Linked Data
at the KB | National Library of the Netherlands

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KB nationale bibliotheek

Overview of this presentation

I. Linked data platform http://data.bibliotheken.nl/

II. National Bibliography in IFLA LRM / RDA & linked data

III. Application profile LRM2Schema.org

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Linked data platform http://data.bibliotheken.nl/

KB initiated efforts to publish LD in 2015.

Some goals (context: Dutch Digital Heritage Network / NDE membership):

- increase visibility of (digital) cultural heritage in the Netherlands, beyond the library domain

- help to organize (link etc.) data in domain of cultural heritage, beyond the separate institutions and beyond the library domain

- provide linkable and reusable authority data

- help to bring data where the client / customer is: Google, Wikidata

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Some steps taken to publish linked data

- Defined a URI policy / model (in line with W3C best practices)
- Selected an external provider for the platform
  (LODView & Virtuoso Open Source)
- Selected Schema.org as the main vocabulary
- Created RDF from pica downloads,
  using XSLT and SPARQL CONSTRUCT queries

http://data.bibliotheken.nl/

De toegang tot alle Linked Data zoals beschikbaar gesteld door de Koninklijke Bibliotheek

Zie de hulptekst voor tips en voorbeelden van het gebruik van deze data. Deze dienst is een betaversie. Kijk bij Dataservices en API's voor meer datasets en -services.

Dataset	URI	Licentie
"Alba amicorum van de Koninklijke Bibliotheek"@nl	http://data.bibliotheken.nl/id/dataset/rise-alba	http://creativecommons.org/publicdomain/zero/1.0/
"Brinkman trefwoordenthesaurus"@nl	http://data.bibliotheken.nl/id/dataset/brinkman	http://opendatacommons.org/licenses/by/1.0/
"Centsprenten"@nl	http://data.bibliotheken.nl/id/dataset/rise-centsprenten	http://creativecommons.org/publicdomain/zero/1.0/
"Gemeenschappelijke Trefwoordenthesaurus (GTT)"@nl	http://data.bibliotheken.nl/id/dataset/gtt	http://opendatacommons.org/licenses/by/1.0/
"Nederlandse Bibliografie Totaal (NBT)"@nl	http://data.bibliotheken.nl/id/dataset/nbt	http://opendatacommons.org/licenses/by/1.0/
"Organisaties uit de corporatiethesaurus van de Koninklijke Bibliotheek"@nl	http://data.bibliotheken.nl/id/dataset/corps	http://creativecommons.org/publicdomain/zero/1.0/
"Personen uit de Nederlandse Thesaurus van Auteursnamen (NTA)"@nl	http://data.bibliotheken.nl/id/dataset/persons	http://opendatacommons.org/licenses/by/1.0/
"Short-Title Catalogue Netherlands (STCN)"@nl	http://data.bibliotheken.nl/id/dataset/stcn	http://creativecommons.org/publicdomain/zero/1.0/
"Thesaurus Auteurs DBNL"@nl	http://data.bibliotheken.nl/id/dataset/dbnla	http://creativecommons.org/publicdomain/zero/1.0/
"Thesaurus KBcode"@nl	http://data.bibliotheken.nl/id/dataset/kbcode	http://creativecommons.org/publicdomain/zero/1.0/
"Titels DBNL"@nl	http://data.bibliotheken.nl/id/dataset/dbnlt	http://creativecommons.org/publicdomain/zero/1.0/

schema **description**	Nederlandse Bibliografie Totaal (NBT) bevat publicaties die in Nederland, over Nederland of in de Nederlandse taal zijn verschenen. @nl
schema **name**	Nederlandse Bibliografie Totaal (NBT) @nl
schema **dateModified**	2021-06-01 xsd:date
schema **datePublished**	2017-12-20 xsd:date
schema **usageInfo**	The preferred form of attribution is: "Contains OCLC WorldCat information made available under the ODC Attribution license. The OCLC cooperative requests that uses of WorldCat derived data contained in this work conform with the WorldCat Community Norms." Special cases: In circumstances where providing the full attribution statement above is not technically feasible, the use of canonical WorldCat URIs is adequate to satisfy Section 4.3 of the ODC Attribution license. @en
rdf:**type**	schema:Dataset
schema **publisher**	<http://data.bibliotheken.nl/id/thes/p078301482> > Koninklijke Bibliotheek (Den Haag)

