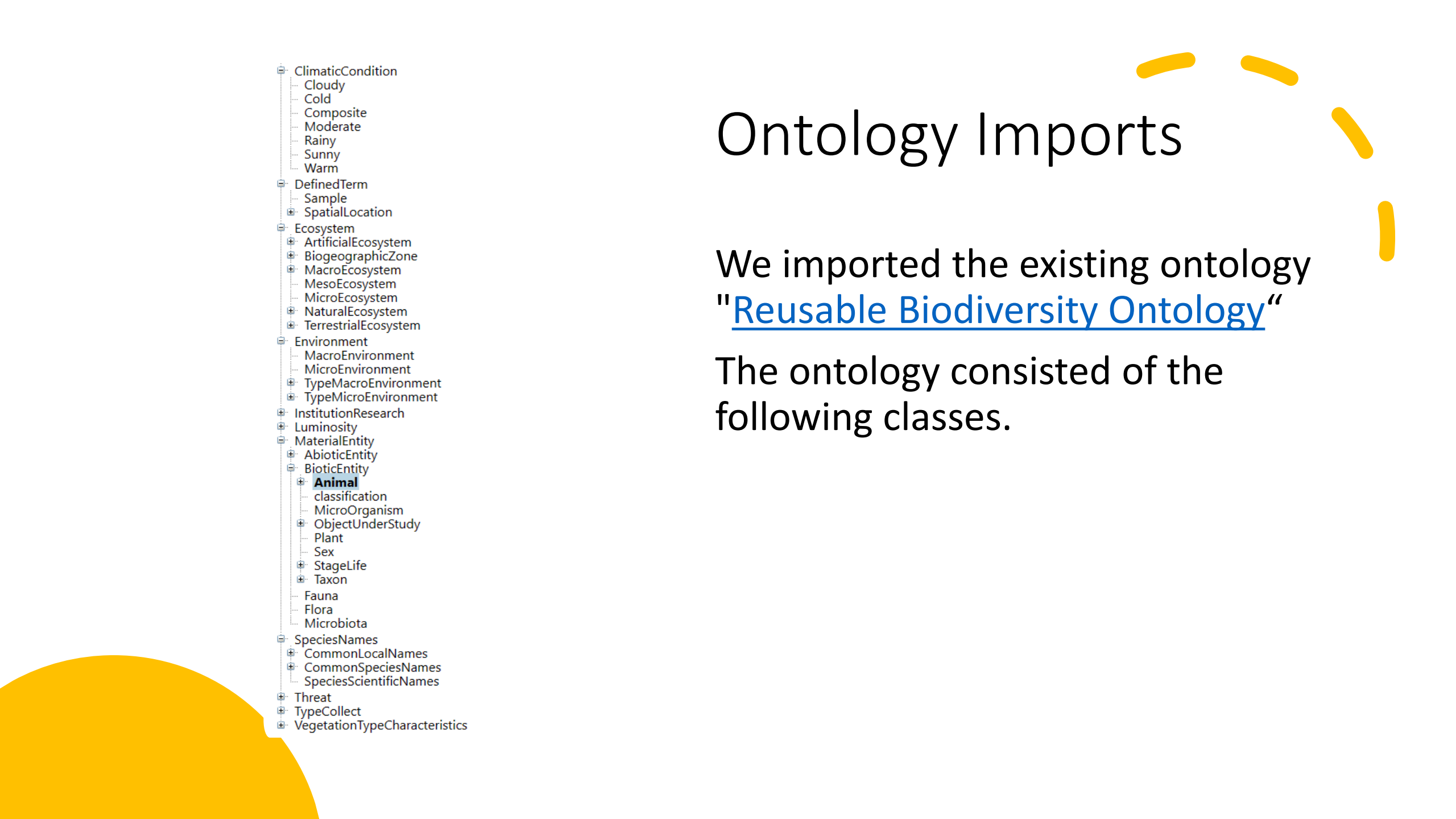




Animals Ontology





- ClimaticCondition
 - Cloudy
 - Cold
 - Composite
 - Moderate
 - Rainy
 - Sunny
 - Warm
- DefinedTerm
 - Sample
- SpatialLocation
- Ecosystem
 - ArtificialEcosystem
 - BiogeographicZone
 - MacroEcosystem
 - MesoEcosystem
 - MicroEcosystem
 - NaturalEcosystem
 - TerrestrialEcosystem
- Environment
 - MacroEnvironment
 - MicroEnvironment
 - TypeMacroEnvironment
 - TypeMicroEnvironment
- InstitutionResearch
- Luminosity
- MaterialEntity
 - AbioticEntity
 - BioticEntity
 - Animal**
 - classification
 - MicroOrganism
 - ObjectUnderStudy
 - Plant
 - Sex
 - StageLife
 - Taxon
 - Fauna
 - Flora
 - Microbiota
- SpeciesNames
 - CommonLocalNames
 - CommonSpeciesNames
 - SpeciesScientificNames
- Threat
- TypeCollect
- VegetationTypeCharacteristics

