

RDA and Linked Data

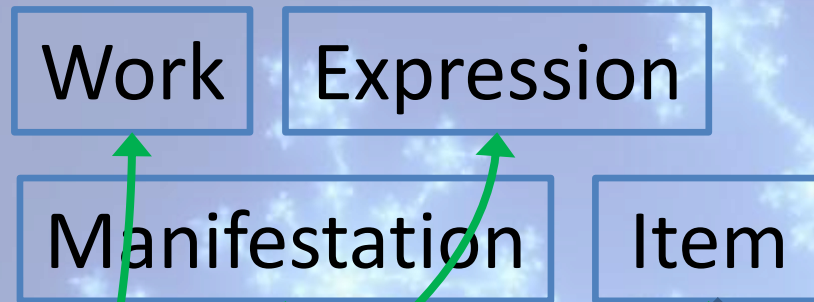
by Gordon Dunsire
National Seminar,
National Library of Finland,
Helsinki, Finland, 25 March 2014

Based on RDA and the Semantic Web:
Lectio magistralis in Library Science,
Florence University, Florence, Italy
4th March, 2014



Functional Requirements for Bibliographic Records

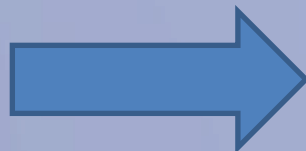
User tasks



Content attributes

Carrier attributes

JSC, 2005



Semantic Web (Berners-Lee)

