

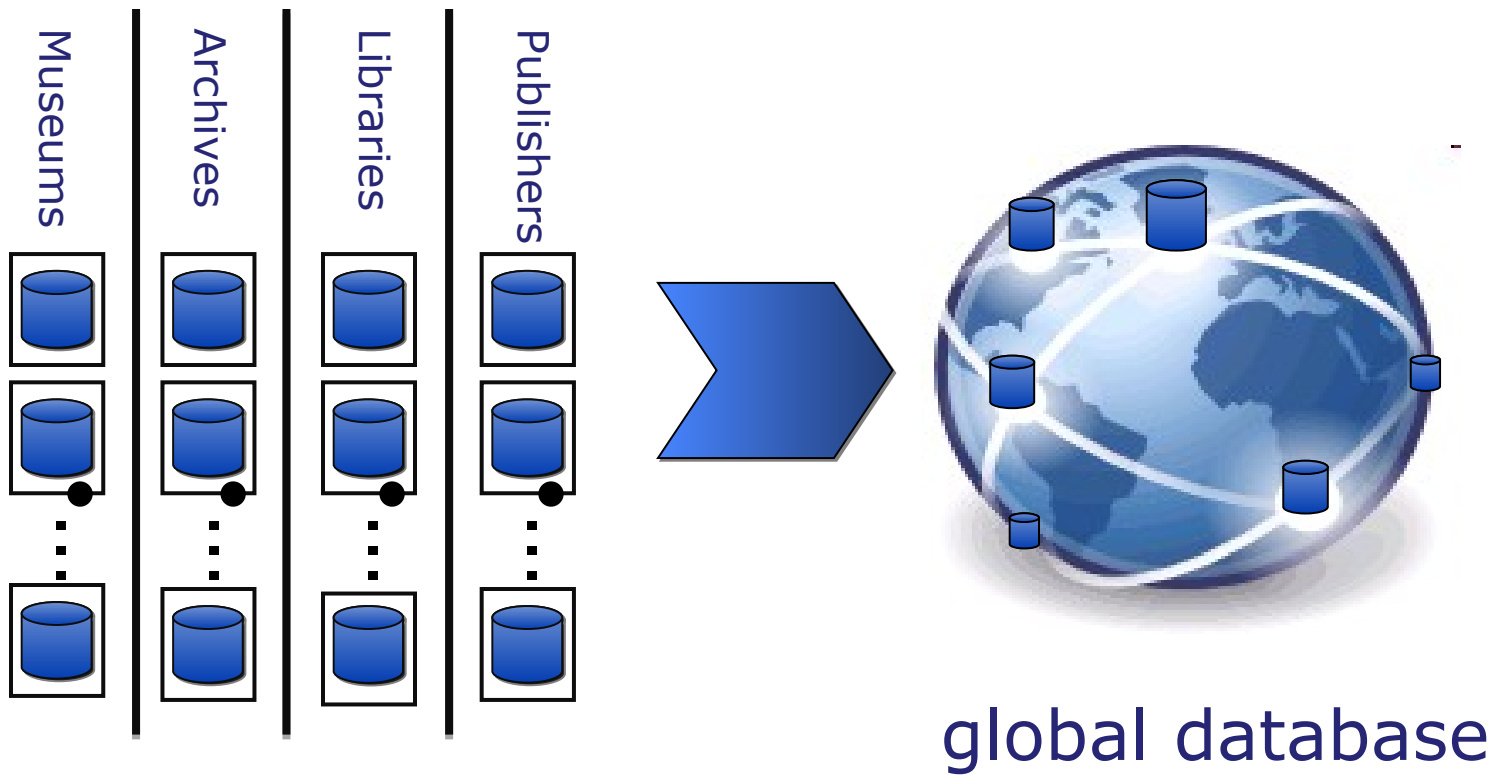
Alexander Haffner

Linked Library Data @ DNB

objectives

- establish an accessible knowledge representation in machine-readable form on the internet
 - enable querying
- align external knowledge representations
 - enrich our data by external data
- future goal – decrease redundancies
 - subsequent use of existing data by linking
 - reduce cataloguing efforts

interdisciplinary cross-linking



What we have done so far

- modeling of our authority data as linked data
 - corporate bodies
 - Gemeinsame Körperschaftsdatei (Corporate Body Authority File, GKD)
 - persons
 - Personennamendatei (Name Authority File, PND)
- subject headings
 - Schlagwortnormdatei (Subject Headings Authority File, SWD)

