ACE (Automatic Content Extraction) English Annotation Guidelines for Relations

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Linguistic Data Consortium

http://www.ldc.upenn.edu/Projects/ACE/

1 Introduction

The goal of the Relation task is to detect and characterize Relations of the targeted Types between entities. Relations are ordered pairs of entities. This means that the order of the arguments is important in the identification of Relations. To capture this idea, two different Argument slots (arg1 and arg2) are provided for each Relation. For example, in the sentence

George Bush traveled to France on Thursday for a summit.

There is a Physical.Located Relation between *George Bush* and *France*. In Physical.Located Relations, the Person that is located somewhere will always be assigned to arg1 and the place that the Person is located will always be assigned to arg2.

Types and Subtypes will be assigned to every Relation. For each Type, there is a set of possible Subtypes. Types and Subtypes are intended to categorize the Relations on the basis of their meaning. In the example above, the Type of the Relation is Physical and the Subtype is Located. For a complete description of the types and subtypes we will identify, please see Section 3 below.

We will tag the Syntactic Extent for every Relation identified and characterize the Relation by assigning one of the eight Syntactic Class types. The Syntactic Extent of the example above is the entire sentence. The Syntactic Class is Verbal. For a complete discussion of the rules for identifying Syntactic Classes and Relation Extents please see Section 2.3 below.

We will assign a Modality and Tense attribute to each Relation identified. For a complete discussion of the rules for identifying Modality and Tense, please see Section 2.2 below.

We apply timestamps to all Relations that contain relevant temporal expressions within their extent. In the French summit example presented above, the time *Thursday* would be associated with the Physical.Located Relation. Please see Section 2.4 for a complete discussion of timestamping Relations.

The complete annotation for the example above is represented below.

[George Bush traveled to France on Thursday for a summit.]				
Class	***Type***	***Argument1***	***Argument2***	***Timestamp: Within***
Verbal Asserted Past	*PHYS.Located*	***George Bush***	***France***	*Thursday*

2 Taggability

2.1. Preliminary Definitions

Unlike Entities and Events, Relations have no actual anchor in the text. We will limit Relations to only those that are expressed within a single sentence.

Tagging for Meaning

We will only tag Relations between entity mentions when the relationship is explicitly referenced in the sentence that contains the two mentions. Even if there is a relationship between two entities in the real world (or elsewhere in the document), there must be evidence for that relationship in the local context where it is tagged. For example:

He and his brother worked for Comcast.

In this sentence, there is explicit evidence of a familial relationship between *his* and *brother*.

Frank and James worked for Comcast.

Even if we know that *Frank* and *James* are brothers from elsewhere in the document, we will not tag a familial relation between them in these situations.

Reasonable Reader Rule

For all potential Relations, we will only annotate those Relations for which there is no reasonable interpretation of the sentence in which the Relation does not hold. In other words, we will tag a Relation only in case there is no reasonable interpretation of the sentence under which the Relation does not hold.

To understand the application of the reasonable reader rule, we must also consider Relation Modality. A complete definition of Relation Modality is provided in Section 2.1.1 below.
The two Modality attributes are *ASSERTED* and *OTHER*. If we think of the situations described by sentences as pertaining to possible descriptions of the world (or as 'possible worlds') then we can think of *ASSERTED* Relations as pertaining to situations in 'the real world' and we can think of *OTHER* Relations as pertaining to situations in 'some other world defined by counterfactual constraints elsewhere in the context'.

For example, in the sentence:

We are afraid Al-Qaeda terrorists will be in Baghdad.

The presence of Al-Qaeda terrorists in Baghdad is a situation being described as holding in the counterfactual world defined by 'our' fears. And in:

If the inspectors can get plane tickets today, then they will be in Baghdad on Tuesday

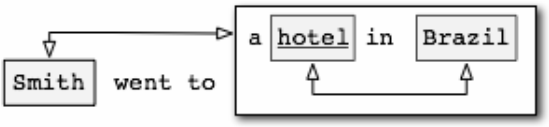
The inspectors (*they*) are in Baghdad only in the worlds where they get plane tickets today.

Relation Chains and Entities as 'Blocking Categories'

Promotion through Taggable Entities is illegal. In other words, if a potential Relation satisfies the Reasonable Reader Rule (and is expressed in a single sentence), but one of the Entity Mentions to be used as an argument is embedded in some other (Simple) Entity Mention, then that Entity Mention is not accessible and the potential Relation is not taggable.
So, in the sentence:

Smith went to a hotel in Brazil

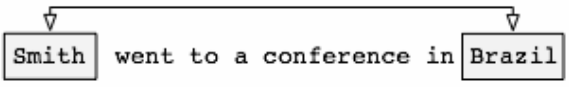
(*Smith*, *hotel*) is a taggable PHYS Relation but (*Smith*, *Brazil*) is not, because to get the second relationship, one would have to "promote" *Brazil* through *hotel*.



On the other hand, in:

Smith went to a conference in Brazil

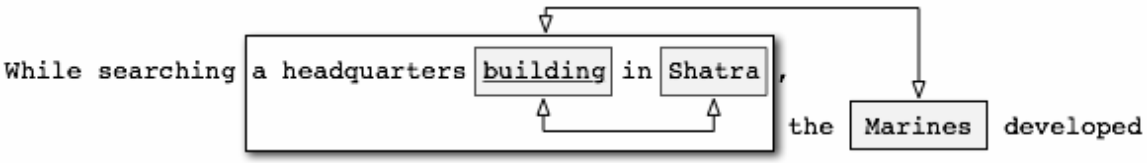
(*Smith*, *Brazil*) is a taggable PHYS Relation, since it is acceptable to promote through a non-taggable entity (*conference*).



This principle holds even for "long distance" constructions. For instance, in

While searching a headquarters building in Shatra, the Marines developed...

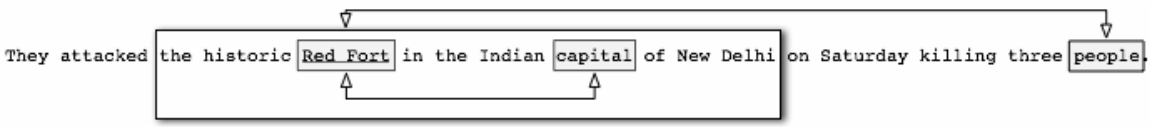
(*the Marines*, *building*) is taggable, but not (*the Marines*, *Shatra*).



Likewise in:

> *They attacked the historic Red Fort in the Indian capital of New Delhi on Saturday killing three people*

(Red Fort, people) is taggable, but not (capital, people).