Het stenen bruidsbed : roman / Harry Mulisch

TYPE ENTITEIT: **CreativeWork**

rdfs:**label**	Het stenen bruidsbed : roman / Harry Mulisch
schema:**isbn**	9789023476825
schema:**description**	1e dr.: 1959. - (Literaire reuzenpocket ; 1)
schema:**book**Edition	11e dr.
schema:**inLanguage**	nl
schema:**name**	Het stenen bruidsbed : roman
schema:**numberOfPages**	183 xsd:integer
rdf:**type**	schema:CreativeWork
	schema:Book

Virtuoso SPARQL Query Editor

Default Data Set Name (Graph IRI)

Query Text

```
select distinct ?Concept where {[] a ?Concept} LIMIT 100
```

(Security restrictions of this server do not allow you to retrieve remote RDF data, see details.)

Results Format: HTML

Execution timeout: 0   milliseconds *(values less than 1000 are ignored)*

Options: ☑ Strict checking of void variables
                 ☐ Log debug info at the end of output (has no effect on some queries and output formats)
                 ☐ Generate SPARQL compilation report (instead of executing the query)

(The result can only be sent back to browser, not saved on the server, see details)

[Run Query]   [Reset]

II. National Bibliography in IFLA LRM / RDA & LD

National Bibliography in IFLA LRM / RDA & LD

Policy 'horizon' set in 2017:

"Publish the National Bibliography modelled using IFLA LRM / RDA

& as linked data."

Two main hurdles:

1. A practical approach to define, describe the NL National Bibliography
2. Re-model existing bibliographical data using LRM and RDA

Describing the National Bibliography

What makes this somewhat complex:

- There is no legal deposit in the Netherlands.

- KB / NL is moving away from shared cataloguing.

- The broader national cataloguing landscape is evolving, for example 'language of cataloguing' introduces complexity.

- Application infrastructure and architecture at the KB is being overhauled, for example: moving away from GGC /CBS and pica, new edepot system, new ingest front end & workflow logic.

Model bibliographical data using LRM and RDA

Challenge: How to map / translate Pica to LRM /RDA?
(LRM/ RDA has a 4 level hierarchy: Work, Expression, Manifestation, Item)

Experimental LRM /RDA clustering at Work and Expression level using the 'RDA entity finder'.

RDA Entity Finder

Titel | de aanslag

Auteur | mulisch

[Zoeken]

Work #1: de aanslag - Mulisch, Harry Kurt Victor ; Mulisch, Harry Kurt Victor   [Details tonen] [Expressies inklappen]

Expression #1: gesproken woord, ned   [Details tonen] [Manifestaties tonen]

Expression #2: tekst, bul, Atentatăt   [Details tonen] [Manifestaties tonen]

Expression #3: tekst, dee, Et tilfælde   [Details tonen] [Manifestaties tonen]

Expression #4: tekst, dui, Das Attentat   [Details inklappen] [Manifestaties tonen]

has content type: text

has language of expression: German

has contributor: Habers, Annelen

is translation of: \W1\mulisch\\W2\de aanslag\\E1\rdaco:1020\\E2\ned\

title of expression: Das Attentat

authorized access point for expression: \W1\mulisch\\W2\de aanslag\\E1\rdaco:1020\\E2\dui\E1\das attentat\

PPN: 801720952

III. Application profile LRM2Schema.org

Application profile LRM2Schema.org

A set of guidelines, rules and examples for using schema.org to describe bibliographical entities that are modelled using the IFLA Library Reference Model.