What we have done so far in numbers

- authority records
 - differentiated persons (1.797.911)
 - corporate bodies (1.320.711)
 - subject headings (168.615)

- internal links
 - persons -> persons
 - persons -> corporate bodies
 - persons -> subject headings (1.059.570)
 - corporate bodies -> corporate bodies
 - corporate bodies -> persons
 - corporate bodies -> subject headings

- external links
 - Wikipedia (123.569)
 - DBpedia (40.136)
 - VIAF (1.786.975)
 - LCSH (37.547)

Resource Description and Access

- user-focused content standard
 - changes perspectives of cataloguing
- re-use of FRBR, FRAD, and in future FRSAD
- RDA is intended to replace AACR2
 - cover all types of media (non-digital and digital; textual, visual, auditory, tactile etc.)
- first release of RDA in June 2010
 - RDA is published as online toolkit
- independent of technical metadata formats
 - available metadata formats MARC 21 and RDF
 - RDA has been developed explicitly to take advantage of the Semantic Web

Primarily focused ontologies

- DCMI/RDA Task Group uses Open Metadata Registry to define RDF-Schemes
 - <http://metadataregistry.org/rdabrowse.htm>
 - two types of vocabularies:
 1. RDA Element Sets – in RFDS
e.g. "Title", "Content type"
 2. RDA (Value) Vocabularies – in SKOS
e.g. "spoken word" (controlled term for content type)

- FRBR Review Group
 - FRBRer (provisorisch):
<http://metadataregistry.org/schema/show/id/5.html>
 - FRAD (provisorisch):
- <http://metadataregistry.org/schema/show/id/24.html>

The RDA (Resource Description and Access) Vocabularies

The Registry! :: RDA

open metadata registry
Supporting Metadata Interoperability

sign in / register | about

Search

The RDA (Resource Description and Access) Vocabularies

This page provides quick links for the Registered RDA Element Sets and Value Vocabularies. Each set of elements or vocabulary concepts has a link to the general description as well as a link to a list of elements or concepts.

RDA Element Sets

FRBR Entities for RDA	Class List
RDA Elements (Group 1)	Elements List
RDA Group 2 Elements	Elements List
RDA Group 3 Elements	Elements List
RDA Relationships for Concepts, Events, Objects, Places	Elements List
RDA Relationships for Persons, Corporate Bodies, Families	Elements List
RDA Relationships for Works, Expressions, Manifestations, Items	Elements List
RDA Roles	Elements List

RDA Vocabularies

RDA Applied Material	Concept List
RDA Aspect Ratio	Concept List
RDA Base Material	Concept List
RDA Base Material for Microfilm, Microfiche, Photographic Negatives, and Motion Picture Film	Concept List
RDA Book Format	Concept List
RDA Broadcast Standard	Concept List
RDA Carrier Type	Concept List
RDA Choruses	Concept List
RDA Colour	Concept List
RDA Colour of Moving Image	Concept List
RDA Colour of Still Image	Concept List
RDA Colour of Three-Dimensional Form	Concept List
RDA Configuration of Playback Channels	Concept List
RDA Content Type	Concept List
RDA Conventional Collective Titles	Concept List

Browse...

- [Resource Owners](#)
- [Vocabularies](#)
- [Schemas](#)

Feedback

person descriptions

attributes for the person	
Address Of The Person	Name Of The Person
Affiliation	<ul style="list-style-type: none"> Preferred Name For The Person
✓ Biographical Information	<ul style="list-style-type: none"> Variant Name For The Person
✓ Cataloguers Note	Note
Country Associated With The Person	✓ Other Designation Associated With The Person
✓ Date Associated With The Person	✓ Place Of Birth
✓ <ul style="list-style-type: none"> Date Of Birth 	✓ Place Of Death
✓ <ul style="list-style-type: none"> Date Of Death 	Place Of Residence
✓ <ul style="list-style-type: none"> Period Of Activity Of The Person 	✓ Profession or Occupation
✓ Field Of Activity Of The Person	Source Consulted
✓ Fuller Form Of Name	Status Of Identification
Gender	Title Of The Person

