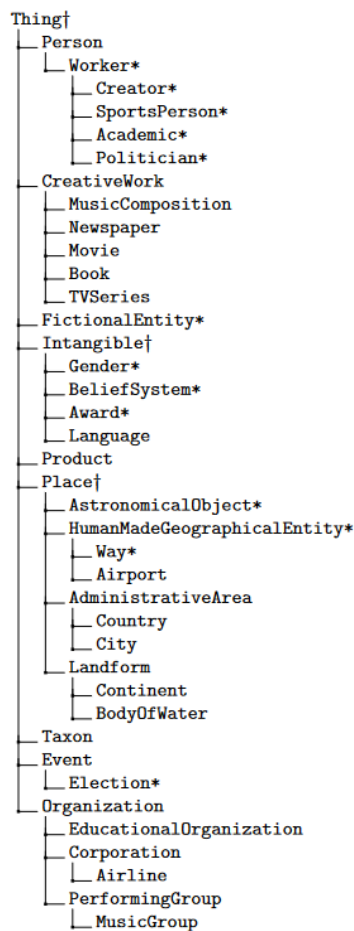# Design Decisions for the YAGO schema

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In this document, we explain and justify the design decisions taken for the schema of YAGO 4.5. For each class, we list (1) the superclasses, (2) the Wikidata classes that we map to, (3) the properties that we define, and a justification for our decisions.

```
Thing†
└─Person
   └─Worker*
      ├─Creator*
      ├─SportsPerson*
      ├─Academic*
      └─Politician*
└─CreativeWork
   ├─MusicComposition
   ├─Newspaper
   ├─Movie
   ├─Book
   └─TVSeries
└─FictionalEntity*
└─Intangible†
   ├─Gender*
   ├─BeliefSystem*
   ├─Award*
   └─Language
└─Product
└─Place†
   ├─AstronomicalObject*
   ├─HumanMadeGeographicalEntity*
   │  ├─Way*
   │  └─Airport
   ├─AdministrativeArea
   │  ├─Country
   │  └─City
   └─Landform
      ├─Continent
      └─BodyOfWater
└─Taxon
└─Event
   └─Election*
└─Organization
   ├─EducationalOrganization
   ├─Corporation
   │  └─Airline
   └─PerformingGroup
      └─MusicGroup
```

YAGO 4.5 Upper level class hierarchy

We use the following abbreviations:

- *time format* = the union of:
  - `xsd:`dateTime
  - `xsd:`date
  - `xsd:`gYearMonth
  - `xsd:`gYear

- A Class or Property that is part of the Schema.org ontology will be written *without* the `schema:` prefix

- * indicates that a Class or Property starts with the `yago:` prefix

- a data type that starts with the `xsd:` prefix will be written *without* that prefix
  - `xsd:`decimal
  - `xsd:`string
  - `xsd:`anyURI
  - `xsd:`anyType

- † indicates that a Property is a relation whose inverse exists in Schema.org or Wikidata, and where we made a choice between the relation and its inverse.

- → indicates the range of a Property

- $\rightarrow^1$ indicates that the Property has a maximum cardinality of 1

schema:Thing

1. Top-level class.
2. Not mapped to any Wikidata class, because it defines only few and very general properties. By mapping this class to Wikidata, we would invite a large number of entities (>1m) that are basically uncategorized.
3. Properties:
   a. alternateName → rdf:langString
   b. rdfs:comment → rdf:langString
   c. label → rdf:langString
   d. MainEntityOfPage → anyURI
   e. URL → anyURI
   f. sameAs → anyType
   g. image → anyURI

schema:CreativeWork

1. Subclass of `schema:Thing`, for anything that can be conceived and created by the human mind, including art works, books, ideas, theories, etc.
2. Mapped to:
   a. creative work (Q17537576)
   b. work (Q386724)
3. Properties:
   a. about → Thing
   b. award → Award*
   c. author → (Person or Organization)
   d. contentLocation → Place
   e. dateCreated →[1] *time format*
   f. inLanguage → Language

