ACE (Automatic Content Extraction)
Arabic Annotation Guidelines for Entities

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1 Introduction

The Entity Detection task requires that selected types of entities mentioned in the source data be detected, their sense disambiguated, and that selected attributes of these entities be extracted and merged into a unified representation for each entity.

Basic Concepts

An entity is an object or set of objects in the world. A mention is a reference to an entity. Entities may be referenced in a text by their name, indicated by a common noun or noun phrase, or represented by a pronoun. For example, the following are several mentions of a single entity:

Name Mention:

[**سعد الحريري**]

Nominal Mention:

[**ابن** الرئيس السابق]

***Pronoun Mentions**:*

هن ,هي, نحن, أنتما, هما, أنتم , أنتن , هم ,هو ,أنا, أنت, أنت

Entities are limited to the following five types:

- Person - Person entities are limited to humans. A person may be a single individual or a group.
- Organization - Organization entities are limited to corporations, agencies, and other groups of people defined by an established organizational structure.
- GPE (Geo-political Entity) - GPE entities are geographical regions defined by political and/or social groups. A GPE entity subsumes and does not distinguish between a nation, its region, its government, or its people.
- Location - Location entities are limited to geographical entities such as geographical areas and landmasses, bodies of water, and geological formations.
- Facility - Facility entities are limited to buildings and other permanent man-made structures and real estate improvements.

For each entity, the annotation records the type of the entity (PER, ORG, GPE, LOC, FAC), subtype, class, and all the textual mentions of that entity.

2 Text to Annotate

Only material between <TEXT> and </TEXT> tags is to be annotated.

Metadata imported from other sources is not part of the source signal from which ACE systems are presumed to extract information. Therefore no information is to be extracted from such metadata. Hence, in newswire documents, material in headlines and slug sections is not to be tagged. In broadcast data and telephone speech data, only the transcribed speech is to be tagged. Added information, i.e. <TURN> tags or speaker identification tags, is NOT to be tagged. In weblog and newsgroup files, we do not tag the poster name.

In the transcribed speech data, we don't tag any hesitation except if the word is transcribed as a complete word. The following example explains this idea:

The ca- a- a- r	Not taggable	السي- ي- ي- ارة
The ca- a- a- **the car**	Taggable	السي- ي- ي- **السيارة**

3 Entity Types and Subtypes

Bracket indicates the extent of a mention while bold with underline indicates the head of a mention.

3.1 Persons (PER)

Each distinct person or set of people mentioned in a document refers to an entity of type Person. For example, people may be specified by name ("سعد الحريري"), occupation ("the teacher"), family relation ("والد"), pronoun ("هو"), etc., or by some combination of these. Dead people and human remains are to be recorded as entities of type Person. So are fictional human characters appearing in movies, TV, books, plays, etc.

[**الثعلب** السياسي لهذا العام]

[The political **cat** of the year]

تدخلت[**القوات** التركية] في العراق

[The Turkish **forces**] attacked Iraq

[بعض **الطلاب**]

[Some **students**]

[3 **جنود** اسرائيليين]

[Three Israeli **soldiers**]

There are a number of words that are ambiguous as to their referent. For example, nouns, which normally refer to animals or non-humans, can be used to describe people. If it is clear to the annotator that the noun refers to a person in a given context, it should be marked as a Person entity. This is common in weblog files.

[**الست نعامة**]

3.1.1. Subtypes for Person

We will further classify Person entities with the following subtypes.

PER.Individual

If the Person entity refers to a single person, tag it as PER.Individual.

[**الجندي** الإسرائيلي]
[**القائد** العام للقوات المسلحة حسين طنطاوي]

PER.Group

If the Person entity refers to more than one person, tag it as PER.Group unless the group meets the requirements of an Organization or a GPE described below. This will include family names and ethnic and religious groups that do not have a formal organization unifying them. Ethnic groups of people and religious groups that do not have a formal organization unifying them will be considered entities of Person.Group.

[**محاموا** الليبيين المتهمين]

[**المعتقلين** بالسجون الإسرائيلية]

قتل [**اثنين**] في حادث الطريق امس في عمان

اصيب [**مصريان**] برصاص الجيش الاسرائيلي

[**العرب**]

[**المسيحيون**]

PER.Indeterminate

If from the context you can't judge whether the Person entity refers to one or more than one person, tag it as PER.Indeterminate. We are not expecting to see such subtype in Arabic.