Structured
collections
of information



Sets of inference rules

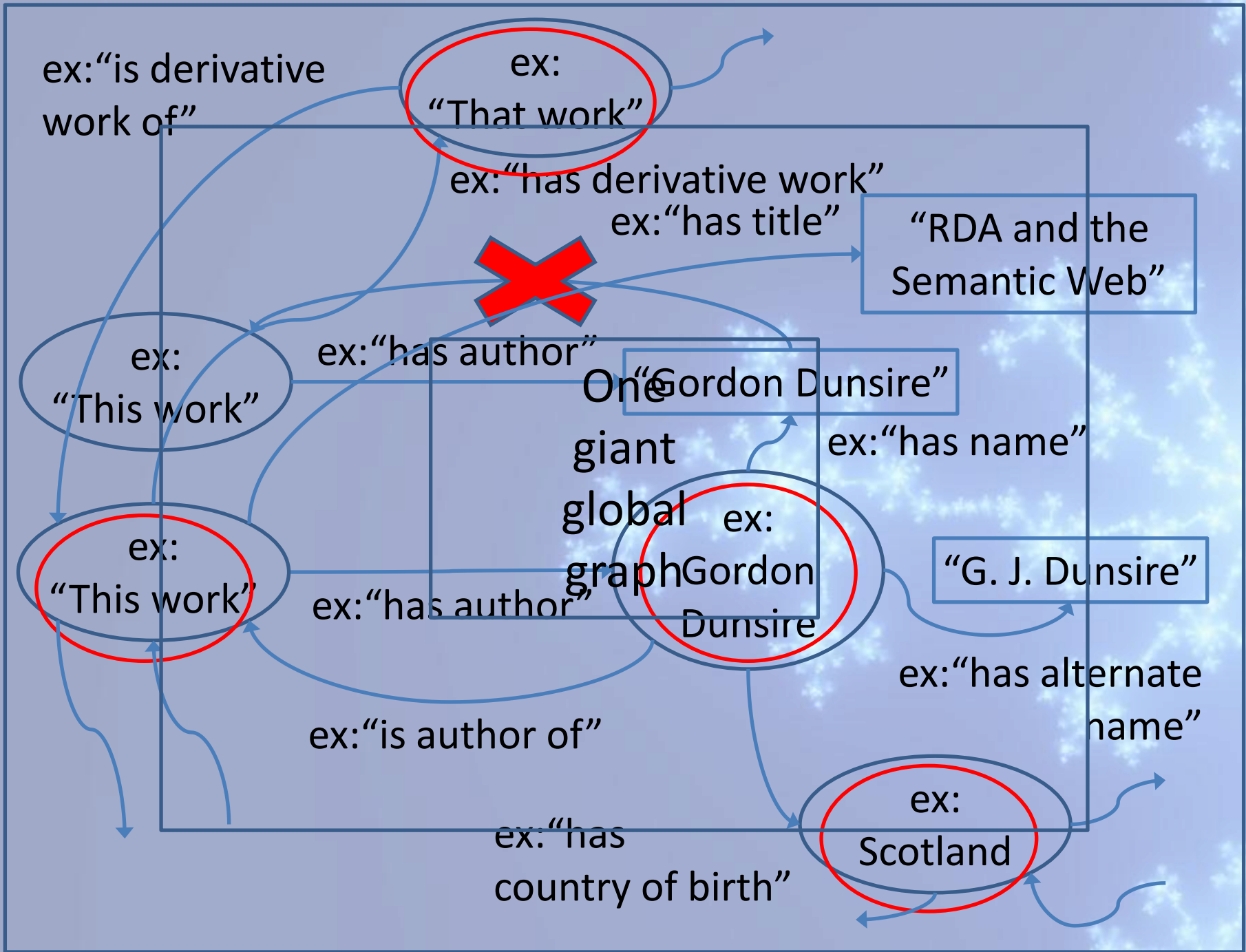


Automated reasoning

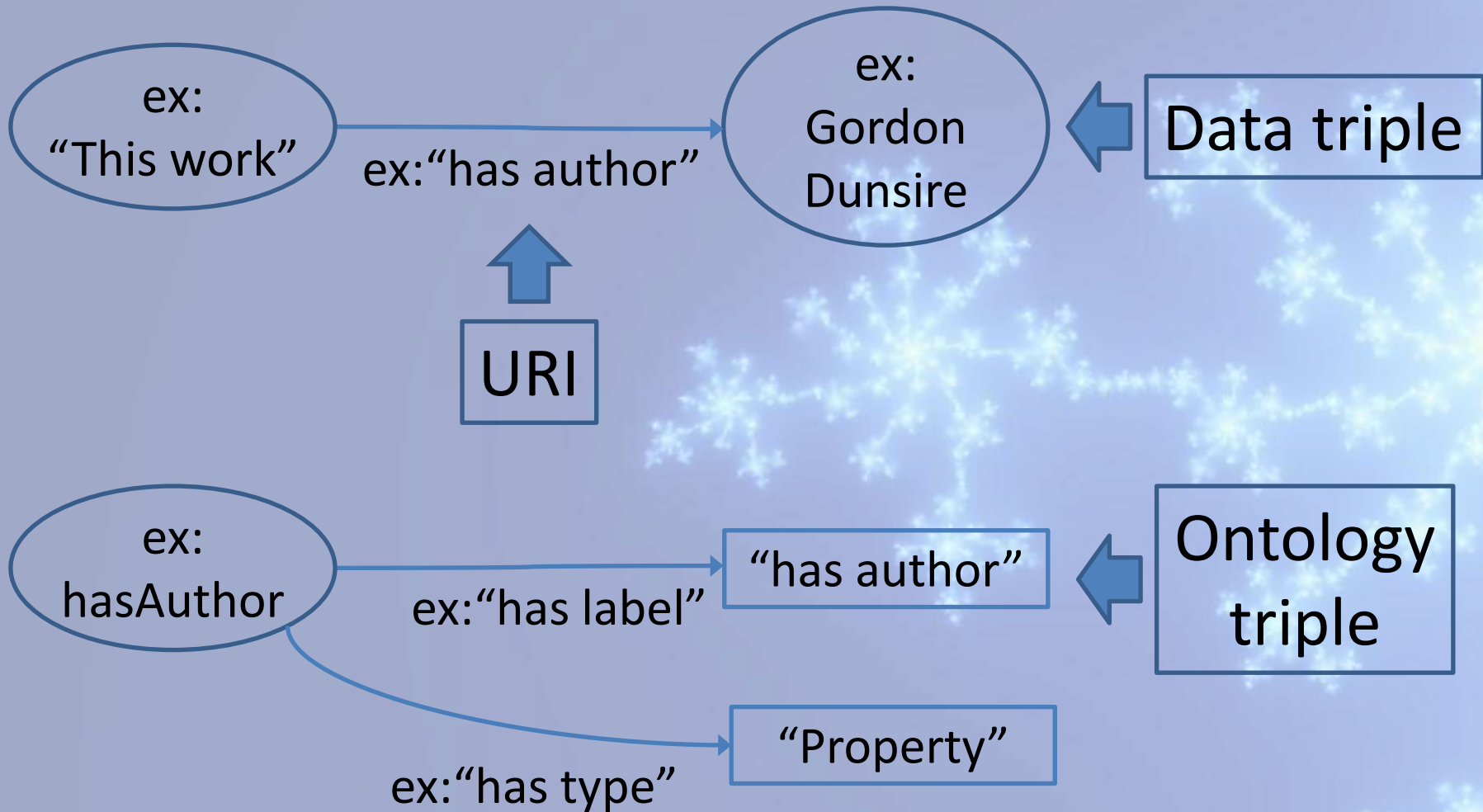
Web of linked data

Web of linked documents

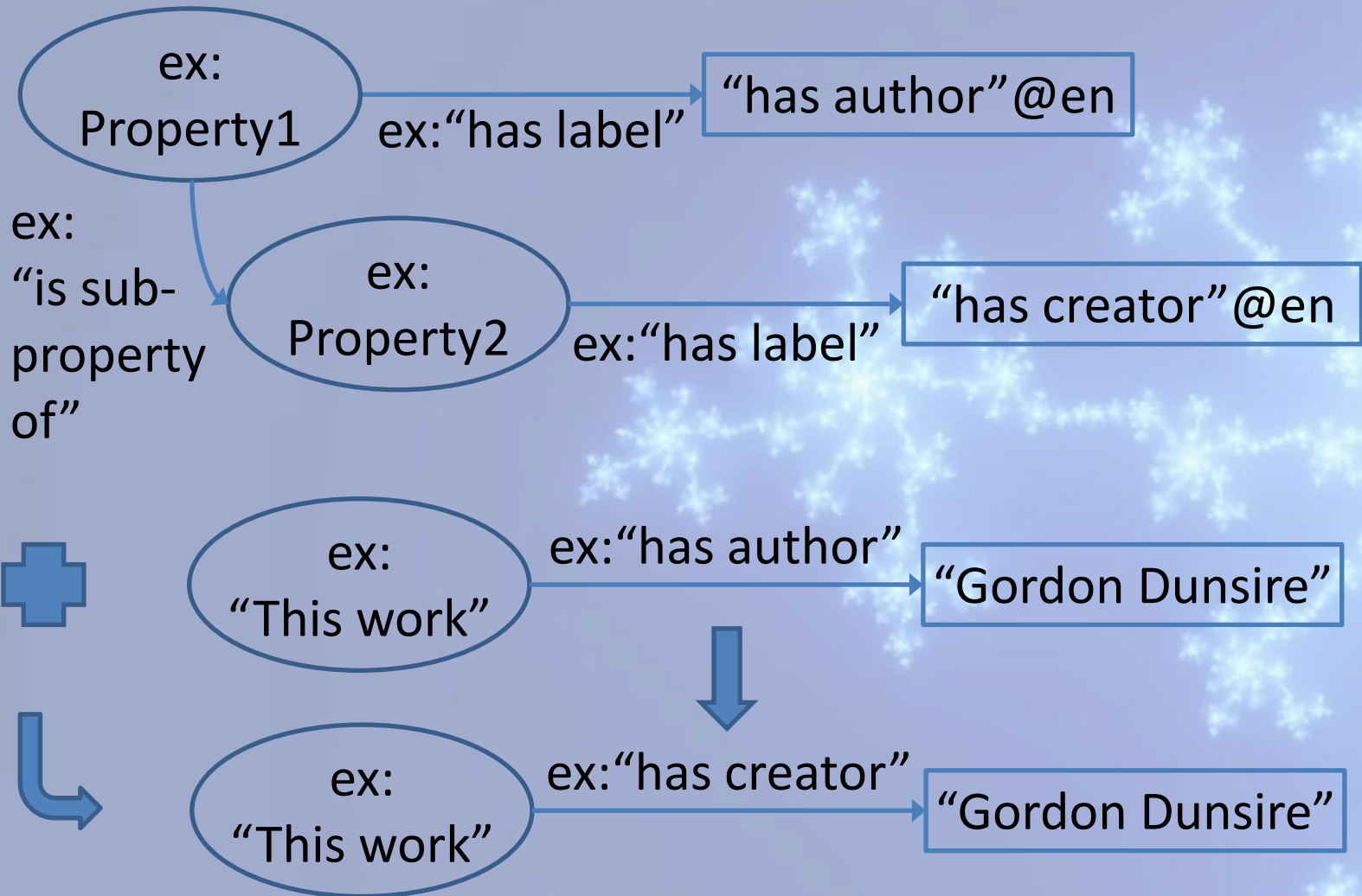
Web of linked computing devices



Data vs Ontology

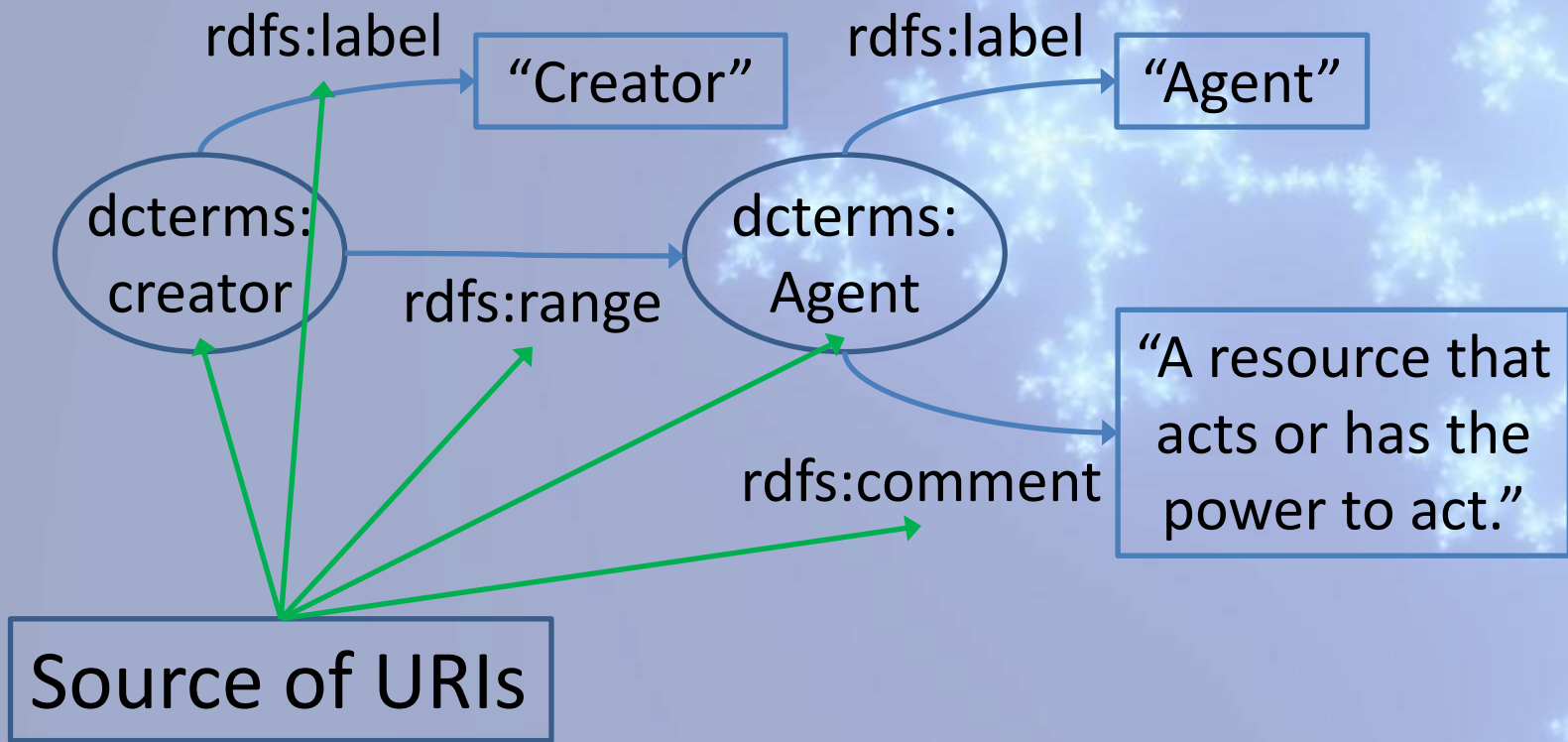