Ontology Imports

We imported the existing ontology
"[Reusable Biodiversity Ontology](#)"

The ontology consisted of the
following classes.



DBpedia

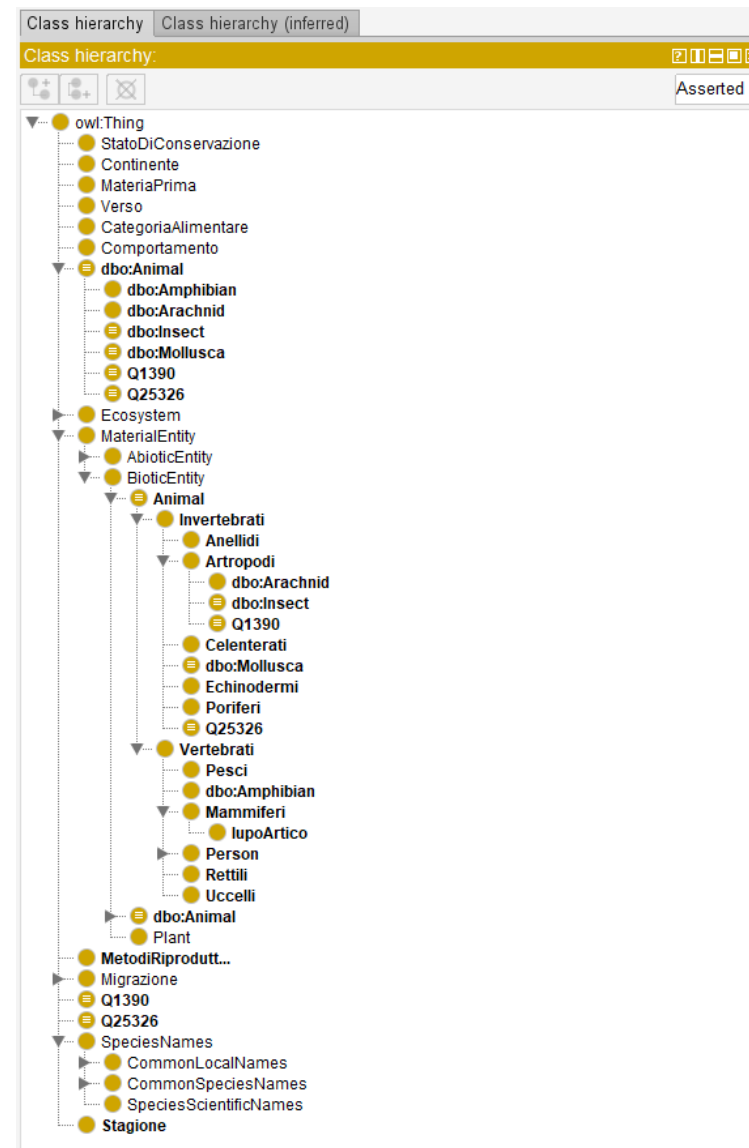
Import

We imported the animal class and animal subclasses with external RDF, downloaded from DBpedia:

- [About: animale \(dbpedia.org\)](http://dbpedia.org/About:animale)
- [About: anfibia \(dbpedia.org\)](http://dbpedia.org/About:anfibia)
- [About: aracnida \(dbpedia.org\)](http://dbpedia.org/About:aracnida)
- [About: insecta \(dbpedia.org\)](http://dbpedia.org/About:insecta)
- [About: mollusca \(dbpedia.org\)](http://dbpedia.org/About:mollusca)

Then we added the missing classes.

