Annotation Guidelines for

Relation Detection and Characterization (RDC)

Version 3.6 - 6.14.2002

1) Introduction

The goal of RDC is to detect and characterize relations between EDT entities, for example, that a person is at a location.

Every relation takes two primary arguments: the two entities that it links. Relations that are supported by explicit textual evidence (Class A) will be distinguished from those that depend on contextual inference on the part of the reader (Class B).

We only tag relations which can be characterized by the following five types: Role, Part, Located, Near, and Social. The ROLE relation links people to an organization to which they belong, own, founded, or provide some service. The PART relation indicates subset relationships, such as a state to a nation, or a subsidiary to its parent company. The AT relation indicates the location of a person or organization at some location. The Near relation indicates the proximity of one location to another. The Social relation links two people in personal, familial, or professional relationships.

Subtypes will be assigned to every relation further characterizing the identified relationships. For each Type, there is a set of possible subtypes.

Timestamp attributes will be assigned to every relation for which there is explicit textual evidence. This limits the assignment of timestamps to Explicit (Class A) relations only.

We do not include relationships dependent on a reader's knowledge of the world. All relations must be based on textual or contextual evidence found within the scope of the document.

2) Class (Explicit/Implicit)

We consider a link to be syntactically Explicit (Class A) when a mention modifies another one, or when two mentions are arguments of the same event. Any link

between entities that is implied by the text but not rooted in the syntactic connection between two mentions is Implicit (Class B).

Implicit relations are understood to be between two entities, while explicit relations are considered to be between mentions of two entities. This means that if there are multiple mention-pairs in a text exhibiting the same explicit relation, we mark all those mention-pairs. But if there are multiple mention-pairs in a text exhibiting the same implicit relation, we only mark one pair (it is up to the annotator to decide which one).

2.1 Explicit Relations (Class A)

Explicit relations are those for which the document provides explicit textual support. This means that the two EDT mentions identified as arguments of the relation occur in one of the following syntactic constructions. These constructions either link one entity to the other as a direct or indirect modifier, or else connect the two entities together as arguments of an event.

2.1.1 Modification

A modification links one entity to the other.

Examples of direct modifications are listed first, with some examples of chains given at the end. Note that these constructions vary in terms of how much semantic support they typically require from the context in order to resolve the intended meaning of the modification. "New York artists", for example, is open to more varied interpretations than "Colin Powell in Paris". The modification constructions are listed here beginning with the typically least ambiguous.

(2.1.1.1) Copular Predicate Modifier:

President Clinton was in Washington today
[Located("Clinton", "Washington")]

(2.1.1.2) Prepositional Phrase:

Officials in California are warning residents.
[Located("officials", "California")]

The CEO of Microsoft…
[Role("CEO", "Microsoft")]

(2.1.1.3) Adjectival Modifier/Compound Nominal:

The American envoy left the talks early.
[Role("envoy", "American")]

Palestinian leaders
[Role("leaders", "Palestinian")]

New York police

[Part("police", "New York")]

There are times where an adjectival modifier is not a taggable EDT entity. In these cases, the Explicit relation is also not taggable. For more information about taggable EDT entities, please see the EDT annotation guidelines. In the following examples, the premodifiers are untaggable as they are common nouns (section 6.5 of Entity Detection and Tracking – Phase 1, August 7, 2000).

company chairman
the party leader
cabinet members

In these examples, "company", "party", and "cabinet" are not EDT entities. As a result, we are not able to capture the relationship between those entities in an Explicit relation. We can, however, use this phrase as support for creating an Implicit relation between the modified entity and the premodifying entity as long as there is another mention of it in the text that has been tagged.

(2.1.1.4) Possessive:

America's Department of Defense.
[Part("Department of Defense", "America")]

Nathan Myhrvold, Microsoft's chief scientist.
[Role("Microsoft's chief scientist", "Microsoft")]

(2.1.1.5) Conjoined Phrases and Many-to-one Relationships

the three permanent members of the UN, the US, England, and China
[ROLE("the three permanent members of the UN", "UN")]
[ROLE("US", "the three permanent members of the UN")]
[ROLE("England", "the three permanent members of the UN")]
[ROLE("China", "the three permanent members of the UN")]

(2.1.1.6) Formulaic Constructions

For these standard constructions, we will capture the following relations.