Inference rules: sub-property

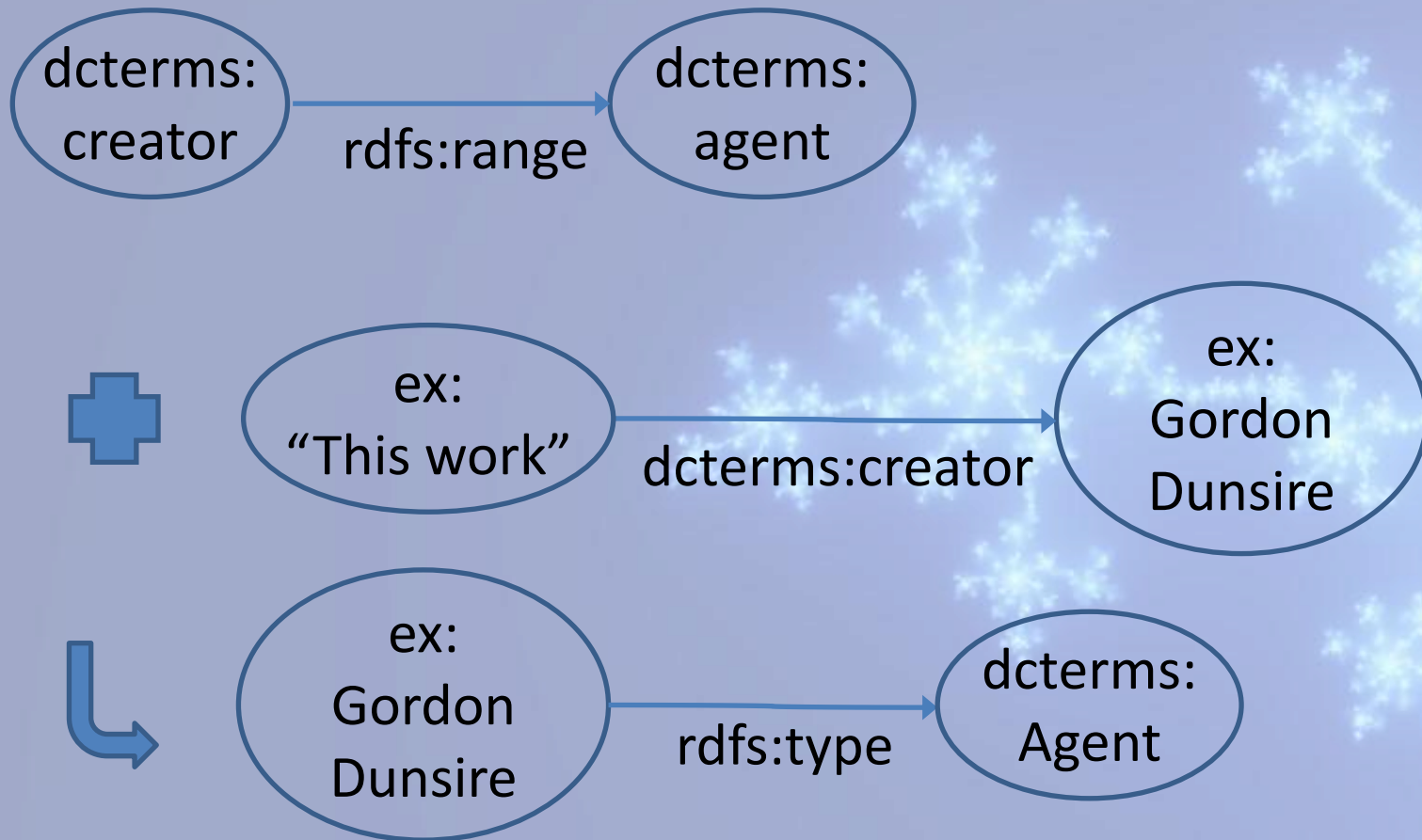


RDF vocabularies: DCT + RDFS

Dublin Core Terms + RDF Schema



Inference rules: range



Benefits expected from London 2007 meeting

- ❖ The library community gets a metadata standard that is compatible with the Web Architecture and that is fully **interoperable with other Semantic Web initiatives**
- ❖ The DCMI community gets a **libraries application profile** firmly based on the DCAM and FRBR (which will be a high profile exemplar for others to follow)
- ❖ The Semantic Web community get a **significant pool of well thought-out metadata terms** to re-use
- ❖ There is **wider uptake of RDA**

