

NEL ERROR ANALYSIS ANNOTATION GUIDELINE

When evaluating NEL it is common to report the classic measures like P, R, F1, but perhaps it's equally important to look directly at the results through the prism of:

- true-positives (TP) – correctly classified as Yes - HIT
- true-negatives (TN) – correctly classified as No – CORRECT REJECTION
- false-positives (FP) – wrongly classified as Yes – FALSE ALARM
- false-negatives (FN) – wrongly classified as No – MISS

These classification results are used to define P, R, F1 and many other measures.

If the goal is to optimize precision, the number of false-positives needs to be decreased. Precision is important as it affects the perceived quality of a system.

The following report explains how to classify the large error classes that can be identified while analyzing the false-positives reported in an evaluation against a gold standard.

The names adopted for the various error classes are based on the assumption that the NEL systems have at least some (if not all of the following components):

- lexicons
- Knowledge Bases
- Linked Data pre-processing components
- analyzer or name variants generator(s) (which include compression or expansion of surface forms)
- candidate selection
- disambiguation algorithm(s)
- linker to Knowledge Base (e.g., DBpedia, Geonames, etc.)
- NIL clustering (for entities which remained unlinked after the linking stage)

Three large classes of errors can be found in an evaluation:

- Knowledge Base Errors
- Dataset (Gold Standard) Errors
- Annotator (Tool) Errors
- NIL Errors
- NE (Not an Error)

Each of these large classes is described in detail in the following pages. Where possible, examples are also included.

HOW TO ANALYZE ERRORS

When annotating an error, one should follow the exact same process like when annotating a document:

- Read the Annotation Guidelines
- Read the document
- Annotate the error with respect to the annotator output, gold standard and Knowledge Base.

The following reasoning chain must be followed:

If the error looks like it was caused by the tool due to wrong surface forms, wrong spans or similar issues (see section Annotator Errors), the error will be marked as an **Annotator Error**.

If the error was present in the gold standard (e.g., the annotator returned span <0,10> which looks to be correct if we check the text, but the dataset only acknowledges a span of <0,6>) then it will be labelled as a **Dataset Error**.

If the error is not from the Annotator or Dataset (e.g., a surface form that apparently has not connection with the returned link - year 1960 returns a link to a person name) further investigations need to be made. If it looks like the link was returned due to Knowledge Base (e.g., due to redirects, bad mappings, etc.) the error will be marked as a Knowledge Base error.

There are several short rules that the human annotators need to remember at all times:

- Read the available Annotation Guideline for the particular dataset you are annotating.
- Only **PER** (Person), **LOC** (Location) and **ORG** (Organisation) entities should be marked for this task.
- Do not take into account embedded entities for this task.
- Where possible the longest surface form should be annotated.
- The links returned by the annotator should always belong to the DBpedia version that corresponds to the document's language (e.g., for German texts, links with <http://de.dbpedia.org/resource/> should be returned, whereas for English texts, links that start with <http://dbpedia.org/resource/> should be returned).
- Regardless of how the error looks like, all the places from which the error could have originated need to be checked (e.g., text, annotator, gold standard, KB, etc.).

The following things need to be generally checked:

- *document id* - the document number;
- *span* - the *start* and *end* position of the entity within the document.
- *surfaceForm* - the words that identify the entity in the text;
- *type* - the DBpedia type of the respective entity;
- *link* - the DBpedia link;
- *inGold* - presence or absence of the entity in the DS or KB.

TEMPLATE FOR DESCRIBING ERRORS

We use the TAC-KBP relevance scripts and collect the resulting False Positives. The reasoning behind annotating an FP is the following: mention > type > link. The following

table explains how to interpret the errors returned by the the TAC-KBP nelevel primary error analysis (e.g., those returned by the analyzer script).

Table 1. TAC-KBP primary evaluation results explained

Case	TAC	Test	Scope
Missing in Gold	extra	FP	mention, type, link
Missing in System	missing	FN	mention, type, link
Gold is None and System is None	correct nil	TP	mention, type, link
Gold == System	correct link	TP	mention, type, link
Gold is None	nil-as-link	FP	link
System is None	link-as-nil	FN	link
Rest of cases	wrong-link	FP	link

According to the TAC-KBP nelevel rules each named entity candidate discovered in a text is described through its **mention**, **type** and **link**. The mention includes the document number, and the position within the document. We follow the same conventions for the AppliesTo field, even though it is possible to include also their combinations.

