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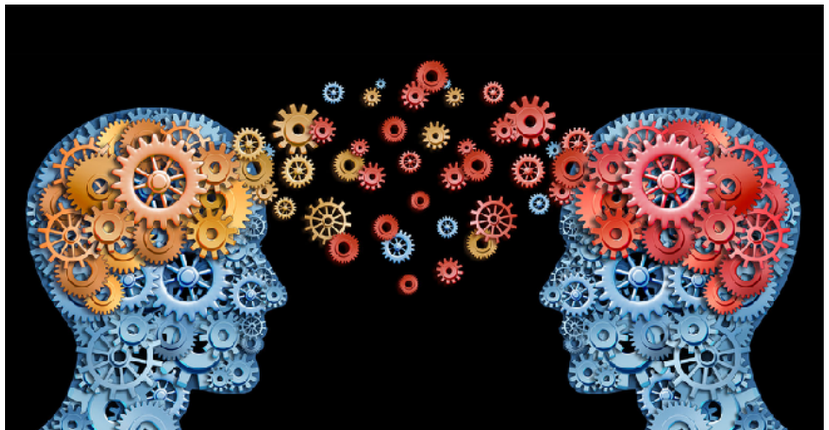
RÉUTILISER/CRÉER DES VOCABULAIRES, DES ONTOLOGIES DE DOMAINE: LOV, BIOPORTAL, . . .

WHAT ARE VOCABULARIES FOR?

Data

- Provide semantic interoperability
- Associate a common understanding to data descriptions



Vocabulary

Vocabulary

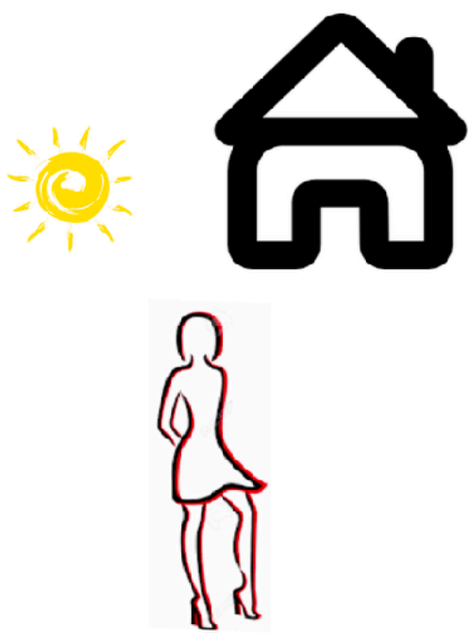
Vocabulary

LEVELS OF « UNDERSTANDING »

21

- **Data**: Raw element of a reality
- **Information**: Data and its context

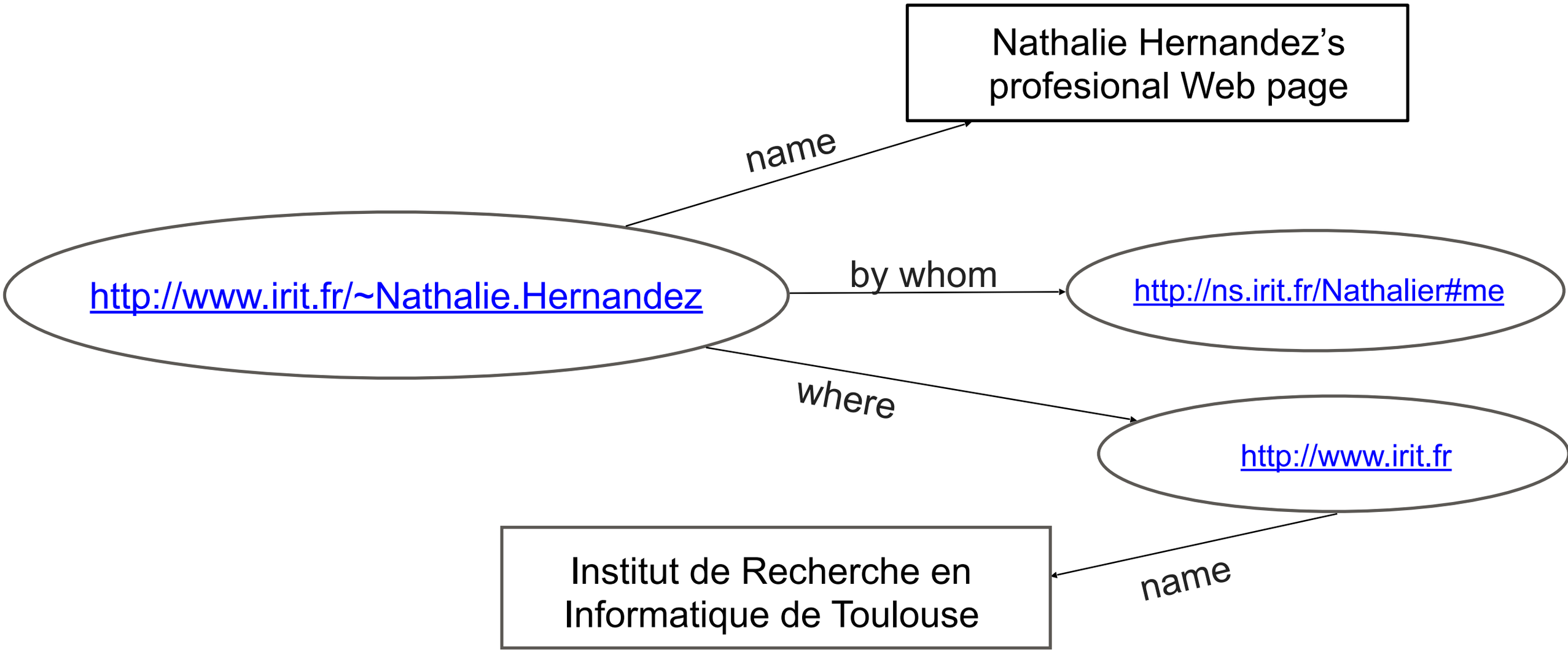
- **Knowledge**: Background rules enabling deduction (reasoning) on collected information



VOCABULARIES ? ONTOLOGIES

« In the Semantic Web view, **ontologies** play a key role. They act as shared vocabularies to be used for semantically annotating Web resources and they allow to perform deductive reasoning for making explicit information that is implicitly contained within them. » *Claudia d'Amato*

VOCABULARIES FOR DESCRIBING/ANNOTATING



WHAT FOR? - DIFFERENT KINDS - EXAMPLES - CHOOSING - FINDING

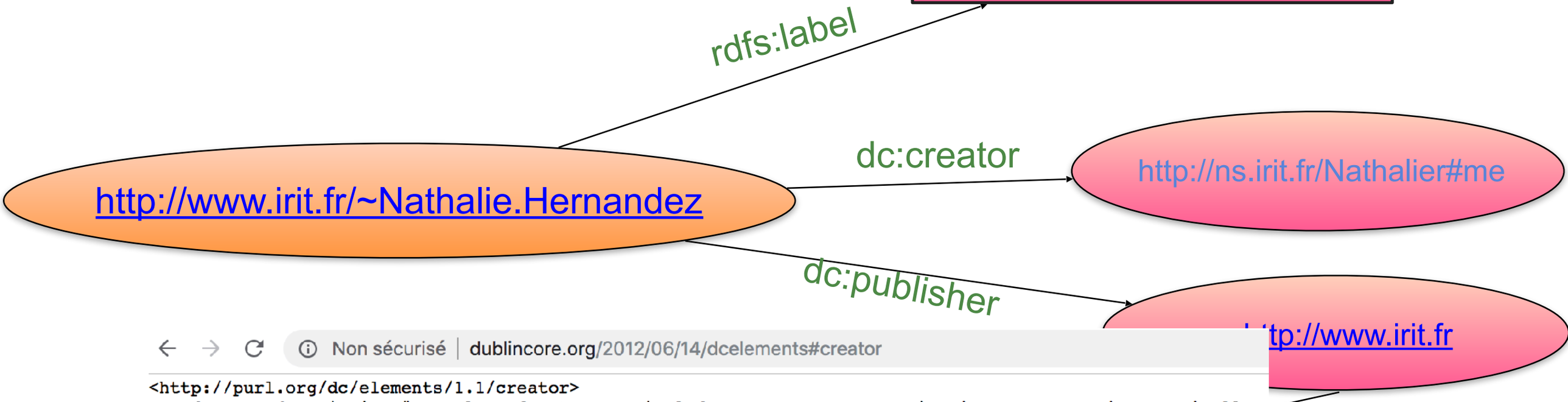
https://www.w3.org/2000/01/rdf-schema#

```
rdfs:label a rdf:Property ;
        rdfs:isDefinedBy <http://www.w3.org/2000/01/rdf-schema#> ;
        rdfs:label "label" ;
        rdfs:comment "A human-readable name for the subject." ;
        rdfs:domain rdfs:Resource ;
        rdfs:range rdfs:Literal .
```

@p

@prefix dc: <http://purl.org/dc/elements/1.1/>.

alie Hernandez's
profesional Web page



Non sécurisé | dublincore.org/2012/06/14/dcelements#creator

```
<http://purl.org/dc/elements/1.1/creator>
    dcterms:description "Examples of a Creator include a person, an organization, or a service. Typically,
entity."@en ;
    dcterms:hasVersion <http://dublincore.org/usage/terms/history/#creator-006> ;
    dcterms:issued "1999-07-02"^^<http://www.w3.org/2001/XMLSchema#date> ;
    dcterms:modified "2008-01-14"^^<http://www.w3.org/2001/XMLSchema#date> ;
    a rdf:Property ;
    rdfs:comment "An entity primarily responsible for making the resource."@en ;
    rdfs:isDefinedBy <http://purl.org/dc/elements/1.1/> ;
    rdfs:label "Creator"@en ;
    skos:note "A second property with the same name as this property has been declared in the dcterms: name
the document \"DCMI Metadata Terms\" (http://dublincore.org/documents/dcmi-terms/) for an explanation."@en
```