Activities 2007-

- ❖ Development of an RDA Element Vocabulary
- ❖ Development of an RDA DC Application Profile based on FRBR and FRAD
- ❖ Disclosure of RDA Value Vocabularies using RDF/RDFS/SKOS

Vocabulary: Show detail for RDA Content Type

Detail

Concepts

History

Versions

Maintainers

Preferred Label	URI	Status	Updated	Actions
cartographic dataset	.../termList/RDAContentType/1001	Published	2012-01-10 13:51	
cartographic image	.../termList/RDAContentType/1002	Published	2012-01-10 13:59	
cartographic moving image	.../termList/RDAContentType/1003	Published	2012-01-10 14:02	
cartographic tactile image	.../termList/RDAContentType/1004	Published	2012-01-10 14:04	
cartographic tactile three-dimensional form	.../termList/RDAContentType/1005	Published	2012-01-10 14:06	
cartographic three-dimensional form	.../termList/RDAContentType/1006	Published	2012-01-10 14:07	
computer dataset	.../termList/RDAContentType/1007	Published	2012-01-10 14:21	
computer program	.../termList/RDAContentType/1008	Published	2012-01-10 14:24	
notated movement	.../termList/RDAContentType/1009	Published	2012-01-10 14:28	
notated music	.../termList/RDAContentType/1010	Published	2012-01-10 14:30	
performed music	.../termList/RDAContentType/1011	Published	2012-01-10 14:32	
sounds	.../termList/RDAContentType/1012	Published	2012-01-10 14:34	
spoken word	.../termList/RDAContentType/1013	Published	2012-01-10 14:36	
still image	.../termList/RDAContentType/1014	Published	2012-01-10 14:43	
tactile image	.../termList/RDAContentType/1015	Published	2012-01-10 14:44	
tactile notated movement	.../termList/RDAContentType/1016	Published	2012-01-10 14:46	
tactile notated music	.../termList/RDAContentType/1017	Published	2012-01-10 14:48	
tactile text	.../termList/RDAContentType/1018	Published	2012-01-10 14:49	
tactile three-dimensional form	.../termList/RDAContentType/1019	Published	2012-01-10 14:51	
text	.../termList/RDAContentType/1020	Published	2012-01-10 14:56	

Opaque URI
(only for machines)
Compact URI = rdact:1010

23 results

Vocabulary: RDA Content Type

Concepts: notated music

Detail

Properties

History

Detail

Preferred Label: notated music

Language: English

URI: <http://rdvocab.info/termList/RDAContentType/1010> (RDF)

Top Concept?:

Status: Published

Properties

scope note	Includes all forms of music notation other than those intended to be perceived through touch (see tactile notated music).	English	Published
scope note	Dazu gehören alle Formen der notierten Musik, außer derjenigen, die konzipiert wurde, um über den Tastsinn wahrgenommen zu werden.	German	New-Proposed
related to	computer dataset		New-Proposed
related to	tactile notated music		New-Proposed
preferred label	notated music	English	Published
preferred label	schriftlich fixierte Musik	German	New-Proposed
definition	Content expressed through a form of musical notation intended to be perceived visually.	English	Published
definition	Inhalt, der durch ein Notationssystem für Musik ausgedrückt wird und konzipiert wurde, um visuell wahrgenommen zu werden.	German	New-Proposed

```

- <rdf:RDF>
  <!-- NOTICE: This is a single-concept fragment -->
  <!-- Scheme: RDA Content Type -->
- <skos:ConceptScheme rdf:about="http://rdvocab.info/termList/RDAContentType">
  <dc:title>RDA Content Type</dc:title>
</skos:ConceptScheme>
  <!-- Concept: notated music -->
- <skos:Concept rdf:about="http://rdvocab.info/termList/RDAContentType/1010" xml:lang="en">
  <skos:inScheme rdf:resource="http://rdvocab.info/termList/RDAContentType"/>
  <reg:status rdf:resource="http://metadataregistry.org/uri/RegStatus/1001"/>
  <reg:identifier rdf:resource="519"/>
  <skos:prefLabel xml:lang="en">notated music</skos:prefLabel>
- <skos:definition xml:lang="en">
  Content expressed through a form of musical notation intended to be perceived visually.
</skos:definition>
- <skos:scopeNote xml:lang="en">
  Includes all forms of music notation other than those intended to be perceived through touch (see tactile notated
  music).
</skos:scopeNote>
  <skos:prefLabel xml:lang="de">schriftlich fixierte Musik</skos:prefLabel>
- <skos:scopeNote xml:lang="de">
  Dazu gehören alle Formen der notierten Musik, außer derjenigen, die konzipiert wurde, um über den Tastsinn
  wahrgenommen zu werden.
</skos:scopeNote>
- <skos:definition xml:lang="de">
  Inhalt, der durch ein Notationssystem für Musik ausgedrückt wird und konzipiert wurde, um visuell
  wahrgenommen zu werden.
</skos:definition>

