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ONTOLOGÍAS EN LA WEB

5. RDF SCHEMA (RDFS)

YASGUI: YET ANOTHER SPARQL GUI

- ▶ Editor textual de SPARQL online
- ▶ Utilizable con cualquier SPARQL endpoint
- ▶ Tecnología client, pero tiene server para usarlo de proxy
- ▶ Queries salvadas en el local storage del browser
- ▶ Control de sintaxis, colores, autocompletamiento

ACTIVIDAD: SPARQL

- Desde YASGUI probar alguna query:
 - ▶ sobre DBpedia (<http://dbpedia.org/sparql>)
 - ▶ sobre DBpedia Live (<http://live.dbpedia.org/sparql>)
 - ▶ sobre WikiData (<https://query.wikidata.org/bigdata/namespace/wdq/sparql>)
 - ▶ sobre Dydra

REFERENCIAS PARA ESTA CLASE (RDFS)

- ▶ Caps. 6 y 7 de "Semantic for the Working Ontologist"
- ▶ [W3C RDF 1.1 Schema](#)
- ▶ Semantic University: [RDFS Introduction](#)

CLASES FUNDAMENTALES RDFS

- ▶ **rdfs:Resource**
clase de todas las cosas en RDF (es instancia de rdfs:Class)
- ▶ **rdfs:Class**
clase de las clases (es instancia de si misma)
- ▶ **rdfs:Literal**
clase de los literales (es instancia de rdfs:Class)
- ▶ **rdf:Property**
clase de todas la propiedades (es instancia de rdfs:Class)