Any resource that has an IRI can be given an RDF description

DESCRIBING DATA OR WEB RESOURCES ?


```
"06/04/2015 00:00:00",N0.VENT.MES.TT_FOR_CHAUD,18,192,
"06/04/2015 00:00:00",N0.PAC1.MES.TT_EXT,11.8,192,
"06/04/2015 00:00:00",N0.PAC1.MES.TT_BALON_SEC,46.7,192,
"06/04/2015 00:00:00",N0.PROD.MES.V3VPACEC,51.5,192,
"06/04/2015 00:00:00",N0.VENT.MES.TT_GAL_PV_S_3M5,16.3,192,
"06/04/2015 00:00:00",N0.VENT.MES.TT_GAL_PV_S_1M5,15.7,192,
"06/04/2015 00:00:00",N0.VENT.MES.TT_GAL_PV_N_6M5,16.7,192,
"06/04/2015 00:00:00",N0.UTA_1.MES.V_EC,0,192,
"06/04/2015 00:00:00",N0.PROD.MES.PRESSGALZ1Z2,1,192,
"06/04/2015 00:00:00",N0.VENT.MES.TT_GAL_PV_N_1M5,16.1,192,
"06/04/2015 00:00:00",N0.VENT.MES.TT_GAL_PV_S_6M5,15.3,192,
"06/04/2015 00:00:00",N2.UTA_1.MES.V_EG,99.6,192,
"06/04/2015 00:00:00",N0.VENT.MES.TT_MOY_650,16.0352,192,
"06/04/2015 00:00:00",N0.PAC3.MES.TT_RET_PRIM,12.6,192,
"06/04/2015 00:00:00",N2.VC206.MES.V_EG,38.3,192,
"06/04/2015 00:00:00",NVDS.ADIABOX4.MES.TSOUF,13.9,192,
"06/04/2015 00:00:00",N0.PAC2.MES.TT_DEP_PRIM,13.6,192,
"06/04/2015 00:00:00",N0.PAC2.MES.TT_RET_PRIM,15.8,192,
"06/04/2015 00:00:00",N0.VENT.MES.QAIRCTA,474,192,
"06/04/2015 00:00:00",NVDS.ADIABOX3.MES.TSOUF,13.3,192,
"06/04/2015 00:00:00",NVDS.ADIABOX2.MES.TSOUF,12.2,192,
"06/04/2015 00:00:00",NVDS.ADIABOX1.MES.TSOUF,13.3,192,
"06/04/2015 00:00:00",N0.VENT.MES.QAIREXT2P,157,192,
"06/04/2015 00:01:00",N0.PAC1.MES.TT_DEP_PRIM,13.8,192,
"06/04/2015 00:01:00",N0.PAC1.MES.TT_RET_PRIM,14.8,192,
"06/04/2015 00:01:00",N0.PAC2.MES.TT_BALON_SEC,47.5,192,
"06/04/2015 00:01:00",N0.PAC2.MES.TT_EXT,12.7,192,
"06/04/2015 00:01:00",N0.PAC1.MES.TT_BALON_SEC,46.6,192,
```

★★★ Data accessible on the Web, with an open license, in an open format

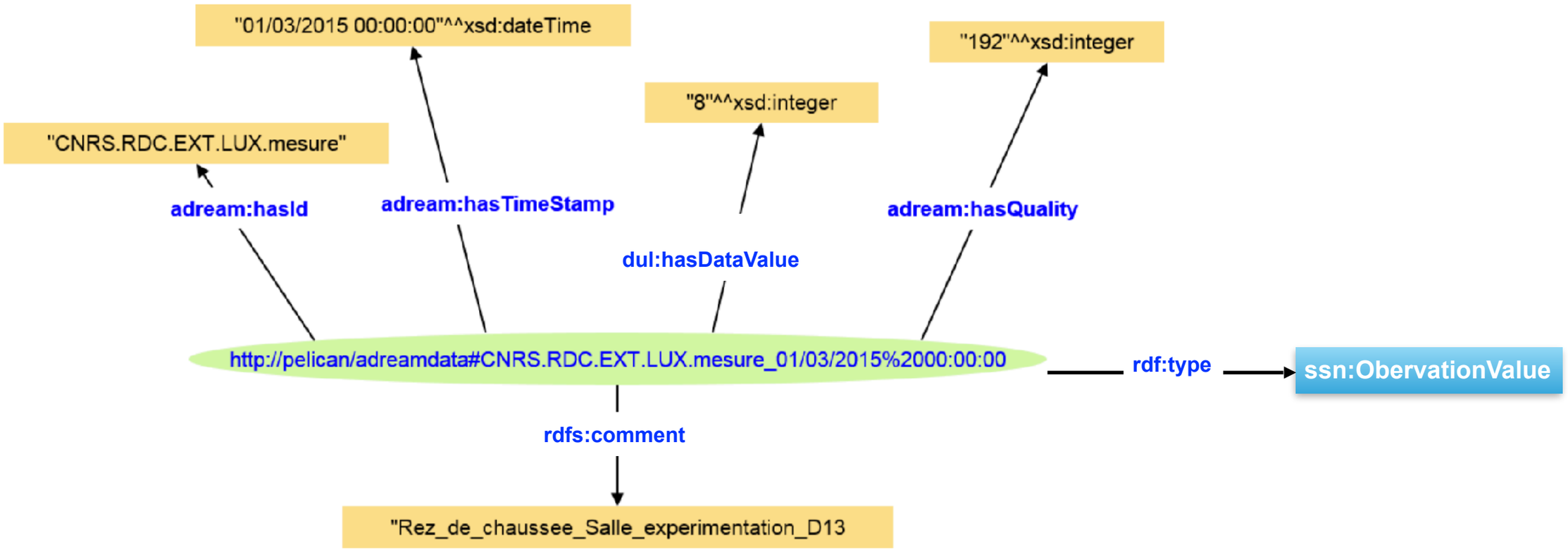
DATA OR WEB RESOURCES ?


```
@prefix rdf:  <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .
@prefix qudt_q:  <http://qudt.org/vocab/quantity#> .
@prefix qudt_u:  <http://qudt.org/vocab/unit#> .
@prefix rdfs:  <http://www.w3.org/2000/01/rdf-schema#> .
@prefix dul:  <http://ontologydesignpatterns.org/ont/dul/DUL.owl> .
@prefix adream:  <http://pelican/adreamdata#> .
@prefix ssn:  <http://purl.oclc.org/NET/ssnx/ssn#> .

<http://pelican/adreamdata#CNRS.RDC.EXT.LUX.mesure_01/03/2015%2000:00:00>
        rdf:type            ssn:ObservationValue ;
        adream:hasId        "CNRS.RDC.EXT.LUX.mesure" ;
        adream:hasQuality   "192" ;
        dul:hasDataValue    "8" ;
        rdfs:comment        "RDC_Exterieur_lux" .

<http://pelican/adreamdata#CNRS.RDC.R2.H020.D13.puissance_01/03/2015%2000:01:00>
        rdf:type            ssn:ObservationValue ;
        adream:hasId        "CNRS.RDC.R2.H020.D13.puissance" ;
        adream:hasQuality   "192" ;
        dul:hasDataValue    "3" ;
        rdfs:comment        "Rez_de_chaussee_Salle_experimentation_D13" .

<http://pelican/adreamdata#CNRS.RDC.R2.H020.D12.puissance_01/03/2015%2000:01:00>
        rdf:type            ssn:ObservationValue ;
        adream:hasId        "CNRS.RDC.R2.H020.D12.puissance" ;
        adream:hasQuality   "192" ;
        dul:hasDataValue    "3" ;
        rdfs:comment        "Rez de chaussee Salle experimentation D12" .
```

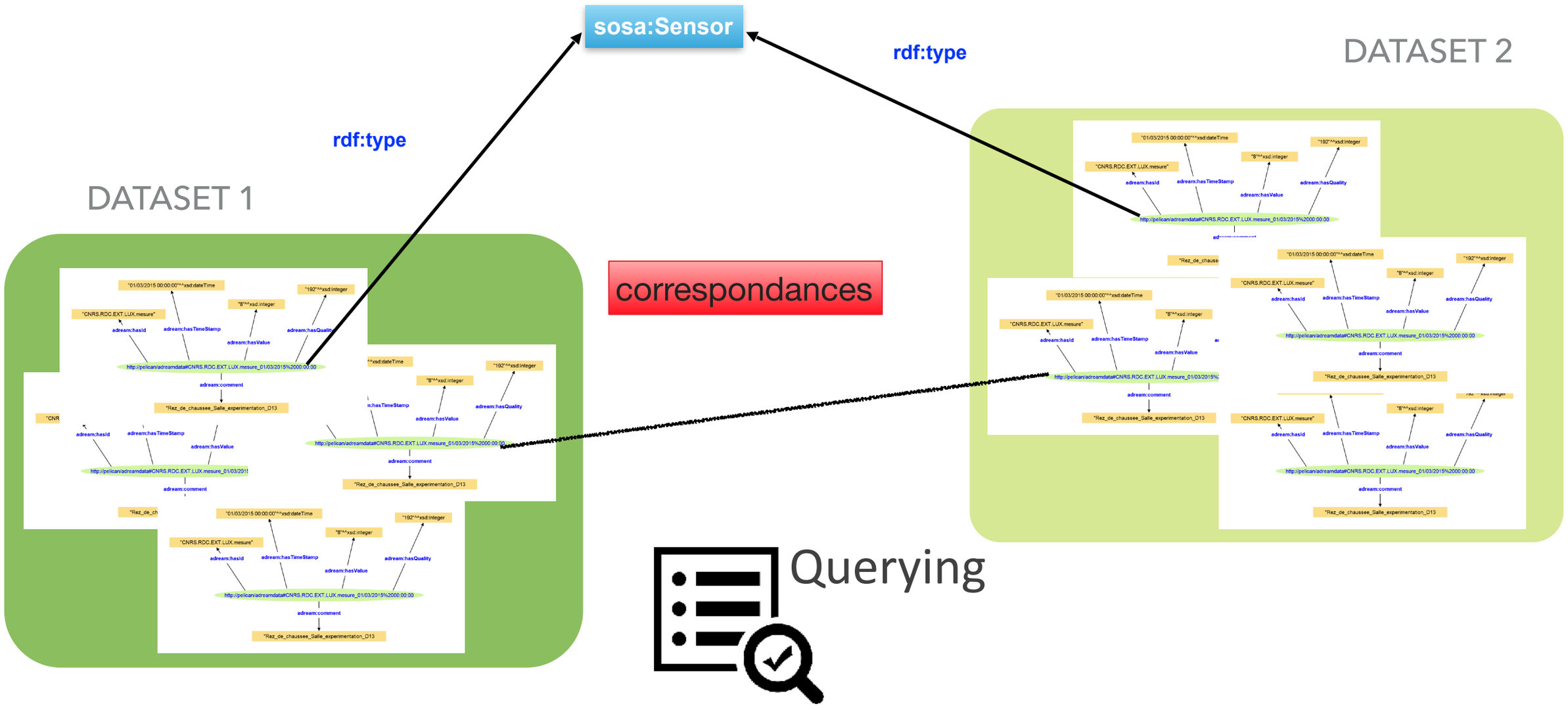
★★★★★ Data **DESCRIBED** and **LINKED** with RDF

DATA OR WEB RESOURCES ?