The field AppliesTo also describes the thinking process that needs to be followed when annotating an error:

mention > type > link

This priority indicates to us that the mention itself should be examined before studying the type and the link associated to it.

By combining the runs from different tools which we will call **annotators** for the rest of this document (e.g., DBpedia Spotlight, Babelfly, etc) one can create a superset that will contain all the errors identified in a dataset though all these annotators.

When a new error is discovered first it should be checked if it is not already present in this document. If it can not be found in this document, it is enough to describe it using the following format:

Error Name

Scope: **mention** (aka surfaceForm) OR **type** OR **link** OR **mention,type,link** OR **mention,type**

SimilarTo: This field should only appear if the error actually has some degree of similarity to another one, but the context in which this new error appears is totally different.

Description: A general description of the error.

Examples: Where possible an example taken from a published corpora should be presented.

Comments: If needed it is possible to add additional comments.

If there are currently no examples for a certain error, it is ok to keep only the fields: *AppliesTo* and *Description*.

The current format we use to report the errors is the following:

File, retrievedURI, retrievedSurfaceForm, retrievedType, correctURI, correctSurfaceForm, correctType

File simply represents the name of the file where the occurrence/mention was detected. The first set of attributes (retrievedURI, retrievedSurfaceForm, retrievedType) is the one that comes from the tool, while the second set of attributes (correctURI, correctSurfaceForm, correctType) is the one that is / should be in the dataset or corpus.

Getting the correct version of a mention is highly dependent upon the Annotation Guidelines that were used for the respective dataset (e.g., partial mentions might be allowed or not, split mentions might be allowed or not).

KNOWLEDGE BASE ERRORS

Typically these are errors caused by the KB itself due to inconsistent mappings, removal of entities, entities missing correct typing.

Only the errors that affect the content of the KB are considered for this task.

A Knowledge Base can display other types of issues:

- lack of availability
- timeout issues
- multithreading issues.

Bad mappings

Scope: **mention**

Description: Since many KBs are produced from wikis or databases through various mappings, any inconsistencies between mappings used for the same entity type need to be reported. No examples are presented as it's close to impossible to discover these

errors from NEL tools only. Quite often the foaf:name for a person presents bad mappings (e.g., date of birth is sometimes published as the name of the entity).

Missing Entity

Scope: [link](#)

Description:

When an entity reported in a dataset/corpora is not available in the new version of the Knowledge Base. The might have been deleted or merged with another entity, but the fact remains that it is missing from the KB. Entities deleted from a certain KB version should be labelled as such.

Examples:

L

498249064891158528.txt.json, <http://sws.geonames.org/8469265/>, Arakawa, P.PPLX, NIL, NIL, Arakawa, Missing KB Entry (Geonames v3),
498439542807228416.txt.json, <http://sws.geonames.org/3333132/>, Brent, A.ADM3, NIL, PER, Brent Anbe, Missing KB Entry,

Comments:

The second example actually is a bit more complex, as not only it has a Missing KB entry, but also a Cross-Type Disambiguation Error caused by Name Shortening. As it is explained in a later paragraph Missing KB entries or Missing Annotations are often the cause of Cross-Type Disambiguation Errors.

Unpopulated Entity

Scope: [link](#)

Description:

When an entity reported in a dataset/corpora does not have triples dedicated to its attributes/properties (e.g., it only appears as an object in a triple).

Redirects and Multiple URIs

Scope: [link](#)

Description:

Sometimes (though in rare cases) there are multiple URIs for the same entity. When this happens, the disambiguation should be done Wikipedia-style if possible, but nevertheless such multiple URIs need to be collected and fixed in subsequent KB and tool releases.

Examples:

R

107,<http://dbpedia.org/resource/IRNA>,Iranian news agency IRNA,ORG, Iranian news agency IRNA,http://dbpedia.org/resource/Islamic_Republic_News_Agency,

KB Change

Scope: **link**

Description:

It is a type of error that describes changes into a KB not reflected in a GS. For example when creating a GS against a certain version of DBpedia (2015-04) and later running the annotator against a newer version of DBpedia (2016-04 or 2017-04), the scorer will consider more results as FPs despite the fact that they are not really FPs but rather good changes in the KB.

Wrong Type

Scope: **type**

Description:

If an entity of type PER, ORG, LOC is present in the KB but only contains the owl:Thing type, it should be marked as missing the correct type (therefore Wrong Type). Another set of such entities represents those ORG or LOC entities that are referred as having both types in common speech (e.g., City Halls, Government Agencies, etc.).