schema:Book

1. Subclass of `schema:CreativeWork`.
2. Mapped to book (Q571)
3. Properties:
   a. isbn →[1] string
   b. numberOfPages →[1] decimal
   c. editor (P98) → Person
   d. illustrator (P110) → Person
   e. publisher (P123) →[1] Organization

schema:Newspaper

1. Subclass of `schema:CreativeWork`
2. Mapped to newspaper (Q11032)
3. Properties:
   a. publisher → (Person or Organization)
   b. sponsor → (Person or Organization)

schema:TVSeries
1. Subclass of `schema:CreativeWork`
2. Mapped to television series (Q5398426)
3. Properties:
   a. actor → Person
   b. countryOfOrigin → Country
   c. director → Person
   d. numberOfEpisodes →[1] decimal
   e. numberOfSeasons →[1] decimal
   f. productionCompany → Organization
   g. musicBy (P86) → (Person or MusicGroup)

schema:MusicComposition
1. Subclass of `schema:CreativeWork`
2. Mapped to composed musical work (Q207628) and musical work (Q2188189)
3. Properties:
   a. composer → (Person or MusicGroup)
   b. iswcCode →[1] string
   c. lyricist → (Person or MusicGroup)

schema:Movie
1. Subclass of `schema:CreativeWork`
2. Mapped to film (Q11424)
3. Properties:
   a. actor → Person
   b. countryOfOrigin → Country
   c. director → Person
   d. duration →[1] decimal
   e. productionCompany → Organization
   f. musicBy (P86) → (Person or MusicGroup)

schema:Event
1. Subclass of `schema:Thing`
2. Mapped to:
   a. occurrence (Q1190554). In Wikidata, this class groups events that are not scheduled (such as wars), which is what we need for YAGO.
   b. event (Q1656682). In Wikidata, event is a subclass of occurrence. If we do not add the mapping to Q1656682 explicitly, we would have two classes called "event" in YAGO.
3. Properties:
   a. about → Thing
   b. location → Place
   c. organizer → (Person or Organization)

d. startDate $\rightarrow^1$ *time format*
   e. endDate $\rightarrow^1$ *time format*
   f. sponsor $\rightarrow$ (Person or Organization)
   g. superEvent† $\rightarrow$ Event
   h. follows* $\rightarrow$ event
   i. participant* $\rightarrow$ (Person or Organization)

We discard duration, which would have been redundant with startDate and endDate. We prefer superEvent over subEvent, because it has fewer objects, as per Design Principle 1.

yago:Election

1. Subclass of `schema:Event`
2. Mapped to [public election](#) (Q40231)
3. We have defined no properties for this class, we manually define it so that Elections are correctly considered as subclasses of Events and not Creative Works.

schema:Organization

1. Subclass of `schema:Thing`
2. Mapped to Organization (Q43229)
3. Properties:
   a. award $\rightarrow$ Award*
   b. dissolutionDate $\rightarrow^1$ *time format*
   c. duns $\rightarrow^1$ string
   d. founder $\rightarrow$ Person
   e. leader $\rightarrow$ Person
   f. motto $\rightarrow$ string
   g. address $\rightarrow$ string
   h. memberOf $\rightarrow$ Organization
   i. dateCreated $\rightarrow^1$ *time format*
   j. leiCode $\rightarrow^1$ string
   k. locationCreated $\rightarrow$ Place
   l. location $\rightarrow$ Place
   m. memberOf $\rightarrow$ Organization
   n. numberOfEmployees $\rightarrow$ decimal
   o. parentOrganization† $\rightarrow$ Organization. We gave preference to parentOrganization over childOrganization, because it has on average fewer objects.
   p. logo $\rightarrow$ anyURI

schema:Corporation

1. Subclass of `schema:Organization`. (companies)
2. Mapped to:
   a. [company](#) (Q783794)

b. [business](#) (Q4830453). In Wikidata, this class identifies local businesses. For YAGO, we are just interested in companies in general.
3. No properties are defined for this class.