Additions



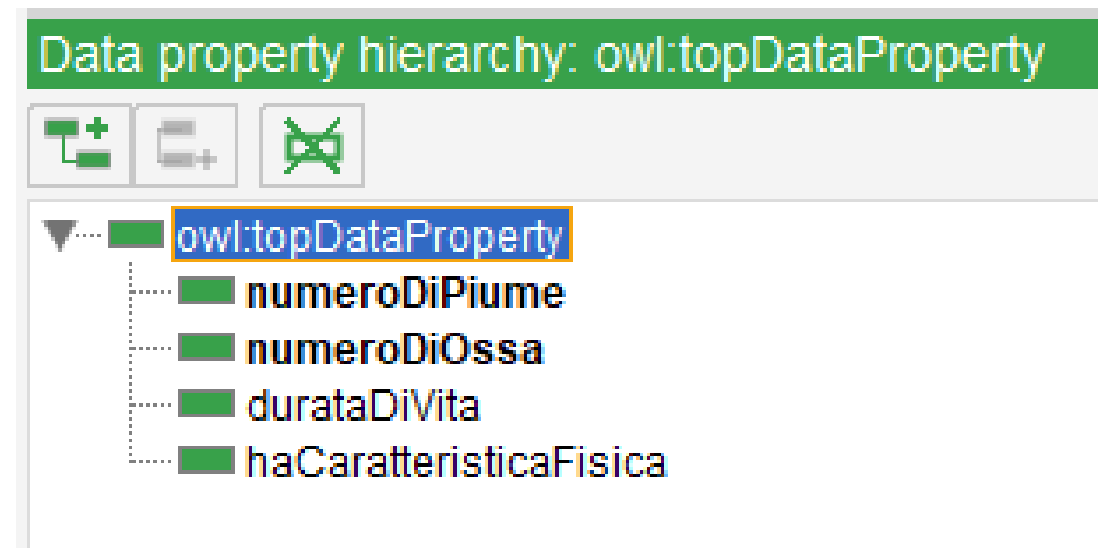
Properties

Then we added some object properties...



Properties

...and data properties.



Annotation properties | Datatypes | Individuals
Classes | Object properties | Data properties

Individuals: viviparo

- africa
- america
- asia
- carnivoro
- coccodrillo
- coleottero
- critico
- estate
- europa
- gufo
- lana
- lupo
- lupoArtico
- lupoGrigio
- lupolberico
- lupoMessicano
- notturmo
- oceania
- oceanoPacifico
- oviparo
- pecora
- salmone
- tribulare

Annotations: viviparo

Annotations +

[rdfs:comment](#)

La viviparità è un tipo di riproduzione in cui lo sviluppo embrionale avviene all'interno dell'organismo materno. Il termine può riferirsi sia a piante sia ad animali

Description: viviparo

Types +

- MetodiRiproduttivi

Same Individual As +

Different Individuals +

Property assertions: viviparo

Object property assertions +

- metodoDiRiproduzioneD pecora
- metodoDiRiproduzioneD lupo

Data property assertions +

Negative object property assertions +

Negative data property assertions +

Entities

just to give some examples,
try some restrictions and try
some queries we created
some entities