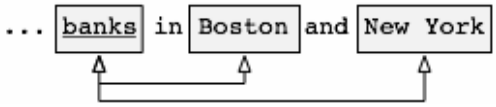


Similarly, in *US Secretary of State*, we will tag (*US*, *Secretary*) and (*Secretary*, *State*) but not (*US*, *State*).

Note that relationships can distribute over conjunctions. So in:

> … *banks in Boston and New York …*

There are two Relations: (*banks*, *Boston*) and (*banks*, *New York*).



When the second half of a partitive-style construction is modified (e.g. *one of the top suppliers of Chicago gangs*), we will tag the relationship between the modifier and both halves of the partitive (e.g. (one, gangs) and (suppliers, gangs)).

Finally, we operate according to a “tag for explicit meaning” guideline. Even if there is a relationship between two entities in the real world (or elsewhere in the document), there must be explicit evidence for that relationship in the sentence for that relation to be taggable. So, there is no taggable Soc.Family relationship in the phrase "*a woman* who demanded hush money from *a popular entertainer***,**" despite the fact that it is later revealed that the woman is allegedly the entertainer’s daughter. This is a common source of error.

2.2. Modality and Tense

2.1.1 Modality

The Modality attribute of Relations will be defined as:

> *Asserted* --- when the Reasonable Reader Rule is interpreted relative to the 'Real' world;

Other --- when the Reasonable Reader Rule is taken to hold in a particular counterfactual world.

Negatively defined Relations (e.g. "John is not in the house") will not be annotated.

When the entities constituting the arguments of a Relation are hypothetical, then the Relation is understood as *Asserted*. But if the Relation itself is hypothetical, then it is annotated as *Other*. For example:

We are afraid Al-Qaeda terrorists will be in Baghdad.

gives two Relations. The ORG-Aff.Membership Relation between *terrorists* and *Al-Qaeda* will be annotated as *Asserted*. The Physical.Located Relation between *terrorists* and *Baghdad* will be annotated as *Other.*

2.1.2 Tense

TENSE will be defined relative to the time of speech.

The potential values for this attribute will be defined as follows:

Past --- the Relation is taken to hold only for some span prior to the time of speech;

Future --- the Relation is taken to hold only for some span after the time of speech;

Present --- the Relation is taken to hold for a limited time overlapping with the time of speech;

Unspecified --- the Relation is 'static' or the span of time for which it holds cannot be determined with certainty;

TENSE will only be taggable for Relations when evidence for it can be found within the extent of the Relation mention. For the majority of Relation mentions with NP extent, this will mean that their TENSE is 'Unspecified.'

Note: Many of the Relations we will annotate will be expressed by noun phrases. Most of the time it will be difficult to determine the TENSE of the Relation expressed. For all such cases, we will use the value *Unspecified*. Some notable exceptions might be:

The president-elect of the US	(*Future*)
The former US President	*(Past)*

Formulaic Relations

"Wolf Blitzer, CNN, Baghdad."

will be annotated with TENSE="Present" by fiat.

R1: "Wolf Blitzer" "CNN" (ORG-Aff.Employment Asserted Present)
R2: "Wolf Blitzer" "Baghdad" (PHYS.Located Asserted Present)

2.3. Relation Extent and Syntactic Classes

It is important to note that the accurate identification of the Syntactic Class and the Relation Extent for each Relation will have significant effects on other decisions, such as taggability and timestamp accessibility. Our goal is to tag the smallest or closest possible relation. For example, in 'he and his wife', we would choose 'his wife' as the extent for the Familial relationship as they are the most closely associated.

Note: For the ACE Relations task, Syntactic Class is used synonymously with LEXICALCONDITION. The latter is the official property name in APF format, the former a more descriptive nomenclature intended to make the task more accessible to annotators.

The eight Syntactic Classes are intended to provide justification for the tagging of each Relation. Recall that the Reasonable Reader Rule and the restriction of taggable Relations to those that occur within a single sentence do the majority of work in constraining Relation Taggability. The Syntactic Classes are used to provide an additional sanity check on taggabilty. Relation Extent also constrains the accessibility of TIMEX2 objects for use in Relation timestamping.

The accessibility of Arguments and Timestamps to Relations will both be constrained by the extent of the Relation Mention under consideration. For Timestamps, this constraint is definitive to the issue of accessibility: if the TIMEX2 object does not fall within the extent of the Relation Mention, then the object cannot be indicated as a Timestamp of the Relation in question.

For Arguments, the decision will usually run the other way: the Relation will be justified by the Reasonable Reader Rule and the Syntactic Class and Relation Extent will be defined in such a way: that both arg1 and arg2 are included in the Relation Extent; and that the Syntactic Class felicitously describes that extent (and the syntactic connection between the two arguments).

One direct implication of this approach is that many potential Relations will satisfy the Reasonable Reader Rule but will not fit into one of the 7 explicitly defined Syntactic Classes (all but the *Other* class). These cases should be considered more carefully than the others, and their identification as *Other* should motivate this attention.

Relation Extent is defined relative to each of the proposed Syntactic Classes.

2.3.1 Possessive

The Possessive Syntactic class is used when the Entity Mention of one argument is possessive case and the Entity Mention of the other argument is clearly the 'possessed object' in the construction.

America's Department of Defense			
Class	***Type***	***Argument 1***	***Argument 2***
Possessive Asserted Unspecified	*Part-Whole.Subsidiary*	*America's* ***Department of Defense***	***America***

Nathan Myhrvold, [Microsoft's chief scientist]			
Class	***Type***	***Argument 1***	***Argument 2***
Possessive Asserted Unspecified	*Org-Aff.Employment*	*Microsoft's chief* ***scientist***	***Microsoft***

2.3.2 Preposition

The Preposition Syntactic class is used when the one entity mention is linked to the other with a Preposition. Note: If the Prepositional Phrase containing one argument is linked to the other argument with the help of a support verb (such as 'be'), then the Syntactic Class is Verbal, not Preposition.

[Officials in California] are warning residents.			
Class	***Type***	***Argument 1***	***Argument 2***
Preposition Asserted Unspecified	*Physical.Located*	***Officials*** *in California*	***California***

The CEO of Microsoft			
Class	***Type***	***Argument 1***	***Argument 2***
Preposition Asserted Unspecified	*Org-Aff.Employment*	*The* ***CEO*** *of Microsoft*	***Microsoft***

2.3.3 PreMod

The PreMod Syntactic Class is used for those Relations that are established by the construction in which a proper adjective or proper noun modifies a taggable entity.

Relations involving nominal pre-modifiers are taggable, even when the nominal pre-modifier is generic. **These are easy to miss and require special attention**.

Examples: *city officials*, *passenger jet*, *army headquarters*, *railway station*, *industry officials*, *union employees*, *weapons complex*.