- Approach heavily inspired by Richard Wallis' bibframe2schema.org'
- Available online (in English) at
http://data.bibliotheken.nl/files/LRM2schema.pdf

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At the core of LRM2Schema.org
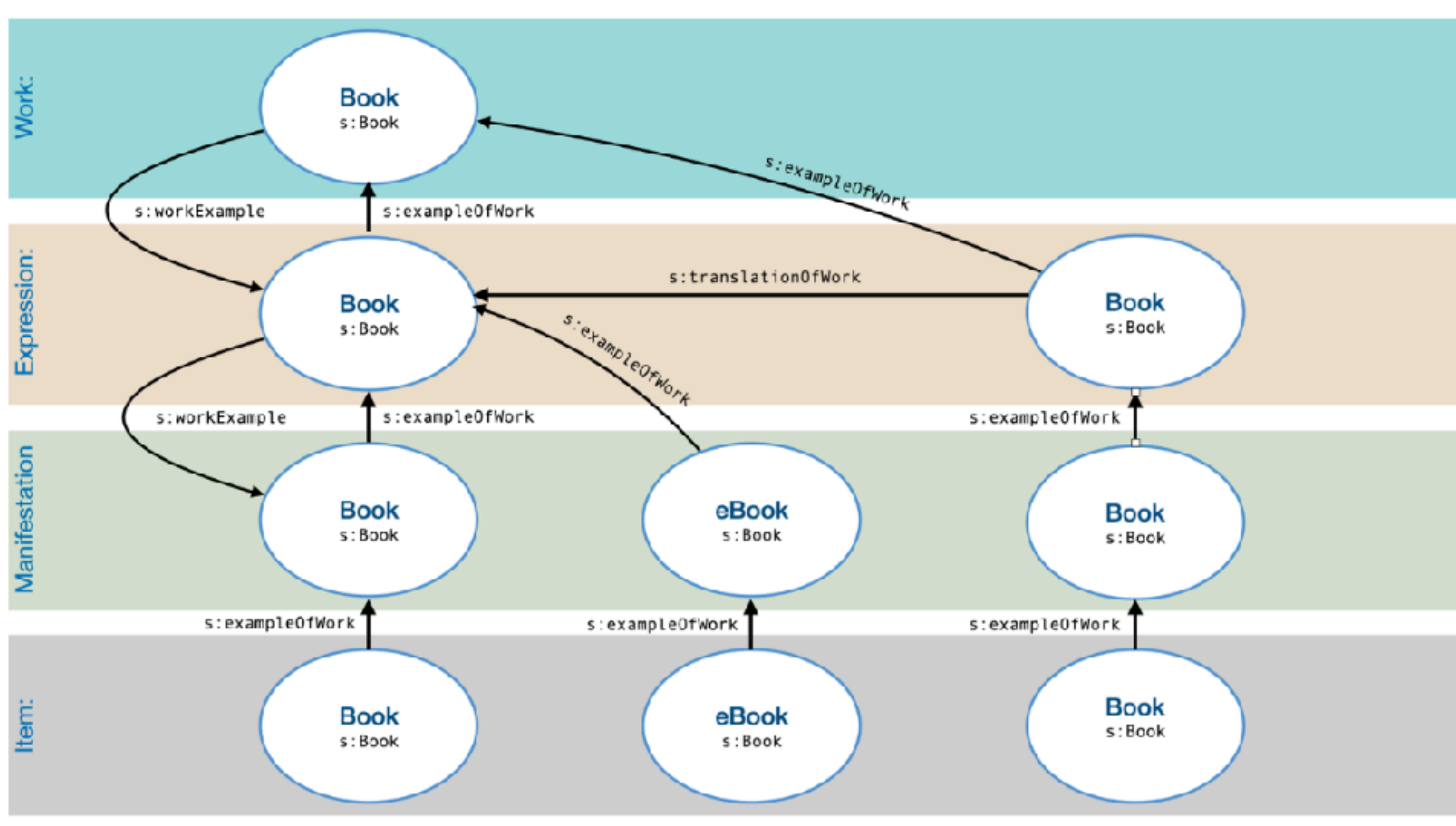
Multiple typing of entities using schema.org classes stands at the core of this application profile:

```
<Work> a schema:CreativeWork .

<Expression> a schema:CreativeWork, schema:ProductGroup.

<Manifestation> a schema:CreativeWork, schema:ProductModel .

<Item> a schema:CreativeWork, schema:IndividualProduct, schema:ArchiveComponent.
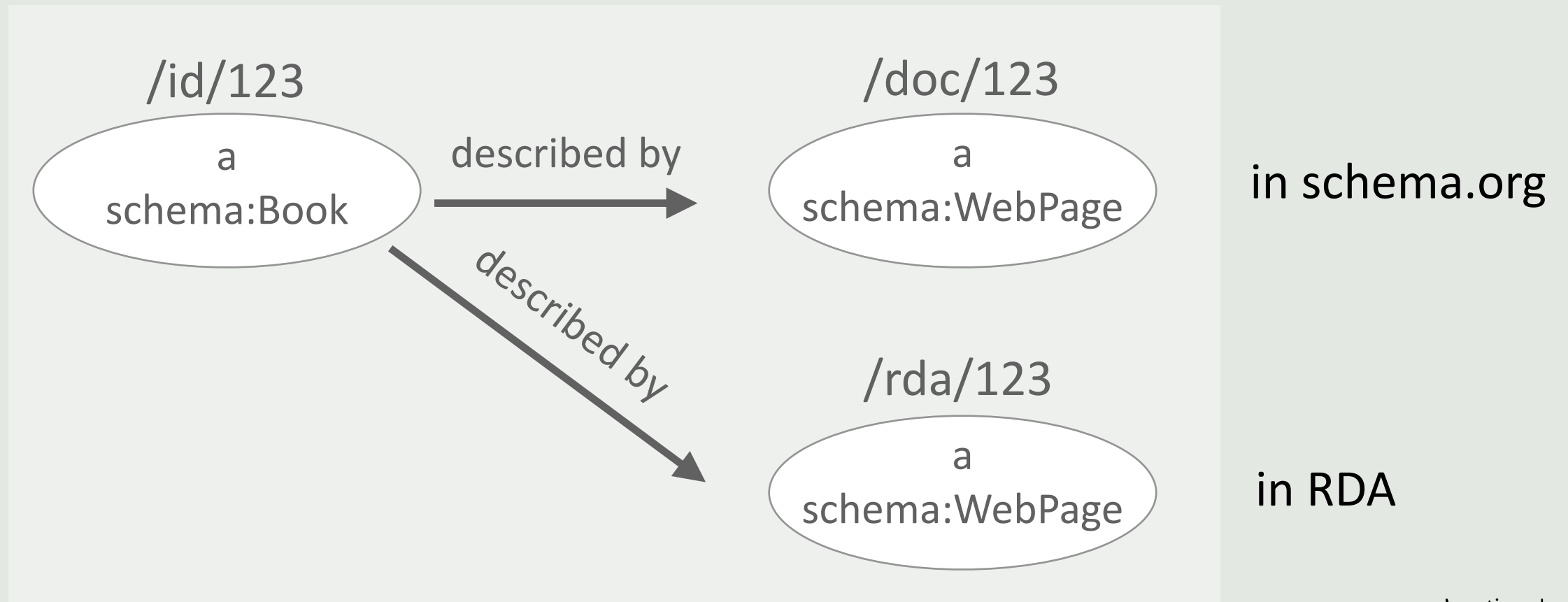```

provides many code snippets & examples:

```
<http://data.bibliotheken.nl/id/nbt/e456283X>
  a schema:IndividualProduct ;
  a schema:CreativeWork, schema:Book ;
  a schema:ArchiveComponent;
  schema:name "Troubled Blood" ;
  schema:author <http://data.bibliotheken.nl/id/pers/robertgalbraith> ;
  schema:exampleOfWork <http://data.bibliotheken.nl/id/nbt/p192741446> ;
  schema:inLanguage "en" ;
  schema:publication [
    a schema:PublicationEvent ;
    schema:startDate "2020"^^xsd:gYear ;
    schema:location "London;
    schema:publishedBy [
      a schema:Organization ;
      schema:name "Sphere Books"
    ]
  ] ;
  schema:isbn "9781549106590" ;
  schema:genre "thriller" ;
  schema:holdingArchive  <http://data.bibliotheken.nl/id/thes/p075301482> ;
  schema:sku "GW A155684:3" .
```

Combining RDA and schema.org?

Entity: *<content negotiation>* Webpage:

/id/123

a
schema:Book

described by

/doc/123

a
schema:WebPage

in schema.org

described by

/rda/123

a
schema:WebPage

in RDA

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thank you for your attention!

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