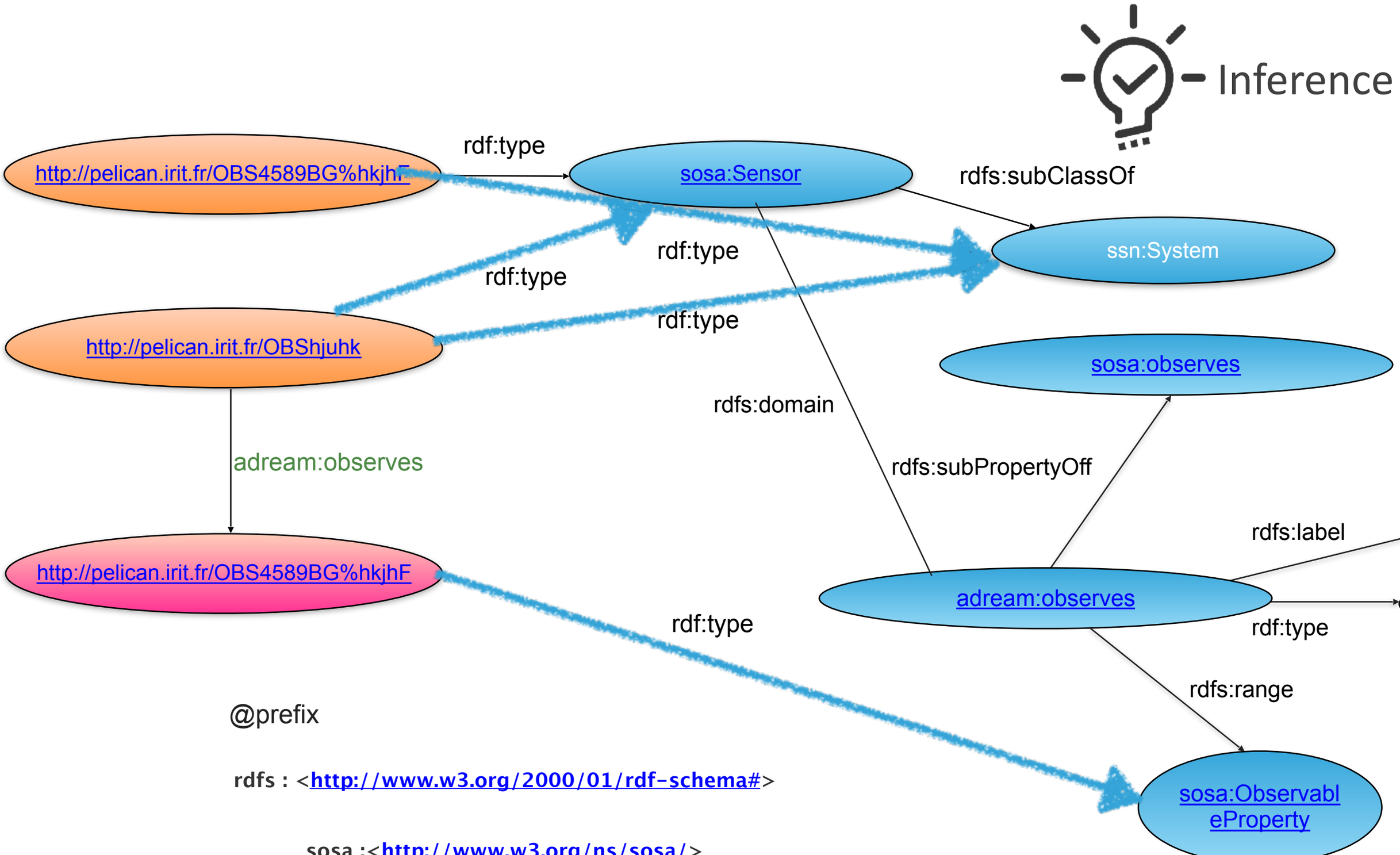
Several different vocabularies can be used



VOCABULARIES FOR LINKING DATA



VOCABULARIES FOR EXPLICITING INFORMATION CONTAINED WITHIN DATA



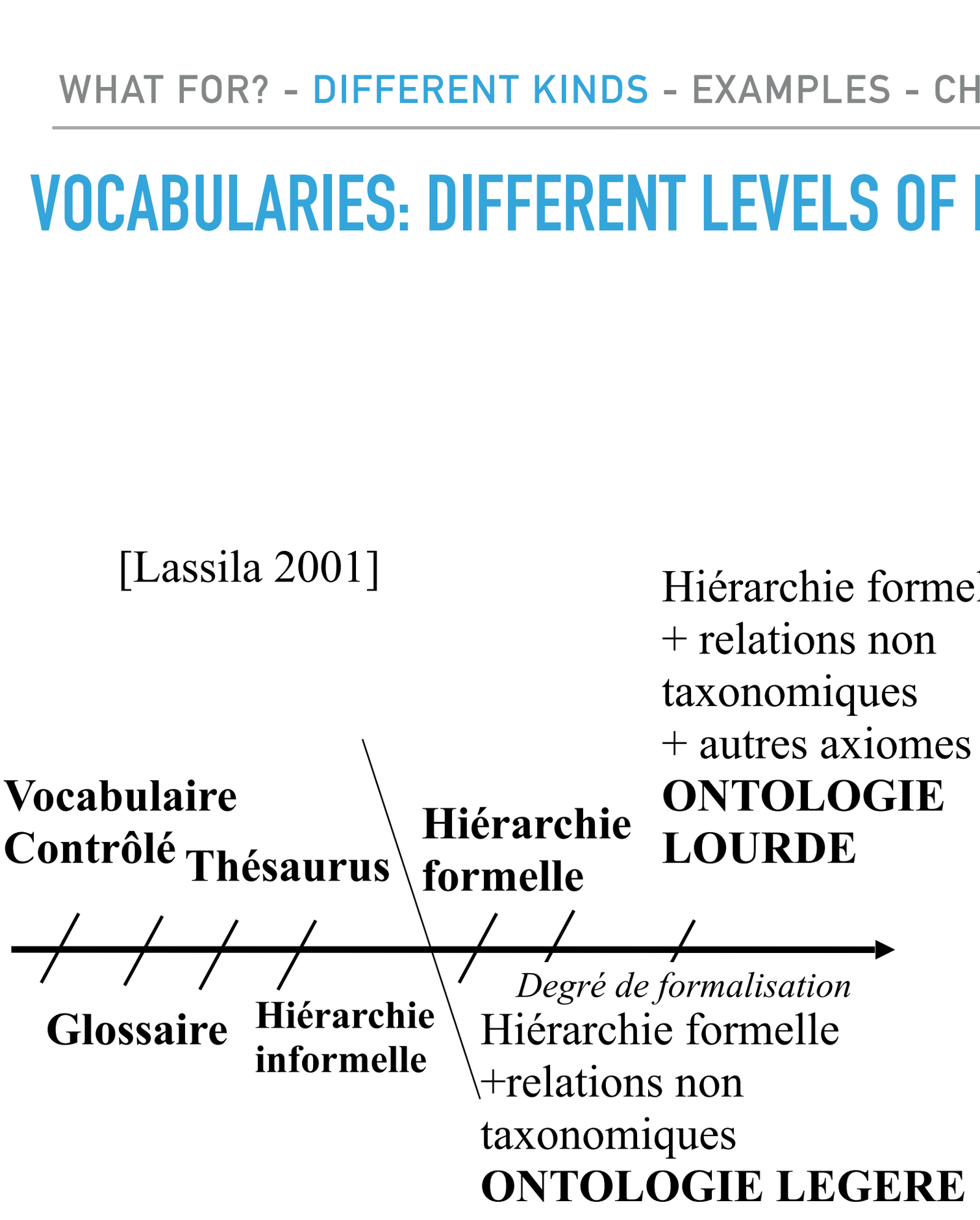
@prefix

rdfs : <http://www.w3.org/2000/01/rdf-schema#>

sosa :<http://www.w3.org/ns/sosa/>

VOCABULARIES: DIFFERENT LEVELS OF FORMALISATION

[Lassila 2001]



VOCABULARIES ARE ALSO WEB RESOURCES

- described according to different Vocabularies

Type	Contains	Vocabulary
Lightwheigt ontology	- Class - Hierarchical relation - Non-taxonomic relation	RDFS
Heavywheigt ontology	- Class - Hierarchical relation - Non-taxonomic relation - Defined Classes - Property characteristics, ...	OWL
Taxonomy/Thesaurus	- Class - Hierarchical relation - Terminological relations	SKOS

