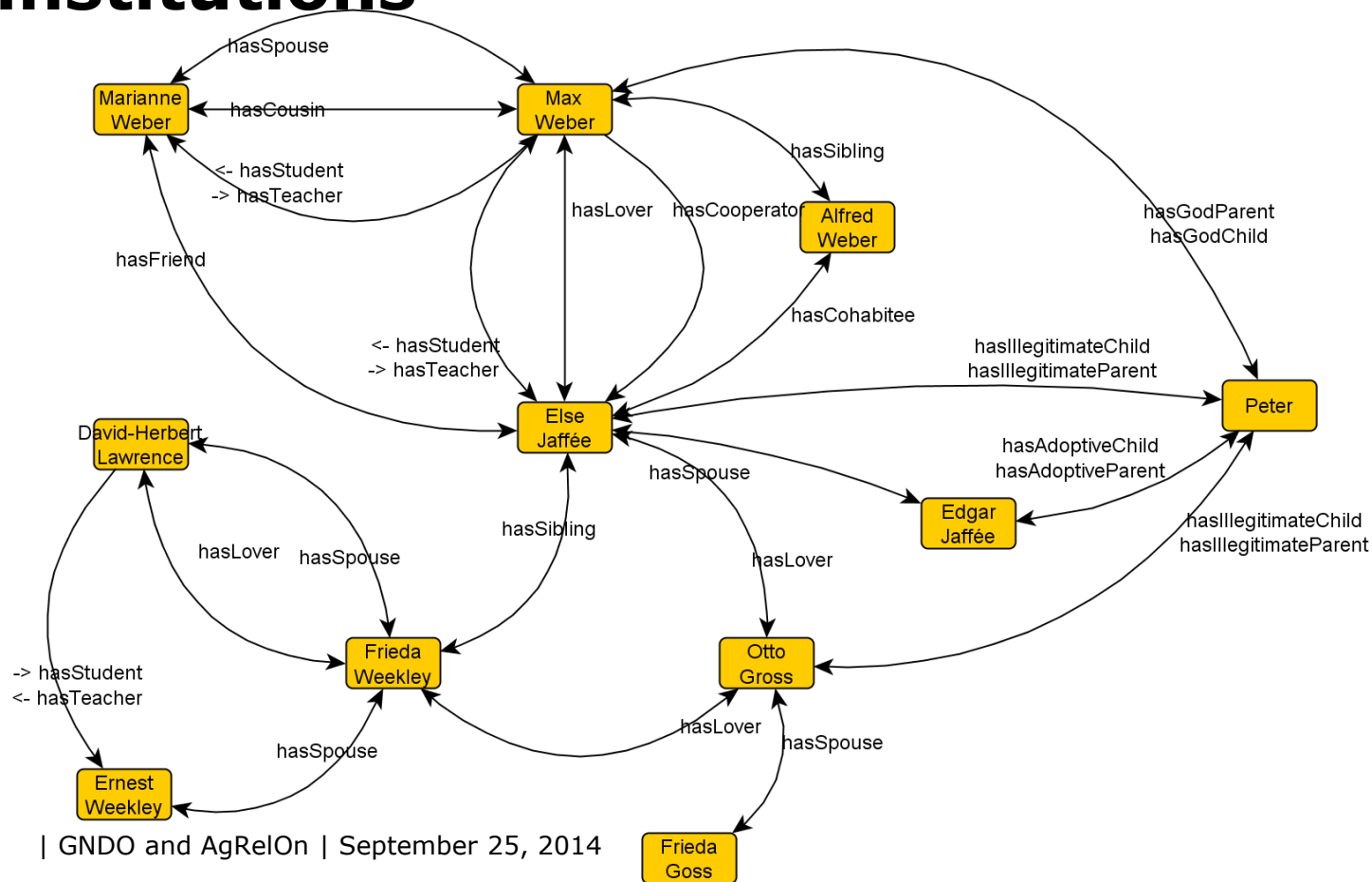
```
    rdf:resource="http://rdaregistry.info/Elements/c/C10004"/>
```

```
  <owl:equivalentClass rdf:resource="http://xmlns.com/foaf/0.1/Person"/>
```

```
  <rdfs:subClassOf rdf:resource="#AuthorityResource"/>
```

```
</owl:Class>
```

