Annotation Guidelines for

Relation Detection and Characterization (RDC)

Version 4.3 - 20040122

1 Introduction

The goal of RDC is to detect and characterize relations of the targeted types between EDT entities. Every relation takes two primary arguments (the two entities that it links) and must be assigned one of the seven syntactic relation class types. For all of these types, with the exception of Verbal, the relation extent is limited to the noun phrase. Subtypes will be assigned to every relation further characterizing the identified relationships. For each Type, there is a set of possible Subtypes.

2 Entity-Entity Relations

2.1 Types and Subtypes

A. Physical

1 Located

The Located relation captures the exact location of an entity. 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.

a military base in Germany
القاعدة الحربية في ألمانيا
[Located("a military base in Germany","Germany")]

St. Vartan's Cathedral, on Second Avenue
كاتدرائية القديس قارتان في شارع رقم 2
[Located("St. Vartan's Cathedral, on Second Avenue","Second Avenue")]

a station at the top of the mountain
محطة علي قمة الجبل
[Located("a station at the top of the mountain","the top of the mountain")]

2 Near

Near indicates that an entity is explicitly near another entity, but not actually in that location or part of that location.

a town some 50 miles south of Salzburg in the central Austrian Alps
تقع البلدة علي بعد 50 ميلا جنوب سالزبورج في وسط جبال الألب النمساوية
[Near("a town some 50 miles south of Salzburg in the central Austrian Alps","Salzburg")]

3 Part-whole

Part-Whole characterizes physical relationships between entities and their parts.

Norwalk, Conn.
نورواك ' كونتيكت
[Part-Whole("Norwalk, Conn.","Conn.")]
[("نور واك ' كزنتيكت" , "كونتيكت")]

the top of the mountain
قمة الجبل
[Part-Whole("the top of the mountain","the mountain")]
("قمة الجبل", "الجبل")

a state within the former Soviet Union
دولة داخل الأتحاد السوفيتي سابقا
[Part-Whole("a state within the former Soviet Union","the former Soviet Union")]
[("دولة داخل الأتحاد السوفيتي سابقا", "الأتحاد السوفيتي سابقا")]

B. Personal/Social

Personal/Social relations describe the relationship between entities of type PER. No other entity type is allowed as an argument of these relations. The order of the arguments does not impact relations of this type. We record only that there exists a relationship between the entities.

1 Business

Business captures the connection between two entities in any professional relationship. This includes boss-employee, lawyer-client, co-workers, political relationships, etc.

their colleagues
زملائهم
[Business("their","their colleagues")]
("زملائهم", "هم")

his lawyer
محاميه
[Business("his", "his lawyer")]
("محاميه", "هو")

a spokesman for the senator
متحدث باسم السيناتور
[Business("a spokesman for the senator","the senator")]
("متحدث باسم السيناتور", "السيناتور")

2 Family

Family captures the relation between an entity and another entity with which it is in any familial position.

relatives of the dead
أقارب المتوفي
[Family("relatives of the dead" "the dead")]
("أقارب المتوفي", "المتوفي")

his wife
زوجته
[Family("his wife" "his")]
("زوجته", "هو")

his ailing father
والده المتألم
[Family("his ailing father","his")]
("والده المتألم", "هو")

3 Other

Other is reserved for all Social relationships that do not cleanly fit into the subtypes above.

his roommates
زملائه في الغرفه
[Other("his","his roommates")]
("هو", "زملائه في الغرفة")

C. Employment/Membership/Subsidiary – (EMP-ORG)

1 Employ-exec(s)

This subtype describes relations between persons and organizations where the person holds a managerial position such as CEO, president, vice-president, director, leader, head, officials or roles of appointed or elected officials.

For example:

George Bush, the US president,
جورج بوش , رئيس الولايات المتحدة الأمريكية
[Employ-exec ("the US president,", "US")]
("رئيس الولايات المتحدة الأمريكية", "الولايات المتحدة الأمريكية")

the CEO of Microsoft
رئيس مجلي ادارة مايكروسوفت
[Employ-exec("the CEO of Microsoft", "Microsoft")]
("مجلس ادارة مايكروسوفت" , "مايكروسوفت")

2 Employ-staff

This subtype is for relationships between organizations and GPEs and persons who fill general staff positions within them.