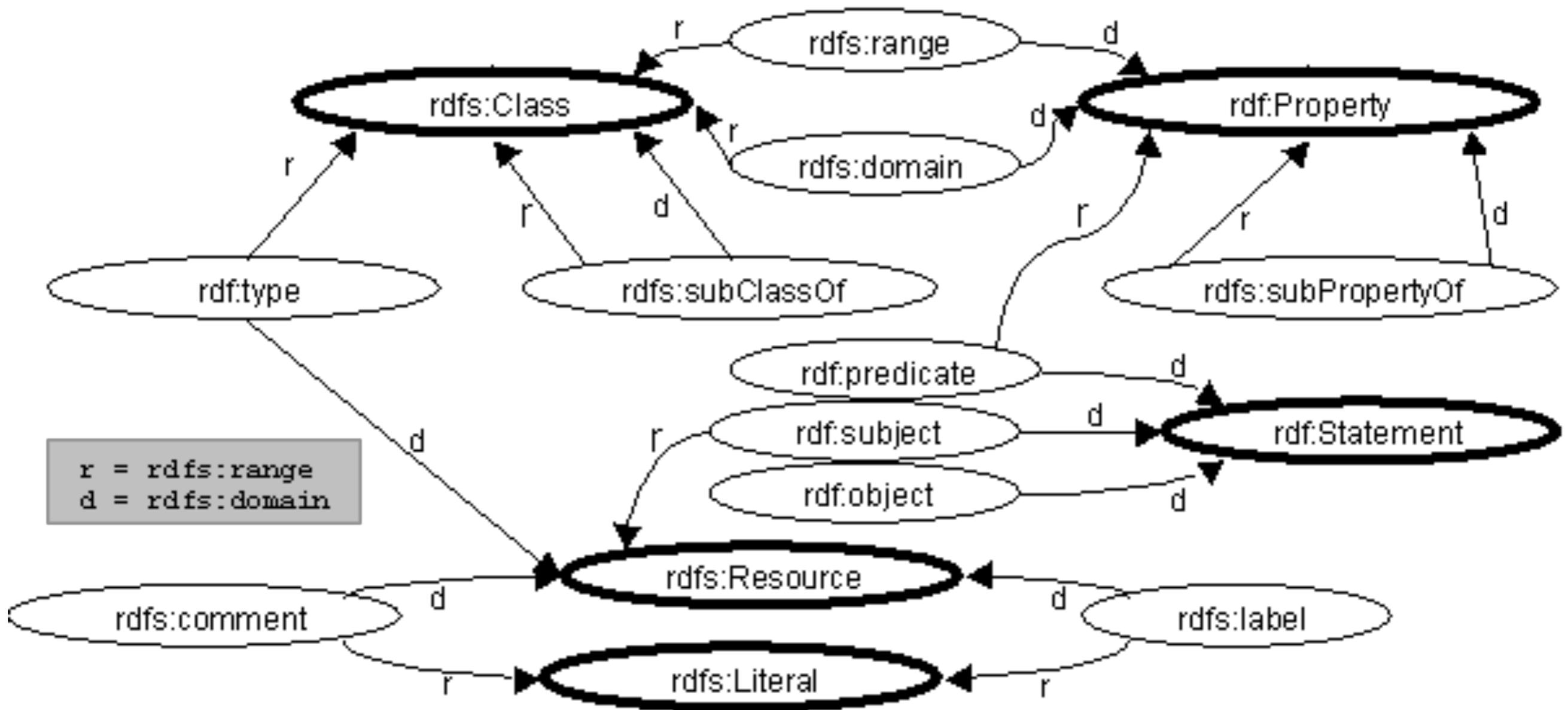
PROPIEDADES FUNDAMENTALES RDFS

- ▶ **rdf:type** (rdfs:Resource → rdfs:Class)
asocia un recurso a uno de sus tipos
- ▶ **rdfs:subClassOf** (rdfs:Class → rdfs:Class)
asocia una clase a una de sus super-clases
- ▶ **rdfs:domain** (rdf:Property → rdfs:Class)
asocia una propiedad a su dominio
- ▶ **rdfs:range** (rdf:Property → rdfs:Class)
asocia una propiedad a su codominio
- ▶ **rdfs:subPropertyOf** (rdf:Property → rdf:Property)
asocia una propiedad a una de sus super-propiedades