[The American envoy] left the talks early.			
Class	***Type***	***Argument 1***	***Argument 2***
PreMod *Asserted* *Unspecified*	*Org-Aff.Employment*	*The American* ***envoy***	***American***

Palestinian leaders			
Class	***Type***	***Argument 1***	***Argument 2***
PreMod *Asserted* *Unspecified*	*Org-Aff.Employment*	*Palestinian* ***leaders***	***Palestinian***

New York police			
Class	***Type***	***Argument 1***	***Argument 2***
PreMod *Asserted* *Unspecified*	*Part-Whole.Subsidiary*	*New York* ***police***	***New York***

2.3.4 Coordination

The Coordination Syntactic Class is used for Relations that are expressed using noun phrases containing the coordinating conjunction 'and'.

he and a hunting partner			
Class	***Type***	***Argument 1***	***Argument 2***
Coordination *Asserted* *Present*	*Per-Social.Lasting*	*He*	*a hunting* ***partner***

Exception: This construction is not preferred and should not be used in cases where there is a possessive Relation found in the close context. For example, in "*He and his wife*", we will tag only the possessive Relation "*his wife*" as that construction holds the meaningful Relation.

2.3.5 Formulaic

There are a number of constructions that are commonly used in news stories. For these standard constructions, we will use the Syntactic Class *Formulaic*. The following Formulaic Relations will be annotated

Reporter sign-off

Jane Clayson, ABC News, South Lake Tahoe.			
Class	***Type***	***Argument 1***	***Argument 2***
Formulaic	*Physical.Located*	***Jane Clayson***	***South Lake Tahoe***

Asserted Present			
Formulaic Asserted Present	*Org-Aff.Employment*	***Jane Clayson***	***ABC News***

Addresses

Mary Smith, Medford, Mass.			
Class	***Type***	***Argument 1***	***Argument 2***
Formulaic Asserted Unspecified	*Gen-Aff.CRRE*	***Mary Smith***	***Medford**, Mass*

Elected officials

Senate Majority Leader Trent Lott (R-Miss.)			
Class	***Type***	***Argument 1***	***Argument 2***
Formulaic Asserted Unspecified	*Org-Aff.Membership*	*Senate Majority Leader* ***Trent Lott***	***R***
Formulaic Asserted Unspecified	*Org-Aff.Employment*	*Senate Majority Leader* ***Trent Lott***	***Miss**.*

2.3.6 Participial

The Syntactic Class *Participial* will be used in cases where there is a taggable Relation between a head noun and a noun contained within a participial phrase that modifies it.

the crowd trapped inside the compartment			
Class	***Type***	***Argument 1***	***Argument 2***
Participial Asserted Present	*Physical.Located*	*the* ***crowd*** *trapped inside the compartment*	*the* ***compartment***

the private-sector body based in Norwalk, Conn			
Class	***Type***	***Argument 1***	***Argument 2***
Participial Asserted Unspecified	*Gen-Aff.Loc-Origin*	*the private-sector* ***body*** *based in Norwalk, Conn*	***Norwalk**, Conn*

2.3.7 Verbal

The Syntactic Class *Verbal* will be used for cases motivated by a taggable mention of a Relation between two entities where the Relation is directly expressed by a verb tying the two together into a sentence or a clause. The extent for verbal Relations will be the entire sentence.

There are two kinds of Verbal Relations:

Stative or Habitual Constructions

[Death Valley is in the Mojave Desert.]			
Class	***Type***	***Argument 1***	***Argument 2***
Verbal Asserted Unspecified	*Part-Whole.Geo*	***Death Valley***	*the* ***Mojave Desert***

[Credit Suisse is in a coalition of banks against money laundering.]			
Class	***Type***	***Argument 1***	***Argument 2***
Verbal Asserted Unspecified	Org-Aff.Membership	**Credit Suisse**	*a* ***coalition*** *of banks against money laundering*

[Coca Cola Co. is based in Atlanta.]			
Class	***Type***	***Argument 1***	***Argument 2***
Verbal Asserted Unspecified	Gen-Aff.Loc-Origin	***Coca Cola Co***	***Atlanta***

Relations Expressed by Verbs

[He had previously worked at NBC Entertainment]			
Class	***Type***	***Argument 1***	***Argument 2***
Verbal Asserted Past	*Org-Aff.Employment*	***He***	***NBC Entertainment***

[British Airways bought seven Boeing 777s].			
Class	***Type***	***Argument 1***	***Argument 2***
Verbal Asserted Unspecified	*Agent-Artifact.UOIM*	***British Airways***	*Boeing* ***777s***

2.3.8 Other

The *Other* Class of Relations is reserved for those that do not strictly satisfy the syntactic requirements of one of the other classes, but still satisfies the 'beyond a reasonable doubt' standard for Relation taggability. The extent for Other Relations will be the entire sentence.

[In the West Bank, a passenger was wounded when an Israeli bus came under fire.]			
Class	***Type***	***Argument 1***	***Argument 2***
Other	*Physical.Located*	*a* ***passenger***	*the* ***West Bank***

Asserted Past			

2.4 Relation Timestamping

In addition to the two entity arguments, we will also associate temporal expressions with Relations. For a discussion of taggable temporal expressions, refer to "TIDES 2003 Standard for the Annotation of Temporal Expressions". For detailed discussion on timestamping, refer to "Timestamping of ACE Relations and Events".

Here are some examples of Relations that contain timestamps:

> *He was the American envoy in **the 1960s.***
>
> *He is **currently** VP of marketing for the Iowa-based company*
>
> *They always hang out in a bar **all night.***
>
> *We camped there over **the summer**.*
>
> *The journalists left the city before the bombing commenced **the night of April 13**.*

In many examples, there are time expressions in the extent of a Relation, but the time is not a direct adjunct of the Relation mention, but rather implicitly related to the Relation mention. We should only assign temporal expressions to Relations if there is reasonable interpretation of the sentence in which the Relation holds referring to the temporal expression.

In cases of confusion, we will apply the following decision rule:

Decision Rule

> Whenever the TIMESTAMP might apply to several Relations equally well, we will assume that the TIMEX2 mention attaches only to the most syntactically local Relation, unless there is clear evidence to the contrary from the context.

For example in:

> *He said Tuesday that he would go to Iraq*

Tuesday is tagged as a time expression, but is not associated with the LOCATED relation.

3 Types and Subtypes

In addition to the constraints discussed above, there will be one additional constraint on the taggability of Relations. Namely, a potential Relation Mention will only be taggable in case it expresses a taggable Relation Type and Subtype.

We will tag only a limited inventory of Types and Subtypes. The following subsections define these Types and Subtypes and describe the Entity Type constraints on their possible Arguments.