Examples:

Family names often appear in DBpedia and carry no type (e.g., Reuter).

Entities that have only the type owl:Thing (e.g., Kenneth and Mamie Clark).

Comments:

This type of error was more common a year ago, therefore it is possible that it is slowly fading.

Entities with No Type

Scope: **type**

Description:

Entities discovered in the Gold Standard that have no type should be marked as such. It is best to search for these entities before creating a spreadsheet or csv with the errors we want to annotate.

DATASET ERRORS

For the purpose of the current task we are only concerned with the **gold standard errors**.

A dataset can also return other errors:

- duplicate documents;
- missing documents;

- documents in foreign languages;
- documents with many UTF-8 errors;
- documents that are not properly formatted.

Missing Annotation

Scope: **link**

SimilarTo: KB Change

Annotations that are missing from the corpus should be marked as missing, and if possible we should aim to identify the reason why an annotation is missing (e.g., entity was only added in the last version of DBpedia, etc.)

N

62,http://de.dbpedia.org/resource/Porsche,Porsche,ORG,http://de.dbpedia.org/resource/Porsche,Porsche,ORG,

Wrong Annotation

Scope: **link**

Description:

When a different surface form than the one pointed out through the annotation guideline appears annotated (e.g., Spyder - can represent different types of cars from Porsche 550 to MR1, but the annotation itself points to the disambiguation page *Spyder* instead of *Porsche_550*).

Examples:

N

62,http://de.dbpedia.org/resource/Spyder,Spyder,PRODUCT,http://de.dbpedia.org/resource/Audi_R8_Spyder,Cabrio R8 Spyder, PRODUCT,

Annotation to Different Language

Scope: **link**

Examples:

When all annotations from a corpus were created in a language, but several annotations point to another KB language without any particular explanation (e.g., comment).

Redirects and Multiple URIs

Scope: **link**

Description:

Sometimes (though in rare cases) there are multiple URIs for the same entity. When this happens, the disambiguation should be done Wikipedia-style if possible, but nevertheless such multiple URIs need to be collected and fixed in subsequent KB and tool releases.

Examples:

R

107,http://dbpedia.org/resource/IRNA,Iranian news agency IRNA,ORG, Iranian news agency IRNA,http://dbpedia.org/resource/Islamic_Republic_News_Agency,

Missing Correct Type

Scope: **type**

Description:

DBpedia is lacking many main types (PER, ORG, GPE, LOC, FAC) for its entities. While these types can be inferred from the attributes of the entities, they can also be inferred from their subtypes directly if needed.

Examples:

N

35,http://de.dbpedia.org/resource/Volkswagen,Volkswagen,NOTYPE,http://de.dbpedia.org/resource/Volkswagen,Volkswagen,ORG,

Comments:

The previous example is rather debatable, as the entity could also be marked as VW.

Generic Term

Scope: **mention**

When a generic term (e.g., Boat) is marked as an entity in a text that does not refer to it. This happens because some generic terms also have some entities associated with them (e.g., Das Schiff).

UTF-8 Issues

Scope: **link**

Description:

This type of error can actually appear everywhere. German datasets usually can use UTF-8, while English DBpedia datasets sometimes still use URLencode functions.

ANNOTATOR ERRORS

-- not fully covered at this stage --

Annotator Errors represent errors that are most likely to have appeared due to the way in which a system was implemented. We are only covering the errors related to the annotations returned by the system, therefore the category is called Annotator Errors. NEL systems can also display other types of errors:

- threading issues;
- availability issues;
- lack of proper documentation.

Abbreviation Conflict

Scope: **mention,type,link**

Description:

When an abbreviated entity is labelled with the wrong entity (e.g., Kent. is labelled with Kent, UK instead of Kentucky, FBI is labelled with Federation of British Industries instead of Federal Bureau of Investigation).

The surface form needs to be an abbreviation (e.g., FBI, CME, etc.).

Examples:

R

22.txt.json|http://sws.geonames.org/3333158/|Kent|A.ADM2|http://sws.geonames.org/6254925/|Kent|A.ADM1|Abbreviation conflict

Cross-Type Disambiguation Error

Scope: **mention,type,link**

Description:

After the name it is highly advisable to also keep the information about the clashing types: PER/ORG, PER/GPE, ORG/PER, ORG/GPE, GPE/PER, GPE/ORG. The number of such errors increases every time we add new types - therefore the likely number of such error classes would be **$n*(n-1)$ for n Types**.