```

DCAM and RDA

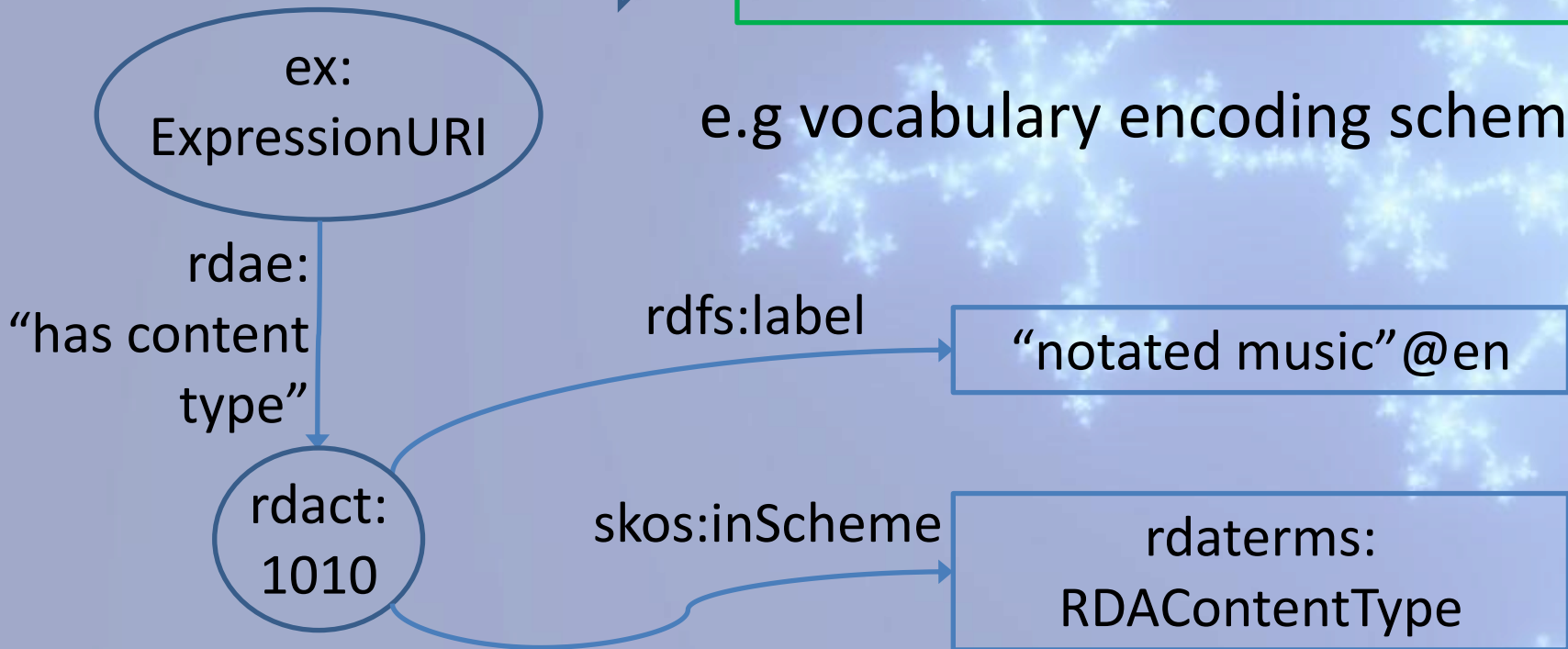
Dublin Core Abstract Model



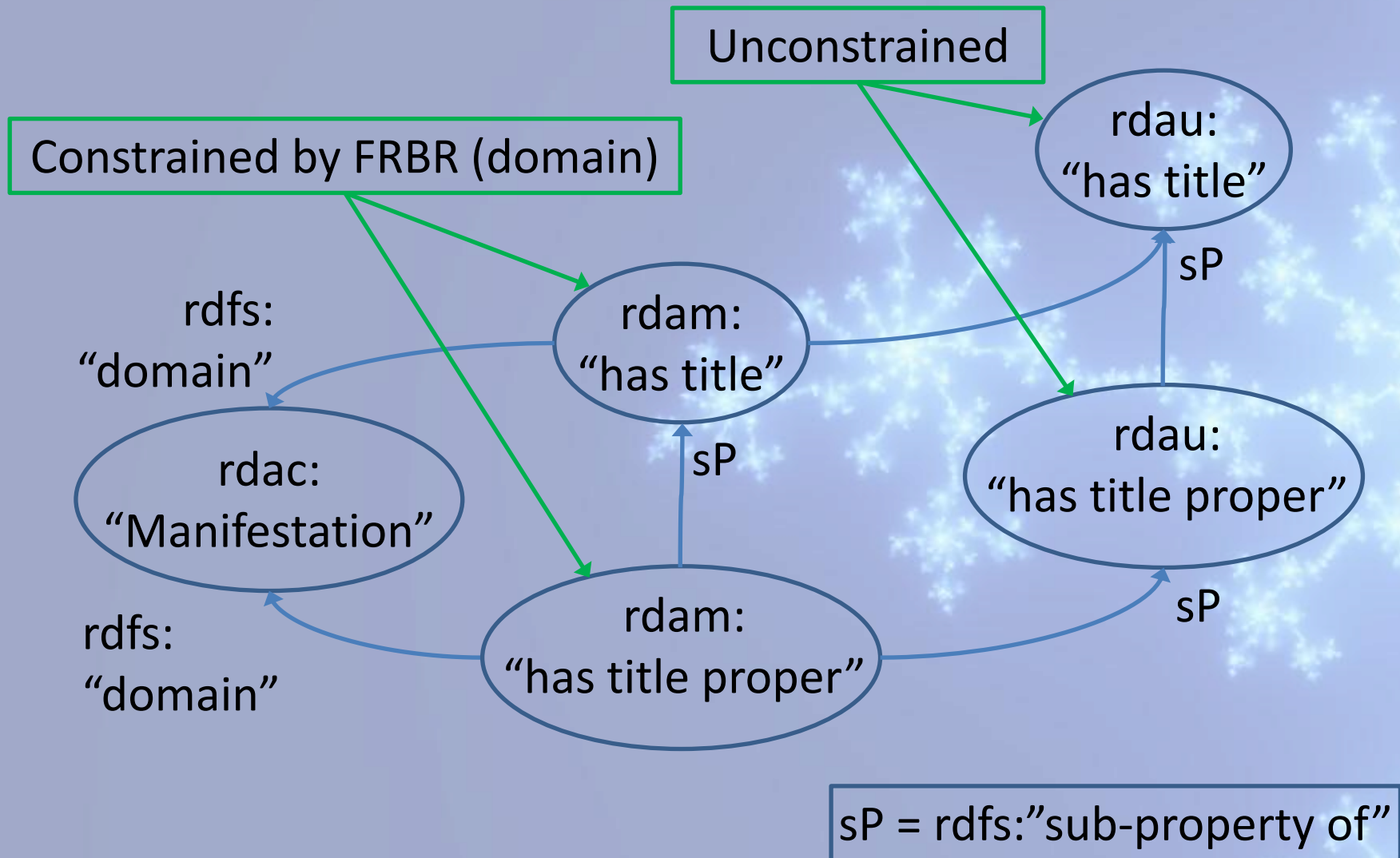
<indec>

Basic RDA metadata structures