person descriptions

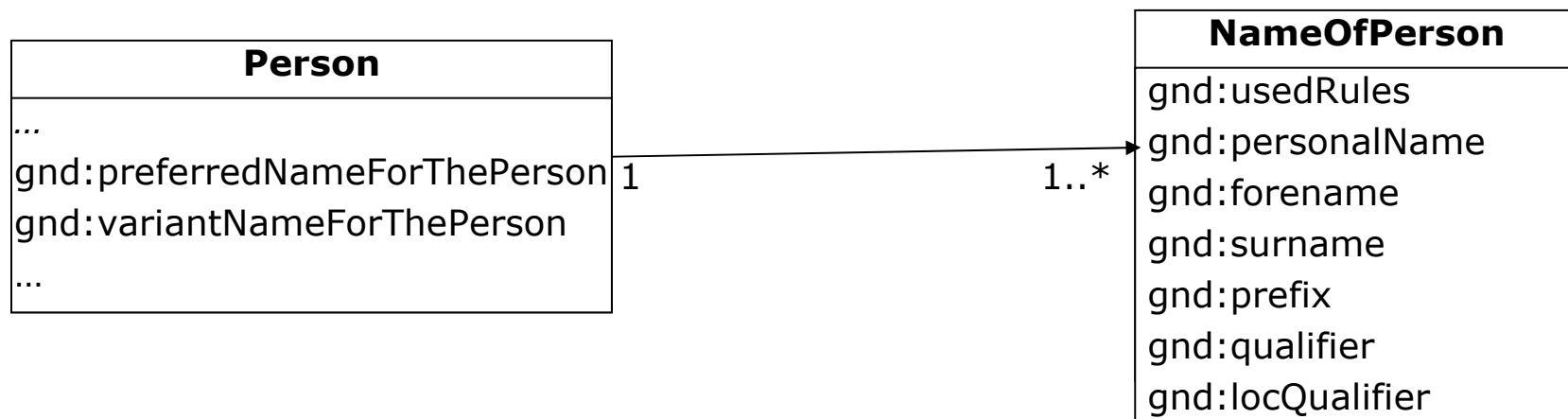
relationships for the person	
✓	Related Corporate Body (Person)
	<ul style="list-style-type: none"> Employee
	<ul style="list-style-type: none"> Group member
	<ul style="list-style-type: none"> Incumbent
	<ul style="list-style-type: none"> Sponsor
	Related Family (Person)
	<ul style="list-style-type: none"> Family member
✓	<ul style="list-style-type: none"> Progenitor
	Related Person (Person)
	<ul style="list-style-type: none"> Alternate identity
	<ul style="list-style-type: none"> Real identity

our description of a person

Person

[gnd:preferredNameForThePerson](#)
[gnd:variantNameForThePerson](#)
[rdaGr2:titleOfThePerson](#)
[gnd:academicTitleOfThePerson](#)
[gnd:studyPathsOfThePerson](#)
[rdaGr2:identifierForThePerson](#)
[gnd:invalidIdentifierForThePerson](#)
[rdaGr2:gender](#)
[rdaGr2:dateOfBirth](#)
[rdaGr2:dateOfDeath](#)
[rdaGr2:placeOfBirth](#)
[rdaGr2:placeOfDeath](#)
[rdaGr2:placeOfResidence](#)
[gnd:countryCodeForThePerson](#)
[rdaGr2:languageOfThePerson](#)
[rdaGr2:periodOfActivityOfThePerson](#)
[rdaGr2:biographicalInformation](#)
[rdaGr2:professionOrOccupation](#)
[gnd:functionOfThePerson](#)
[gnd:publicationOfThePerson](#)
[foaf:homepage](#)
[foaf:page](#)
[rdaRelGr2:relatedPersonPerson](#)
[relationship:spouseOf](#)
[relationship:parentOf](#)
[relationship:siblingOf](#)
[relationship:childOf](#)
[relationship:grandparentOf](#)
[relationship:grandchildOf](#)
[rdaRelGr2:relatedCorporateBodyPerson](#)
[owl:sameAs](#)