3.1.2 Titles, Honorifics, and Positions

In English, as well as in Arabic, titles and most honorifics precede the name. We will not consider these to be part of the name of a Person. We will annotate these as mentions in their own right. The parts of titles are taggable if they refer to entities. For example, in the string "وزير الخارجية المصري أبوالغيط", there would be four mentions of three distinct entities. The two person mentions are co-referential, but the title Secretary of State is attributive while the proper name is tagged as Specific.

PER	NOM [**وزير** الخارجية المصري أبوالغيط]
	NAM وزير الخارجية المصري[**أبوالغيط**]
GPE	[**المصرى**]
ORG	[**الخارجية**]

[**النبي** موسى عليه الصلاة والسلام]

PER	[**النبى** موسى عليه الصلاة والسلام]
	النبي [**موسى**] عليه الصلاة والسلام

Saints and other religious figures

Religious titles such as saint, prophet, imam, or archangel are to be treated as titles.

الكنيسة الكاثوليكية تبحث في ادراج [البابا **يوحنا بولس الثاني**] في عداد القديسين

PER	[**البابا** يوحنا بولس الثاني] [**Pope**] NOM.PER.Indiv.ATR
	البابا [**يوحنا بولس الثاني**] [Pope **John Paul II**] NAM.PER.Indiv.SPC

References to "God" will be taken to be the name of this entity for tagging purposes. If it is used as a descriptor rather than a name, it will be considered a nominal mention. Note that capitalization information may not be available in speech transcripts.

..... إذا كنت تؤمن [**بالله**] فلابد .....

Name mention

..... على الرغم من أنه كان يشعر بأنه [**إله**]
Nominal mention

3.1.3 Fictional characters, names of animals, and names of fictional animals

Names of fictional characters are to be tagged; however, character names used as TV show titles will not be tagged when they refer to the show rather than the character name.

[**باتمان**] أصبح صورة شعبية

[**Batman**] has become a popular icon

الكثير من الاطفال يعشقون[**بكار**]

A lot of kids love [**Bakar**]

[**بقلظ**] يعلم الاطفال حسن التصرف

[**Bokloz**] teaches the kids how to behave

Names of animals are not to be tagged, as they do not refer to person entities. The same is true for fictional animals and non-human characters. These two examples **do not yield mentions**.

الفيل حيوان اليف
الأسد ملك الغابة

3.2 Organizations

Each organization or set of organizations mentioned in a document gives rise to an entity of type Organization. An Organization entity must have some formally established association. Typical examples are businesses, government units, sports teams, and formally organized music groups. Industrial sectors and industries are also treated as Organization entities.

3.2.1 Subtypes for Organizations

We will further classify Organization entities with the following subtypes. Organizations which do not fit into the subtypes defined below will not be tagged.

Government (GOV)

Government organizations are those that are of, relating to, or dealing with the structure or affairs of government, politics, or the state. **The entire government of a GPE is excluded from this subtype and should be tagged GPE.ORG.** Military organizations that are connected to the government of a GPE will be tagged as Government.

وافقت[**المحكمة** العليا في واشنطن] على النظر في احدى دعاوى الاستئناف

[**The Supreme Court** in Washington] agreed to discuss the appeal

اعتقلت [**الشرطة** السعودية] إرهابيين

[Saudi **police**] arrested two terrorists

أغلقت الولايات المتحدة [**سفارتها** في الدوحه]

The United States closed down [its **embassy** in Doha]

قامت [**الشرطة** المصرية] بتعقب فلول الإرهابيين

[The Egyptian **police**] are looking for the suspects

Commercial (COM)

A commercial organization is an entire organization or a taggable portion of an organization that is focused primarily upon providing ideas, products, or services for profit.

اعلنت [**شركة »ال جي الكترونيكس«** الكورية الجنوبية] انها تتوقع تحقيق مبيعات في سوق المغرب تتجاوز 36 مليون دولار السنة الجاري

[**مرفأ بيروت**]
[**ميناء عدن**]
[**مطار كندي**]

Educational (EDU)

An educational organization is an entire institution or taggable portion of an institution that is focused primarily upon the furthering or promulgation of learning/education.

[**الجامعات** اللبنانية] بها فروع لجامعات أوروبية وأمريكية

[Lebanese [**universities**]] include European and American academic programs

[**المدارس** المصرية] مزدحمة بالتلاميذ

[Egyptian [**schools**]] are overcrowded

Entertainment (ENT)

Entertainment organizations are those whose primary activity is entertainment. This includes organizations such as Barnum and Bailey's Circus and HBO, but

excludes provider giants such as Comcast and media conglomerates such as Disney and Time-Warner. These companies are all best annotated as commercial organizations.