Examples:

R

20.txt.json|http://sws.geonames.org/2910831/|Hannover|P.PPLA|http://dbpedia.org/resource/Hannover_Re|ORG|Cross-Type Disambiguation Error ORG/GEO

107.txt.json|http://sws.geonames.org/112931/|Tehran|P.PLC|NIL|Tehran Radion|Cross-Type Disambiguation Error ORG/GEO

107.txt.json|http://sws.geonames.org/94824/|Karbala|P.PPLA|http://dbpedia.org/resource/Operation_Dawn_8|EVENT|Karbala-8|Cross-Type Disambiguation Error EVENT/GEO

91.txt.json|http://sws.geonames.org/6542283/|Milan|A.ADM3|http://dbpedia.org/resource/Borsa_Italiana|ORG|Milan exchange|Cross-Type Disambiguation Error ORG/GEO

Same Type Disambiguation Error / Different Entity with Same Type

Scope: **mention,type,link**

Description:

PER/PER, ORG/ORG, GPE/GPE, etc - This is probably the most common type of disambiguation error for geo entities because same names are reused in different countries, states / regions, counties, cities or villages, but it is quite common for the other categories too (e.g., PER/PER).

Examples:

PER/PER - John Smith (several hundreds of different people with this name, even Wikipedia/DBpedia shows us more than 200 instances)

Winston Churchill (politician, 1874 - 1965), Winston Churchill (American novelist, 1871-1947)

GPE/GPE - Paris, France and Paris, Texas, United States

North Shore, Auckland, Auckland, New Zealand and North Shore Oahu, Hawaii, United States

R

127.txt.json|<http://sws.geonames.org/7533609/>|Southern|A.ADM1|NIL|GPE|Southern District in Ohio|Same Type Disambiguation Entity

Comments:

It has to be noted there can be some instances of ORG/ORG errors that simply happen due to marking a branch entity instead of the corporate entity (Sony Music Entertainment Japan instead of Sony Music Entertainment). Of course if the Annotation Guidelines allow the marking of branches this should not be considered an error.

Partial Match (previously Surface Form / Name Shortening/Expansion)

Scope: mention

The simple marking of the wrong span for an entity leads to name shortening or expansion issues. These two types of errors should be treated perhaps as a single class and Shortening or Expansion should be subclasses. In any case this is another common occurrence regardless of the tool. Generally tools that use syntactic features (e.g., dependency parsing) have less errors from these two classes.

Examples:

L

498156814673125376.txt.json, <http://sws.geonames.org/3682385/>, Floridablanca, P.PPL, <http://sws.geonames.org/4155751/>, A.ADM1, Florida, Shortening/Expansion Issue,

R

49.txt.json|<http://sws.geonames.org/4736286/>|Texas|A.ADM1|http://dbpedia.org/resource/Gulf_Coast_of_the_United_States|GEO|Texas Gulf Coast|Shortening/Expansion Issue,

Comments:

There is a lot of overlap between this class and the two classes related to Cross-Type Disambiguation and Same-Type Disambiguation. A better description for these 3 classes is therefore needed.

No Entity

Scope: **mention,type,link**

Description:

When a meme or anything that's not a classic entity (PER, ORG, GPE/LOC/FAC, EVENT, WORK, etc.) gets labelled as an entity (e.g., Bad Luck Brian).

Examples:

Nice, Arrondissement de Nice, Alpes-Maritimes, Provence-Alpes-Côte d'Azur, France and the word "nice"

L

498307667879034880.txt.json, <http://sws.geonames.org/6454924/>, Nice, A.ADM4, NIL, NIL, Nice, NO ENTITY,
498644845716451328.txt.json, <http://sws.geonames.org/702569/>, Luck, P.PPLA, NIL, NIL, Bad Luck Brian, NO ENTITY,

Comments:

Another instance of this error consists in regular stop words being labelled as entities due to the fact that such entities exist in the KB.

nach being labelled as Nach_(Rapper) would be an instance of such entity

Generic Term

Scope: **mention,type,link**

Description:

When a generic term that also exists in the KB as an entity gets labelled as it is, almost as if no disambiguation exists.

Examples:

Das Schiff in German would simply mean *The Ship* in many instances, but an entity called *Das Schiff* also exists in German Wikipedia/DBpedia (see the following entry: https://de.wikipedia.org/wiki/Das_Schiff), therefore many annotators would pick this entity as Named Entity regardless of what the actual text says.