In each subsection, the potential types of the arguments will be expressed as:

Permitted Relation Arguments:

Type	**Argument 1**	**Argument 2**
TYPE.SUBTYPE	*ENTITY TYPES*	*ENTITY TYPES*

This definition will be followed by a set of examples of the form:

Examples:

ARG1_TYPE-ARG2_TYPE

EXAMPLE TEXT			
Class	***Type***	***Argument 1***	***Argument 2***
SYNTACTIC CLASS *MODALITY* *TENSE*	*TYPE.SUBTYPE*	*MENTION* ***HEAD***	*MENTION* ***HEAD***

3.1. Physical

3.1.1 Located

The Located Relation captures the physical location of an entity. This Relation is restricted to people. In other words, arg1 in Physical.Located Relations can only be occupied by mentions of Entities of Type *Person*.

For locations of Facilities, Locations, and GPEs, use Part-Whole.Geographical instead.

We **do not** tag a PHYS.Located Relation when someone is *sentenced to prison* or *handed a jail sentence*. There is no taggable PHYS Relation in these constructions.

We **will not** tag the Relation between a passenger (or a pilot or a driver) and the vehicle that they are using as PHYS.Located. Instead we will use ART.User-Owner-Inventer-Manufacturer.

The default category for a Relation indicated by a GPE premodifier is GEN-AFF.Citizen-Resident-Religion-Ethnicity (e.g. “Chicago gangs”), not PHYS.Located. [This follows the same reasoning that dictates GPE premodifiers defaulting to role GPE.]

Permitted Relation Arguments

Type	Argument 1	Argument 2
Physical.Located	PER	FAC, LOC, GPE

Examples

PER-FAC

thousands of Palestinians rushed the Israeli checkpoint			
Class	***Type***	***Argument 1***	***Argument 2***
Verbal Asserted Past	*Physical.Located*	*thousands of* ***Palestinians***	*the Israeli* ***checkpoint***

PER-GPE

He was campaigning in his home state of Tennessee			
Class	***Type***	***Argument 1***	***Argument 2***
Verbal Asserted Past	*Physical.Located*	***He***	*his home* ***state*** *of Tennessee*

PER-GPE

in the West Bank, a passenger was wounded when an Israeli bus came under fire			
Class	***Type***	***Argument 1***	***Argument 2***
Other Asserted Past	*Physical.Located*	*a* ***passenger***	*the* ***West Bank***

3.1.2 Near

Near indicates that an entity is explicitly near another entity, but neither entity is a part of the other or located in/at the other.

Permitted Relation Arguments

Type	Argument 1	Argument 2
Physical.Near	PER, FAC, GPE, LOC	FAC, GPE, LOC

Examples

GPE-GPE

a town some 50 miles south of Salzburg in the central Austrian Alps			
Class	***Type***	***Argument 1***	***Argument 2***
Preposition Asserted Unspecified	*Physical.Near*	*a* ***town*** *some 50 miles south of Salzburg in the central Austrian Alps*	***Salzburg***

PER-FAC

Muslim youths recently staged a half dozen rallies in front of the embassy			
Class	***Type***	***Argument 1***	***Argument 2***
Other Asserted Past	*Physical.Near*	*Muslim* ***youths***	*the* ***embassy***

3.2. Part-whole

3.2.1 Geographical

The Geographical Relation captures the location of a Facility, Location, or GPE in or at or as a part of another Facility, Location, or GPE. Geographical relationships are the sorts of things one might find in a gazetteer, on a map, or on a building plan (although this is not a requirement per se). Similarly, these are typically permanent relationships, though there are obviously exceptions (a tent might be put up in a certain location for a special event, for example).

The following will also be tagged as Part-Whole.Geographical:

- GPEs and Regions under the control of some larger GPE:
  .. the Indian controlled region …
- Areas defined by a central GPE:
  … the Atlanta area ..
  … the Los Angeles region …

- The relationship between a GPE and its border

the Israeli border

Permitted Relation Arguments

Type	**Argument 1**	**Argument 2**
Part-Whole.Geo	FAC, LOC, GPE	FAC, LOC, GPE

Examples

FAC-GPE

a military base in Germany			
Class	***Type***	***Argument 1***	***Argument 2***
Preposition Asserted Unspecified	*Part-Whole.Geo*	*a military* ***base*** *in Germany*	***Germany***

FAC-FAC

St. Vartan's Cathedral, on Second Avenue			
Class	***Type***	***Argument 1***	***Argument 2***
Preposition Asserted	*Part-Whole.Geo*	***St. Vartan's Cathedral****, on Second Avenue*	***Second Avenue***

Unspecified			

FAC-FAC

the lobby of the hotel			
Class	***Type***	***Argument 1***	***Argument 2***
Preposition *Asserted* *Unspecified*	*Part-Whole.Geo*	*the* ***lobby*** *of the hotel*	*the* ***hotel***

FAC-FAC

the basketball arena at Michigan State University			
Class	***Type***	***Argument 1***	***Argument 2***
Preposition *Asserted* *Unspecified*	*Part-Whole.Geo*	*the basketball* ***arena*** *at Michigan State University*	***Michigan State University***

GPE-GPE

Moscow, Russia			
Class	***Type***	***Argument 1***	***Argument 2***
Formulaic *Asserted* *Unspecified*	*Part-Whole.Geo*	***Moscow****, Russia*	***Russia***

LOC-GPE

the Thai border			
Class	***Type***	***Argument 1***	***Argument 2***
PreMod *Asserted* *Unspecified*	*Part-Whole.Geo*	*the Thai* ***border***	***Thai***

LOC-LOC

the top of the mountain			
Class	***Type***	***Argument 1***	***Argument 2***
Preposition *Asserted* *Unspecified*	*Part-Whole.Geo*	*the* ***top*** *of the mountain*	*the* ***mountain***

3.2.2 Subsidiary

Subsidiary captures the ownership, administrative, and other hierarchical relationships between organizations and between organizations and GPEs. This includes relationships between a company and its parent company, as well as between a department of an organization and that organization. It also includes the relationship between organizations and the GPE's government of which they are a part.