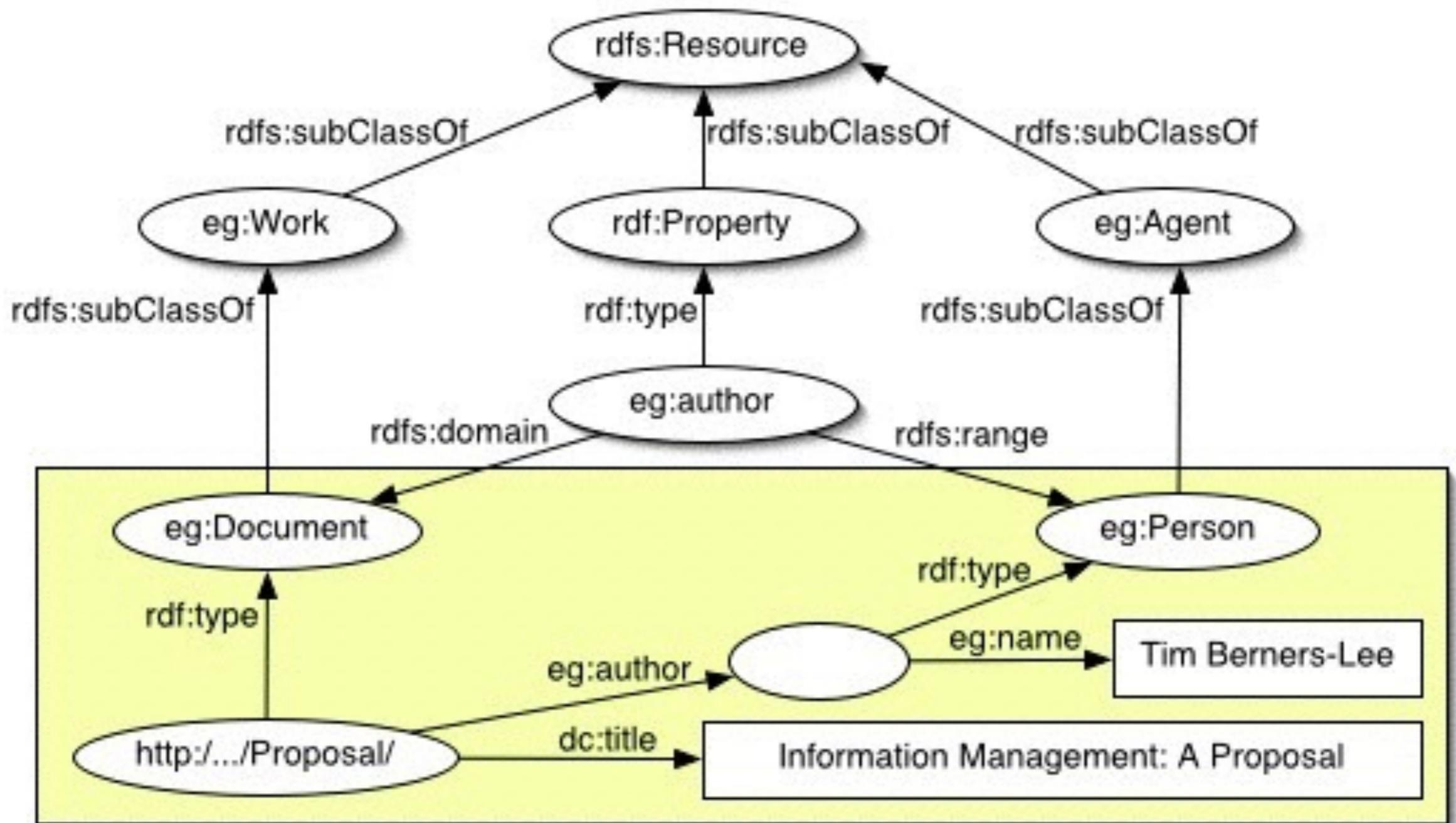
MÁS PROPIEDADES RDFS

- ▶ `rdfs:label` (`rdfs:Resource` → `rdfs:Literal`)
asocia un recurso a su(s) nombre(s)
- ▶ `rdfs:comment` (`rdfs:Resource` → `rdfs:Literal`)
asocia un recurso a su(s) descripción(es)