Mr. Smith, a senior programmer at Microsoft...
السيد سميث, مبرمج من الدرجة العليا بمايكروسوفت
[Employ-staff("a senior programmer at Microsoft", "Microsoft")]
("مبرمج من الدرجة العليا بماكروسوفت" , "مايكروسوفت")

3 Employ-undetermined

At times the context does not give you enough information to determine whether an individual is performing a managerial or general staff position within an organization. Employ-undetermined is for these relations.

Microsoft spokesman, Bob Jones
بوب جونز المتحدث باسم مايكروسوفت
[Employ-undetermined("Microsoft spokesman", "Microsoft")]
("المتحدث باسم مايكروسوفت","مايكروسوفت")

4 Member-of-group

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
[Member("an activist for the advocacy group Peace Now:",
     "the advocacy group Peace Now")]

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

three permanent UN member countries, the US, England, and China,
الثلاث دول الأعضاء الدائمين في الأمم المتحدة الولايات المتحدة و انجلترا و الصين
[Member ("*three permanent UN member countries*", "UN")]
("الأمم المتحدة", "الثلاث دول الأعضاء الدائمين في الأمم المتحدة")

5 Subsidiary

Subsidiary characterizes the relationship between a company and its parent company.

Shares of Disney, parent company of ABC, are up five eighths.
ان أسهم شركة ديزني الشركة الأم لايه بي سي ارتفعت قيمتها خمس اثمان
[Subsidiary ("ABC", "parent company of ABC")]
("شركة أي بي سي", "الشركة الأم لأي بي سي")

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
شرطة نيو يورك
[Subsidiary("New York police", "New York")]
("شرطة نيو يورك", "نيو يورك")

Microsoft's accounting office
ادارة المحاسبة لمكتب مايكروسوفت
[Subsidiary("Microsoft's accounting office", "Microsoft")]
("ادارة المحاسبة لمكتب مايكروسوفت", "مايكروسوفت")

The U.S. Congress decided to veto the ecology bill.
قرر الكونجرس الأمريكي ....
[Subsidiary (The U.S. Congress, U.S.)]
("الكونجرس الأمريكي", "أمريكا")

6 Partner

Partner characterizes the collaborative relationship between two agents (PER, ORG, GPE).

> *The joint British-U.S. forces in Iraq*

> قوات التحالف الأمريكي البريطاني في العراق

7 Other

Other is reserved for relationships between PER, ORG, and GPE that do not fit into the other schema. DOES ORDER MATTER?

D. Agent-Artifact

1 Possessor/Owner

An agent is in a Possessor/Owner relationship with an artifact when that agent is the owner of the artifact or has possession of or habitually uses it. In the following example, it is not explicitly clear whether I own or rent the house. Possessor/Owner can be applied to either relationship.

> *My house is in West Philadelphia.*

> منزلي في منطقة غرب فيلادلفيا

2 Inventor/Manufacturer

An agent is in an Inventor/Manufacturer relationship with an artifact when that agent caused the artifact to come into being. For example,

> *Rubin Military design, the makers of the Kursk*

> روبين المصمم الحربي و الذي صنع كورسك

> *US helicopters flew over northern Iraq.*

> طارت طائرات الهليكوبترالأمريكية فوق شمال العراق

3 Other

Other is reserved for any Agent-Artifact relations that do not fall under the other two subtypes.

> *US helicopters flew over northern Iraq last night. They had been stolen two weeks ago by terrorists.*

> طارت طائرات الهليكوبتر الأمريكية فوق شمال العراق ليلة أمس التي سرقها الأرهابيون من أسبوعين

Does this sentence mean that the helicopters were owned by the US, made in the US, manned by US military personnel, or some combination of all of these? Since this is unclear, we will tag the relationship between the US and the helicopters as Other.

E. PER/ORG Affiliation

1 Ethnic

Ethnic describes the relationship between Person(s) and the collective PER group to which they are identified by themselves or the article.

Cuban-America people

الشعب الكوبي الأمريكي

Arab people

العرب

2 Ideology

Ideology describes the relationship between Person(s) and the collective PER/ORG group(s) defined by coherent ideological systems to which they are identified by themselves or the article.

Christian people

الشعب المسيحي

3 Other

Other should be used for all PER/ORG Affiliation relations that do not fit cleanly into any other categories. Many of the relations that fall under this subtype will be cases where a PER or ORG modifies another entity. The intended meaning of this construction is often unclear. This subtype can also be filled with relations that have type overlap. For example:

Jewish man

الرجل اليهودي

Please note that Employment relations should be tagged as such.

Microsoft programmer

مبرمج شركة مايكروسوفت

This example should be tagged as an Employ-staff. This follows our general rule of tagging for the most information.