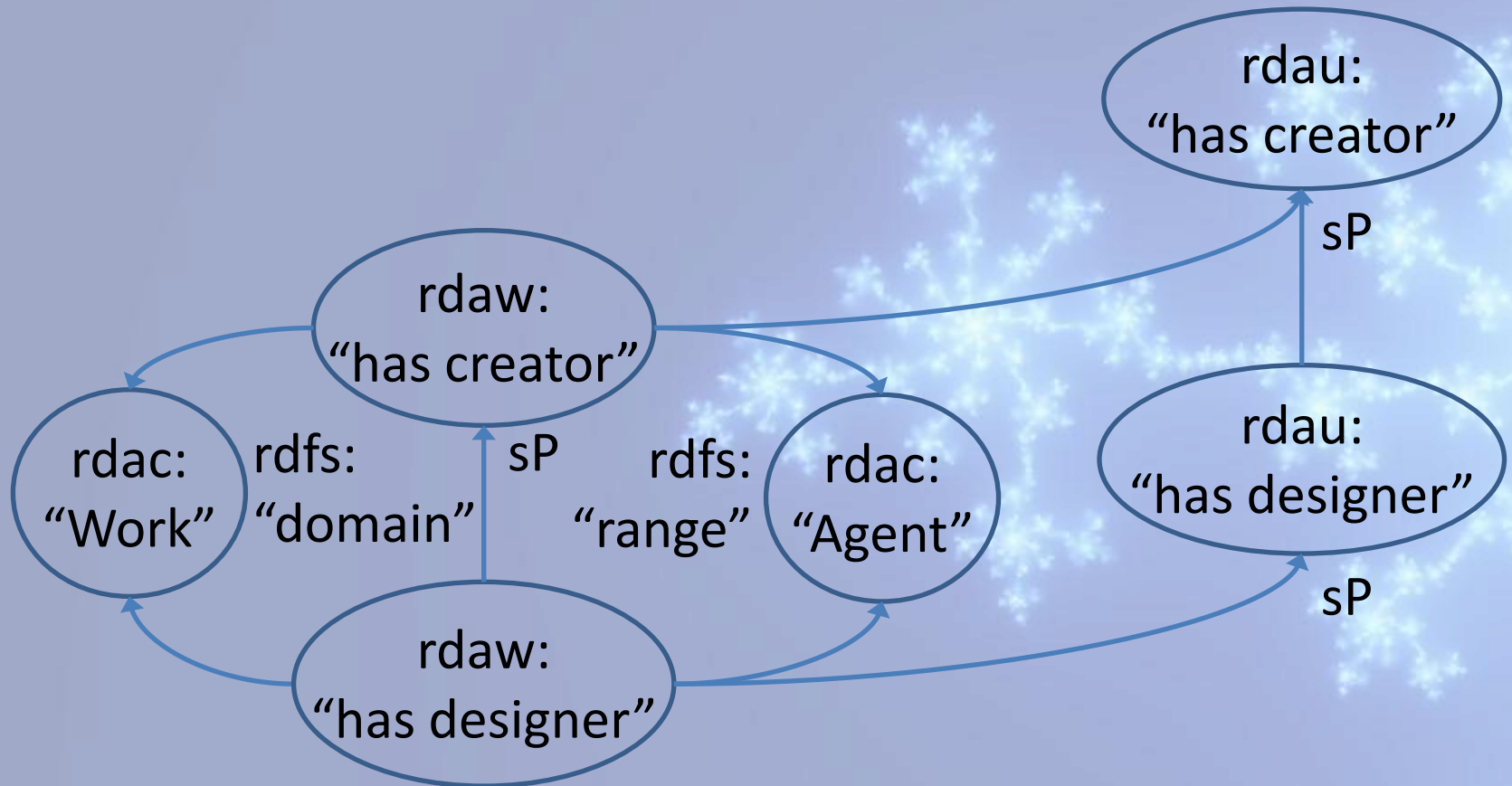
e.g vocabulary encoding scheme



High-level metadata structures



Relationship designators



sP = rdfs: "sub-property of"