We will also tag the Relation between a GPE and the industries (ORGs) that they control as Part-Whole.Subsidiary:

… *state-controlled banks …*

Part-Whole.Subsidiary (*banks*, *state*)

Permitted Relation Arguments

Type	Argument 1	Argument 2
Part-Whole.Subsidiary	ORG	ORG, GPE

Examples

ORG-ORG

parent company of ABC			
Class	***Type***	***Argument 1***	***Argument 2***
Preposition *Asserted* *Unspecified*	*Part-Whole.Subsidiary*	***ABC***	*parent company of* ***ABC***

ORG-GPE

New York police			
Class	***Type***	***Argument 1***	***Argument 2***
PreMod *Asserted* *Unspecified*	*Part-Whole.Subsidiary*	*New York* ***police***	***New York***

ORG-ORG

Microsoft's accounting department			
Class	***Type***	***Argument 1***	***Argument 2***
Possessive *Asserted* *Unspecified*	*Part-Whole.Subsidiary*	*Microsoft's accounting* ***department***	***Microsoft***

ORG-GPE

[The U.S. Congress] decided to veto the ecology bill.			
Class	***Type***	***Argument 1***	***Argument 2***
PreMod *Asserted* *Unspecified*	*Part-Whole.Subsidiary*	*The U.S.* ***Congress***	***U.S****.*

3.2.3 Artifact

Artifact characterizes physical relationships between concrete physical objects and their parts. Both arguments must have the same entity type (though not subtype). This Relation is restricted to Vehicles, Substances, and Weapons.

Permitted Relation Arguments

Type	Argument 1	Argument 2
Part-Whole.Artifact	VEH	VEH
Part-Whole.Artifact	WEA	WEA

Examples

VEH-VEH

The backseat of a car			
Class	***Type***	***Argument 1***	***Argument 2***
Preposition *Asserted* *Unspecified*	*Part-Whole.Artifact*	*the* ***backseat*** *of a car*	*a* ***car***

3.3. Personal-Social

Personal-Social relations describe the relationship between people. Both arguments must be entities of type PER.

Please note: The arguments of these Relations are not ordered. The Relations are symmetric.

3.3.1 Business

The Business Relation captures the connection between two entities in any professional relationship. This includes boss-employee, lawyer-client, student-teacher, co-workers, political relationships on a personal level, etc. This does not include relationships implied from interaction between two entities (e.g. "President Clinton met with Yasser Arafat last week").

Note: The PER-SOC.Business Relation will be used whenever a reporter is embedded with a military unit (which is annotated as a PERSON entity).

Permitted Relation Arguments

Type	Argument 1	Argument 2
Per-Social.Business	PER	PER

Examples

PER-PER

their colleagues			
Class	***Type***	***Argument 1***	***Argument 2***
Possessive *Asserted* *Unspecified*	*Per-Social.Business*	***their***	*their* ***colleagues***

PER-PER

his lawyer			
Class	***Type***	***Argument 1***	***Argument 2***
Possessive *Asserted* *Unspecified*	*Per-Social.Business*	***his***	*his* ***lawyer***

PER-PER

a spokesman for the senator			
Class	***Type***	***Argument 1***	***Argument 2***
Preposition *Asserted* *Unspecified*	*Per-Social.Business*	*a* ***spokesman*** *for the senator*	*the* ***senator***

3.3.2 Family

The Family Relation captures the connection between one entity and another with which it is in any familial relationship.

Permitted Relation Arguments

Type	**Argument 1**	**Argument 2**
Per-Social.Family	PER	PER

Examples

PER-PER

relatives of the dead			
Class	***Type***	***Argument 1***	***Argument 2***
Preposition *Asserted* *Unspecified*	*Per-Social.Family*	***relatives*** *of the dead*	*the* ***dead***

PER-PER

his wife			
Class	***Type***	***Argument 1***	***Argument 2***
Possessive *Asserted* *Unspecified*	*Per-Social.Family*	***his***	*his* ***wife***

PER-PER

his ailing father			
Class	***Type***	***Argument 1***	***Argument 2***
Possessive *Asserted* *Unspecified*	*Per-Social.Family*	***his***	*his ailing* ***father***

3.3.3 Lasting-Personal

Lasting-Personal captures relationships that meet the following conditions:

1. The relationship must involve personal contact (or a reasonable assumption thereof).

2. There must be some indication or expectation that the relationship exists outside of a particular cited interaction.

The first condition excludes relationships like “Gore’s supporters,” “her opponents,” or “people who help Americans laugh,” where there is no expectation that one party will have interacted personally with the other party (or, put another way, spent time with the other party). A reasonable expectation of personal interaction is sufficient: there are relationships that often but not always involve personal contact (like “classmate” or “neighbor”) – these will be allowed in general, as long as their commonplace usage would tend to imply personal contact.

The second condition excludes relationships like “his visitors,” “his victims,” or “his successor,” where there is no indication from the text that the relationship exists outside of the specific event being discussed (a visit, a crime, or a succession, here). In the same way, this excludes cases where one might try to infer a relationship from a description of an event involving both entities (e.g. “**He** visited **her** in the hospital.”). Relationships must be explicitly mentioned in the text.

Permitted Relation Arguments

Type	**Argument 1**	**Argument 2**
Per-Social.Lasting	PER	PER

Examples

PER-PER

She began an affair in late 1995 with one of the hospital's security police				
Class	***Type***	***Argument1***	***Argument2***	***Timestamp: Time-Starting***
Verbal Asserted Unspecified	*Per-Social.Lasting*	***She***	***one** of the hospital's security police*	*late 1995*

PER-PER

his friendship with some right-wing mayors			
Class	***Type***	***Argument 1***	***Argument 2***
Possessive Asserted Unspecified	*Per-Social.Lasting*	***his***	*some right-wing **mayors***

PER-PER

your priest			
Class	***Type***	***Argument 1***	***Argument 2***

Possessive *Asserted* *Unspecified*	*Per-Social.Lasting*	***your***	*your* ***priest***

PER-PER

Her neighbor			
Class	***Type***	***Argument 1***	***Argument 2***
Possessive *Asserted* *Unspecified*	*Per-Social.Lasting*	***her***	*her* ***neighbor***

PER-PER

Sarah's classmate			
Class	***Type***	***Argument 1***	***Argument 2***
Possessive *Asserted* *Unspecified*	*Per-Social.Lasting*	***Sarah***	*Sarah's* ***classmate***

PER-PER

he and a hunting partner			
Class	***Type***	***Argument 1***	***Argument 2***
Coordination *Asserted* *Unspecified*	*Per-Social.Lasting*	***He***	*a hunting* ***partner***

PER-PER

those close to Princess Diana			
Class	***Type***	***Argument 1***	***Argument 2***
Participial *Asserted* *Unspecified*	*Per-Social.Lasting*	***those*** *close to Princess Diana*	*Princess* ***Diana***

PER-PER

a guy I knew			
Class	***Type***	***Argument 1***	***Argument 2***
Participial *Asserted* *Past*	*Per-Social.Lasting*	*a* ***guy*** *I knew*	***I***

PER-PER

nearly everyone he knows			
Class	***Type***	***Argument 1***	***Argument 2***
Participial *Asserted* *Present*	*Per-Social.Lasting*	*nearly* ***everyone*** *he knows*	***He***

PER-PER

Junta leader Gen. Robert Guei has close personal ties to the chief justice			
Class	***Type***	***Argument 1***	***Argument 2***
Verbal Asserted Unspecified	*Per-Social.Lasting*	*Junta leader Gen.* ***Robert Guei***	*the chief* ***justice***

3.4. ORG-Affiliation

3.4.1 Employment

Employment captures the relationship between Persons and their employers. This Relation is only taggable when it can be reasonably assumed that the PER is paid by the ORG or GPE. This Relation includes the relationship between an elected representative and the GPE he represents, for example, "***John Kerry*** *(D-* ***Massachusetts****).*"

Note: This Relation trumps ethnicity or citizenship: "*American troops*" and "*Russian President Vladimir Putin*" should both be annotated as Employment rather than Citizen-Resident-Religion-Ethnicity.