schema:Airline
1. Subclass of `schema:Corporation`.
2. Mapped to: [airline](#) (Q46970)
3. Properties:
   a. iataCode $\to^1$ string
   b. icaoCode $\to^1$ string

Schema:EducationalOrganization
1. Subclass of `schema:Organization`
2. Mapped to [educational organization](#) (Q5341295)
3. Properties:
   a. studentCount* $\to$ decimal

schema:PerformingGroup
1. subclass of `schema:Organization`
2. mapped to the Wikidata class: [performing arts group](#) (Q105815710)
3. We have defined the following property for this class:
   a. director* $\to$ Person
4. This class is currently present mostly for the MusicGroup class to be properly defined.

schema:MusicGroup
1. The `schema:MusicGroup` class is a bottom-level class that we have imported from schema.org, it is a subclass of `schema:PerformingGroup`
2. This class is mapped to the following Wikidata class: [musical ensemble](#) (Q2088357)
3. We have defined the following property for this class:
   a. influencedBy $\to$ Thing
   b. notableWork* $\to$ CreativeWork
   c. recordLabel $\to$ Organization

schema:Person
1. The `schema:Person` class is a top-level class that we have imported from schema.org, it is a subclass of the top-level class `schema:Thing`
2. This class is mapped to the following Wikidata classes:
   a. [human](#) (Q5)
   b. [person](#) (Q215627)
3. We have defined the following properties for this class:
   a. beliefSystem* $\to$ BeliefSystem*
   b. academicDegree* $\to$ Award*

c. affiliation → Organization
d. alumniOf → Organization
e. award → Award*
f. birthDate →[1] *time format*
g. birthPlace →[1] Place
h. children → Person
i. deathDate →[1] *time format*
j. deathPlace →[1] Place
k. gender →[1] Gender*
l. homeLocation → Place
m. knowLanguage → Language
n. memberOf → Organization
o. nationality → Country
p. owns → Thing
q. spouse → Person
r. worksFor → Organization

yago:Worker

1. subclass of `schema:Person`
2. mapped to the following Wikidata classes:
   a. professional (Q702269)
   b. worker (Q327055)
3. We have defined no properties for this class. It is in YAGO 4.5 to serve as an intermediate superclass between `schema:Person` and individual professions.

yago:Creator

1. subclass of `yago:Worker`
2. mapped to artist (Q483501)
3. properties:
   a. influencedBy → Thing
   b. notableWork* → CreativeWork

yago:Academic

1. subclass of `yago:Worker`
2. mapped to academic professional (Q66666685)
3. properties:
   a. studentOf* → Person
   b. doctoralAdvisor* → Person

yago:SportsPerson

1. subclass of `yago:Worker`
2. mapped to sportsperson (Q50995749)
3. properties:
   a. sportNumber* → string
   b. playsIn* → Event

yago:Politician

1. subclass of `yago:Worker`
2. mapped to [politician](#) (Q82955)
3. properties:
   a. candidateIn* → Event

schema:Place

1. The `schema:Place` class is an top-level class that we have imported from schema.org, it is a subclass of `schema:Thing`
2. This class is purposefully not mapped to Wikidata in order to avoid obtaining messy subclasses when generating the whole YAGO ontology
3. We have defined the following properties for this class:
   a. containedInPlace → Place
   b. area → decimal
   c. highestPoint → Place
   d. lowestPoint → Place
   e. neighbors → Place
   f. elevation → decimal
   g. geo →[1] geo:wktLiteral

schema:AdministrativeArea

1. The `schema:AdministrativeArea` class is a class that we have imported from schema.org, it is a subclass of `schema:Place`. It designates places whose boundaries have been defined by humans.
2. This class is mapped to the Wikidata class: [administrative territorial entity](#) (Q56061)
3. We have defined the following properties:
   ○ dateCreated →[1] time format
   ○ demonym → string
   ○ leader → Person
   ○ populationNumber → decimal
   ○ postalCode → string
   ○ motto → string
   ○ memberOf → Organization
   ○ administrates → Place
   ○ replaces* → AdministrativeArea

schema:City

1. subclass of `schema:AdministrativeArea`.
2. This class is mapped to the Wikidata classes:
   a. [city or town](#) (Q7930989)
   b. [city](#) (Q515)
3. We have defined no specific additional properties for this class, It exists as a range for the `yago:hasCapital` property.