Reporter sign-off
Jane Clayson, ABC News, South Lake Tahoe.
[AT("Jane Clayson", "South Lake Tahoe")]
[Role("Jane Clayson", "ABC News")]

Addresses
Mary Smith, Medford, Mass. I feel we should…
[AT("Smith", "Medford")]

Elected officials
Senate Majority Leader Trent Lott (R-Miss.)
[ROLE.Member("Senate Majority Leader Trent Lott", "R")]
[AT.Residence("Senate Majority Leader Trent Lott", "Miss.")]

(2.1.1.7) Non-EDT Entities as Modifiers

In cases where a modifier is not an EDT entity, an EDT entity embedded in a modification chain may be promoted.   That is, if the direct modifier is NOT taggable, but is itself modified by a taggable mention, that mention may be linked.

> *Mary Smith at the Paris conference made a statement today.*
> [AT("Smith", "Paris")]

In the above example, *Paris* modifies *conference*, (not an EDT entity), which in turn PP-modifies *Mary Smith*. Because *conference* is not an EDT entity, Paris may be promoted through the modification chain to fill the Location argument of the relation.

> *Smith was injured in an automobile accident on Route 36 this morning.*
> [AT("Smith", "Route 36")]

In the above example, accident is not an EDT entity so Route 36 (a Facility) may be promoted to fill the Location argument for the Located relation.

Note that promotion is allowable only through non-EDT arguments.

For example:

> *Smith was injured in an automobile accident on Route 36 in Bergen County this morning.*
> [AT("Smith", "Route 36 in Bergen County")]

In the above example, we do not get an Explicit relation [Located("Smith", "Bergen County")] because Route 36 is an EDT entity. We can capture the relationship between "Smith" and "Bergen County" with an Implicit relation.

The above case is an example of attachment ambiguity. The prepositional phrase "in Bergen County" may modify either "accident" or "Route 36". The EDT guidelines suggest that the modifier attach to the phrase closest to it. So, for our purposes "in Bergen County" modifies "Route 36".

2.1.2 Events

These constructions convey the relation by linking both entities to an event. They may be overt arguments, null subjects of infinitives or reduced relative clauses.

(2.1.2.1) Event Clause:

In this construction, the entities are arguments of an event clause. They may be overt arguments, null subjects of infinitives or reduced relative clauses.

> *Currently, people convicted of offenses related to the sectarian conflict live in the huge walled facility known as the Maze.*
> [AT("people", "huge walled facility")]
>
> *At one point, the marchers blocked the main road running through Dura with boulders…*
> [AT("the marchers", "the main road running through Dura")]

In the above case, *the marchers* and *the main road running through Dura* are linked to the *blocked* event. Because *the main road* is an EDT entity, *Dura* is not promoted to fill an argument slot in the relation.

Below, the arguments are linked through the null subject and relative pronoun.
> *Annan is expected to arrive in Paris early Thursday evening.*
> [AT("Annan", "Paris")]
>
> *Adam Merriman of Vail, Colo., who traveled to Japan….*
> [AT("Merriman", "Japan")]

Here is a longer example from the data that illustrates the various syntactic connections that may invoke an Explicit relation.
> *… a British cabinet minister entered the huge Maze prison near Belfast and pressed Protestant guerrillas held there to support continuing the discussions.*

The "entered" event connects the cabinet minister to the prison, supporting a Located relation between them. The "cabinet minister" noun phrase itself connects the minister to Britain, supporting a Role relation. The "held" event supports a Located relation between the guerillas and the prison, assuming that the word "there" is marked at the EDT level as a pronoun-type mention of the prison. The "prison" phrase supports a Near relation between the prison and its "Belfast" prepositional phrase modifier.

(2.1.2.2) Nominalized Event NP:

In these examples, there is an NP with a nominalized event predicate as head, of which the entities are arguments.
> *France expressed optimism Thursday about U.N. Secretary General Kofi Annan's visit to Baghdad.*
> [AT("Annan", "Baghdad")]
>
> *Angry over the release of prisoners in the Irish republic….*
> [AT("prisoners", "the Irish republic")]

2.2 Implicit Relations (Class B)

The annotators should mark as Implicit those relations that are not captured by an Explicit relation or a chain of Explicit relations but that they believe are conveyed by the document as part of the natural understanding of the document's meaning.

For example, we get a class B relation between *Zhu* and *Standing Committee* in the following:
> *In what appeared to be an effort to divert some flak away from Zhu, Hu Jintao, another member of the Communist Party's all-powerful seven-man Standing Committee, is leading the working committee nominally in charge of devising the streamlining plan.*

The following example contains both an Explicit and an Implicit relation.