عقدت [**فرقة ميامي** الكويتية] اتفاقا مع شركة روتانا للإنتاج الفني

[Kuwait's **Miami group**] signed an agreement with Rotana productions

[**فرقة نجيب الريحانى المسرحية**] قدمت اروع الاعمال الكوميدية

[**Naguib Al Rihany theater group**] presented the greatest comedy shows

Non-Governmental Organizations (NonGov)

Non-governmental organizations are those organizations that are not a part of a government or commercial organization and whose main role is advocacy, charity or politics (in a broad sense). By this definition, all of the following would be annotated as ORG.NonGov:

This subtype will include such diverse organizations as:

1. (Para-)Military Organizations:

[**كتائب شهداء الأقصى**]

[**Al Aqsa Martyr's Brigade**]

[**نمور التاميل**]

[**Tamil Tigers**]

2. Political Parties:

[**الحزب الجمهورى**]

[**The Republican Party**]

[**حزب العمل**]

[**The Labor Party**]

3. Political Advocacy Groups and Think Tanks:

[الاتحاد الأمريكى للحريات المدنية]

[**ACLU**]

[**معهد كاتو**]

[**Cato Institute**]

4. Professional Regulatory and Advocacy Groups:

[**جمعية المحامين الأمريكيين**]
[**الجمعية الطبية الأمريكية**]
[**نقابة المهندسين**]

5. Charitable Organizations:

[**الصليب الأحمر**]

[**The Red Cross**]

[اليونيسيف]

[**UNICEF**]

[***أطباء بلا حدود***]

[**Doctors Without Borders**]

6. International Regulatory and Political Bodies:

[**الأمم المتحدة**]

[**UN**]

[منظمة حلف الشمال الأطلنطي]

[**NATO**]

[البنك الدولي]

[**The World Bank**]

ان معارك بين**[الطالبان]** والمعارضة الافغانية تدور حاليا على بعد بضعة كيلومترات من حدود هذه الجمهورية السوفياتية السابقة في آسيا الوسطى.
The fighting between [the **Taliban**] and the Afghan protestors is taking place only a few kilimeters from the borders of this former Soviet Republic in Asia

معونات [**صندوق النقد الدولي**]

[**International Monetary Fund**] aid

Media (MED)

Media organizations are those whose primary interest is the distribution of news or publications, regardless of whether the organization is privately or publicly owned. This will include media companies such as Time Magazine, but will exclude media conglomerates such as Time-Warner which should be annotated as a commercial organization.

[**جريدة الحياة**]

[**Al Hayat newspaper**]

[**نيو يورك تايمز**]

[**The New York Times**]

[**ال بي.بي.سي**]

[**BBC**]

[**مجلة سيدتي**]

[**Sayedaty magazine**]

قال[**التلفزيون** السوداني الرسمي] أن هجوما وقع في مسجد السنة المحمدية في قرية الجرافة بالقرب من أم درمان شمال الخرطوم

[Official Sudanese **TV**] reported that an attack on Al Sonna Al Mohamadia mosque in Garafa village close to Om Dorman north of Khartoum had occurred.

نوالى تقديم الأنباء من[**صوت أمريكا** في واشنطن]

We will continue our news from [**VOA** in Washington]

Religious (REL)

Religious organizations are those that are primarily devoted to issues of religious worship.

[**اتحاد الأساقفة الألمان**]

[**The German Bishop's Union**]

[**الفاتيكان**]

[**The Vatican**]

[**ادارة** الازهر]

[Al Azhar **administration**]

Medical-Science (SCI)

Medical-Science organizations are those whose primary activity is the application of medical care or the pursuit of scientific research, regardless of whether that organization is publicly or privately owned.

إن [**المستشفيات** الفلسطينية] تعاني من مصاعب جمة حيث يواجه الأطباء إصابات معقدة وأحداثا مأساوية بشكل يومي ونقصا في عدد العاملين في المستشفيات

[Palestinian **hospitals**] are suffering greatly as physicians tend to the seriously injured on a daily bases and are short on auxiliary hospital staff .

[**جمعية الفيزياء الصينية عبر البحار**]

[**Chinese Overseas Physics Society**]

[**معهد الدراسات النووية**]

[**The Nuclear Research Institute**]

Sports (SPO)

Sports organizations are those that are primarily concerned with participating in or governing organized sporting events, whether professional, amateur, or scholastic. We will include groups whose sports are board games, card games, and games of chance in this category.