Examples

An example of a restriction

Description: Animal

Equivalent To



 **dbo:Animal**

SubClass Of



 BioticEntity

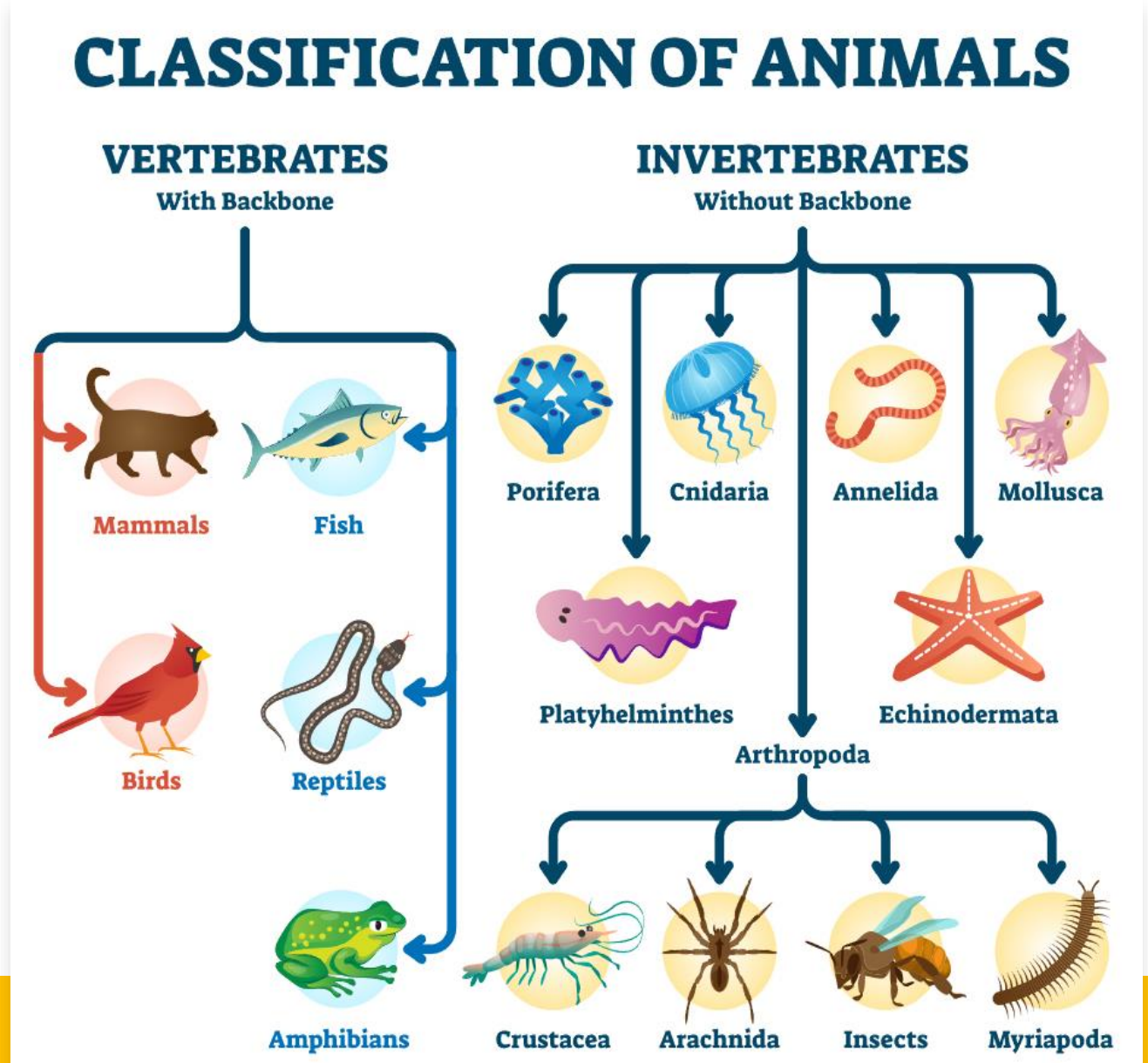
 **(not (metodoDiAlimentazione value carnivoro and (siCibaDi some Plant)))**

Pattern 1

GO TOP

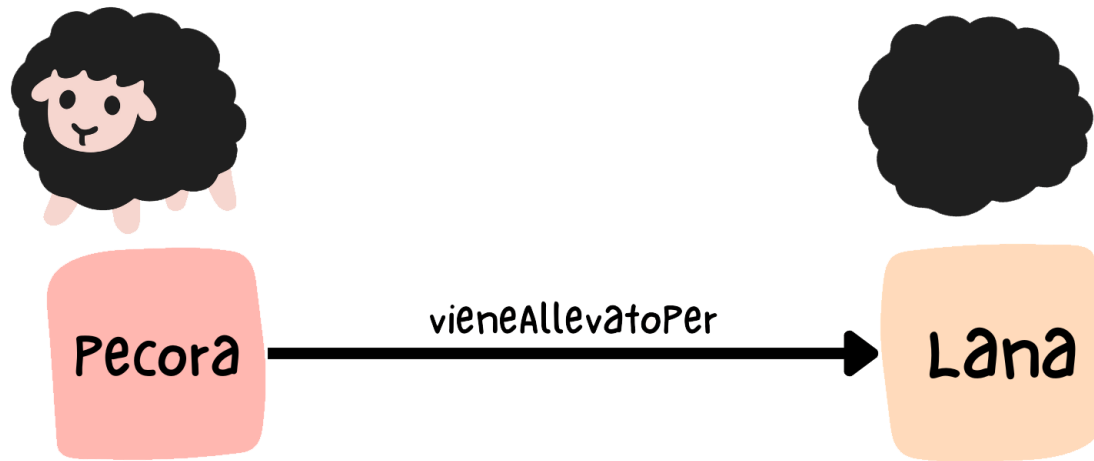
GO Top is an ODP that makes use of high-level classes and categories that are unspecialized and unspecific.

So more generic classes are used that are capable of understanding and representing large domains. The purpose is to have a starting structure that provides more organization and consistency



Pattern 2

Metonymy-Species-Commodity



Metonymy-species-commodity is an ODP that establish a link between species exploitation and consumer goods.