RELACIONES ENTRE CLASES Y PROPIEDADES RDFS

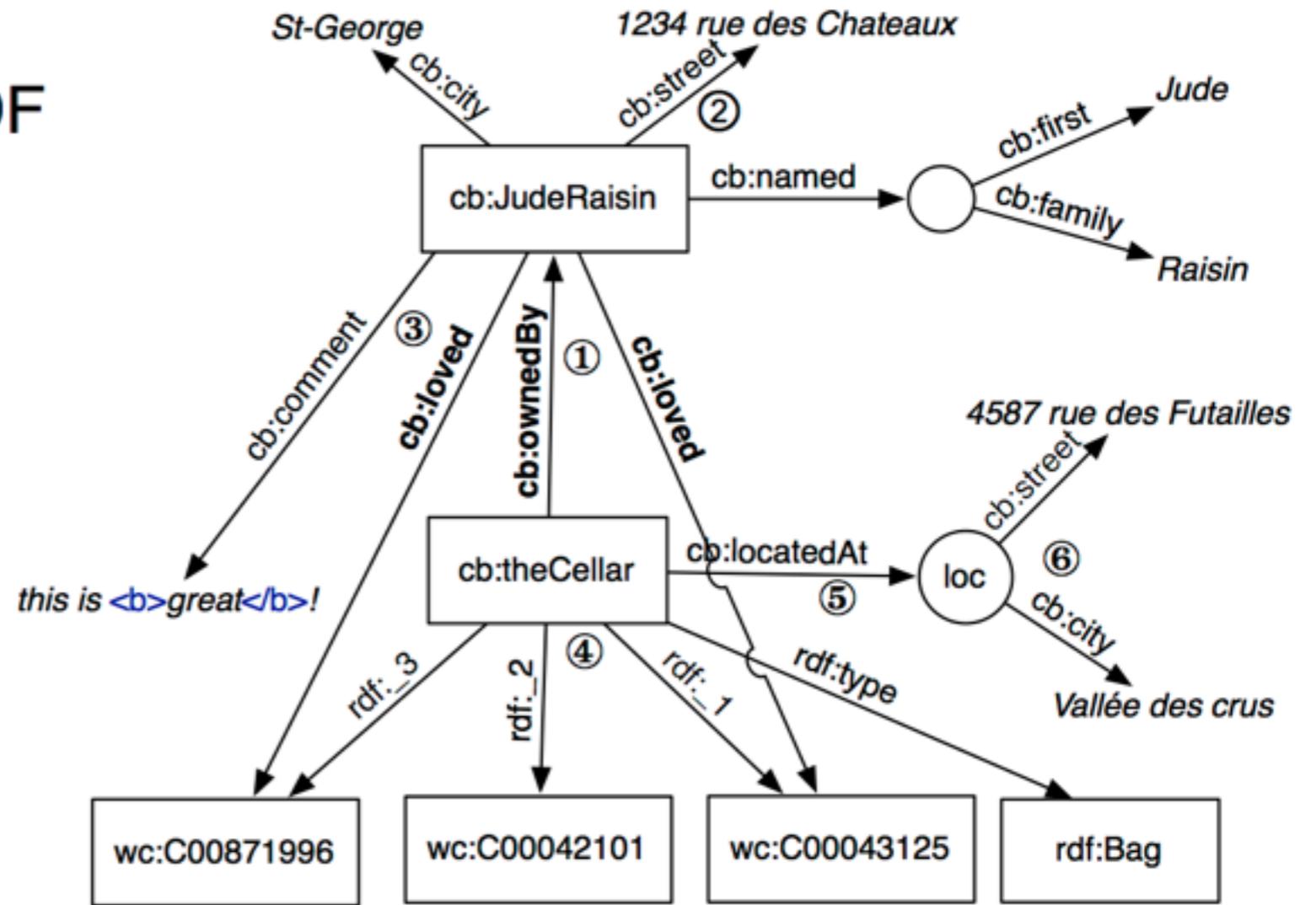


EJEMPLOS 1

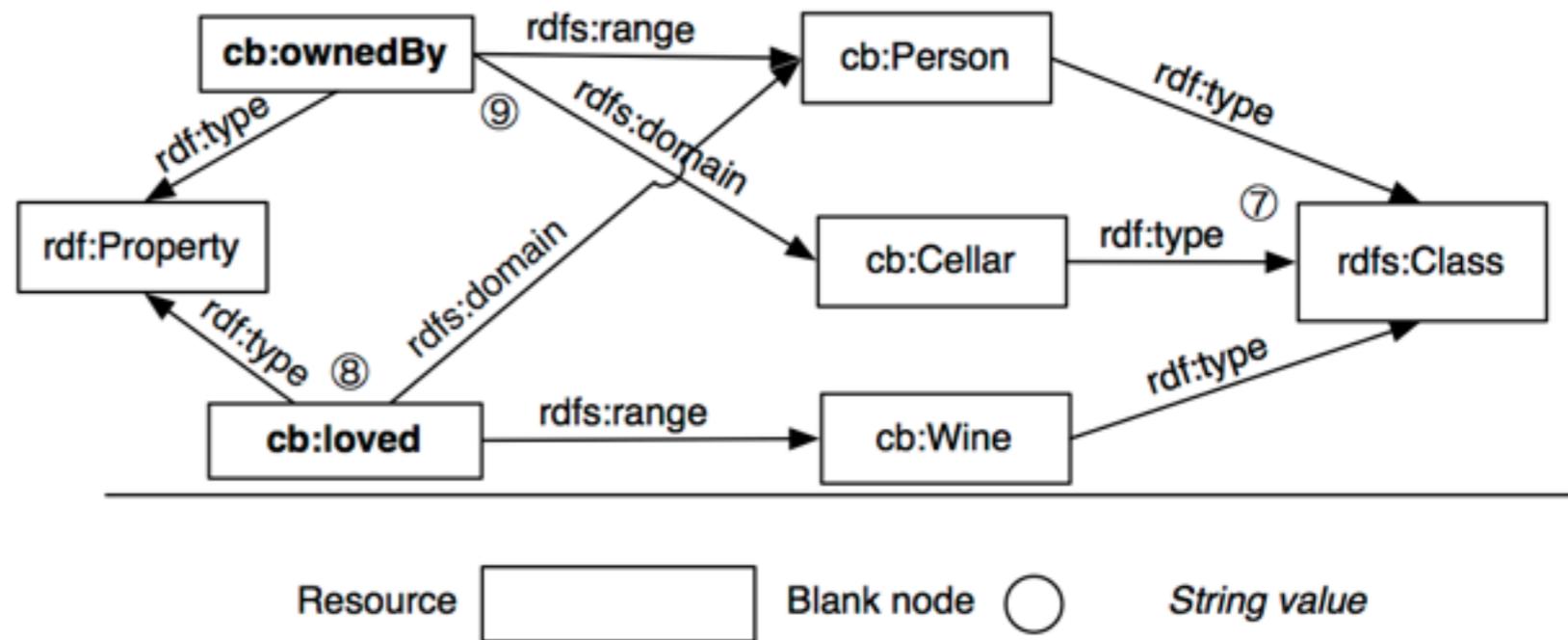


EJEMPLOS 2

RDF

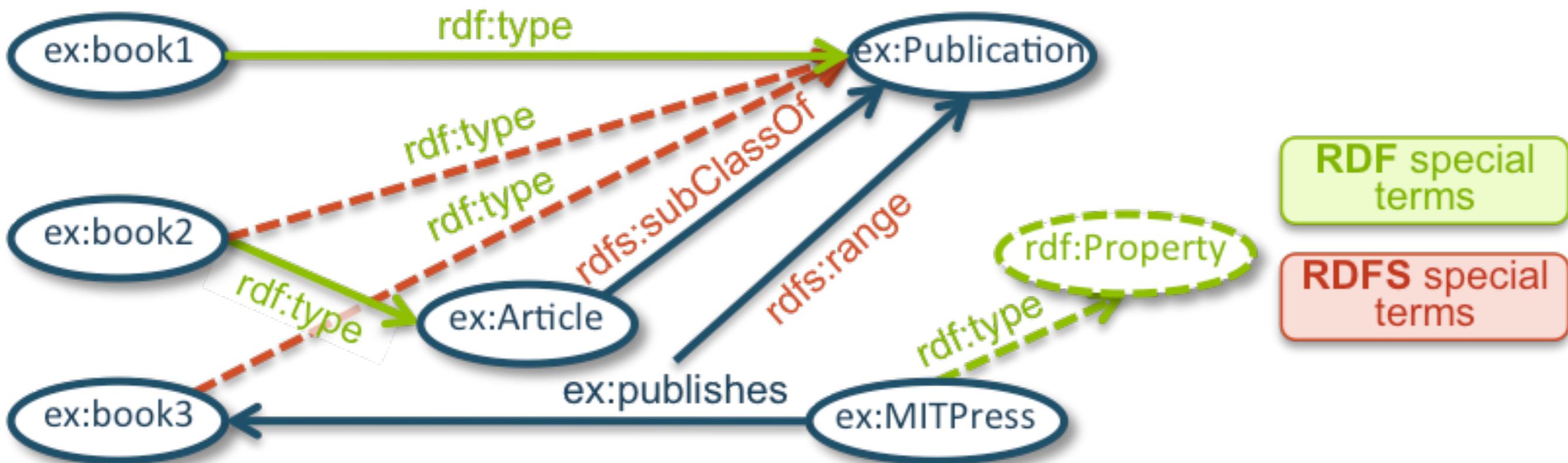


RDF-S



Resource Blank node String value

INFERENCIA



PROTÉGÉ: EDITOR DE ONTOLOGÍAS

The screenshot displays the Protégé ontology editor interface. The browser window title is "http://www.co-ode.org/ontologies/pizza/pizza.owl - [http://www.co-ode.org/ontologies/pizza/2007/02/12/pizza.owl]". The menu bar includes File, Edit, Reasoner, Tools, Refactor, Tabs, View, Window, and Help. The address bar shows the URL "http://www.co-ode.org/ontologies/pizza/pizza.owl".

The interface is divided into several panes:

- Active Ontology:** Shows the current ontology being edited.
- Entities:** A list of entities in the ontology, including Thing, DomainConcept, Country, Food, IceCream, Pizza, CheeseyPizza, InterestingPizza, MeatyPizza, NamedPizza, NonVegetarianPizza, RealItalianPizza, SpicyPizza, SpicyPizzaEquivalent, ThinAndCrispyPizza, VegetarianPizza, VegetarianPizzaEquivalent, PizzaBase, PizzaTopping, and ValuePartition.