Israeli policemen fired live rounds in the air Thursday to disperse hundreds of young Palestinians who blocked a major West Bank road to show their support for Saddam Hussein.

The Located relation between *Palestinians* and *a major West Bank road* is Explicit because both entities are arguments to the event *blocked*. (Note that *Palestinians* is the subject of the verb through the relative pronoun and null element. The Implicit Located relation between *Israeli policemen* and *a major West Bank road* is Implicit because it is conveyed by the text in a way that does not fall under any of the Explicit (Class A) criteria.

Note that Implicit relations should be marked only when there is supporting contextual evidence for the relation. We do not propose marking the further relations that can be derived by combining an understanding of the document with outside world knowledge.

For example, one article whose dateline was *Copenhagen, Denmar*k began with the sentence
> *Prime Minister Poul Rasmussen on Thursday made a surprise announcement of national elections*

and the remainder of the article all concerned Danish party politics. That document does convey an Implicit Role relation between Rasmussen and Denmark because the other connections and actions ascribed to Rasmussen in the rest of the article only make sense if we do understand that he is the Prime Minister of Denmark.

3) Specific Relations

3.1 Role

Role captures the affiliation between people and organizations, facilities, and GPEs. This includes employment, office holder, ownership, founder, member, and nationality relationships.

Role captures the relationship between people and the organizations, facilities, and GPEs with which they are affiliated. This includes employment, office holder, ownership, founder, member, and nationality relationships.

Organizations and GPEs may also have ROLE relations with other Organizations and GPEs.

3.1.1 Subtypes for Role relations

Role has six Subtypes: Management, General Staff, Member, Owner, Founder, Client, Affiliate-Partner, Citizen-Of, and Other.

3.1.1.1 ROLE Subtypes involving Employment Relationships

3.1.1.1.1 Management

This Subtype includes managerial positions such as CEO, president, vice-president, director, leader, head, officials or roles of appointed or elected officials. The second argument of a ROLE.Management relation can be an ORG, FAC or a GPE.

For example:
> *George Bush, the US president,*
> *[Role.Management("the US president,", "US")]*
>
> *the CEO of Microsoft*
> *[Role.Management("the CEO of Microsoft", "Microsoft")]*

Please note that in cases where an EDT mention was identified in the EDT task as Classic Metonymy, there will be two entity types attached to a given mention in the text. We must select the correct EDT mention to enter as the second argument for the relation.

For example:
> *Lerman, the president of {{FAC:literal}{ORG:intended}the museum}, also added*
> *that the museum would not extend Arafat the formal courtesies that are routine for*
> *other world leaders.*
> [ROLE.Management("the president of the museum", " the museum(ORG: intended)")]

In this example "the president of the museum" is in a ROLE.Management relationship to the organization of "the museum". We would only include the ORG EDT mention of "the museum" in the relation.

3.1.1.1.2 General Staff

This is the default Subtype for any ROLE involving employment relationships. Any employment relation that is not covered under Management falls under the category of General Staff. The following nominal constructions express the General Staff Role Subtype:
> *Iraq's deputy foreign minister*
> [ROLE.General-Staff("Iraq's deputy foreign minister", "Iraq")]
>
> *Mr. Smith, a senior programmer at Microsoft...*
> [ROLE.General-Staff("a senior programmer at Microsoft", "Microsoft")]

Since the prepositional phrase "at Microsoft" modifies "a senior programmer", we identify the Explicit relationship between the two mentions according to the rules for Class A relations. As "a senior programmer" is a mention of the same entity as "Mr. Smith", the relationship between Mr. Smith and Microsoft is captured and no Implicit relation is needed.

Please note that Classic Metonymy from the EDT task affects this Subtype as described above for Management.

3.1.1.2 Other ROLE Subtypes

3.1.1.2.1 Member

Member relations include organization membership such as political party membership, church membership, and so on. For example:

> *an activist for the advocacy group Peace Now*
> ROLE.Member["an activist for the advocacy group Peace Now:",
> "the advocacy group Peace Now"]

Another Member relation captures the membership relation of a single person to a group of people. Group PER entities are described in the EDT guidelines.

> **[ROLE.Member(PER, PER)]**
> *Joe is an Irish-American.*
> [ROLE.Member("Joe", "Irish-American")]

Group PERs can be members of Organizations and GPEs.