This pattern has been observed in WordNet, where words share the following metonymic or regular polysemic patterns: animal-food, animal-commodity and life form-consumer goods.

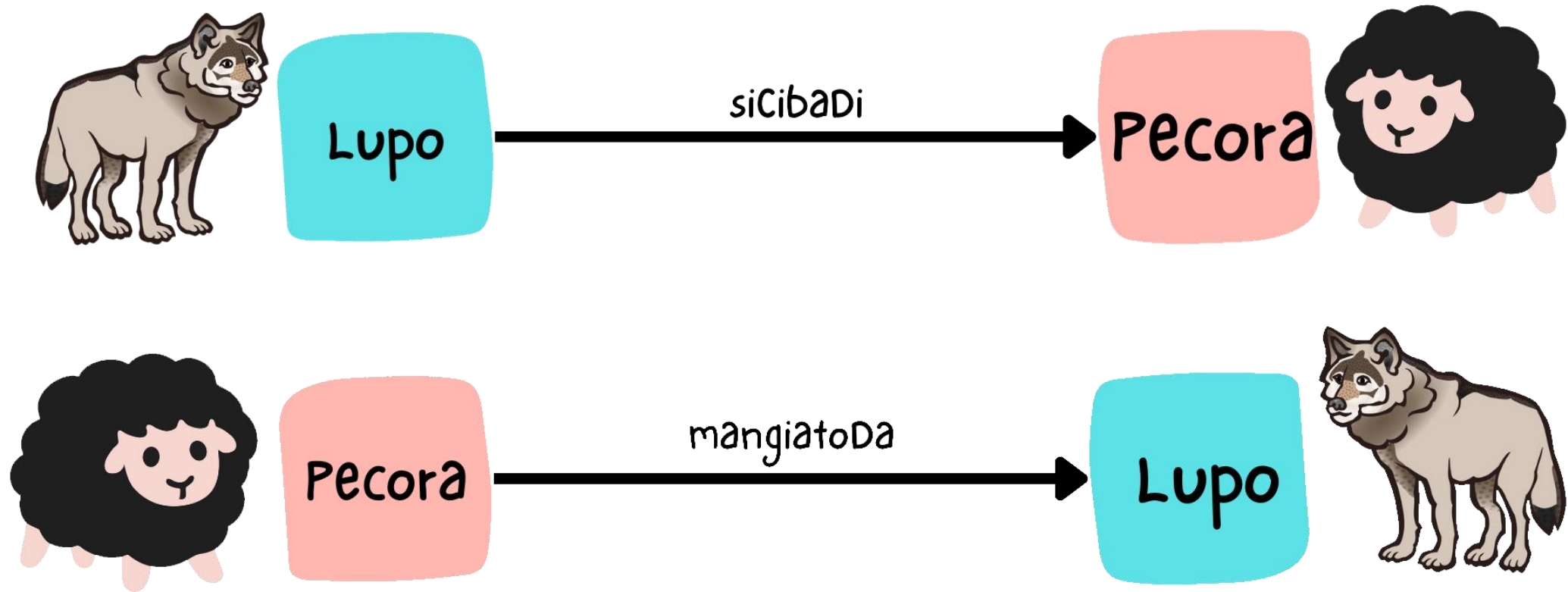
This is why the pattern has been named "metonymy". Regular polysemy is a metonymic phenomenon in that it describes the substitution of one word sense by another related sense.

It establishes a semantic relation between two concepts that are associated with the same word.

Pattern 3

SpeciesEat

The SpeciesEat pattern is used to represent feeding relationships between different species of organisms or animals. This pattern makes it possible to describe which species feed on other species, creating a hierarchy of feeding relationships



Examples

Query example

SPARQL query:

```
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX ont: <http://www.semanticweb.org/lucad/ontologies/2023/9/animali#>

ASK
WHERE {
  ?mammifero rdf:type ont:Mammiferi .
  ?continente rdf:type ont:Continente ;
               ont:popolatoDa ?mammifero .
  FILTER (?continente = ont:africa)
}
```

Result

True

Examples

Query example

SPARQL query:

```
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>  
PREFIX ont: <http://www.semanticweb.org/lucad/ontologies/2023/9/animali#>
```

```
SELECT ?razza  
WHERE {  
  ?razza ont:razzaDi ont:lupo .  
}
```

razza
lupoArtico
lupoGrigio
lupoIberico
lupoMessicano