- OWL Viz: Pizza:** A visualization of the ontology. It shows a central "Pizza" class (highlighted with a blue box) and various subclasses and instances. The "Asserted model" tab is active, showing relationships like "is-a" between classes. The "Inferred model" tab is also visible.

The "OWL Viz: Pizza" pane includes a toolbar with buttons for "Show class", "Show children", "Show parents", "Show all classes", "Hide class", "Hide children", and "Hide classes". The visualization shows a central "Pizza" class (yellow oval) with many subclasses (orange ovals) connected by "is-a" relationships (purple arrows). The subclasses include "Hot", "Medium", "Mild", "IceCream", "PizzaBase", "PizzaTopping", "CheeseyPizza", "ThinAndCrispyPizza", "NamedPizza", "SpicyPizzaEquivalent", "VegetarianPizzaEquivalent1", "VegetarianPizza", "NonVegetarianPizza", "InterestingPizza", "QuattroFormaggi", "Napoletana", "Rosa", "PolloAdAstra", "Soho", "Margherita", "Fiorentina", and "LaReine".

WEB PROTÉGÉ: EDITOR DE ONTOLOGÍAS COLABORATIVO

The screenshot displays the WebProtégé web interface for editing ontologies. The top navigation bar includes the Protégé logo, a user profile dropdown for 'ttania', and a 'Help' button. Below this is a tabbed interface with 'Gene Ontology' selected. The main workspace is divided into three panels:

- Classes:** A hierarchical tree view of classes. The 'cell part' class is expanded, showing 'annulate lamellae' as a child class.
- Class description for annulate lamellae:** A detailed view of the selected class. It includes:
 - Display name:** annulate lamellae
 - IRI:** http://purl.obolibrary.org/obo/GO_0005642
 - Annotations:**
 - `rdfs:label`: annulate lamellae
 - `id`: GO:0005642
 - `definition`: Stacks of endoplasmic reticulum (ER) membranes containing a high density of nuclear pores, thought to form from excess nuclear membrane components, that have been described in a number of different cells. Annulate lamellar membranes are continuous with and embedded within the ER.
 - `has_obo_namespace`: cellular_component
 - Properties:**
 - `part_of`: nuclear outer membrane-endoplasmic reticulum membrane network
- Discussions for annulate lamellae:** A panel for collaborative discussion, featuring a 'Post new topic' button.

At the bottom right, there is a 'Project feed' panel.

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