Note: In instances where the Person is a member of some government body (*the Senate, the Knesset, the Supreme Court*, etc.), we will tag this relationship as Membership rather than Employment.

Note: Whenever it is unclear whether an ORG-AFF Relation should be annotated as subtype Employment or subtype Membership, we will choose Membership and move on.

Permitted Relation Arguments

Type	**Argument 1**	**Argument 2**
Org-Aff.Employment	PER	ORG, GPE

Examples

PER-GPE

the US president			
Class	***Type***	***Argument 1***	***Argument 2***
PreMod Asserted Unspecified	*Org-Aff.Employment*	*the US* ***president***	***US***

PER-ORG

the CEO of Microsoft			
Class	***Type***	***Argument 1***	***Argument 2***
Preposition Asserted Unspecified	*Org-Aff.Employment*	*the* ***CEO*** *of Microsoft*	***Microsoft***

PER-GPE

John Kerry (D-Massachusetts)			
Class	***Type***	***Argument 1***	***Argument 2***
Formulaic Asserted Unspecified	*Org-Aff.Employment*	***John Kerry** (D-Massachusetts)*	***Massachusetts***

PER-GPE

Florida Secretary of State Katherine Harris			
Class	***Type***	***Argument 1***	***Argument 2***
PreMod Asserted Unspecified	*Org-Aff.Employment*	*Florida **Secretary** of State*	***Florida***

PER-ORG

an interviewer from The Patriot Ledger			
Class	***Type***	***Argument 1***	***Argument 2***
Preposition Asserted Unspecified	*Org-Aff.Employment*	*an **interviewer** from The Patriot Ledger*	*The **Patriot Ledger***

PER-ORG

He had previously worked at NBC Entertainment			
Class	***Type***	***Argument 1***	***Argument 2***
Verbal Asserted Past	*Org-Aff.Employment*	***He***	***NBC Entertainment***

3.4.2 Ownership

Ownership captures the relationship between a Person and an Organization owned by that Person.

Note: If the second argument is not an ORG, use the Agent-Artifact Relation.

Permitted Relation Arguments

Type	Argument 1	Argument 2
Org-Aff.Ownership	PER	ORG

Examples

PER-ORG

the owner of Gibson's Hardware Store			
Class	***Type***	***Argument 1***	***Argument 2***
Preposition Asserted Unspecified	*Org-Aff.Ownership*	*the **owner** of Gibson's Hardware Store*	***Gibson's Hardware Store***

PER-ORG

[Dallas Cowboys owner] Jerry Jones			
Class	***Type***	***Argument 1***	***Argument 2***
PreMod *Asserted* *Unspecified*	*Org-Aff.Ownership*	*Dallas Cowboys* ***owner***	***Dallas Cowboys***

3.4.3 Founder

Founder captures the relationship between an agent (Person, Organization, or GPE) and an Organization or GPE established or set up by that agent.

Permitted Relation Arguments

Type	Argument 1	Argument 2
Org-Aff.Founder	PER, ORG	ORG, GPE

Examples

PER-ORG

Joseph Conrad Parkhurst, [who founded the motorcycle magazine Cycle World in 1962], has died.				
Class	***Type***	***Argument1***	***Argument2***	***Timestamp: Time-Starting***
Verbal *Asserted* *Unspecified*	*Org-Aff.Founder*	***who***	*the motorcycle* ***magazine***	*1962*

3.4.4 Student-Alum

Student-Alum captures the relationship between a Person and an educational institution the Person attends or attended. Please note that only attendance is required. It is not necessary for the person to have officially graduated from the institution.

Permitted Relation Arguments

Type	Argument 1	Argument 2
Org-Aff.Student-Alum	PER	ORG.Educational

Examples

PER-ORG

the students at Nazareth Academy			
Class	***Type***	***Argument 1***	***Argument 2***
Preposition *Asserted* *Unspecified*	*Org-Aff.Student-Alum*	*the* ***students*** *at Nazareth Academy*	***Nazareth Academy***

PER-ORG

Card graduated from the University of South Carolina			
Class	***Type***	***Argument 1***	***Argument 2***
Verbal Asserted Unspecified	*Org-Aff.Student-Alum*	***Card***	*the* ***University of South Carolina***

3.4.5 Sports-Affiliation

Sports-Affiliation captures the relationship between a player, coach, manager, or assistant and his or her affiliation with a sports organization (including sports leagues or divisions as well as individual sports teams). This Relation subtype exists because it often requires domain-specific world knowledge to determine whether a sports team is made up of paid or unpaid players (i.e. whether a relationship between a player and a team qualifies as Employment).

We will **always** use the Sports-Affiliation subtype for EMP-ORG Relations between a PERSON entity and an ORGANIZATION entity with the subtype Sports.

Permitted Relation Arguments

Type	**Argument 1**	**Argument 2**
Org-Aff.Sports-Aff	PER	ORG

Examples

PER-ORG

J a goaltender in the National Hockey League			
Class	***Type***	***Argument 1***	***Argument 2***
Preposition Asserted Unspecified	*Org-Aff.Sports-Aff*	*a* ***goaltender*** *in the National Hockey League*	*the* ***National Hockey League***

PER-ORG

Zidane led France to the European title this year				
Class	***Type***	***Argument1***	***Argument2***	***Timestamp: Within***
Other Asserted Unspecified	*Org-Aff.Sports-Aff*	***Zidane***	***France***	*This year*

PER-ORG

One other Major League baseball manager			
Class	***Type***	***Argument 1***	***Argument 2***
PreMod Asserted Unspecified	*Org-Aff.Sports-Aff*	*One other Major League baseball* ***manager***	***Major League baseball***

PER-ORG

some former NFL first-rounders			
Class	***Type***	***Argument 1***	***Argument 2***
PreMod Asserted Past	*Org-Aff.Sports-Aff*	*some former NFL* ***first-rounders***	***NFL***

PER-ORG

a first-round pick of the Miami Dolphins in 1998				
Class	***Type***	***Argument1***	***Argument2***	***Timestamp: Within***
Preposition Asserted Unspecified	*Org-Aff.Sports-Aff*	*a first-round* ***pick*** *of the Miami Dolphins in 1998*	*the* ***Miami Dolphins***	*1998*

3.4.6 Investor-Shareholder

Investor-Shareholder captures the relationship between an agent (Person, Organization, or GPE) and an Organization in which the agent has invested or in which the agent owns shares/stock. Please note that agents may invest in GPEs.