VOCABULARIES ARE ALSO WEB RESOURCES

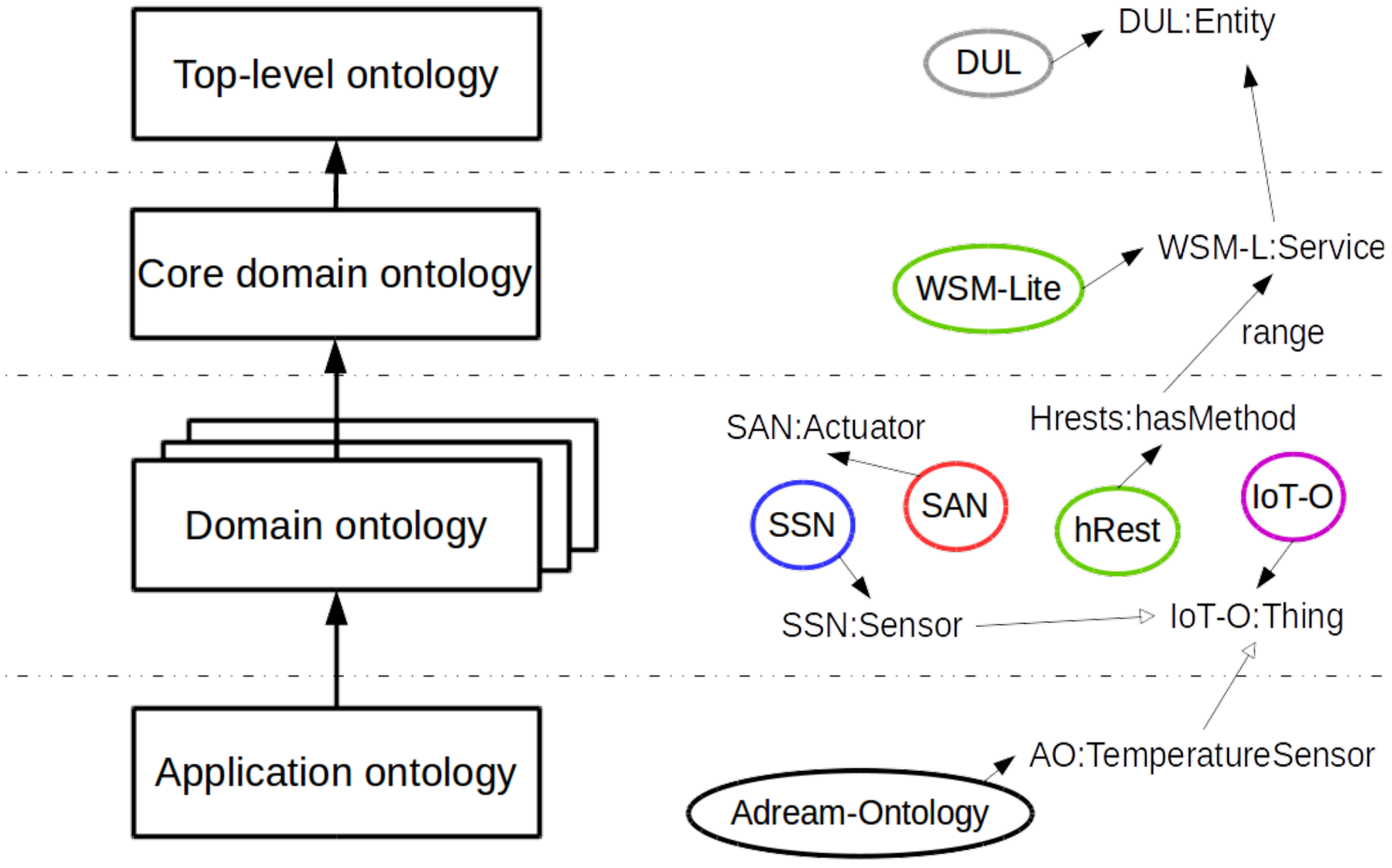
- linked to one another

Listing 1: Examples of Inter-vocabulary relationships.

```
# Metadata
<http://www.w3.org/2004/02/skos/core> dct:title "SKOS Vocabulary"@en
# Import - V1 imports V2
<http://purl.org/NET/c4dm/event.owl> owl:imports <http://www.w3.org/2006/time>
# Specialization - c1 is subclass of c2
<http://open.vocab.org/terms/Birth> rdfs:subClassOf <http://purl.org/NET/c4dm/event.owl#Event>
# Specialization - p1 is subproperty of p2
<http://purl.org/spar/fabio/hasEmbargoDate> rdfs:subPropertyOf <http://purl.org/dc/terms/date>
# Generalization - c1 has for narrower match c2
<http://semanticweb.cs.vu.nl/2009/11/sem/Place> skos:narrowMatch
   <http://www.w3.org/2003/01/geo/wgs84_pos#SpatialThing>
# Extension - p1 is inverse of p2
<http://vivoweb.org/ontology/core#translatorOf> owl:inverseOf <http://purl.org/ontology/bibo/translator>
# Extension - p1 has for domain c2
<http://xmlns.com/foaf/0.1/based_near> rdfs:domain <http://www.w3.org/2003/01/geo/wgs84_pos#SpatialThing>
# Equivalence - p1 is equivalent to p2
<http://lsdis.cs.uga.edu/projects/semdis/opus#journal_name> owl:equivalentProperty
   <http://purl.org/net/nknouf/ns/bibtex#hasJournal>
# Equivalence - c1 is equivalent to c2
<http://www.loc.gov/mads/rdf/v1#Language> owl:equivalentClass <http://purl.org/dc/terms/LinguisticSystem>
# Disjunction - c1 is disjoint with c2
<http://www.ontologydesignpatterns.org/ont/dul/DUL.owl#TimeInterval>owl:disjointWith
   <http://www.ontologydesignpatterns.org/ont/dul/ontopic.owl#SubjectSpace>
```

[Vandenbussche & al. 2017]

VOCABULARIES: DIFFERENT LEVELS OF GRANULARITY



- Thanks to the development of the Semantic Web, different vocabularies that have required knowledge representation efforts exist.

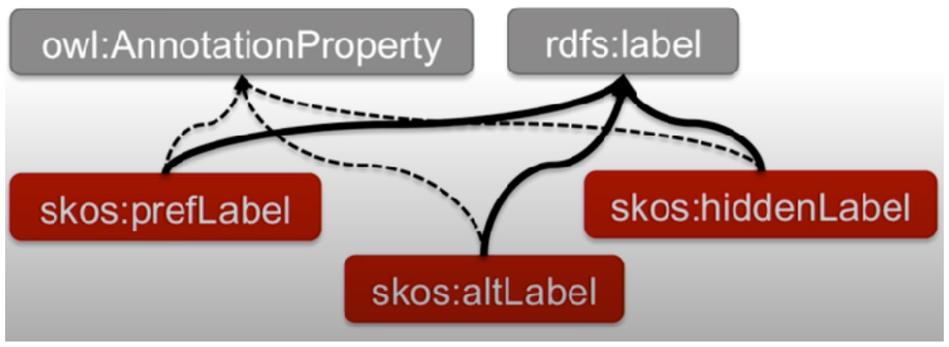
VOCABULARIES FOR REPRESENTING TERMS ASSOCIATED TO RESOURCES

- URI is not suppose to carry any meaning
- Associating primary labels to resources
  - rdfs:label,
  - dc:title,
  - skos:prefLabel, ...
- Associating natural language annotations
  - rdfs:comment,
  - dc:description,
  - skos:definition, ...

SKOS: SIMPLE KNOWLEDGE ORGANIZATION SYSTEM

@prefixe skos:<http://www.w3.org/2004/02/skos/core#>.

- W3C recommandation defined for representing : thesaurus/controlled vocabularies /classification / index ...
- 4 classes and 28 OWL properties
- label, note, concept, conceptScheme, mapping, collection



Dublin Core Metadata Initiative

DUBLIN CORE

@prefixe dc:<http://purl.org/dc/elements/1.1/>.

- The Dublin Core Metadata **Element** Set is a vocabulary of fifteer
- It is pa
http:/

```
@prefix dc: <http://purl.org/dc/elements/1.1/> .

dc:title                dc:date
dc:subject              dc:coverage
dc:description          dc:format
dc:language             dc:type
dc:source               dc:identifier
                        dc:rights
dc:creator              dc:relation
dc:contributor
dc:publisher
```

Classes	Agent , AgentClass , BibliographicResource , FileFormat , Frequency , Jurisdiction , LicenseDocument , LinguisticSystem , Location , LocationPeriodOrJurisdiction , MediaType , MediaTypeOrExtent , MethodOfAccrual , MethodOfInstruction , PeriodOfTime , PhysicalMedium , PhysicalResource , Policy , ProvenanceStatement , RightsStatement , SizeOrDuration , Standard
DCMI Type Vocabulary	Collection , Dataset , Event , Image , InteractiveResource , MovingImage , PhysicalObject , Service , Software , Sound , StillImage , Text
Terms related to the DCMI Abstract Model	memberOf , VocabularyEncodingScheme

CREATIVE COMMONS RIGHTS EXPRESSION LANGUAGE (CC REL)

@prefix cc <http://creativecommons.org/ns#>

- Vocabulary for associating rights to resources, describing Licences
- Classes for
  - typing resources : cc:Work, cc:Licence, cc:Permission, ..
  - typing permission, interdictions : cc:Reproduction, cc:Sharing, cc:CommercialUse, cc:CopyLeft
- Properties for
  - describing a Work : cc:licence, cc:morePermissions, …
  - associating rights to licence: cc:permits, cc:prohibits, …
- Extends the dc Term vocabulary : cc:Licence rdfs:subClassOf dcterms:LicenceDocument

FOAF

@prefix foaf <http://xmlns.com/foaf/0.1/>

- Vocabulary for describing people and their social network

FOAF Core

- Agent
- Person
- name
- title
- img
- depiction (depicts)
- familyName
- givenName
- knows
- based_near
- age
- made (maker)
- primaryTopic (primaryTopicOf)
- Project
- Organization
- Group
- member
- Document
- Image

Social Web

- nick
- mbox
- homepage
- weblog
- openid
- jabberID
- mbox_sha1sum
- interest
- topic_interest
- topic (page)
- workplaceHomepage
- workInfoHomepage
- schoolHomepage
- publications
- currentProject
- pastProject
- account
- OnlineAccount
- accountName
- accountServiceHomepage
- PersonalProfileDocument
- tipjar
- sha1
- thumbnail
- logo

SCHEMA.ORG

@prefix schema: <http://schema.org/>.

- manually created cross-domain vocabulary
- Google, Microsoft, Yahoo and Yandex, Web community

- Creative works: CreativeWork, Book, Movie, MusicRecording, Recipe, TVSeries ...
- Embedded non-text objects: AudioObject, ImageObject, VideoObject
- Event
- Health and medical types: notes on the health and medical types under MedicalEntity.
- Organization
- Person
- Place, LocalBusiness, Restaurant ...
- Product, Offer, AggregateOffer
- Review, AggregateRating
- Action

SCHEMA.ORG

- Extensions (hosted)
  - auto.schema.org
  - bib.schema.org
  - health-lifesci.schema.org
  - iot.schema.org
  - meta.schema.org
  - pending.schema.org

DBPEDIA ONTOLOGY

@prefix dbpedia: <http://dbpedia.org/resource/>.

- Cross-domain ontology manually created based on the most commonly used infoboxes within Wikipedia.
- The ontology covers 685 classes with subsumption hierarchy and described by 2,795 different properties.
- It has been aligned to schema.org

SSN/SOSA (SEMANTIC SENSOR NETWORK / SENSOR, OBSERVATION, SAMPLE, AND ACTUATOR)

@prefix sosa: <http://www.w3.org/ns/sosa/>.