> **[ROLE.Member(PER, ORG)]**
> *Catholic Irish-Americans*
> [ROLE.Member("Irish-Americans", "Catholic")]

Organizations and GPEs can be members of other Organizations. The Member Subtype describes the relationship between these entities. For example:

> **[ROLE.Member-Of(GPE, ORG)]**
> *three permanent UN member countries, the US, England, and China,*
> [ROLE.Member-Of("the US", "UN")]
> [ROLE.Member-Of("England", "UN")]
> [ROLE.Member-Of("China", "UN")]

3.1.1.2.2 Owner

Owner relations capture the relationship between a person and the organization or facility that they own. For example:

> **[ROLE.Owner(PER, FAC)]**
> *Joe and Sarah have decided to remodel their house.*
> [ROLE.Owner("their", "house")]

3.1.1.2.3 Founder

The Founder Subtype should be assigned to any relation between a person and the organization or facility that they founded. For example:

the founder of the University of Pennsylvania,
[ROLE.Founder("the founder of the University of Pennsylvania",
                 "the University of Pennsylvania")]

3.1.1.2.4 Affiliate-Partner

Affiliate-Partner relates People, Organizations and GPEs in partnerships. For example:

Philadelphia is the sister city of Florence, Italy.
[ROLE.Affiliate("the sister city of Florence, Italy", "Florence, Italy")]

The FBI has formed a limited partnership with the KGB.
[ROLE.Affiliate("the FBI", "the KGB")]

Three US Senators have been convicted for their ties to the Russian Mafia.
[ROLE.Affiliate("Three US Senators", "the Russian Mafia")]

3.1.1.2.5 Client

Client describes the relationship between a person, organization or GPE and a person, organization or GPE who they employ. For example:

Bill Clinton's lawyer
[ROLE.Client("Bill Clinton", "Bill Clinton's lawyer")]

The US buys 40% of their airplanes from Boeing.
[ROLE.Client("The US", "Boeing")]

3.1.1.2.6 Citizen-Of

Citizen-Of describes the citizenship relationship between a person (PER) and a city, state, country or any other GPE. For example:

Jean-Luis is French.
[ROLE.Citizen-Of("Jean-Luis", "French")]

This example captures the nationality relationship between Jean-Luis, a single PER, and the GPE.GPE French . We also identify the nationality relationship between group PERs and the GPE to which they have citizenship relationships. For example:

An American tour group traveled through Egypt
[ROLE.Citizen-Of("an American tour group", "American")]

This Subtype is not intended to capture race or ethnicity relationships. Some races and ethnic groups will be EDT tagged as group PERs. An individual PER would have a ROLE.Member relationship with the group PER.

the Cuban American lawyer
[ROLE.Member("the Cuban American lawyer", "Cuban American")]

There will be some cases where the race or ethnicity of a person is also the name of a GPE with which that person does not have a nationality relationship. For example:

Peiling, a Chinese immigrant, was awarded American citizenship.

Here, we would capture Peiling's Chinese ethnicity with
[ROLE.Member(PER, GPE)]
[ROLE.Member("a Chinese immigrant", "Chinese")]

and her citizenship with
ROLE.Citizen-Of(PER, GPE)]
[ROLE.Citizen-Of("Peiling, a Chinese immigrant", "American")]

3.1.1.2.7 Other

Other is a catchall subtype for Role relations, which do not fit cleanly into any of the other subtypes.

3.1.2 Complicated Examples of Role Relations

3.1.2.1 Group PERs

Some Role relations involving group PERs are less intuitive than others.

[ROLE.General-Staff(PER, GPE)]
The US delegation to Turkey
[ROLE.General-Staff("The US delegation", "US")]

In this example, the organizational aspect of this group PER is made quite apparent in this context. The members of the delegation clearly have an employment relationship to the US government. For more information about group PERs, please see the EDT annotation guidelines (Metonymy Guidelines V2.3 section 6).

3.1.2.2 Relations and Untaggable Mentions

There are instances when a relation is both contextually and syntactically supported but one of the potential arguments is not a taggable mention of an EDT entity. In these cases, we are not able to capture the relationship with an Explicit relation. Instead, we can use the instance as the supporting evidence for an Implicit relation. If there is a tagged EDT mention of the missing argument elsewhere in the text, it should be used in an Implicit relation. For example:

government spokesman Dimitris Reppas

In this example, we cannot capture the explicit relationship between "Dimitris Reppas" and the "government" as "government" is not taggable under the EDT guidelines as it is a nominal premodifier. If there is an EDT tagged mention of the government somewhere else in the text, we would create an Implicit relation of Type ROLE.General-Staff between "Dimitris Reppas" and the government.