schema:Country

1. subclass of `schema:AdministrativeArea`
2. This class is mapped to the Wikidata class:
    a. [country](#) (Q6256)
3. We have defined the following properties for this class:
    a. capital* → City
    b. officialLanguage → Language
    c. humanDevelopmentIndex → decimal
    d. unemploymentRate → decimal

schema:Landform

1. Subclass of `schema:Place`
2. Mapped to the Wikidata classes:
    a. [terrain](#) (Q14524493)
    b. [landmass](#) (Q205895)
    c. [geographic location](#) (Q2221906)
    d. [natural geographical object](#) (Q35145263)
    e. [landform](#) (Q271669)
    f. [geographical area](#) (Q3622002)
    g. [geographic region](#) (Q82794)
3. We have defined no class-specific properties for `schema:Landform`. It exists mainly to permit instances of landforms to be in YAGO, which would otherwise be excluded since `schema:Place` is a one-to-none mapping.

schema:BodyOfWater

1. Subclass of `schema:Landform`
2. Mapped to the Wikidata classes:
    a. [body of water](#) (Q15324)
    b. [marine water body](#) (Q116126039)
3. We have defined the following property:
    a. flowsInto* → BodyOfWater

schema:Continent

1. Subclass of schema:Landform
2. Mapped to [continent](#) (Q5107)
3. We have defined no property for this class.

yago:HumanMadeGeographicalEntity

1. Subclass of `schema:Place`
2. Mapped to the Wikidata classes, which are largely equivalent for our purposes:
    a. [architectural structure](#) (Q811979)
    b. [human-made geographic feature](#) (Q811430)
    c. [human-made geographic feature](#) (Q811463)
    d. [human-made geographic object](#) (Q35145743)

3. We have defined the following properties
   a. dateCreated $\rightarrow^1$ *time format*
   b. ownedBy $\rightarrow$ (Person or Organization)

yago:Way

1. Subclass of `yago:HumanMadeGeographicalEntity`
2. This class is mapped to the Wikidata class:
   a. [thoroughfare](#) (Q83620)
3. We have defined the following class-specific property
   a. length* $\rightarrow^1$ decimal
   b. terminus* $\rightarrow$ Place

schema:Airport

1. Subclass of `yago:HumanMadeGeographicalEntity`
2. Mapped to the Wikidata class: [airport](#) (Q1248784)
3. We have defined the following properties for this class:
   a. iataCode $\rightarrow^1$ string
   b. icaoCode $\rightarrow^1$ string

yago:AstronomicalObject

1. subclass of `schema:Place`.
2. This class is mapped to the following Wikidata class: [astronomical object](#) (Q6999)
3. We have defined the following properties for this class:
   a. parentBody*† $\rightarrow$ AstronomicalObject*
   b. mass* $\rightarrow$ decimal
   c. distanceFromEarth* $\rightarrow$ decimal
   d. luminosity* $\rightarrow$ decimal
   e. parallax* $\rightarrow$ decimal
   f. radial velocity* $\rightarrow$ decimal

schema:Product

1. The `schema:Product` class is intended to work as an top-level class that we have imported from schema.org, it is a subclass of `schema:Thing`
2. This class is mapped to the following Wikidata class:
   a. [product](#) (Q2424752)
3. We have defined the following properties for this class:
   a. award $\rightarrow$ Award*
   b. manufacturer $\rightarrow$ Corporation
   c. dateCreated $\rightarrow^1$ *time format*
   d. gtin $\rightarrow$ string
   e. material $\rightarrow$ Product

schema:Taxon

1. subclass of `schema:Thing`
2. This class is mapped to the following Wikidata class:
    a. [taxon](#) (Q16521)
3. We have defined the following properties for this class:
    a. parentTaxon† → Taxon
    b. consumes* → Taxon