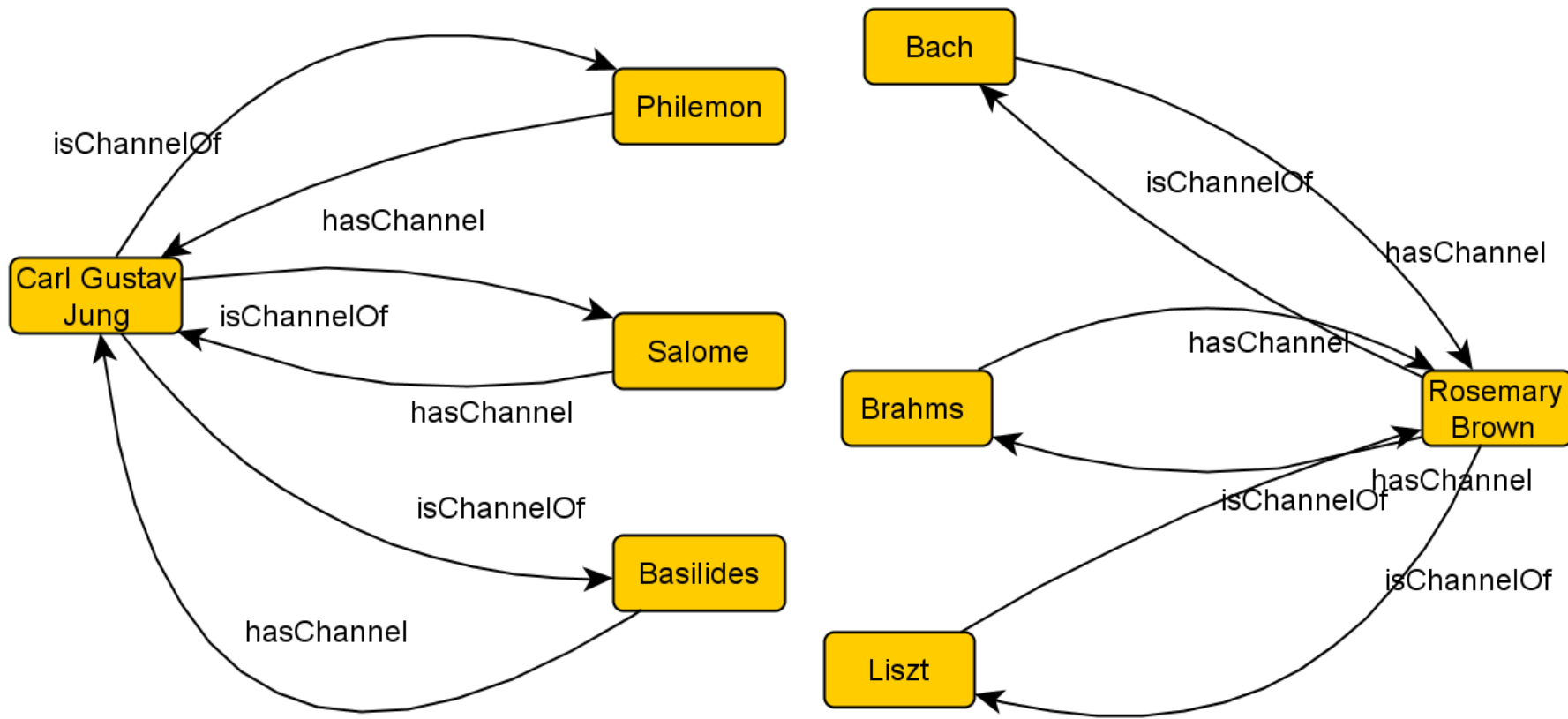
# AgRelOn (Agent Relationship Ontology) models relations between people and institutions