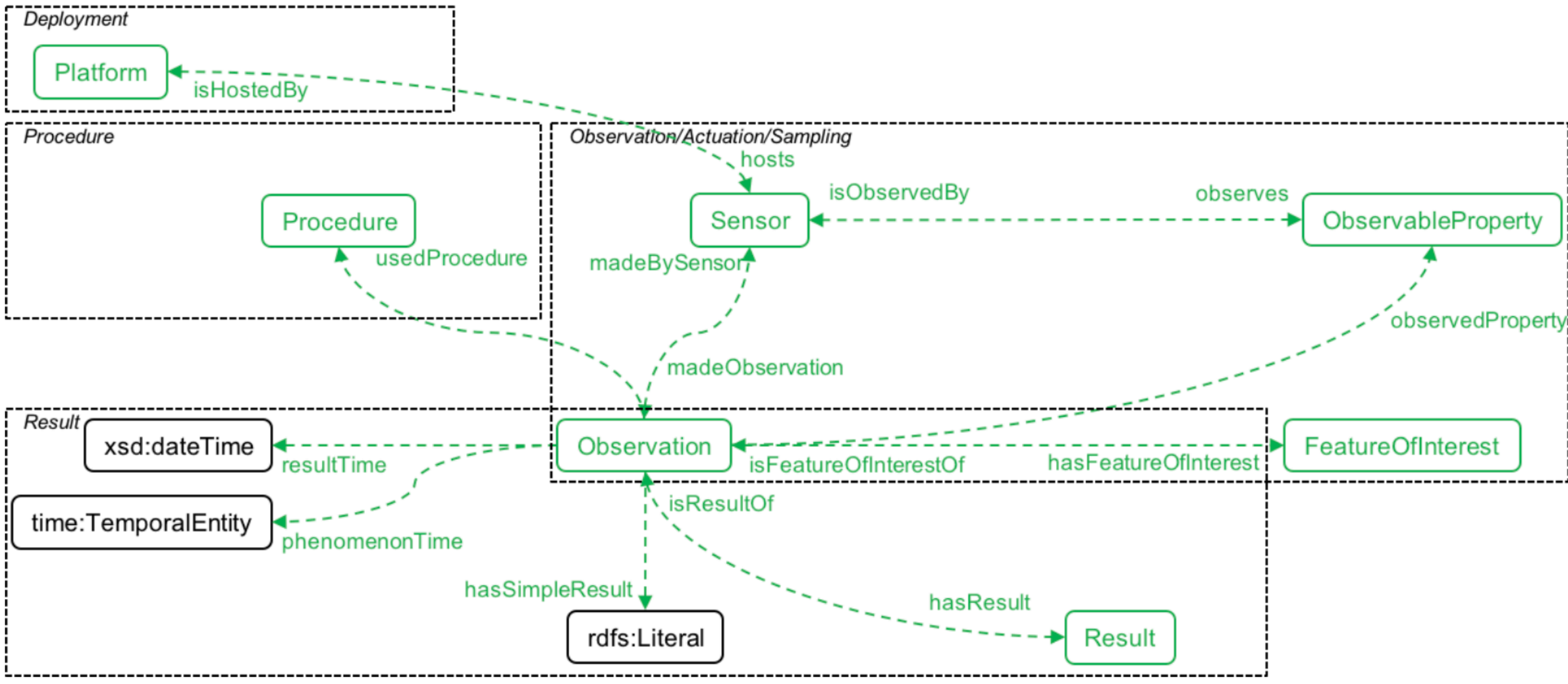
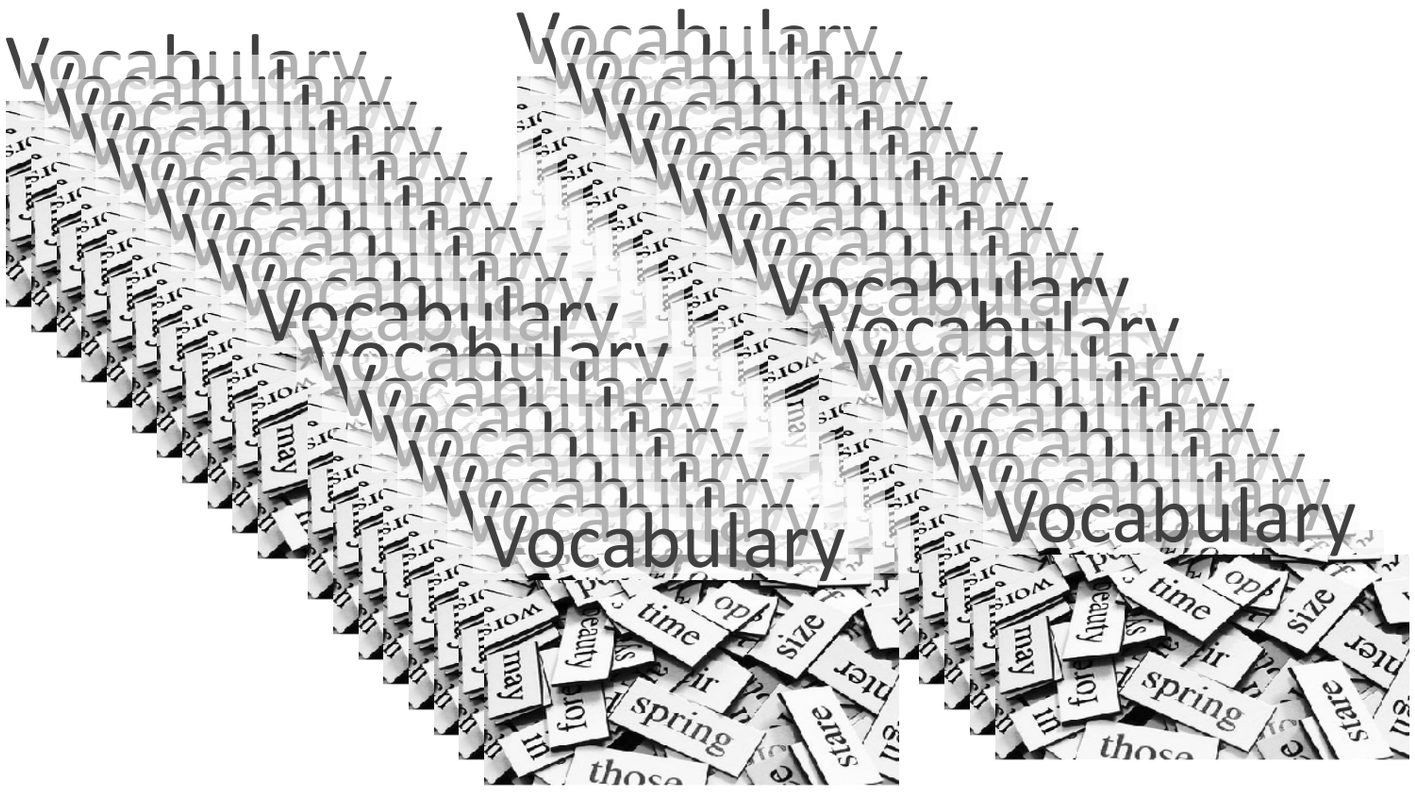


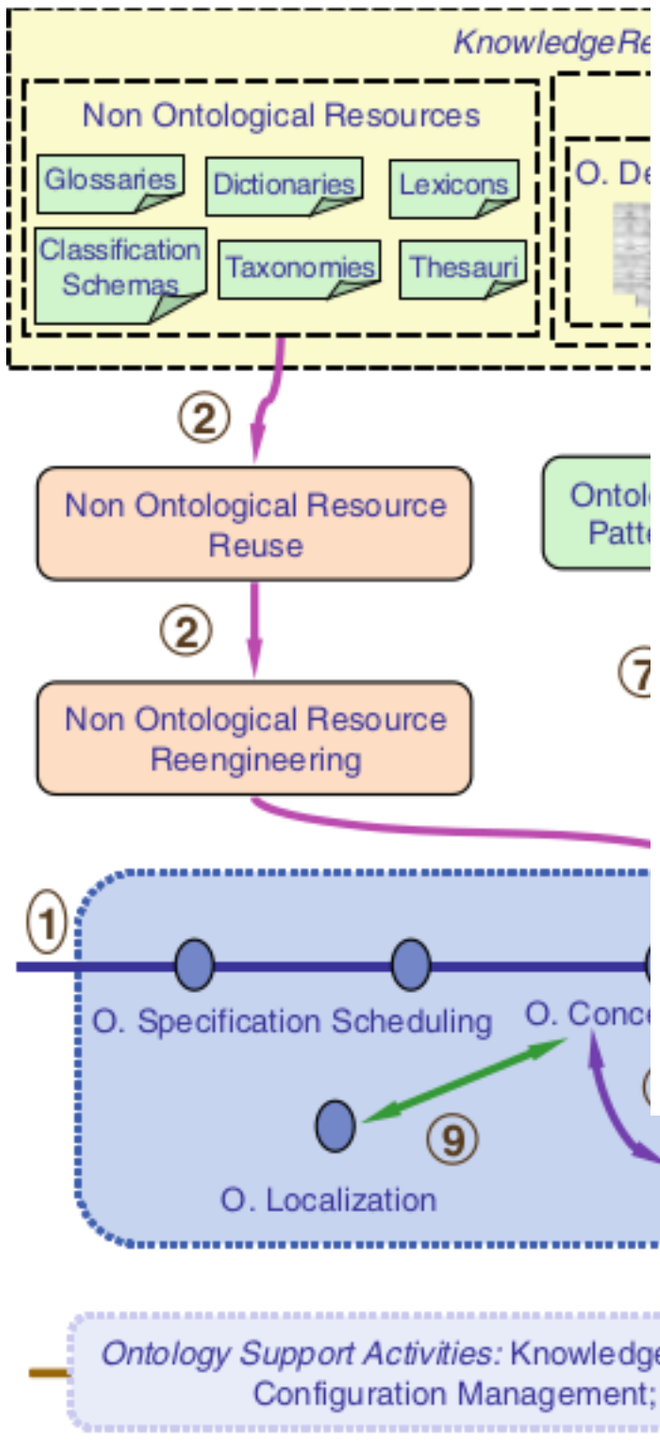
Figure 3 Overview of the SOSA classes and properties (observation perspective)

WHICH VOCABULARY FOR WHAT?



- Ontology engineering methodology

NEON METHODOLOGY [SUAREZ DE FIGUEROA BAONZA ET AL., 2012]



1 - From specification to implementation

2 - Reusing and re-engineering non-ontological resources

3 - Reusing ontological resources

4 - Reusing and re-engineering ontological resources

5 - Reusing and merging ontological resources

6 - Reusing, merging, and re-engineering ontological resources

7 - Reusing ontology design patterns (ODPs)

8 - Restructuring ontological resources

9 - Localizing ontological resources

SCENARIO 1 – FROM SPECIFICATION TO IMPLEMENTATION

- Expected output
  - Purpose
  - Scope
  - Target group
  - Intended use
  - Requirements, expressed as Competency questions

SCENARIO 1 – FROM SPECIFICATION TO IMPLEMENTATION

- Scheduling
  - Life cycle planning
  - Design and implementation
  - Deployment
  - Maintenance and evolution
  - Required human resources

SCENARIO 1 – FROM SPECIFICATION TO IMPLEMENTATION

- Core development
  - Ontology conceptualization
  - Ontology formalization
  - Ontology implementation