3.1.2.3 Modifiers Distributed over Conjunctions

Note that in the case of modifiers that are distributed over conjunctions, a relation is justified only if it holds true over the entire set delineated by the underlying EDT entity. For example, no relation is derived from

> *About half the prisoners are members of the outlawed Irish Republican Army and its spinoffs.*

because the underlying EDT annotation does not provide any handle on the separate unknown subsets of the full set of prisoners that belong to the two different groups.

3.2 Part

Part characterizes part-whole relationships between organizations, facilities and GPEs.

3.2.1 Subtypes for Part

3.2.1.1 Subsidiary

Subsidiary characterizes the relationship between a company and its parent company. For example:

> *Shares of Disney, parent company of ABC, are up five eighths.*
> [PART.Subsidiary ("ABC", "parent company of ABC")]

It also describes the relationship between a department of an organization and that organization. This includes the organizational aspect of GPEs. For example:

> *New York police*
> [PART.Subsidiary("New York police", "New York")]

> *Microsoft's accounting office*
> [PART.Part-Of("Microsoft's accounting office", "Microsoft")]

> *The U.S. Congress decided to veto the ecology bill.*
> [PART.Part-Of (The U.S. Congress, U.S.)]

3.2.1.4 Part-Of

The Part-Of subtype describes the physical relationship between organizations, facilities, GPEs and locations. Facilities or organizations physically contained in a facility would be indicated by a PART.Part-Of relationship. This includes buildings owned by organizations/firms. For example:

> *Microsoft's headquarters are in Washington.*
> [PART.Part-Of ("Microsoft's headquarters", Microsoft)]

Locations are Part-Of the larger scale locations in which they physically exist. Also, GPEs are Part-Of the GPEs which contain them. For example:

Brentwood, California.
[PART.Part-Of("Brentwood, California", "California")]

3.2.1.5 Other

Other describes PART relations which do not fit into the other PART subtypes.

3.3 AT

"AT" captures the location of a Person, Organization, GPE, or Facility entity.   A person is at a Location, GPE or Facility if the context indicates that the person was, is or will be there. An Organization is in a Location/GPE if it has a branch there. This relation is not restricted to organization headquarters.

The AT relation captures exact locations. However, if an entity is located in a geographical region like a lake, a river, or a mountain, it should be reported as a Located relation even if the text does not explicitly refer to the shores of the lake, the banks of the river, or the foothills of the mountain.

3.3.1 Subtypes for AT

3.3.1.1 Facilities and Organizations and AT

3.3.1.1.1 Located

FACs and ORGs can be located at GPEs or LOCs. These AT relations should be given the Located subtype.

> **[AT.Located(FAC,GPE)]**
> *the Hospital in New York*
> [AT.Located("the Hospital in New York", "New York")]
>
> **[AT.Located(ORG,FAC)]**
> *The Gap in the mall*
> [AT.Located("The Gap", "the mall")]
>
> **[AT.Located(ORG,GPE)]**
> *the firm's London office*
> [AT.Located("the London office", London)]

3.3.1.1.2 Based-In

Organizations are not always located in the GPE in which they are based. We distinguish between the physical location of an ORG with their GPE of origin with the Based-In Subtype. For example:

> **[AT.Based-In(ORG, GPE)]**
> *The Canadian Hockey Team won in Salt Lake City.*
> [AT.Based-In("The Canadian Hockey Team", "Canada")]
> [AT.Located("The Canadian Hockey Team", "Salt Lake City"]

The US company has many branches worldwide.
[AT.Based-In("The US company", "US")]
the New York Hospital
[AT.Based-In("the New York Hospital", "New York")]

3.3.1.2 PER and AT

People can either be in an AT.Located or AT.Residence relationship with a GPE, LOC or FAC.

Located is the default subtype for AT relations. Unless the context clearly indicates that a particular location is the place in which that person's lives, assign the relation the Located Subtype.