definition of single name parts



corporate body descriptions

attributes for the person	
Address of the Corporate Body	✓ Name of the Corporate Body
Associated Institution	<ul style="list-style-type: none"> Preferred Name for the Corporate Body
Cataloguer's Note	<ul style="list-style-type: none"> Variant Name for the Corporate Body
Corporate History	Note
Date Associated with the Corporate Body	Number of a Conference, Etc.
<ul style="list-style-type: none"> Date of Conference, Etc. 	Other Designation Associated with the Corporate Body
✓ <ul style="list-style-type: none"> Date of Establishment 	✓ Place Associated with the Corporate Body
✓ <ul style="list-style-type: none"> Date of Termination 	<ul style="list-style-type: none"> Location of Conference, Etc.
✓ <ul style="list-style-type: none"> Field of Activity of the Corporate Body 	<ul style="list-style-type: none"> Location of Headquarters
✓ Identifier for the Corporate Body	Source Consulted
Language of the Corporate Body	Status of Identification

person descriptions

relationships for the person	
✓	Related Corporate Body (Corporate Body)
✓	• Hierarchical subordinate
✓	• Hierarchical superior
	• Mergee
✓	• Predecessor
	• Product of a merger
✓	• Product of a split
	• Successor
	Related Family (Corporate Body)
✓	• Founded organization
	• Sponsored organization
	Related Person (Corporate Body)

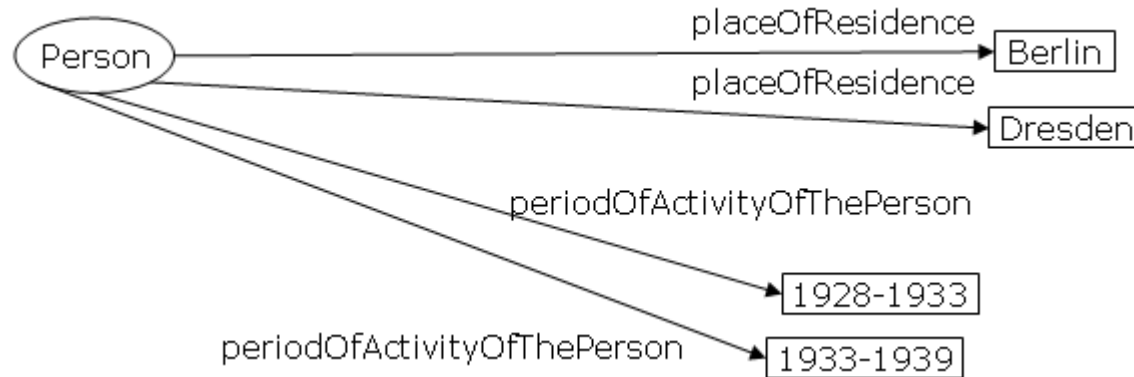
corporate body descriptions

Corporate Body
gnd:preferredNameForTheCorporateBody
gnd:preferredNameAcronymForTheCorporateBody
rdaGr2:nameOfTheCorporateBody
gnd:variantNameForTheCorporateBody
gnd:variantNameAcronymForTheCorporateBody
rdaGr2:identifierForTheCorporateBody
gnd:invalidIdentifierForTheCorporateBody
rdaGr2:dateOfEstablishment
rdaGr2:dateOfTermination
gnd:countyCodeForTheCorporateBody
rdaGr2:languageOfTheCorporateBody
gnd:functionOfTheCorporateBody
foaf:homepage
rdaRelGr2:hierarchicalSubordinate
rdaRelGr2:hierarchicalSuperior
rdaRelGr2:predecessor
rdaRelGr2:successor
gnd:predecessorWithoutSuccessor
gnd:successorWithoutPredecessor
rdfs:seeAlso

Limitations of current LLD

- aggregation of information
 - MARC 21 example:
 - 370 ## \$eBerlin \$s1928 \$t1933
 - 370 ## \$eDresden \$s1933 \$t1939