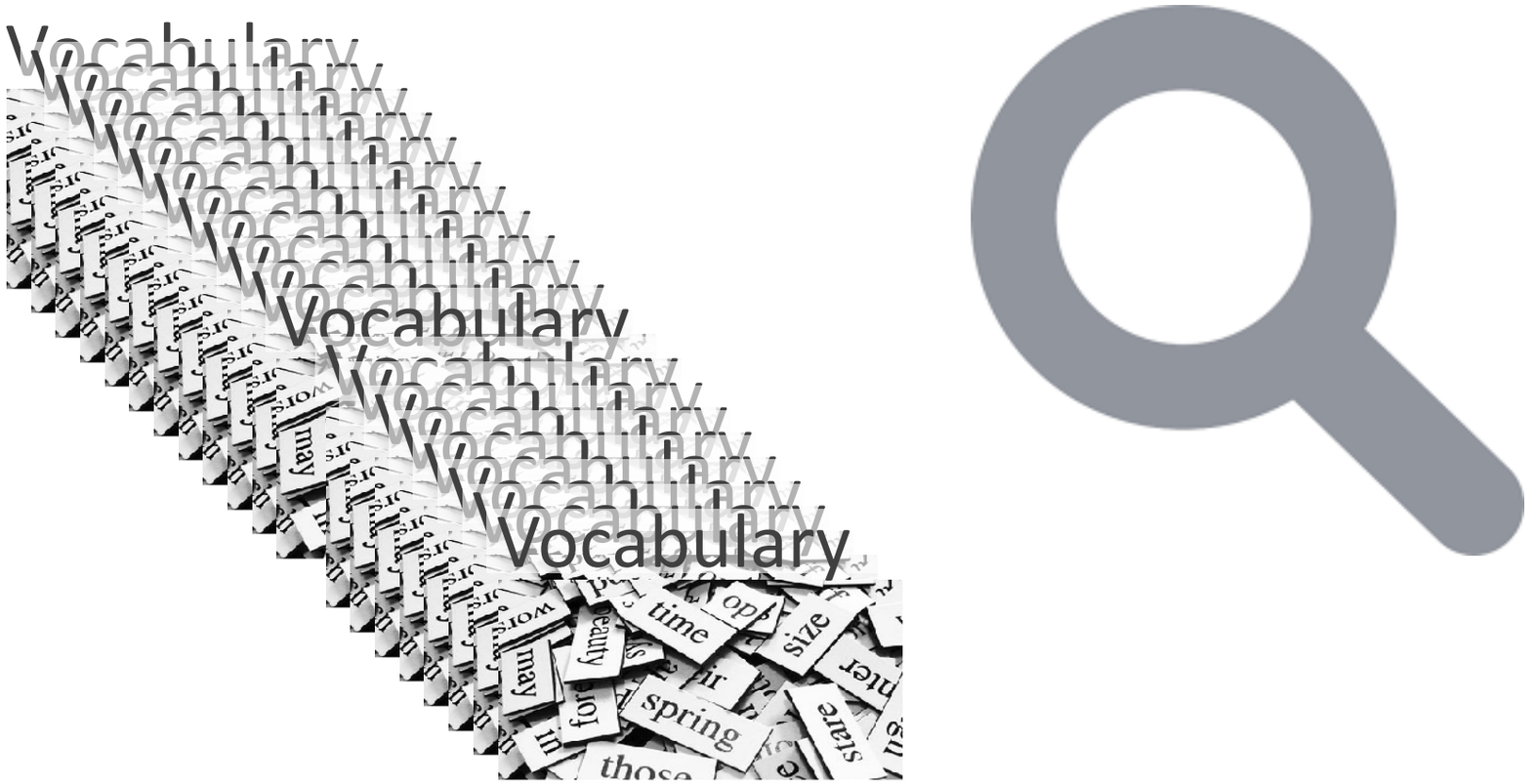
SCENARIO 3 – REUSING ONTOLOGICAL RESOURCES

- Possible ways :
  - ontologies can be reused as a whole;
  - only one part or module can be reused;
  - ontology statements can be reused.

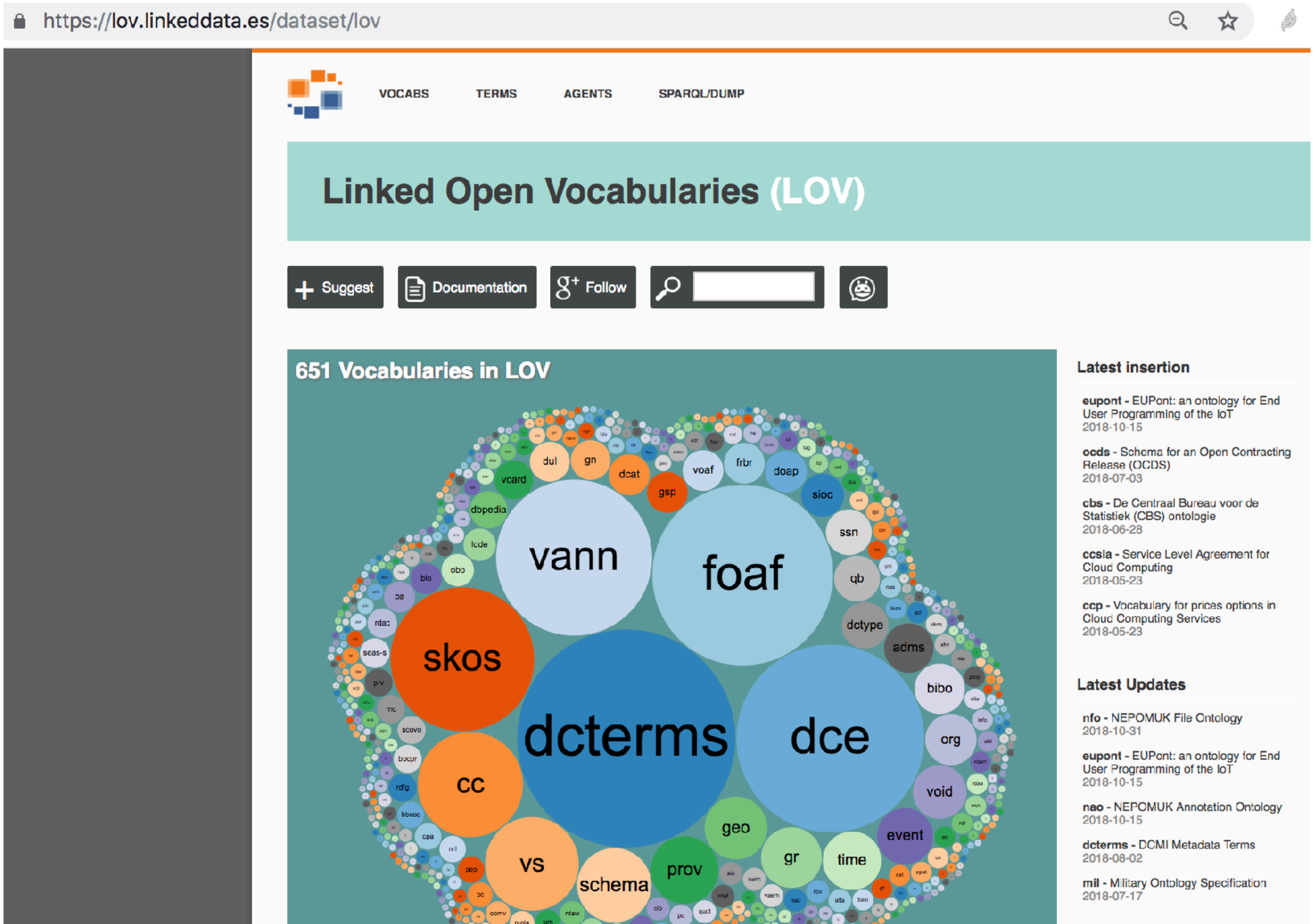
SCENARIO 8 – RESTRUCTURING ONTOLOGICAL RESOURCES

- Possible restructurations
  - Modularization
  - Pruning
  - Enrichment
    - Extension
    - Specialization

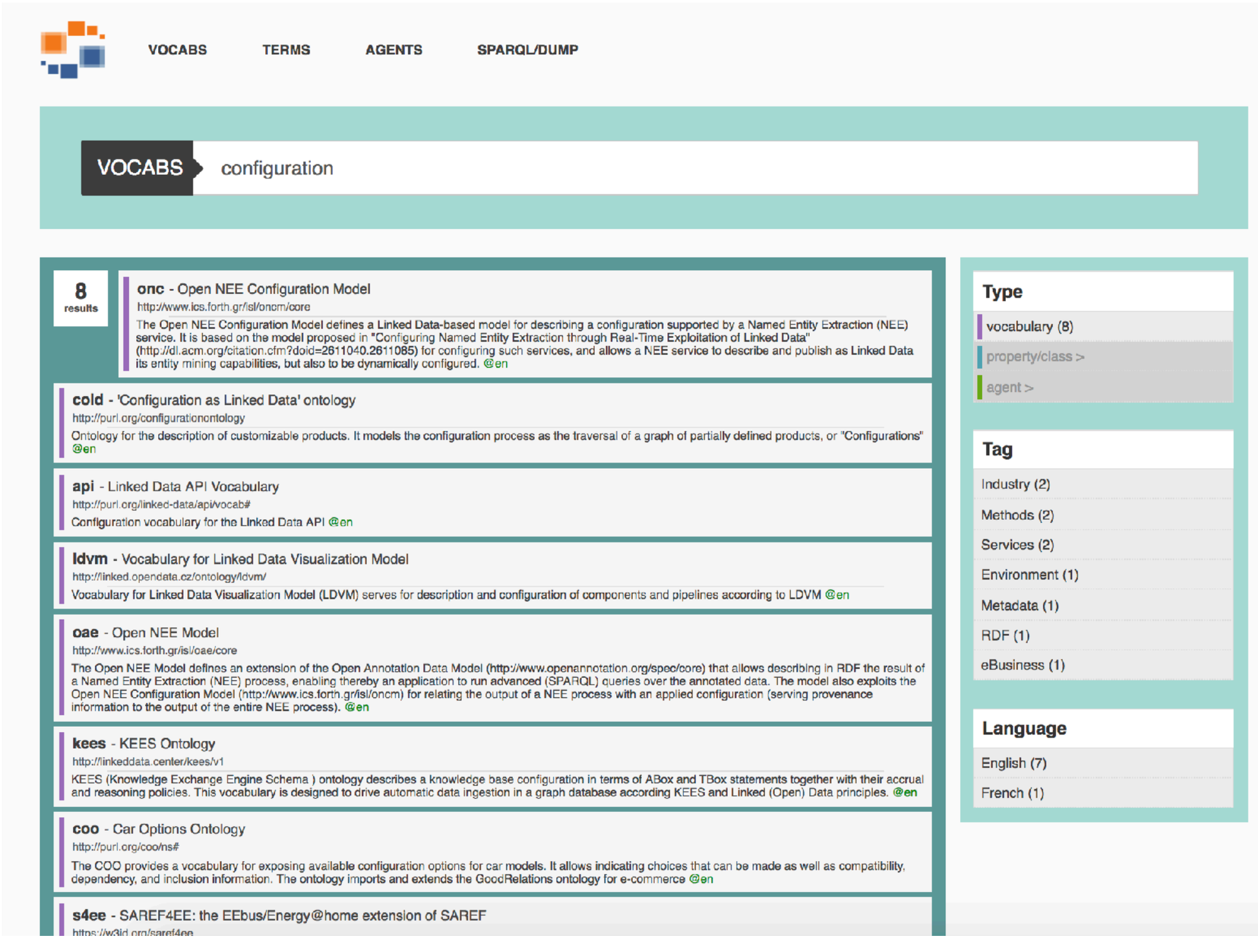
- How can we find exiting vocabularies?