Permitted Relation Arguments

Type	Argument 1	Argument 2
Org-Aff.Shareholder	PER, ORG, GPE	ORG, GPE

Examples

PER-ORG

its stockholders			
Class	***Type***	***Argument 1***	***Argument 2***
Possessive Asserted Unspecified	*Org-Aff.Investor-Shareholder*	*its* ***stockholders***	***its***

PER-ORG

Time Warner's largest shareholder, with more than 120 million shares			
Class	***Type***	***Argument 1***	***Argument 2***
Possessive Asserted Unspecified	*Org-Aff. Investor-Shareholder*	*Time Warner's largest* ***shareholder****, with more than 120 million shares*	***Time Warner***

ORG-GPE

In 1992, the Motorola Company invested 120 million US dollars in Tianjin…			
Class	***Type***	***Argument 1***	***Argument 2***
Possessive Asserted Unspecified	*Org-Aff.Investor-Shareholder*	*the* ***Motorola Company***	***Tianjin***

3.4.7 Membership

Membership captures the relationship between an agent and an organization of which the agent is a member. Organizations and GPEs can be members of other Organizations (such as *NATO* or *the UN*). As discussed above, instances where a Person is a member of an elected government body (*the Senate, the Knesset, the Supreme Court*, etc.) will be tagged as Membership, even when the word "member" is not present (e.g. *Supreme Court justice*).

We will always tag the Relation between members of terrorist Organizations and those organizations as ORG-AFF.Membership.

Whenever it is unclear whether an ORG-AFF Relation should be annotated as subtype Employment or subtype Membership, we will choose Membership and move on.

Note: We will include affiliation with political parties, even when that affiliation is no more than an expression of voting trends (i.e. "*Democratic voters* ...").

Note: We will **not** include religious affiliation, even when such affiliation is with an established organization (i.e. "*Catholic parishioners*…"). Such Relations will be annotated using the General-Affiliation.Citizen-Resisdent-Religion-Ethnicity Relation. For a complete discussion of this Subtype, please see Section 3.6.1 below.

Permitted Relation Arguments

Type	Argument 1	Argument 2
Org-Aff.Membership	PER, ORG, GPE	ORG

Examples

PER-ORG

an activist for Peace Now			
Class	***Type***	***Argument 1***	***Argument 2***
Preposition Asserted Unspecified	*Org-Aff.Membership*	*an **activist** for **Peace Now***	***Peace Now***

PER-ORG

a member of the Supreme Court			
Class	***Type***	***Argument 1***	***Argument 2***
Preposition Asserted Unspecified	*Org-Aff.Membership*	*a **member** of the Supreme Court*	*the **Supreme Court***

PER-ORG

Supreme Court justice			
Class	***Type***	***Argument 1***	***Argument 2***
PreMod *Asserted* *Unspecified*	*Org-Aff.Membership*	*Supreme Court* ***justice***	***Supreme Court***

PER-ORG

Senate leaders			
Class	***Type***	***Argument 1***	***Argument 2***
PreMod *Asserted* *Unspecified*	*Org-Aff.Membership*	*Senate* ***leaders***	***Senate***

PER-ORG

GOP vice presidential nominee			
Class	***Type***	***Argument 1***	***Argument 2***
PreMod *Asserted* *Unspecified*	*Org-Aff.Membership*	*GOP vice presidential* ***nominee***	***GOP***

PER-ORG

a popular Republican governor			
Class	***Type***	***Argument 1***	***Argument 2***
PreMod *Asserted* *Unspecified*	*Org-Aff.Membership*	*a popular Republican* ***governor***	***Republican***

PER-ORG

Republican voters			
Class	***Type***	***Argument 1***	***Argument 2***
PreMod *Asserted* *Unspecified*	*Org-Aff.Membership*	*Republican* ***voters***	***Republican***

GPE-ORG

three permanent UN member countries			
Class	***Type***	***Argument 1***	***Argument 2***
PreMod *Asserted* *Unspecified*	*Org-Aff.Membership*	*three permanent UN member* ***countries***	***UN***

3.5. Agent-Artifact

3.5.1 User-Owner-Inventor-Manufacturer

This Relation applies when an agent owns an artifact, has possession of an artifact, uses an artifact, or caused an artifact to come into being.

Note: if the second argument is an Organization, use ORG-Affiliation.Ownership (arg1=PER) or Part-Whole.Subsidiary (arg1=ORG or GPE).

Note: We will tag the Relation between a passenger (or a pilot or a driver) and the vehicle that they are using as ART.User-Owner-Inventer-Manufacturer **not** Physical.Located.

Permitted Relation Arguments

Type	Argument 1	Argument 2
Agent-Artifact.UOIM	PER, ORG, GPE	WEA, VEH, FAC

Examples

PER-FAC

[My house] is in West Philadelphia			
Class	***Type***	***Argument 1***	***Argument 2***
Possessive Asserted Unspecified	*Agent-Artifact.UOIM*	***My***	*My **house***

ORG-VEH

The company's delivery truck			
Class	***Type***	***Argument 1***	***Argument 2***
Possessive Asserted Unspecified	*Agent-Artifact.UOIM*	*The **company***	*The company's delivery **truck***

ORG-VEH

Rubin Military design, [the makers of the Kursk]			
Class	***Type***	***Argument 1***	***Argument 2***
Preposition Asserted Unspecified	*Agent-Artifact.UOIM*	*the **makers** of the Kursk*	*the **Kursk***

GPE-VEH

[US helicopters] flew over northern Iraq.			
Class	***Type***	***Argument 1***	***Argument 2***
PreMod Asserted Unspecified	*Agent-Artifact.UOIM*	***US***	*US **helicopters***

ORG-VEH, ORG-VEH

[British Airways bought seven [Boeing 777s]].			
Class	***Type***	***Argument 1***	***Argument 2***
Verbal Asserted	*Agent-Artifact.UOIM*	***British Airways***	*Boeing **777s***

Unspecified			
PreMod *Asserted* *Unspecified*	*Agent-Artifact.UOIM*	***Boeing***	*Boeing **777s***

3.6. Gen-Affiliation

3.6.1 Citizen-Resident-Religion-Ethnicity

Citizen-Resident-Religion-Ethnicity describes the Relation between a PER entity and

- the GPE in which they have citizenship
- the GPE or Location in which they live
- the religious ORG or PER entity with which they have affiliation
- the GPE or PER entity that indicates their ethnicity

We consider a person's birthplace as a place of residence for this purpose (e.g. "the Russian-born athlete" or "he was born in San Francisco").