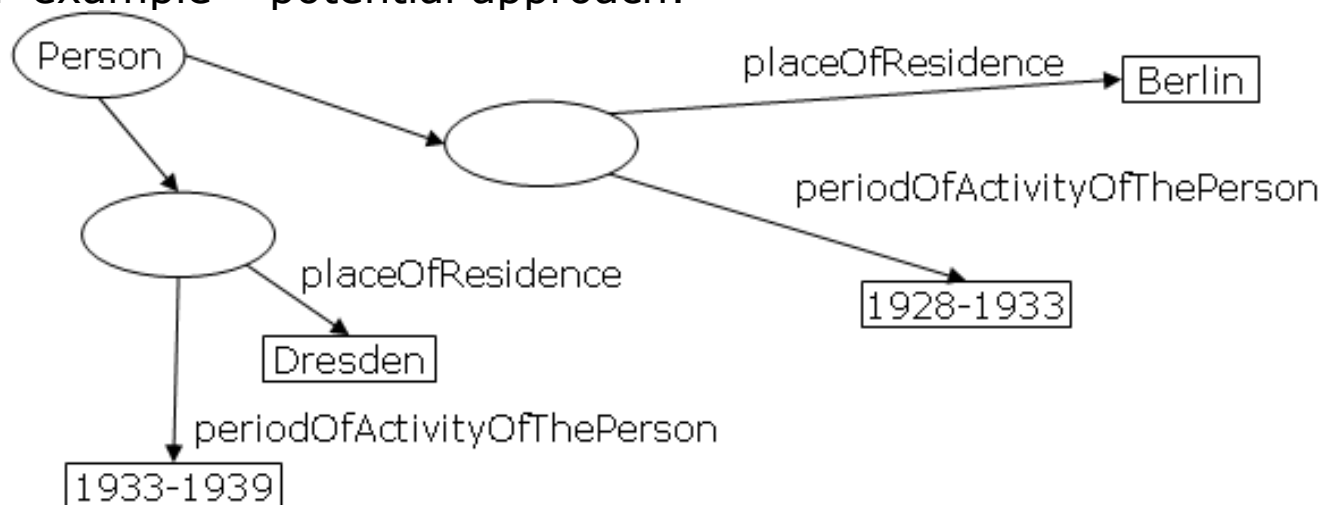
- RDF example:



Limitations of current LLD

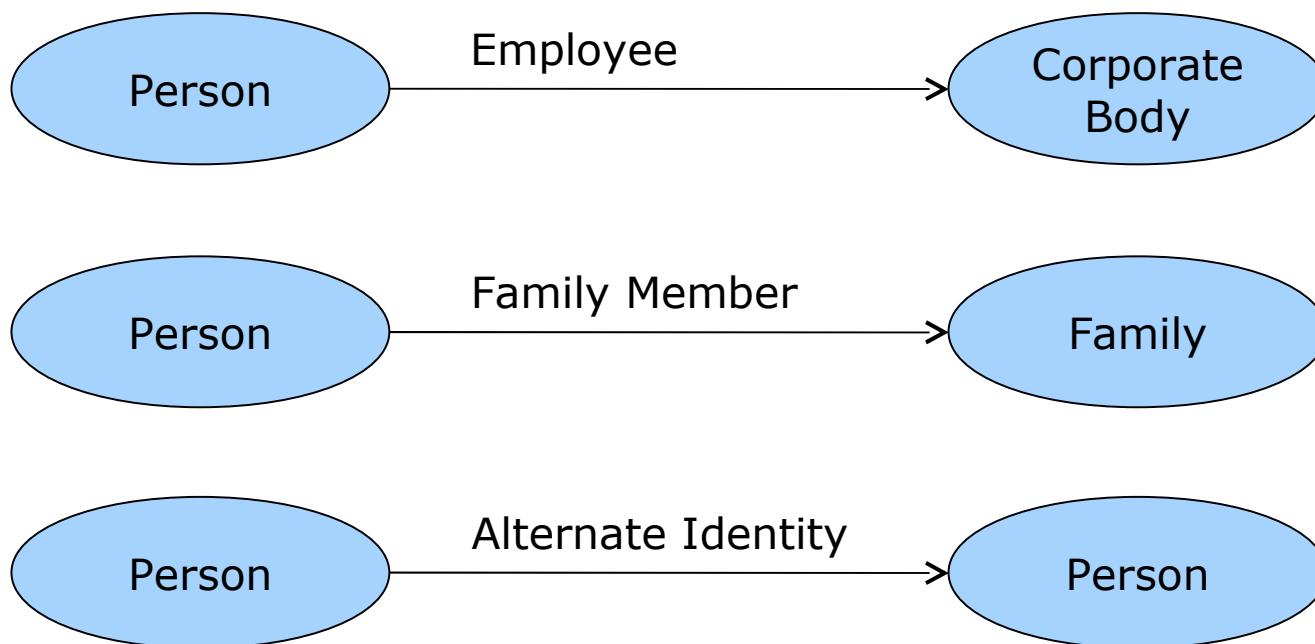
- aggregation of information
 - MARC 21 example:
 - 370 ## \$eBerlin \$s1928 \$t1933
 - 370 ## \$eDresden \$s1933 \$t1939