F. GPE Affiliation

More than one aspect of the GPE is referenced.

1 Citizen/Resident

Citizen/Resident describes the relation between a person and the GPE in which they have citizenship or in which they live.

U.S. businessman Edmond Pope

رجل الأعمال الأمريكي ادموند بوب

[Citizen("U.S. businessman Edmond Pope","U.S.")]

("رجل الأعمال الأمريكي ادموند بوب", أمريكا)

2 Based-in

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

Salzburg Red Cross officials

مسئولوا الصليب الأحمر بسالزبورج

[Based-In("Salzburg Red Cross officials","Salzburg")]

("مسئولوا الصليب الأحمر بسالزبورج", "سالزبورج")

3 Other

Other should be used for all GPE Affiliation relations that do not fit cleanly into any other categories. Many of the relations that fall under this subtype will be cases where a GPE modifies another entity. The intended meaning of this construction is often unclear.

More and more US companies are moving their operations to Mexico.

كثير من الشركات الأمريكية تنقل عملها الي العمل بالمكسيك أكثر فأكثر

Note that the relationship between GPEs and government organizations should be EMP-ORG.Subsidiary.

G. Discourse

A DISC relation is one where a semantic part-whole or membership relation is established only for the purposes of the discourse. The whole or group referred to is not an official entity relevant to world knowledge. Instead, it has been constructed for solely the purposes of discursive efficiency.

Many of these people
كثير من هؤلاء الناس
[DISC("Many of these people","these people")]

each of whom
كل من
[DISC("each of whom","whom")]
("كل من", "من")

each of our parishes
كل من ايبارشياتنا
[DISC("each of our parishes","our parishes")]
("كل من ايبارشياتنا", "ايبارسياتنا")

the dead included dozens of Austrians and Germans, as well as Japanese tourists and American soldiers from a military base in nearby Germany
[DISC("dozens of Austrians and Germans","the dead included dozens of Austrians and Germans, as well as Japanese tourists and American soldiers from a military base in nearby Germany")]

four representatives, all of them accountants, including E. Clay Shaw Jr., a Florida Republican, and Brad Sherman, a California Democrat
[DISC("Brad Sherman","four representatives, all of them accountants, including E. Clay Shaw Jr., a Florida Republican, and Brad Sherman, a California Democrat")]

2.2 Relation Syntactic Classes

Unlike Entities and Events, Relations have no actual anchor in the text. The six relation classes are intended to provide justification for the tagging of each relation. With the exception of the Verbal class, the syntactic classes strictly limit taggable relations to those that are explicitly stated and fall within the maximum extent of the longest noun phrase.

A. Possessive

Possessive indicates the syntactic structure where the first noun or pronoun is in the possessive case.

> *America's Department of Defense.*
> وزارة الدفاع الأمريكية
> [Subordinate("Department of Defense", "America")]
> ("وزارة الدفاع", "أمريكا")
>
> *Nathan Myhrvold, Microsoft's chief scientist.*
> ناثان ميربيولد رئيس الخبراء بشركة مايكروسوفت
> [Staff("Microsoft's chief scientist", "Microsoft")]
> ("رئيس الخبراء بشركة مايكروسوفت" , "شركة مايكروسوفت")

B. Preposition

Preposition indicates a taggable relation between a head noun and a prepositional phrase that modifies it.

> *Officials in California are warning residents.*
> قام المسئولون بمقاطعة كاليفورنيا بتحذير السكان
> [Located("officials", "California")]
> ("المسئولون", "مقاطعة كاليفورنيا")
>
> *The CEO of Microsoft*
> المدير التنفيذي لشركة مايكروسوفت
> [Management("CEO", "Microsoft")]
> ("المدير التنفيذي", "شركة مايكروسوفت")

C. PreMod

PreMod relations are those motivated by the construction of a proper adjective or proper noun premodifier and the head noun it modifies.
> *The American envoy left the talks early.*
> المبعوث الأمريكي أنهي المحادثات اليوم
> [Staff("envoy", "American")]
> ("المبعوث", "الأمريكي")
> *Palestinian leaders*
> القائد الفلسطيني

[Leader("leaders", "Palestinian")]
("القائد", "الفلسطيني")

New York police
شرطة نيويورك
[Subordinate("police", "New York")]
("شرطة", "نيويورك")

D. Formulaic

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

Reporter sign-off

Jane Clayson, ABC News, South Lake Tahoe.
جان كليسون من أي بي سي نيوز سوث ليك تاهوي
[Located("Jane Clayson", "South Lake Tahoe")]
[Staff("Jane Clayson", "ABC News")]

Addresses

Mary Smith, Medford, Mass. I feel we should…
ماري سميث مدفورد ماس أعتقد أننا يجب أن ......
[Located("Smith", "Medford, Mass.")]