3.3.1.2.1 Residence

[AT.Residence(PER, LOC)]
The mayor lives on the hill.
[AT.Residence("The mayor", "the hill")]

[AT.Residence(PER, GPE)]
Hillary Clinton moved to New York last year.
[AT.Residence("Hillary Clinton", "New York")]

3.3.1.2.2 Located

[AT.Located(PER, LOC)]
Joe vacations at the lake.
[AT.Located("Joe", "the lake")]

[AT.Located(PER, GPE)]
Joe went to Chicago on a business trip.
[AT.Located("Joe", "Chicago")]

3.3.1.3 GPEs and AT

GPEs can be located at a geographic LOC. For example:
the town on the lake
[AT.Located("the town on the lake", "the lake")]

There is an important distinction between this GPE-LOC relationship and a GPE-GPE relationship. GPEs are PART of other GPEs as outlined above.

3.3.2 Difficult Examples

Note that some compound nominals express a Role or Part relation that may in turn suggest a Located relation. We will not create a Located relation in these cases unless the role (surface role) of the GPE is Location. For example, *"Israeli police"* expresses a Part relation but there is no Located relation between *"Israeli police"* and *"Israeli"* because *"Israeli"* has the surface role GPE.

3.4 Near

NEAR indicates that an entity is explicitly near a location, but not actually in that location or part of that location. The location can be EDT type GPE or LOC.

3.4.1 Subtypes for Near

For this phase of the task, Near relations only have Relative-Location as a subtype option.

3.4.2 Examples:

> **[NEAR.Relative-Location(GPE, LOC)]**
> *The city, just west of the mountains,....*
> [NEAR.Relative-Location("the city", "the mountains")]

> **[NEAR.Relative-Location(LOC, GPE)]**
> *The lake is about five miles from New York City.*
> [NEAR.Relative-Location("lake", "New York City")]

> **[NEAR.Relative-Location(LOC, LOC)]**
> The park is two blocks from Walnut Street.
> [NEAR.Relative-Location("the park", "Walnut Street")]

> **[NEAR.Relative-Location(PER, GPE)]**
> *The Unabomber lurked outside of Lincoln, Montana.*
> [NEAR.Relative-Location("The Unabomber", "Lincoln, Montana")]

3.5 Social (SOC)

Social relations include both personal and professional relationships between people. The Subtypes for SOC further characterize the relationship. The default Subtype for a SOC relationship is Associate.

3.5.1 Subtypes for SOC

3.5.1.1 Personal SOC Subtypes:

3.5.1.1.1 Parent

> *Joe's father Bill retired last week.*
> [SOC.Parent("Joe's father Bill", "Joe")]

3.5.1.1.2 Sibling

Sam, Joe's brother, is an accountant.
[SOC.Sibling("Joe", "Sam, Joe's brother")]

3.5.1.1.3 Spouse

Joe and Sarah were married 10 years ago.
[SOC.Spouse("Joe", "Sarah")]

Joe and his wife Sarah went shopping.
[SOC.Spouse("his", "his wife Sarah")]

3.5.1.1.4 Grandparent

Joe and his grandmother
[SOC.Grandparent("his", "his grandmother")]

3.5.1.1.5 Other-Relative

This Subtype includes aunts, uncles, cousins, and familial relationship not covered by the other personal SOC Subtypes.

Joe called his cousin last week.
[SOC.Other-Relative("his", "his cousin")]

3.5.1.1.6 Other-Personal

This Subtype includes friends, girlfriends, boyfriends, neighbors, domestic partners, fiancées and other personal relationships.

Bill is the neighbor of Joe and Sarah.
[SOC.Other-Personal("Joe", "the neighbor")]
[SOC.Other-Personal("Sarah", "the neighbor")]

3.5.1.2 Professional SOC Subtypes:

3.5.1.2.1 Associate

Associate describes the relationship between two people who work together as equals. This Subtype includes co-workers, partners, and business associates
Mary and her teammates are away playing in a rugby tournament.
[SOC.Associate(her, her teammates)]

3.5.1.2.2 Other-Professional

Other-Professional catches all other professional relationships between people including boss-employee, lawyer-client, and leader-group relationships.
Shwartz's students were outraged, and at least two demanded that he give them full marks for their own plagiarized term papers.
[SOC.Other-Professional(Shwartz, students)]

3.5.2 Difficult Examples

3.5.2.1 Argument Ordering for Coreference

Consider the following example.

> *The Company sent Joe and Bill on a business trip to Washington last week.*

Clearly Joe and Bill are co-workers or business peers of some kind. Which would be ARG1 and which ARG2? Let's say that Joe would be ARG1 and Bill would be ARG2. If the document contains another explicit relation between Joe and Bill with the order reversed, the annotation would not be consistent with the first relation.