Link-ability

Domains

Relationships

Attributes

Entity	Properties	Range	No Range
Work	235	200	35
Expression	235	190	45
Manifestation	210	50	160
Item	50	40	10
Agent	225	175	50

Triple clusters

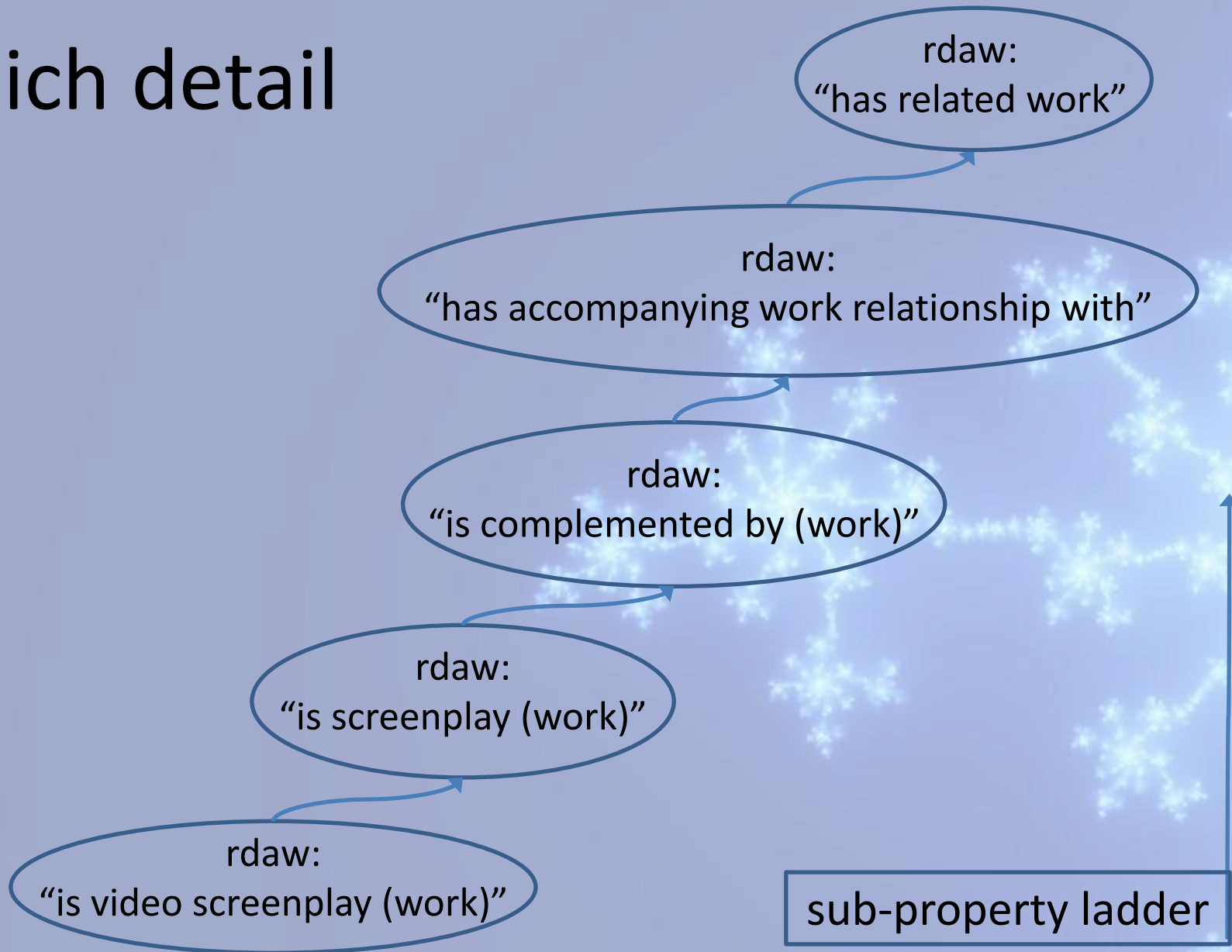
Triple chains

Literals

Covering all media

160

Rich detail



Interoperability



To do (from 2007 ...)

- ❖ Publish more RDA value vocabularies
- ❖ Develop cross-entity elements
 - ❖ E.g. Work-Expression relationship designators
- ❖ Develop Application Profile for RDA “core”
- ❖ Develop RDF elements for aggregated statements (RDA, ISBD, MARC, ...)
 - ❖ E.g. Place of publication -> Publication statement

To do (from now)

- ❖ More machine-actionability (internal)
 - ❖ Extent
 - ❖ Place
 - ❖ RDA/ONIX Framework
- ❖ Maps to related linked data elements (external)
 - ❖ RDA->MARC 21 relators ✓
 - ❖ ISBD->RDA [✓]
 - ❖ RDA-BIBFRAME [?]
 - ❖ RDA-FRBR [!]
- ❖ What is an RDA record?

Achievements: 5+ years on

- ❖ Rich set of elements and value vocabularies for “bibliographic control”
 - ❖ At global, “universal” level
- ❖ “a metadata standard that is compatible with the Web Architecture and that is fully interoperable with other Semantic Web initiatives”
- ❖ “a significant pool of well thought-out metadata terms to re-use”
- ❖ Wider uptake of RDA? ...

Thank you!

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