- RDF example – potential approach:



Limitations of current LLD

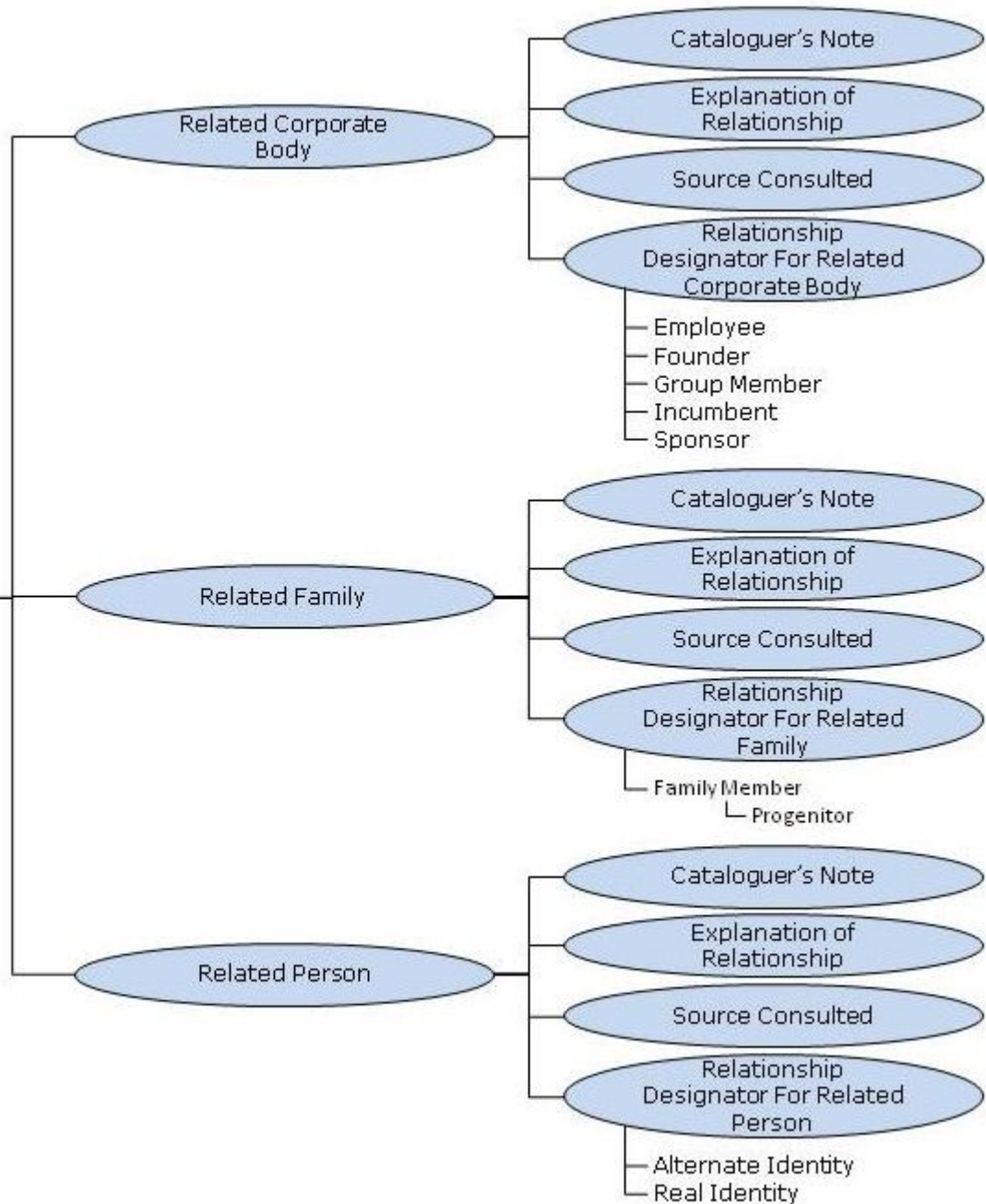
- meta-metadata
 - Currently no possibility for meta-metadata:



Limitations of current LLD

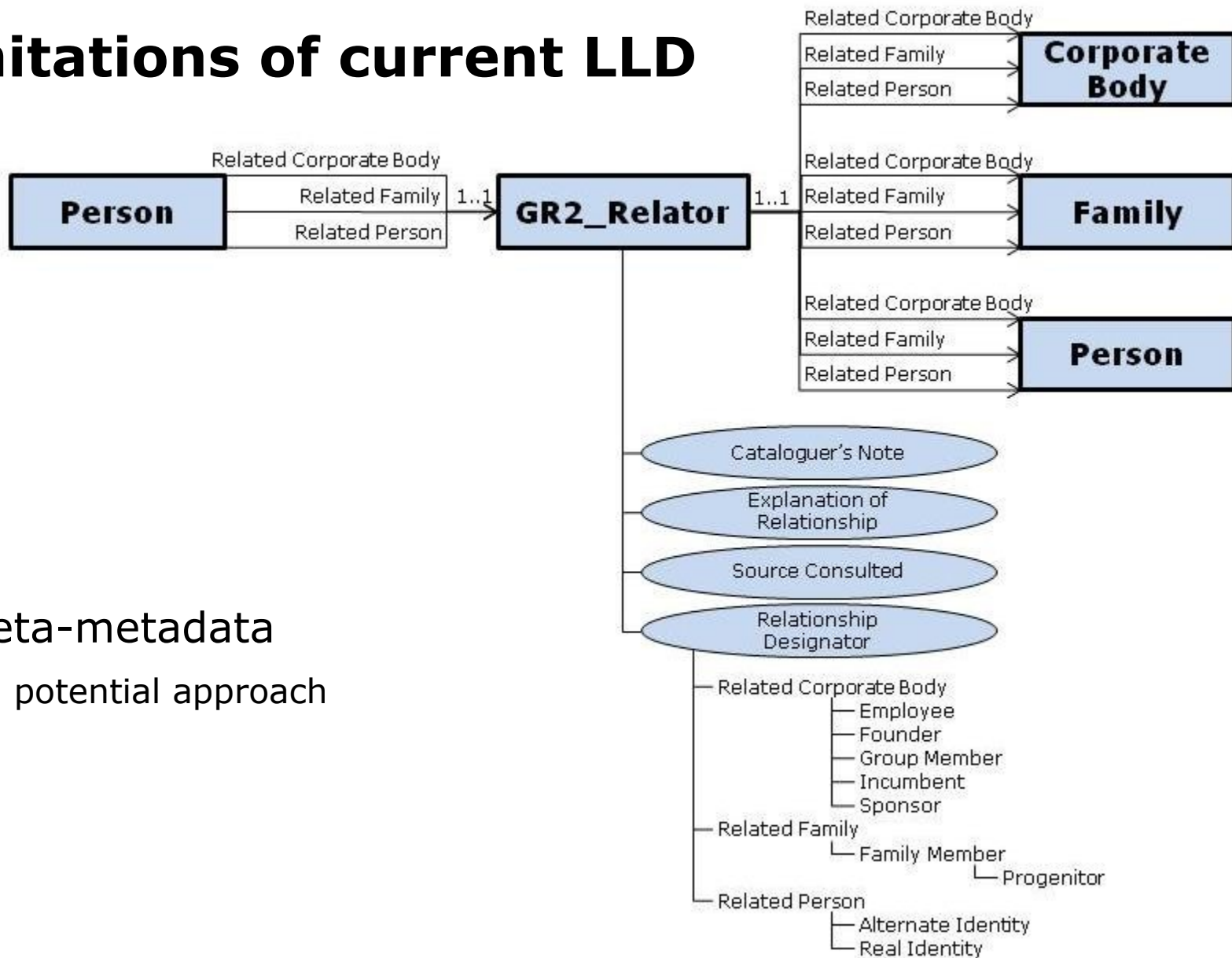
Person

- meta-metadata
 - RDA rules





Limitations of current LLD



- meta-metadata
 - potential approach

Conclusion

- raising awareness in librarians for the next era in information distribution
 - minimizing cataloguing efforts in libraries
- national libraries as forerunner
 - new system architectures which combine classical document stores (mostly MARC 21 based), relational databases and triple stores
- non-librarian world web community benefits of our comprehensive reliable and dependable metadata
- new business models for metadata providers and service providers

Thank you!

discussion is welcome...

Linked Data Service of the German National Library
http://www.d-nb.de/eng/hilfe/service/linked_data_service.htm