> *Bill and Joe have been working for the company for 10 years.*

For the purpose of coreference, any explicit mentions of a relationship must be ordered in the same way. So in both SOC.Associate relations of "Bill" and "Joe", the same EDT entity should be entered as ARG1.

4) Identifying Temporal Attributes

For this round of RDC, we take a conservative approach to associating times with relations, and require that the text evidence be found within the predication of a relation mention. Thus, we treat only Class A (explicit) relations, and only those that include explicit temporal evidence.

In addition to EDT tagging, the files have been tagged for the TIMEX2 task. For RDC, we will use the TIMEX2 tag values and sometimes add to them.

4.1 Absolute Time

The text evidence of a timestamp may be in the form of a temporal phrase that is an adjunct to the predicate. For example:

> *Bush's Saturday visit to Manhattan*
> [(AT.Located("Bush", "Manhattan"))("Saturday")]
>
> *Rumsfeld became U.S. Secretary of Defense again in 2001*
> [(ROLE.Management("Secretary of Defense", "U.S."))("2001")]

For these timestamps, all of the information we are interested in capturing is included in the TIMEX2 tag. So, we simply add the TIMEX2 tag as an attribute of the relation.

4.2 Relative Time

A more general timestamp may be present in the form of a finite verb that heads the predication of the relation. For example:

> *Bush <u>went</u> to Manhattan.*
> [(AT.Located ("Bush", "Manhattan"))("went"(Before: article date))]

> *Bill <u>will</u> be in Serbia.*
> [(AT.Located("Bill", "Serbia"))("will")]

For each finite verb identified as a time indicator, we must create a timestamp and assign it an Anchor-Value and an Anchor-Direction. The Anchor-Value is set to the article date. The Anchor-Direction is set to one of the following values: Before, After, As-Of. In the above examples, "went" would be assigned the Anchor-Direction Before as Bush arrived in Manhattan before the date of the article. "will" would be assigned the value "After" as Bill is not in Serbia at the time of the article.

If there is an Absolute Time attribute present for a relation, do not consider tagging for Relative Time.

4.3 Unspecified Time

Some TIMEX2 tagged expressions cannot be tied to a calendar date. They should, however, be added as an attribute of any relation they modify.

The text is indicating either a point or a duration of time without giving an absolute temporal expression. For example

Duration

> *Bob was in Philadelphia for two weeks*

> *Clinton was president for eight years.*

Point

> *One day, Bill went shopping.*

> *his appearance in Baghdad at the appropriate time*

Unspecified Time attributes may be entered when either Absolute or Relative Time attributes are present.

Please note:

1. A large proportion of Class A relation mentions will contain neither a time adjunct phrase nor a finite verb, and therefore will not be assigned temporal attribute values.

2. There may be more than one time at which a particular relationship is reported as having existed, i.e., there may be more than one timestamp on a given relation. For example, a document may note that

John Doe was in Las Vegas <u>June</u> and <u>August</u>.
Jane Doe was the Technical Director for SPAWAR Systems Center in <u>1998</u> and <u>2000</u>.

The two different times referenced in each example are not evidence of different underlying relations; they are different attribute values for the same underlying relation.   Both should be associated as attributes of the relation.

5) Relations v. Non-Relations (What is not an RDC Relation?)

Relations that depend on outside world knowledge rather than on contextual evidence from the document do not count as markable relations. For example, transitive conclusions based on relations found in the text do not count. The text

an Alabama women's clinic

clearly conveys a Located relation of Class A between the clinic and Alabama, but while it might also suggest through transitivity Located relations between the clinic and the South, the US, or the world, such transitive conclusions do not count as markable relations. The same holds for other uses of world knowledge unsupported by the context. For example,

American troops in Korea

contains a Class A Located relation between the troops and Korea. While an annotator might argue that American troops must have been in America at some point, that Located relation is not a markable relation unless there is contextual evidence elsewhere in the document to support it.

6) Coreference of Relation Mentions

When two relations connect the same two EDT entities in exactly the same relationship, we note this by coreferencing them with the same RDCID. The values of Class, Type, and Subtype must be identical for a relationship to be considered the same. For example:

[ROLE.Member("the US"(GPE, EDTID-3), "UN"(ORG, EDTID-20)]

[ROLE.Member("America"(GPE, EDTID-3), "the United Nations"(ORG, EDTID-20)]

These two relations describe the same membership relation between the same two entities. Therefore, they would be coreferenced with the same RDCID.