schema:Intangible

1. subclass of `schema:Thing,` `as` an umbrella for Language, Award, etc…
2. This class is not mapped to any Wikidata class, as the intangible classes of WikiData are very noisy
3. This class does not have any class-specific properties in Schema.org

yago:Award

1. The `yago:Award` class is a bottom-level class that we have manually added, it is a subclass of `schema:Intangible.` The class is needed as an object type for the schema:award property.
2. The yago:Award class is mapped to [award](#) (Q618779)
3. We define the following property for the yago:Award class:
    a. conferredBy* → (Person or Organization)

yago:BeliefSystem

1. The yago:BeliefSystem class is a bottom-level class that we have manually added, it is a subclass of schema:Intangible. It is needed for religious convictions of people, and the newly added yago:beliefSystem.
2. The yago:BeliefSystem class is mapped to
    a. [belief system](#) (Q5390013)
3. We cannot add any properties because religions are classes in Wikidata

yago:Gender

1. The yago:Gender class is a bottom-level class that we have manually added, it is a subclass of schema:Intangible.
2. The yago:Gender class is mapped to [gender identity](#) (Q48264)
3. We do not define any properties for this class. It is needed as object type for schema:gender.

schema:Language

1. The `schema:Language` class is a bottom-level class that we have imported from schema.org, it is a subclass of `schema:Intangible` and acts as the range of properties like the <knowsLanguage> property of `schema:Person`
2. This class is mapped to the following Wikidata class: [language](#) (Q34770)
3. We have defined no property for this class.

yago:FictionalEntity

1. The `schema:FictionalEntity` class is a bottom-level class that we have imported from schema.org, it is a subclass of `schema:Thing`
2. This class is mapped to the following Wikidata classes:
    a. [fictional entity](#) (Q14897293)
    b. [imaginary character](#) (Q115537581)
    c. [non-existent entity](#) (Q64728693)
    d. [hypothetical entity](#) (Q18706315)
    e. [character that may or may not be fictional](#) (Q21070598)
3. We have defined the following properties for this class:
    a. appearsIn → CreativeWork
    b. author → (Person or Organization)
    c. performer → Person

YAGO 4.0 Previous Properties

Property	Number of instances	Justification	Type (s=scholarly, b=biomedical, r=redundant, l=literal)
<http://schema.org/citation>:	174215756	scholarly articles are discarded	s
<http://schema.org/datePublished>:	33266828	scholarly articles are discarded	s
<http://schema.org/pagination>:	30557420	scholarly articles are discarded	s
<http://schema.org/author>:	11494049	ok	
<http://schema.org/inLanguage>:	10326017	ok	
<http://schema.org/containedInPlace>:	8199775	ok	
<http://www.w3.org/1999/02/22-rdf-syntax-ns#type>:	6572854	ok	
<http://schema.org/latitude>:	6484526	Redundant with `geo:wktLiteral`	l
<http://schema.org/longitude>:	6484526	Redundant with `geo:wktLiteral`	l
<http://schema.org/geo>:	6484526	ok	
<http://schema.org/gender>:	5676543	ok	
<http://schema.org/about>:	5218845	ok	
<http://schema.org/hasOccupation>:	4966147	now a class	
<http://schema.org/birthDate>:	3891440	ok	
<http://schema.org/givenName>:	3837245	Linguistic entities are no longer individuals in YAGO	
<http://schema.org/nationality>:	3534818	ok	
<http://schema.org/image>:	3042078	ok	
<http://bioschemas.org/parentTaxon>:	2722781	ok	
<http://bioschemas.org/taxonRank>:	2707146		
<http://schema.org/familyName>:	2335364	Linguistic entities are no longer individuals in YAGO	
<http://schema.org/birthPlace>:	2318103	ok	