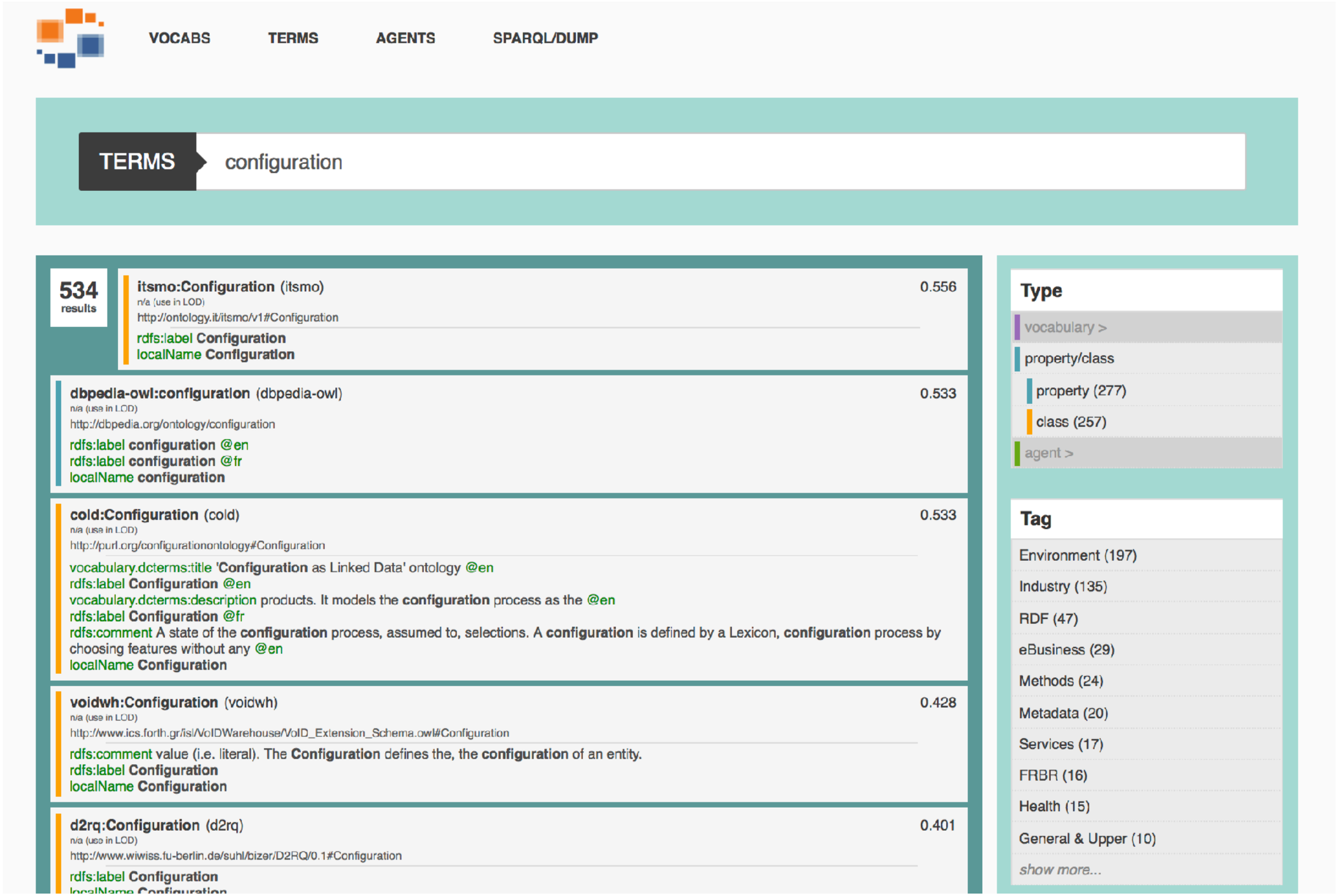
LOV


https://lov.linkeddata.es/dataset/lov
VOCABS
TERMS
AGENTS
SPARQL/DUMP
Linked Open Vocabularies (LOV)
Suggest
Documentation
Follow
651 Vocabularies in LOV
vann
foaf
skos
dcterms
dce
cc
vs
schema
prov
geo
gr
time
event
void
org
bibo
adms
dctype
qb
ssn
sioc
doap
frbr
voaf
gsp
dcat
gn
dul
vcard
dbpedia
lode
obo
bio
rdac
seas-s
scovo
bsbpr
rdfg
bbcoc
cpa
pep
oo
comv
Latest insertion
eupont - EUPont: an ontology for End User Programming of the IoT
2018-10-15
ocds - Schema for an Open Contracting Release (OCDS)
2018-07-03
cbs - De Centraal Bureau voor de Statistiek (CBS) ontologie
2018-06-28
ccsla - Service Level Agreement for Cloud Computing
2018-05-23
ccp - Vocabulary for prices options in Cloud Computing Services
2018-05-23
Latest Updates
nfo - NEPOMUK File Ontology
2018-10-31
eupont - EUPont: an ontology for End User Programming of the IoT
2018-10-15
nao - NEPOMUK Annotation Ontology
2018-10-15
dcterms - DCMI Metadata Terms
2018-08-02
mil - Military Ontology Specification
2018-07-17

LOV – VOCABULARIES



LOV – TERMS


VOCABS
TERMS
AGENTS
SPARQL/DUMP
TERMS
configuration
534
results
itsmo:Configuration (itsmo)
0.556
n/a (use in LOD)
http://ontology.it/itsmo/v1#Configuration
rdfs:label Configuration
localName Configuration
dbpedia-owl:configuration (dbpedia-owl)
0.533
n/a (use in LOD)
http://dbpedia.org/ontology/configuration
rdfs:label configuration @en
rdfs:label configuration @fr
localName configuration
cold:Configuration (cold)
0.533
n/a (use in LOD)
http://purl.org/configurationontology#Configuration
vocabulary.dcterms:title 'Configuration as Linked Data' ontology @en
rdfs:label Configuration @en
vocabulary.dcterms:description products. It models the configuration process as the @en
rdfs:label Configuration @fr
rdfs:comment A state of the configuration process, assumed to, selections. A configuration is defined by a Lexicon, configuration process by choosing features without any @en
localName Configuration
voidwh:Configuration (voidwh)
0.428
n/a (use in LOD)
http://www.ics.forth.gr/isl/VoIDWarehouse/VoID_Extension_Schema.owl#Configuration
rdfs:comment value (i.e. literal). The Configuration defines the, the configuration of an entity.
rdfs:label Configuration
localName Configuration
d2rq:Configuration (d2rq)
0.401
n/a (use in LOD)
http://www.wiwiss.fu-berlin.de/suhl/bizer/D2RQ/0.1#Configuration
rdfs:label Configuration
Type
vocabulary >
property/class
property (277)
class (257)
agent >
Tag
Environment (197)
Industry (135)
RDF (47)
eBusiness (29)
Methods (24)
Metadata (20)
Services (17)
FRBR (16)
Health (15)
General & Upper (10)
show more...

LOV REQUIREMENTS FOR QUALITY

- 1. a vocabulary should be written in RDF and be dereferenceable;
- 2. a vocabulary should be parsable without error (warnings are tolerated);
- 3. all vocabulary terms (classes, properties and datatypes) in a vocabulary should have an rdfs:label;
- 4. a vocabulary should refer to and reuse relevant existing ones;
- 5. a vocabulary should provide some metadata about the vocabulary itself (at least a title).

BIOPORTAL

Imaging

genetics

knowledge ?

Legend

BioPortal

Bio2RDF

Other

The Life Sciences Linked Open Data Cloud from lod-cloud.net

Welcome to BioPortal, the world's most comprehensive repository of biomedical ontologies

Search for a class

Enter a class, e.g. Melanoma

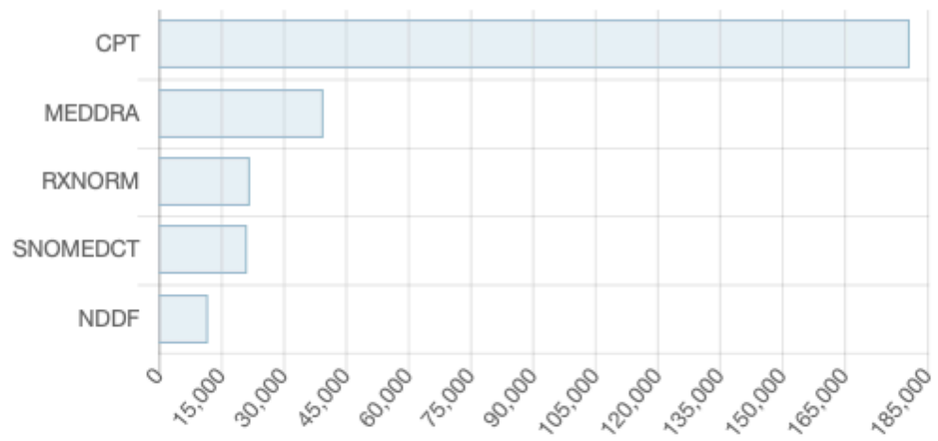
Advanced Search

Find an ontology

Start typing ontology name, then choose from list

Browse Ontologies

Ontology Visits (October 2018)



More

BioPortal Statistics

Ontologies	737
Classes	9,605,019
Resources Indexed	48
Indexed Records	39,537,360
Direct Annotations	95,468,433,792
Direct Plus Expanded Annotations	144,789,582,932

BioPortal

Login Tools Support

Radiology Lexicon

Summary Classes Properties Notes Mappings Widgets

Jump To:

- Property
- Radlex ontology entity
  - Non-RadLex term
  - Obsolete Radlex Term
  - RadLex entity
    - anatomical entity
    - clinical finding
      - benign finding
      - incidental finding
      - pathophysiologic finding
        - actionable finding
        - body-system-specific disorder
        - congenital disorder
        - death
        - deficiency disorder
        - degenerative disorder
          - degeneration
          - deposition
          - necrosis
            - avascular necrosis
            - fat necrosis
            - infarction
              - infarction of spleen
              - **stroke**
            - osteonecrosis
            - papillary necrosis
          - ossification
          - pseudoxanthoma elasticum
          - resorption
        - developmental disorder
        - disease progression
        - disease spread
        - disorder caused by drugs or toxins
        - disorder of pregnancy
        - fetal abnormality
        - growth disorder
        - iatrogenic disorder
        - infectious or inflammatory disease
        - injury
        - mechanical disorder
        - metabolic disease
        - motor dysfunction
        - multisystem disorder

Details | Visualization | Notes (0) | Class Mappings (45)