Admiral returned instead of *Admiral Thad W. Allen*

Ship returned instead of *Hansa Stavanger container ship*

Anomaly

Scope: **mention,type,link**

These are errors that were not classified yet. Anything that's not yet clear should be labelled as an anomaly.

NIL CLUSTERING ERRORS -- not covered --

Not enough data to pinpoint these types of errors because currently we do not yet have runs from tools that do NIL Clustering internally.

NE (NOT AN ERROR) CASES

When the output of the AN and DS are virtually the same, but an error is still reported, before marking such an error as NE, one should make sure that this is really the case.

For example, if `dbr:Miles_Davis` is returned instead of `dbr:Miles_davis`, and this is marked as an error, then a simple *wget* that confirms that the same page is returned should be enough to classify this as NE.

NOTES

Many Cross-Type Disambiguation Errors (ORG/GPE, GPE/PER, etc) often appear together with *Missing Annotations* for many datasets - therefore the list of Missing Annotations might need to be updated as soon as Cross-Type Disambiguation Errors are discovered in a dataset.

Sometimes it is enough to simply mark the correct span of the entity in order to avoid a Cross-Type Disambiguation Error:

Diana Region (Madagascar) vs Princess Diana (Lady Diana Spencer)

For geo entities (GPE, LOC, FAC) it might be best to keep the entire hierarchy in order to clearly differentiate the entities.

UTF-8 errors should be handled by each tool correctly.

ANNOTATION SETUP

Here are some details on current setup required for annotating errors.

Overview of the current setup:

- Results from multiple tools exported in a Google Spreadsheet
- The overview of errors
- A copy of the gold standard in NIF format so that the human annotator has access to the full text in a single page

- SPARQL Endpoint or DBpedia webpage to check the fields contained by the problem entity (e.g., abstract, type, etc.)

Spreadsheet with results from one or multiple tools

This spreadsheet contains False Positives collected from TAC-KBP runs from one or multiple tools. It follows closely the convention for annotating errors explained in this document.

The spreadsheet contains both the System (Annotator) Output and the Gold Standard (Dataset) output. Other fields:

2 fields for the Error Type and Error Cause

inGold - signifies if an entity was already present in the gold standard

4 fields (Spotlight, Babelnet, AIDA, Recognize) that tell us if the error was reported by any of these annotators. Some errors appear in a single annotator, while others can appear in 2, 3 or 4 annotators.

http://dbpedia.org/resource/Continental_Newspapers

	A	B	C	D	E	F	G	H	I	J	K	L
1												
2	Doc	RetrievedLink	Annotation output	Type	RetrievedSurfaceForm	Start	End	ErrorSource	ErrorType	Surface Form	Corrections	Link
3	100	http://dbpedia.org/resource/Eberstadt		Eberstadt	446	455	Annotator	Partial Match				
4	100	http://dbpedia.org/resource/Great_(supermarket)		Great	276	281	Annotator	Partial Match				
5	101	http://dbpedia.org/resource/Northern_F.C.		Northern	0	8	Annotator	Partial Match				
6	102	http://dbpedia.org/resource/Ministry_(band)		Ministry	202	210	Annotator	Partial Match				
7	103	http://dbpedia.org/resource/Senate_of_Kenya		The Senate	0	10	Annotator	Partial Match				
8	104	http://dbpedia.org/resource/Further_(band)		Further	95	102						
9	106	http://dbpedia.org/resource/S.S._Fornia_Calcio		U.S.	1363	1367						
10	106	http://dbpedia.org/resource/The_Belltower		The	193	196						
11	106	http://dbpedia.org/resource/Jerzy_Urban		Jerzy Urban	316	327						
12	107	http://dbpedia.org/resource/Logo_of_the_BBC		British Broadcasting C	461	493						
13	107	http://dbpedia.org/resource/Karbala		Karbala	573	580						
14	109	http://dbpedia.org/resource/Continental_Newspapers		Canada Ltd.	90	101						
15	109	http://dbpedia.org/resource/Brace_(singer)		Brace	372	377						
16	11	http://dbpedia.org/resource/350.org		350	63	66	Annotator	No Entity				
17	110	http://dbpedia.org/resource/Asociación_Deportiva_Hospital		Hospital	15	23						
18	111	http://dbpedia.org/resource/McKinnon_(English_cricketer)		McKinnon	1475	1483						
19	111	http://dbpedia.org/resource/Edelman_(firm)		Edelman	2680	2687						
20	113	http://dbpedia.org/resource/Swindon_Town_F.C._Michael_Smith_1		Michael Smith	363	376						
21	113	http://dbpedia.org/resource/Mike_Smith_(rugby_league)		Michael Smith	363	376						

Errors Overview

This Is a sheet or a spreadsheet that simply contains a list of all the big error classes and errors associated with them. It simply serves as a quick reference during the annotation process. In case the error is not easy to annotate, the human annotator is advised to return to this document.