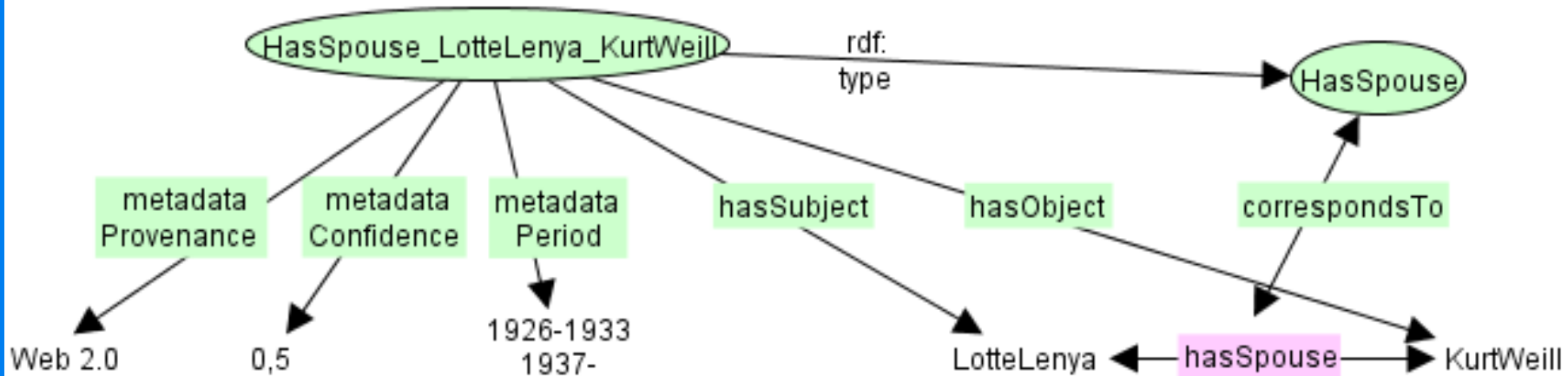
# In our database this is only free text and we needed something machine-readable

<a href="#">GND</a>	
Link zu diesem Datensatz	<a href="http://d-nb.info/gnd/118543601">http://d-nb.info/gnd/118543601</a>
Typ	Person (piz)
Person	Gundert, Hermann
Geschlecht	männlich
Andere Namen	Guntartt, Herman Gundert, H.
Quelle	B 1986 1.; LoC-NA; NDB
Zeit	Lebensdaten: 1814-1893
Land	Deutschland (XA-DE)
Beruf(e)	Missionar Orientalist
Weitere Angaben	Großvater des Dichters Hermann Hesse und des Japanologen Wilhelm Gundert; Dt. ev. Indienmissionar, Indologe und Bibelübers.
Systematik	3.6p Personen zu Kirchengeschichte, Systematischer und Praktischer Theologie, Kirche und Konfession ; 11.2p Personen zu Sprache
Autor von	10 Publikationen
	1. Herrmann Mögling Gundert, Hermann. Heidelberg : Drunadi Verl., 2011. 2., vollst. neu Aufl. / von