Preferred Name	stroke
Synonyms	infarction of brain cerebrovascular accident Schlaganfall
Definitions	A sudden, nonconvulsive loss of neurologic function due to an ischemic or hemorrhagic intracranial vascular event. In general, cerebrovascular accidents are classified by anatomic location in the brain, vascular distribution, etiology, age of the affected individual, and hemorrhagic vs. nonhemorrhagic nature. (From Adams et al., Principles of Neurology, 6th ed, pp777-810) [MeSH]
ID	http://www.radlex.org/RID/#RID5178
Anatomical_Site	brain
Definition	A sudden, nonconvulsive loss of neurologic function due to an ischemic or hemorrhagic intracranial vascular event. In general, cerebrovascular accidents are classified by anatomic location in the brain, vascular distribution, etiology, age of the affected individual, and hemorrhagic vs. nonhemorrhagic nature. (From Adams et al., Principles of Neurology, 6th ed, pp777-810) [MeSH]
label	RID5178
May_Cause	hot nose sign dense vessel sign
Preferred_name	stroke
prefixIRI	RID5178
Source	Playbook
Synonym	infarction of brain cerebrovascular accident Schlaganfall
UMLS_ID	C0038454
UMLS_Term	stroke
Is_A	infarction
subClassOf	infarction

« Stroke » defined from the radiology perspective → RadLex

Human Phenotype Ontology

Summary Classes Properties Notes Mappings Widgets

Jump To:

- Abnormal vascular morphology
- Abnormal vascular physiology
- Abnormality of gastrointestinal vasculature
- Abnormality of head blood vessel
- Abnormality of infraorbital artery
- Abnormality of neck blood vessel
- Abnormality of the cerebral vasculature
  - Abnormal cerebral artery morphology
  - Abnormality of cerebral veins
  - Cerebral arteriovenous malformation
  - Cerebral vasculitis
  - Intracranial hemorrhage
  - Perivascular spaces
  - **Stroke**
    - Ischemic stroke
    - Stroke-like episode
    - Transient ischemic attack
- Abnormality of the hepatic vasculature
- Abnormality of the pulmonary vasculature
- Abnormality of the vasculature of the eye
- Vascular neoplasm
- Vascular skin abnormality
- Abnormality of the digestive system

Details | Visualization | Notes (0) | Class Mappings (47)

Stroke	Sickle Cell Disease Ontology	LOOM
Stroke	Robert Hoehndorf Version of MeSH	LOOM
Stroke	Epilepsy Syndrome Seizure Ontology	LOOM
Stroke	Common Terminology Criteria for Adverse Events	LOOM
stroke	International Classification of Primary Care - 2 PLUS	LOOM
Stroke	Medical Subject Headings	LOOM
Stroke	Online Mendelian Inheritance in Man	LOOM
http://purl.obolibrary.org/obo/HP_0001297	Ontology of Host-Microbe Interactions	LOOM
http://purl.obolibrary.org/obo/HP_0001297	Ontology of Host-Microbe Interactions	SAME_URI
HP_0001297	Monarch Disease Ontology	SAME_URI

« Stroke » defined from a phenotype perspective → HPO

« Stroke » mapped with other ontologies !

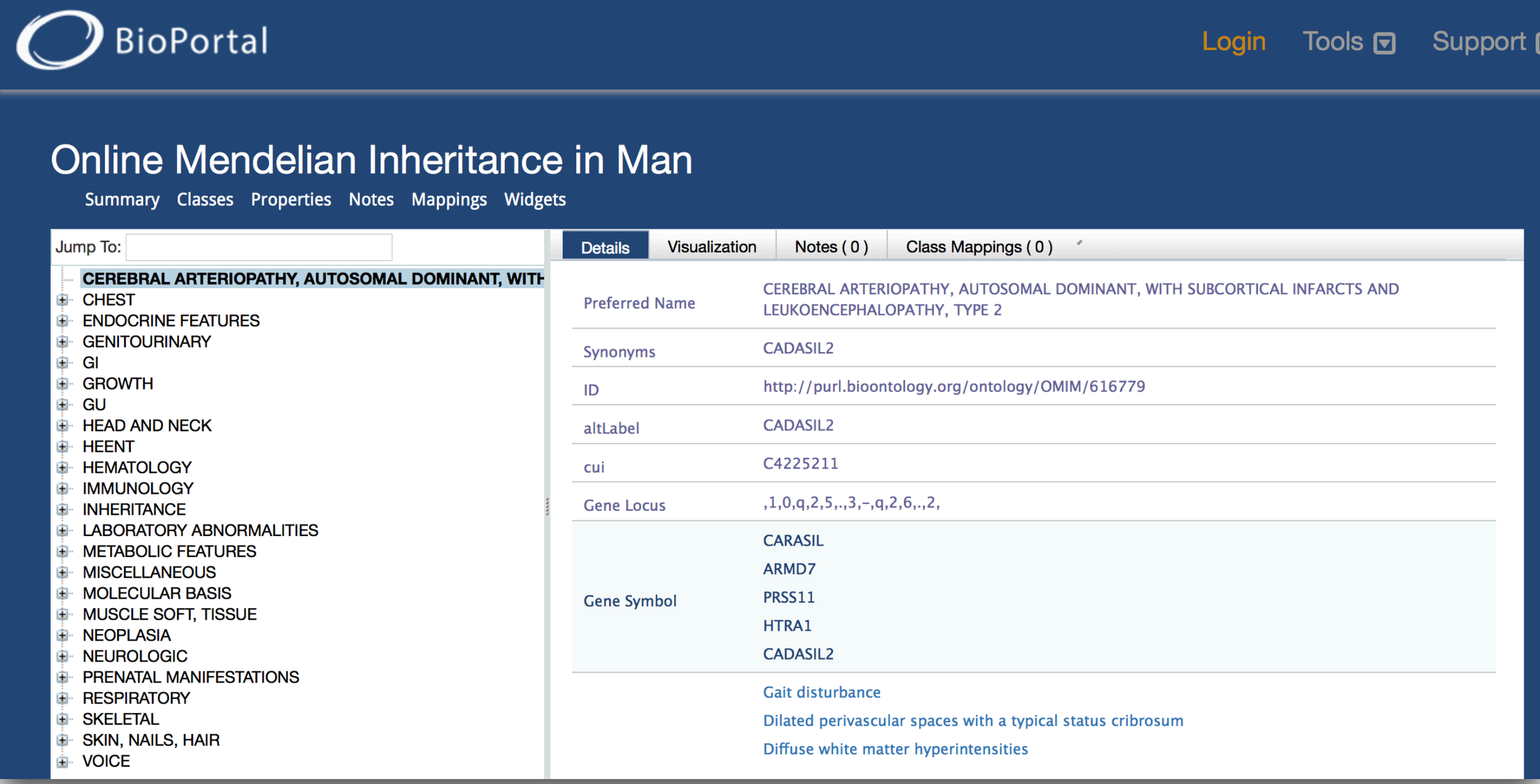
Online Mendelian Inheritance in Man

Jump To:

- Neurophysiologic abnormalities (EEG, VEP, SEP)
- Normal cognition (reported in some patients)
- Olivopontocerebellar degeneration
- Partial absence of posterior portion of corpus callosum
- Posterior fossa cyst continuous with the fourth ventricle
- Progressive spasticity
- Prominent ventricles (in some patients)
- Psychomotor regression (in some patients)
- Psychomotor retardation, moderate
- Quadriventricular dilatation seen on MRI
- Quadrupedal gait (in some)
- Retrocerebellar cyst (rare)
- Reye syndrome
- Seizure including seizure-like activity in utero starting around
- Seizures (in some patients)
- Seizures, generalized tonic-clonic (GTCS)
- Seizures, partial, unilateral
- Seizures, refractory to treatment
- Slow gait
- Spastic quadriplegia, progressive
- Speech and language delay
- Speech articulation problems
- Speech delay (in some patients)
- Spinocerebellar ataxia
- Staring spells
- **Stroke**
- Subcortical white matter abnormalities (rare)
- T2-weighted signal abnormalities in the deep white matter
- Thickened cortex

Details | Visualization | Notes (0) | Class Mappings (79)

Preferred Name	Stroke
ID	http://purl.bioontology.org/ontology/OMIM/MTHU009877
cui	C0038454
Manifestation of	CEREBRAL ARTERIOPATHY, AUTOSOMAL DOMINANT, WITH SUBCORTICAL INFARCTS AND LEUKOENCEPHALOPATHY, TYPE 2 VASCULOPATHY, RETINAL, WITH CEREBRAL LEUKODYSTROPHY HOMOCYSTINURIA DUE TO DEFICIENCY OF N(5,10)-METHYLENETETRAHYDROFOLATE REDUCTASE ACTIVITY PSEUDOXANTHOMA ELASTICUM
notation	MTHU009877
prefLabel	Stroke
tui	T047
subClassOf	Central nervous system



« Stroke » concept can be described with:

- Gene symbols (OMIM)
- Radiology terms (RadLex)
- Phenotypes (HPO)

BioPortal SPARQL beta

Feedback

BioPortal SPARQL is a service to query BioMedical ontologies using the SPARQL standard. Ontologies have been transformed into RDF triples from their original formats (OWL, OBO and UMLS/RRF, ...) and asserted into a triple store.

Notice: This SPARQL endpoint is maintained by NCBO for demo purposes. It serves as playground to explore BioPortal's ontologies in RDF and we do not recommend its use for production applications or heavy batch processing. As an alternative, our virtual appliance is packaged with a SPARQL endpoint that can be used for local deployments.

Documentation

SPARQL Examples

```
1 PREFIX owl:  <http://www.w3.org/2002/07/owl#>
2 PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
3
4 DESCRIBE <http://purl.obolibrary.org/obo/HP_0001297>
```

Results: Browse | run query | reset Database: ontologies mappings

```
@base <local:local> .
@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .
@prefix owl: <http://www.w3.org/2002/07/owl#> .
@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .

<http://purl.obolibrary.org/obo/HP_0001297>
   <http://bioportal.bioontology.org/metadata/def/prefLabel> "Stroke"^^<http://www.w3.org/2001/XMLSchema#string> ;
   <http://purl.obolibrary.org/obo/def> "Sudden impairment of blood flow to a part of the brain due to occlusion or rupture of an artery to the brain."^^<http://www.w3.org/20
   <http://www.geneontology.org/formats/oboInOWL#hasAlternativeId> "HP:0002452"^^<http://www.w3.org/2001/XMLSchema#string> ;
   <http://www.geneontology.org/formats/oboInOWL#hasExactSynonym> "Cerebral vascular events"^^<http://www.w3.org/2001/XMLSchema#string>, "Cerebrovascular a
   <http://www.geneontology.org/formats/oboInOWL#xref> <http://purl.obolibrary.org/obo/MeSH#_D020521>, <http://purl.obolibrary.org/obo/UMLS#_C0038454>, <http://p
   a owl:Class ;
   rdfs:label "Stroke"^^<http://www.w3.org/2001/XMLSchema#string> ;
   rdfs:subClassOf <http://purl.obolibrary.org/obo/HP_0100659> ;
   <http://www.w3.org/2004/02/skos/core#notation> "HP:0001297"^^<http://www.w3.org/2001/XMLSchema#string> .
```

CONCLUSION

- Huge efforts and numerus initiatives have led to the development of many vocabularies
- Before using/creating a vocabulary, one should define requirements and intended usages