Note: The relationship between a person and a GPE they represent (e.g. John Kerry, MA) is ORG-AFF.Employment.

Note: The default category for a Relation indicated by a GPE premodifier is GEN-AFF.Citizen-Resident-Religion-Ethnicity (e.g. "Chicago gangs"), not PHYS.Located. (This follows the same reasoning that dictates GPE premodifiers defaulting to role GPE.)

Permitted Relation Arguments

Type	**Argument 1**	**Argument 2**
Gen-Aff.CRRE	PER	PER.Group, LOC, GPE, ORG

Examples

PER-GPE

[U.S. businessman] Edmond Pope			
Class	***Type***	***Argument 1***	***Argument 2***
PreMod *Asserted* *Unspecified*	*Gen-Aff.CRRE*	*U.S.* ***businessman***	***U.S.***

PER-GPE

their hometown of Arusha, Tanzania			
Class	***Type***	***Argument 1***	***Argument 2***
Possessive *Asserted* *Unspecified*	*Gen-Aff.CRRE*	***Their***	*their* ***hometown*** *of Arusha, Tanzania*

PER-GPE

Some Missouri voters			
Class	***Type***	***Argument 1***	***Argument 2***
PreMod *Asserted* *Unspecified*	*Gen-Aff.CRRE*	*Some Missouri* ***voters***	***Missouri***

PER-GPE

a sheep shearer from New Zealand			
Class	***Type***	***Argument 1***	***Argument 2***
Preposition *Asserted* *Unspecified*	*Gen-Aff.CRRE*	*a sheep* ***shearer*** *from New Zealand*	***New Zealand***

PER-GPE

Albanian rebel fighters			
Class	***Type***	***Argument 1***	***Argument 2***
PreMod *Asserted* *Unspecified*	*Gen-Aff.CRRE*	*Albanian rebel* ***fighters***	***Albanian***

PER-PER

Cuban-American people			
Class	***Type***	***Argument 1***	***Argument 2***
PreMod *Asserted* *Unspecified*	*Gen-Aff.CRRE*	*Cuban-American* ***people***	***Cuban-American***

PER-PER

two Jewish settlers			
Class	***Type***	***Argument 1***	***Argument 2***
PreMod *Asserted* *Unspecified*	*Gen-Aff.CRRE*	*two Jewish* ***settlers***	***Jewish***

PER-ORG

a Methodist minister			
Class	***Type***	***Argument 1***	***Argument 2***
PreMod *Asserted* *Unspecified*	*Gen-Aff.CRRE*	*a Methodist* ***minister***	***Methodist***

PER-ORG

members of Walnut Lane Baptist Church			
Class	***Type***	***Argument 1***	***Argument 2***
Preposition *Asserted*	*Gen-Aff.CRRE*	***members*** *of Walnut Lane Baptist Church*	***Walnut Lane Baptist Church***

Unspecified			

PER-GPE, PER-GPE

the Serbian people of Bosnia-Herzegovina			
Class	***Type***	***Argument 1***	***Argument 2***
Preposition Asserted Unspecified	*Gen-Aff.CRRE*	*the Serbian **people** of Bosnia-Herzegovina*	***Bosnia-Herzegovina***
PreMod Asserted Unspecified	*Gen-Aff.CRRE*	*the Serbian **people** of Bosnia-Herzegovina*	***Serbian***

3.6.2 Org-Location-Origin

Org-Location-Origin captures the relationship between an organization and the LOC or GPE where it is located, based, or does business.

Note: Subsidiary trumps this Relation for government organizations. For instance, "the U.S. Army" should be marked as Subsidiary rather than Org-Location-Origin.

We will also tag the Relation between a GPE and the industries (ORGs) that they control as Part-Whole.Subsidiary:

… *state-controlled banks …*

Part-Whole.Subsidiary (*banks*, *state*)

Permitted Relation Arguments

Type	**Argument 1**	**Argument 2**
Gen-Aff.Loc-Origin	ORG	LOC, GPE

Examples

ORG-LOC

a small robotics company in a St. Louis suburb			
Class	***Type***	***Argument 1***	***Argument 2***
Preposition Asserted Unspecified	*Gen-Aff.Loc-Origin*	*a small robotics **company** in a St. Louis suburb*	*a St. Louis **suburb***

ORG-LOC

the area's third-largest employer			
Class	***Type***	***Argument 1***	***Argument 2***
Possessive Asserted Unspecified	*Gen-Aff.Loc-Origin*	*the area's third-largest **employer***	*the **area***

ORG-GPE

a leading Chinese pharmaceutical company			
Class	***Type***	***Argument 1***	***Argument 2***
PreMod *Asserted* *Unspecified*	*Gen-Aff.Loc-Origin*	*a leading Chinese pharmaceutical* ***company***	***Chinese***

ORG-GPE, ORG-GPE

its Beijing branch			
Class	***Type***	***Argument 1***	***Argument 2***
PreMod *Asserted* *Unspecified*	*Gen-Aff.Loc-Origin*	*its Beijing* ***branch***	***Beijing***
Possessive *Asserted* *Unspecified*	*Gen-Aff.Loc-Origin*	***its***	***Beijing***

4 Cross-Type Metonymy Relations

Note: LDC annotates Cross Type Metonymy during Entity annotation.

Cross-Type Metonymy occurs when more than one aspect of an entity is referenced in a document. For example, entities of type Organization often have a physical entity of type Facility associated with them. These two incarnations of the same entity will be tagged as type Organization when the textual reference is directly referring to the organization and as type Facility when the mention refers to the physical building.

At the Relation annotation stage, we will group entities of different types together with a Metonymy Relation when they refer to different aspects of the same underlying entity.

The most common Cross-Type Metonymy Link occurs between Organizations and the Facilities they occupy. These two EDT entities are often referred to using the same strings of text.

Examples

In this example, there are two mentions of a hospital. The first mention is referencing the physical building or hospital facility. The second references the organization that runs or administrates the hospital.

> *Wouters, 42, died an hour later at* ***St. John Macomb Hospital****. The suspect died later the same night,* ***hospital*** *spokeswoman Rebecca O'Grady said Thursday. His name wasn't released.*

We will annotate examples like this as follows.

Type	***Argument 1***	***Argument 2***
Metonymy	***St. John Macomb Hospital***	***hospital***