# Beside kinship, modelling of artistic and other relations was important



# We modelled meta-knowledge by using n-ary relations



# So do those vocabularies help to navigate library data on the web?

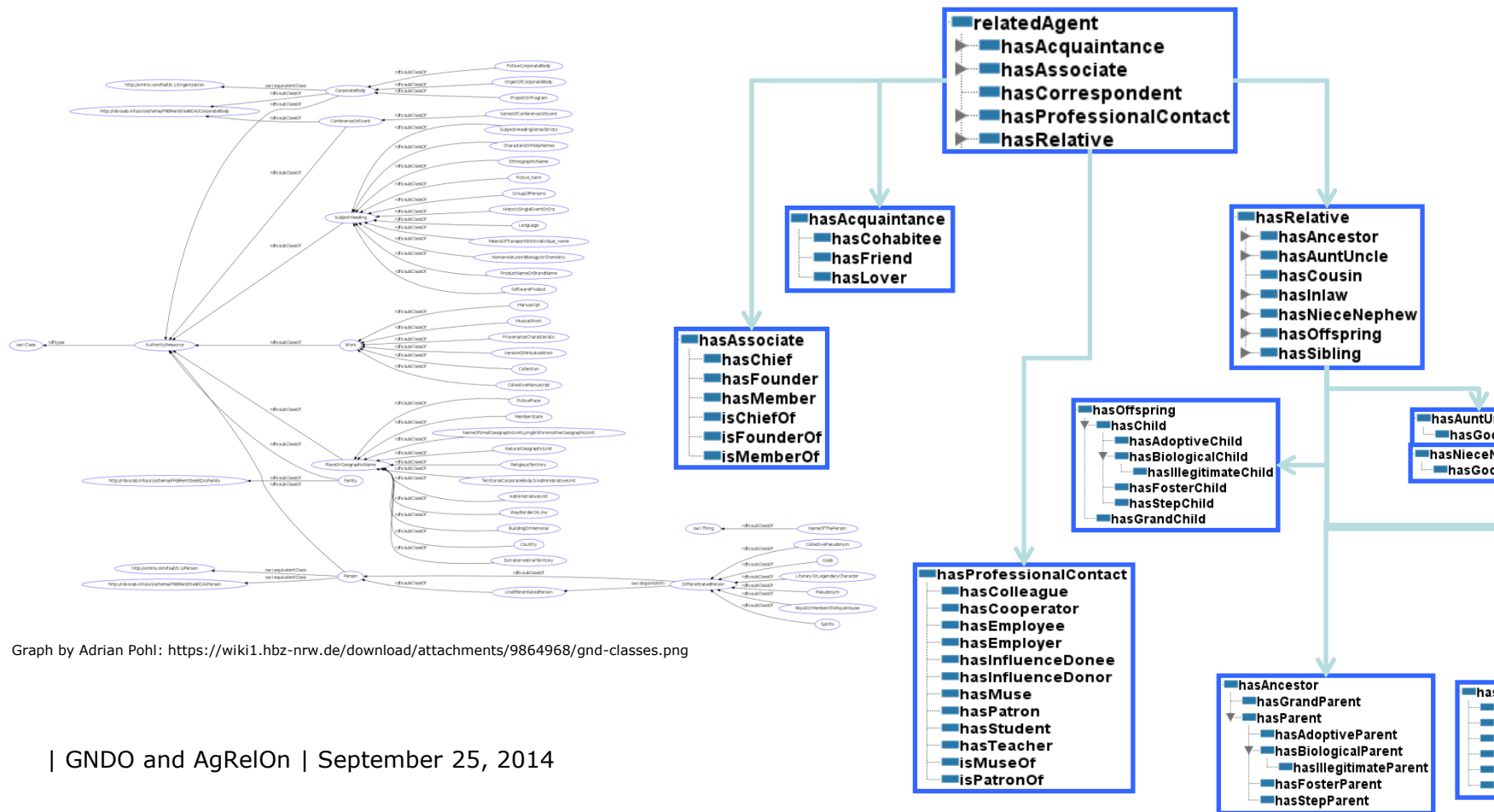


Photo by Nico Kaiser (CC-BY): <http://www.flickr.com/photos/nicokaiser/4667377944/sizes/z/in/photostream/>

**There are no standard vocabularies encompassing all kinds of authority data in RDF and we had a need for that**



# As a result we created one comprehensive and one specialised vocabulary

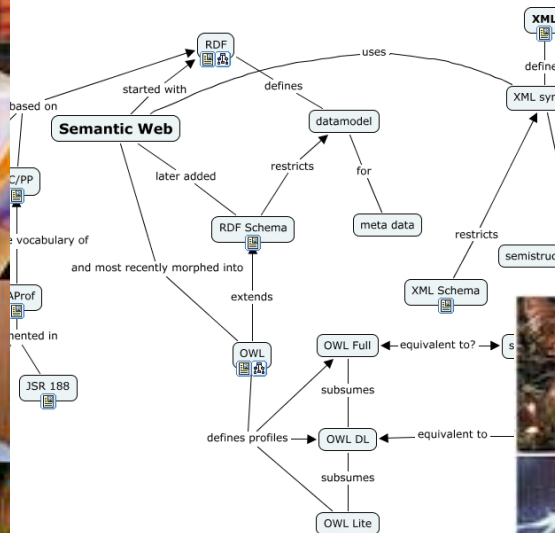


Graph by Adrian Pohl: <https://wiki1.hbz-nrw.de/download/attachments/9864968/gnd-classes.png>

# The entity-based model is a good fit for integration with the web ...



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Picture by DonkeyHaley (CC BY):  
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**... and in the future, cultural heritage data can guide people to the right resources**



<http://www.gedankenkonsum.de/wp-content/uploads/2011/03/the-future.jpg>

## Links

GND: <http://d-nb.info/standards/elementset/gnd>

GND: <http://www.dnb.de/EN/gnd>

AgRelOn: <http://d-nb.info/standards/elementset/agrelon>

AgRelOn design: [http://dx.doi.org/10.1007/978-3-642-35233-1\\_21](http://dx.doi.org/10.1007/978-3-642-35233-1_21)

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