<http://schema.org/memberOf>:	1963777	ok	
<http://schema.org/deathDate>:	1927453	ok	
http://schema.org/isPartOf>:	1590775	ok	
<http://schema.org/location>:	1565318	ok	
<http://schema.org/children>:	1245472	ok	
<http://schema.org/parent>:	1241127	redundant with schema:children	r
<http://bioschemas.org/hasMolecularFunction>:	1196782	design choice to avoid the biological and medical ontology	b
<http://bioschemas.org/isInvolvedInBiologicalProcess>:	1194271	design choice to avoid the biological and medical ontology	b
<http://schema.org/actor>:	1095204	ok	
<http://schema.org/url>:	1048835	ok	
<http://schema.org/containsPlace>:	1017660	Redundant with schema:containedInPlace	r
<http://schema.org/alumniOf>:	1010857	ok	
<http://bioschemas.org/encodesBioChemEntity>:	949671	no biochemical entities	b
<http://bioschemas.org/isEncodedByBioChemEntity>:	933013	no biochemical entities	b
<http://schema.org/award>:	930306	ok	
<http://schema.org/deathPlace>:	878945	ok	
<http://schema.org/knowsLanguage>:	860608	ok	
<http://bioschemas.org/isLocatedInSubcellularLocation>:	854744	no biochemical entities	b
<http://schema.org/creator>:	670984	Redundant with schema:author	r
<http://schema.org/foundingDate>:	627409	renamed to dateCreated	r
<http://schema.org/genre>:	570824	Target range not a YAGO class	
<http://schema.org/dateCreated>:	531865	ok	
<http://schema.org/countryOfOrigin>:	348617	ok	
<http://schema.org/material>:	347985	ok	

<http://schema.org/sport>:	267011	Target range not in YAGO	
<http://schema.org/director>:	242732	ok	
<http://schema.org/competitor>:	239710	ok	
<http://schema.org/spouse>:	186713	ok	
<http://schema.org/superEvent>:	149005	ok	
<http://schema.org/producer>:	145310	ok	
<http://schema.org/telephone>:	135074	not suitable for YAGO	
<http://schema.org/subEvent>:	107021	Redundant with superEvent	r
<http://schema.org/musicBy>:	102195	ok	
<http://schema.org/publisher>:	97081	ok	
<http://schema.org/hasPart>:	92997	same reasoning as schema:isPartOf	r
<http://schema.org/byArtist>:	91848	renamed to "performer"	r
<http://schema.org/license>:	90395	not suitable for YAGO	
<http://schema.org/homeLocation>:	90194	ok	
<http://schema.org/value>:	88328	Literals are simple values now	l
<http://schema.org/minValue>:	88328	same reasoning as schema:value	l
<http://schema.org/maxValue>:	88328	same reasoning as schema:value	l
<http://schema.org/unitCode>:	88328	same reasoning as schema:value	l
<http://schema.org/parentOrganization>:	87778	ok	
<http://schema.org/duration>:	81957	ok	
<http://schema.org/elevation>:	77905	ok	
<http://schema.org/subOrganization>:	69409	Redundant with schema:parentOrganization	r
<http://schema.org/dissolutionDate>:	69284	ok	
<http://schema.org/startDate>:	68270	ok	
<http://schema.org/logo>:	68182	ok	
<http://schema.org/endDate>:	66045	ok	

<http://schema.org/productionCompany>:	64986	ok	
<http://schema.org/contentLocation>:	64102	ok	
<http://schema.org/partOfSeries>:	63794		
<http://schema.org/partOfSeason>:	45464		
<http://schema.org/sponsor>:	42478	ok	
<http://schema.org/numberOfEpisodes>:	36758	ok	
<http://schema.org/honorificPrefix>:	35057		
<http://schema.org/foundingLocation>:	33955	ok	
<http://schema.org/founder>:	30934	ok	
<http://schema.org/composer>:	29238	ok	
<http://schema.org/numberOfSeasons>:	24821	ok	
<http://schema.org/isBasedOn>:	22562	renamed to influencedBy	r
<http://schema.org/issn>:	20699	The classes that have this property are not in YAGO anymore.	
<http://schema.org/callSign>:	20408	The classes that have this property are not in YAGO.	
<http://schema.org/leiCode>:	20168	ok	
<http://schema.org/icaoCode>:	14668	ok	
<http://schema.org/locationCreated>:	14419	ok	
<http://schema.org/affiliation>:	13933	ok	
<http://schema.org/lyricist>:	13385	ok	
<http://schema.org/faxNumber>:	13374	not suitable for YAGO	
<http://schema.org/iataCode>:	10356	ok	
<http://schema.org/editor>:	9346	ok	
<http://schema.org/relevantSpecialty>:	7258	design choice to avoid the biological and medical ontology	b
<http://schema.org/contributor>:	6010	Merged with schema:organizer	
<http://schema.org/height>:	4902	We are not interested in representing such facts in	