Fine-grained Level / Gr	Cause
KB	Wrong Type
KB	Missing Entity
KB	KB Change
KB	Bad Mapping
KB	Unpopulated Entity (URI only)
KB	Redirects or Multiple URIs
Dataset	Missing Annotation
Dataset	Wrong Annotation
Dataset	Annotated to Different Language
Dataset	Redirects or Multiple URIs
Dataset	Missing Correct Type
Dataset	UTF-8
Dataset	No Entity
Dataset	Partial Match

Gold Standard Copy

This is a sheet or a spreadsheet that simply contains a list of all the big error classes and errors associated with them. It is generally best if the dataset is in the **NIF format** as it allows the human annotators to quickly find the candidates from the runs or the text of the documents.

In case the human annotators are not familiar with NIF, the following operations can be executed quickly:

- **Finding a candidate mention:** docNumber#char=char1,char2
 - e.g., 77#char=2185,2191 will help us find a mention from document 77 with span <2185,2191>
- **Finding a document:** doc#char=0,char2
 - e.g., 77#char=0,2444 will get us to an entity that will contain the whole document in the field **nif:isString**.
 - the reference for a text can be found in any mention in the field **nif:referenceContext**

Alternatively, if the text is too long it can be copied in a text file in order to ease the reading process.

SPARQL Endpoint or DBpedia webpage

Each URL can be checked by simply inserting its name into the browser (e.g., by simply browsing to <http://de.dbpedia.org/resource/Berlin>). If this does not help clarify the particular candidate, it is good to have the DBpedia SPARQL endpoint already opened (<http://dbpedia.org/sparql> for English, <http://de.dbpedia.org/sparql> for German). If there is a need for more details about a particular entity, usually a simple query like the one presented below should offer us the links we're searching for:

```

SELECT ?s ?p ?o WHERE {
  {
    ?s ?p ?o
    FILTER (?s=<http://de.dbpedia.org/resource/Berlin>)
  }
  UNION
  {
    ?s ?p ?o .
    FILTER (?o=<http://de.dbpedia.org/resource/Berlin>)
  }
}

```

← → ↻ de.dbpedia.org/sparql

Virtuoso SPARQL Query Editor

Default Data Set Name (Graph IRI)

Query Text

```

SELECT ?s ?p ?o WHERE {
  {
    ?s ?p ?o
    FILTER (?s=<http://de.dbpedia.org/resource/Berlin>)
  }
  UNION
  {
    ?s ?p ?o .
    FILTER (?o=<http://de.dbpedia.org/resource/Berlin>)
  }
}

```

(Security restrictions of this server do not allow you to retrieve remote RDF data, see [details](#).)

Results Format: HTML

Execution timeout: 0 milliseconds *(values less than 1000 are ignored)*

Options: ☒ Strict checking of void variables ☐ Log debug info at the end of output

(The result can only be sent back to browser, not saved on the server, see [details](#))

Run Query Reset

Running the SPARQL query against the German DBpedia endpoint.

<div> <div>← → ↻</div> <div>de.dbpedia.org/page/Berlin</div> </div>	
dbpedia-owl:individualisedGnd	4005728-8
dbpedia-owl:lcnn	n/79/34972
dbpedia-owl:viafid	122530980
dbpedia-owl:individualisedPnd	577535250
geo:long	13.4083
<http://www.georss.org/georss/point>	52.51861111111111 13.408333333333333
geo:lat	52.5186
dbpedia-owl:wikiPageRevisionID	148154888
rdf:type	<div> <div>owl:Thing</div> <div>—</div> <div>schema-org:Place</div> <div>—</div> <div>dbpedia-owl:Location</div> <div>—</div> <div>dbpedia-owl:Place</div> <div>—</div> <div>geo:SpatialThing</div> </div>

Checking the type in the German DBpedia for Berlin (<http://de.dbpedia.org/page/Berlin> or <http://de.dbpedia.org/resource/Berlin>).

If there any questions please contact the authors of this guideline.

BIBLIOGRAPHY

L, N, R - stand for certain corpora which in this version of the annotation guideline are kept anonymous.