Appendix

1. Table of Types and Subtypes

ROLE	Management	PER	FAC
ROLE	Management	PER	GPE
ROLE	Management	PER	ORG
ROLE	Management	ORG	GPE
ROLE	Management	ORG	ORG
ROLE	Management	GPE	GPE
ROLE	General-Staff	PER	FAC
ROLE	General-Staff	PER	GPE
ROLE	General-Staff	PER	ORG
ROLE	Member	PER	GPE
ROLE	Member	PER	ORG
ROLE	Member	PER	PER
ROLE	Member	ORG	GPE
ROLE	Member	ORG	ORG
ROLE	Member	ORG	PER
ROLE	Member	GPE	GPE
ROLE	Member	GPE	ORG
ROLE	Member	GPE	PER
ROLE	Owner	PER	FAC
ROLE	Owner	PER	LOC
ROLE	Owner	PER	ORG
ROLE	Owner	ORG	FAC
ROLE	Owner	ORG	LOC
ROLE	Owner	ORG	ORG
ROLE	Owner	GPE	FAC
ROLE	Owner	GPE	ORG
ROLE	Founder	PER	FAC
ROLE	Founder	PER	ORG
ROLE	Founder	ORG	ORG
ROLE	Affiliate-Partner	PER	ORG
ROLE	Affiliate-Partner	PER	PER
ROLE	Affiliate-Partner	ORG	GPE
ROLE	Affiliate-Partner	ORG	ORG
ROLE	Affiliate-Partner	GPE	GPE
ROLE	Affiliate-Partner	GPE	ORG

ROLE	Affiliate-Partner	GPE	PER
ROLE	Client	PER	GPE
ROLE	Client	PER	ORG
ROLE	Client	PER	PER
ROLE	Client	ORG	GPE
ROLE	Client	ORG	ORG
ROLE	Client	ORG	PER
ROLE	Client	GPE	GPE
ROLE	Client	GPE	ORG
ROLE	Client	GPE	PER
ROLE	Citizen-Of	PER	GPE
ROLE	Other	PER	FAC
ROLE	Other	PER	ORG
ROLE	Other	ORG	GPE
ROLE	Other	ORG	ORG
ROLE	Other	ORG	PER
ROLE	Other	GPE	GPE
ROLE	Other	GPE	ORG
ROLE	Other	GPE	PER
PART	Subsidiary	ORG	GPE
PART	Subsidiary	ORG	ORG
PART	Part-Of	ORG	GPE
PART	Part-Of	ORG	ORG
PART	Part-Of	LOC	FAC
PART	Part-Of	LOC	GPE
PART	Part-Of	LOC	LOC
PART	Part-Of	GPE	GPE
PART	Part-Of	GPE	LOC
PART	Part-Of	FAC	FAC
PART	Part-Of	FAC	GPE
PART	Part-Of	FAC	ORG
PART	Other	ORG	GPE
PART	Other	ORG	ORG
AT	Located	PER	FAC
AT	Located	PER	GPE
AT	Located	PER	LOC
AT	Located	PER	ORG
AT	Located	ORG	FAC
AT	Located	ORG	GPE
AT	Located	ORG	LOC

AT	Located	GPE	LOC
AT	Located	FAC	FAC
AT	Located	FAC	GPE
AT	Located	FAC	LOC
AT	Based-In	ORG	GPE
AT	Based-In	ORG	LOC
AT	Residence	PER	FAC
AT	Residence	PER	GPE
AT	Residence	PER	LOC
NEAR	Relative-Location	PER	FAC
NEAR	Relative-Location	PER	GPE
NEAR	Relative-Location	PER	LOC
NEAR	Relative-Location	LOC	FAC
NEAR	Relative-Location	LOC	GPE
NEAR	Relative-Location	LOC	LOC
NEAR	Relative-Location	GPE	FAC
NEAR	Relative-Location	GPE	GPE
NEAR	Relative-Location	GPE	LOC
NEAR	Relative-Location	FAC	FAC
NEAR	Relative-Location	FAC	GPE
NEAR	Relative-Location	FAC	LOC
SOC	Parent	PER	PER
SOC	Sibling	PER	PER
SOC	Spouse	PER	PER
SOC	Grandparent	PER	PER
SOC	Other-Relative	PER	PER
SOC	Other-Personal	PER	PER
SOC	Associate	PER	PER
SOC	Other-Professional	PER	PER