		YAGO 4.5	
<http://schema.org/width>:	4316	We are not interested in representing such facts in YAGO 4.5	
<http://schema.org/volumeNumber>:	3862	Only appears for books in series	
<http://schema.org/workExample>:	3102		
<http://schema.org/exampleOfWork>:	3075		
<http://schema.org/character>:	2968	ok	
<http://schema.org/iswcCode>:	2717	ok	
<http://schema.org/translator>:	2168		
<http://schema.org/isbn>:	2140	ok	
<http://bioschemas.org/inChIKey>:	2130	design choice to avoid the biological and medical ontology	b
<http://schema.org/brand>:	2004	We model products differently in YAGO 4.5	
<http://schema.org/copyrightHolder>:	1869		
<http://schema.org/illustrator>:	1575	ok	
<http://schema.org/worksFor>:	1535	ok	
<http://bioschemas.org/bioChemInteraction>:	1501	design choice to avoid the biological and medical ontology	b
<http://schema.org/owns>:	1302	Redundant with ownedBy	r
<http://bioschemas.org/inChI>:	1180	design choice to avoid the biological and medical ontology	b
<http://bioschemas.org/smiles>:	1180	no biochemical entity	b
<http://bioschemas.org/molecularFormula>:	1161	design choice to avoid the biological and medical ontology	b
<http://schema.org/provider>:	1056		
<http://schema.org/organizer>:	1013	ok	
<http://schema.org/numberOfPages>:	948	ok	
<http://schema.org/encodingFormat>:	843	The classes that have this property are not in YAGO	

		anymore.	
<http://schema.org/numberOfEmployees>:	778	ok	
<http://schema.org/colorist>:	735		
<http://schema.org/servesCuisine>:	601	Target range not in YAGO	
<http://schema.org/signOrSymptom>:	576	design choice to avoid the biological and medical ontology	b
<http://schema.org/depth>:	255	We are not interested in representing such facts in YAGO 4.5	
<http://schema.org/gtin>:	182	ok	
<http://schema.org/connectedTo>:	177	design choice to avoid the biological and medical ontology	b
<http://schema.org/weight>:	153	We are not interested in representing such facts in YAGO 4.5	
<http://schema.org/duns>:	84	ok	
<http://schema.org/issueNumber>:	71	scholarly articles are discarded.	s
<http://schema.org/broadcastChannelId>:	57	The classes that have this property are not in YAGO. Too few items.	
<http://schema.org/operatingSystem>:	55	Too few items to be included in YAGO 4.5	
<http://schema.org/riskFactor>:	34	design choice to avoid the biological and medical ontology	b
<http://schema.org/netWorth>:	19	Too few facts	
<http://schema.org/legalStatus>:	9	Too few facts	
<http://bioschemas.org/expressedIn>:	1	no biochemical entities	b