Elected officials

Senate Majority Leader Trent Lott (R-Miss.)
السيناتور ترنت اوت قائد الغالبية العظمي
[Member("Senate Majority Leader Trent Lott", "R")]
[Residence("Senate Majority Leader Trent Lott", "Miss.")]

E. Verbal

Verbal relations are those motivated by a taggable relation between an entity that fills the subject position and an entity that is in the predicate of a stative or habitual sentential construction. Thus, we do not tag relations between entities that are arguments or attributes of events. This restriction is not limited to currently taggable events.

Death Valley is in the Mojave Desert.

يقع وادي الموت في صحراء ماجوف

Credit Suisse is in a coalition of banks against money laundering.

يتحد بنك الكريدي سويس مع بنوك أخري لمكافحة غسيل الأموال

Coca Cola Co. is based in Atlanta.

يقع المقر الرئيسي لشركة كوكاكولا في اطلنتا

F. Participial

Participial relations are those motivated by a taggable relation between a head noun and a noun contained within a participial phrase that modifies it.

the crowd trapped inside the compartment…

احتجز الجمع داخل المجمع

[Located("the crowd trapped inside the compartment", "the compartment")]

159 *people, including 8 Americans*

159 شخصا من بينهم 8 أمريكان

[DISC("8 Americans", "159 people, including 8 Americans")]

the private-sector body based in Norwalk, Conn

يقع مجلس القطاع الخاص في نورواك بكونكتيكت

[Based-In("the private-sector body based in Norwalk, Conn", "Norwalk, Conn")]

G. Other

Other is reserved for constructions contained within the extent of a noun phrase that do not fit into the other relation classes. The result of our pilot annotation has indicated that these are really just other Formulaic constructions. In future versions of these guidelines, we will include the following as Formulaic constructions.

3 Event-Entity Relations

Some Roles and Attributes are not stated within the extent of an Event as defined in the Event Annotation Task Guidelines. They are added to the event through verbal constructions. For example, in a text a meeting event might be established.

Joe and Bill met on Thursday to discuss the proposal.

اجتمعا جو و بيل يوم الخميس الماضي لمناقشة المشروع

This would be annotated in the Event Task as follows.

[Joe and Bill {met} on Thursday to discuss the proposal.]

[اجتمعا} جو و بيل يوم الخميس الماضي لمناقشة المشروع]

Later in the text, a new agent could be included in the event.

Sue was also at the meeting.

و كانت سو أيضا في الاجتماع

In this sentence, *[the {meeting}]* would be identified as a mention of the event. *Sue* is not included within the extent of this nominal event mention and therefore would not be identified as an agent of the event.

At this stage, we will establish the relationship between the event mention and the entity mention that fills the Role or Attribute of that event by creating one of the relations listed below. In this example, we would tag an Agent relationship between *Sue* and *the meeting*.

[Sue] was also at [the meeting].

و كانت [سو] أيضا [في الأجتماع]

We will identify Event-Entity relations of type Agent, Object, Source, Target, Location, Time, and Modifier to record all Roles or Attributes of the events filled in this way.

3.1 Agent

Agent relations fill an entity mention in the Agent Role for the event mention. For example:

He *was responsible for* *the killing*.

انه كان المسئول عن القتل

3.2 Object

Object relations fill an entity mention in the Object Role for the event mention. For example:

a victim *of* *the killing*

ضحية القتل

3.3 Source

Source relations fill an entity mention in the Source Role for the event mention. For example:

The journey *began in* *Skokie*.

بدأت الرحلة في سكوكي

3.4 Target

Target relations fill an entity mention in the Target Role for the event mention. For example:

The journey *ended in* *Reno*.

انتهت الرحلة في رينو

3.5 Location

Location relations fill an entity mention in the Location Attribute for the event mention. For example:

The journey *spanned* *the continent*.

عبرت الرحلة القارة

3.6 Time

Time relations fill an entity mention in the Time Attribute for the event mention. For example:

He made *the arrest* *Thursday*.

نفذ القبض يوم الخميس

3.7 Modifier

Modifier relations fill an entity mention in the Modifier Attribute for the event mention. For example:

A gun was used in the killing

استخدم مسدسا في القتل