Top-100 properties of Wikidata

Wikidata Property	Yago4.5
cites work (P2860)	Excluded (scholar)
series ordinal (P1545)	Too specific
author name string (P2093)	Excluded (scholar)
instance of (P31)	rdf:type
stated in (P248)	Excluded (scholar)
retrieved (P813)	Excluded (scholar)
reference URL (P854)	Excluded (scholar)
PubMed ID (P698)	Excluded (scholar)
publication date (P577)	Excluded (scholar)
title (P1476)	Excluded (scholar)
published in (P1433)	Excluded (scholar)
page(s) (P304)	Excluded (scholar)
volume (P478)	Excluded (scholar)
issue (P433)	Excluded (scholar)
apparent magnitude (P1215)	Too specific (astronomy)
astronomical filter (P1227)	Too specific (astronomy)
DOI (P356)	Excluded (scholar)
author (P50)	schema:author
catalog code (P528)	Excluded (scholar)
main subject (P921)	Excluded (scholar)
catalog (P972)	Excluded (scholar)
language of work or name (P407)	schema:inLanguage

object named as (P1932)	Linguistic entities no longer in YAGO
country (P17)	OK
point in time (P585)	Redundant (cf. Event)
located in the administrative territorial entity (P131)	OK
PMCID (P932)	Excluded (scholar)
occupation (P106)	Now a class
coordinate location (P625)	schema:geo
determination method (P459)	Too specific
start time (P580)	schema:startDate
sex or gender (P21)	schema:gender
based on heuristic (P887)	Too specific
SIMBAD ID (P3083)	Excluded (scholar)
right ascension (P6257)	Too specific (astronomy)
declination (P6258)	Too specific (astronomy)
epoch (P6259)	Too specific (astronomy)
VIAF ID (P214)	Excluded (scholar)
Google Knowledge Graph ID (P2671)	OK
constellation (P59)	Too specific (astronomy)
given name (P735)	Linguistic entities no longer in YAGO
found in taxon (P703)	subproperty of isPartOf
date of birth (P569)	OK
subject named as (P1810)	Linguistic entities no longer in YAGO
parallax (P2214)	OK
Wikimedia import URL (P4656)	Meta-property
imported from Wikimedia project (P143)	Meta-property

right ascension component of proper motion (P10752)	Too specific (astronomy)
declination component of proper motion (P10751)	Too specific (astronomy)
Commons category (P373)	Meta-property
country of citizenship (P27)	OK
image (P18)	OK
end time (P582)	OK
part of (P361)	OK
radial velocity (P2216)	OK
ResearchGate publication ID (P5875)	Excluded (scholar)
family name (P734)	Linguistic entities no longer in YAGO
Freebase ID (P646)	Meta-property
ortholog (P684)	Too specific (taxon)
GeoNames ID (P1566)	Technical property (metaproperty)
collection (P 195)	Too specific
parent taxon (P171)	OK
taxon name (P225)	Mapped to label
taxon rank (P105)	Too specific?
distance from Earth (P2583)	OK
copyright status (P6216)	Excluded (scholar)
subclass of (P279)	OK
chromosome (P1057)	Too specific (bio)
place of birth (P19)	OK
GBIF taxon ID (P846)	Too specific?
described by source (P1343)	Excluded (scholar)
exact match (P2888)	Technical property

date of death (P570)	OK
location (P276)	schema:geo
Entrez Gene ID (P351)	Too specific (bio)
full work available at URL (P953)	Excluded (scholar)
Elo rating (P1087)	Too specific
GNS Unique Feature ID (P2326)	Meta-property
inception (P571)	dateCreated
category combines topics (P971)	Technical property
GND ID (P227)	Meta-property
educated at (P69)	OK
languages spoken, written or signed (P1412)	OK
UniProt protein ID (P352)	Too specific (bio)
population (P1082)	OK
applies to jurisdiction (P1001)	Too specific
ORCID iD (P496)	Excluded (scholar)
heritage designation (P1435)	Too specific
Catalogue of Life ID (P10585)	Too specific
follows (P155)	OK
followed by (P156)	Redundant, inverse of follows
has part(s) (P527)	Redundant, inverse of partOf
postal code (P281)	OK
sport (P641)	Too
located in time zone (P421)	Too specific
WorldCat Identities ID (P7859)	Excluded (scholar)
official website (P856)	OK
member of sports team (P54)	sub-property of memberOf

copyright license (P275)	Excluded (scholar)
employer (P108)	Redundant with worksFor