فاز [**النجمة**] علي [**شباب الساحل**] امس في الدوري اللبناني

[**Al Negma**] beat [**Shabab Al Sahel**] yesterday in the Lebanese tournament

وصل[**فريق ميلان**] الي نصف النهائى في كرة القدم

[**Milan**] reached the semifinals in the soccer championships

[**لجنة الفلبين الأولمبية**]

[**The Philippine Olympic Committee**]

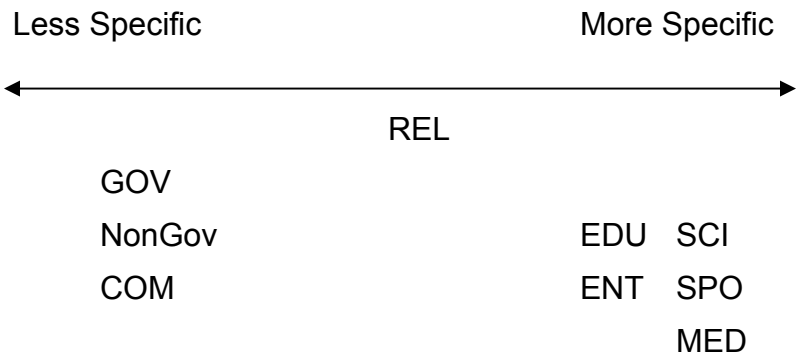
[**الاتحاد السعودي لكرة القدم**]

[**Saudi Soccer Federation**]

3.2.2 Organization Subtype Trumping Rules

The collection of organization subtypes is hierarchical in nature. Some organizations will naturally fit into more than one category. The following

diagram displays the hierarchy of organization subtypes. As a rule, we will assign the most specific type possible.



Exceptions to Trumping Rules

GPE military

The military organizations connected to a GPE's government will be tagged Government (GOV), for example: US Air Force

Media Conglomerates

Big media conglomerates such as Disney and Time-Warner will be tagged Commercial (COM). The subsidiary media organizations owned by these companies will be tagged Media (MED).

Medical Schools and Research Labs

Medical schools will be tagged Educational. Specific labs and research institutions which primarily devote their attention to medical or scientific research will be tagged Medical/Science (SCI) even when they are attached to educational institutions.

[المركز العلمي للبحوث]

[مركز أبحاث الأورام]

Soft Science Research Institutions

Institutions whose primary activity is the study of social sciences will be tagged Non-Governmental (NonGov).

[مركز البحوث الإجتماعية]

Boy Scouts

The Boy Scouts of America and similar organizations will be tagged Educational (EDU).

قام [**فريق** الكشافة] برحلة إلى جبال الألب

3.2.3 Organization Entities used in Person Contexts

Whenever an organization takes an action, there are people within or in charge of the organization that one presumes actually made the decision and then carried it out. Thus many organization mentions could be thought of as metonymically referring to people within the organization.

However, there seems to be little to be gained in the usual case by thus "reaching inside the organization" to posit a mention of a Person entity. It seems better to adopt the view that organizations can be agentive, and take action on their own. Only when something in the context draws particular attention to the people within the organization should a separate mention of a Person entity be marked.

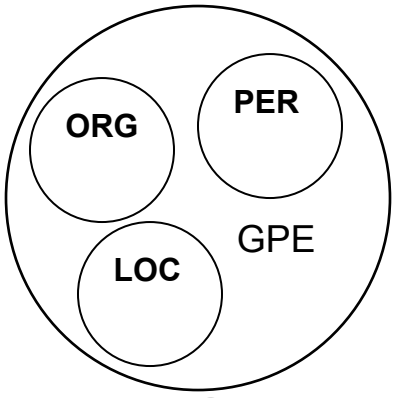
Sets of people who are not formally organized into a unit are to be treated as a Person entity rather than an Organization entity. It is often difficult to tell the difference between Organization entities and collections of individuals tagged as PER.Group entities. Examples of organization-like nouns which are *not* organizations are "employees," and "crew." Although the members of a company or crew may work together in an organized and even hierarchical fashion, the groups are not organizations by themselves.

[**العاملين**]

[**طاقم** الطائرة]

3.3 Geographical/Social/Political Entities (GPE)

Geo-Political Entities are composite entities comprised of a population, a government, a physical location, and a nation (or province, state, county, city, etc.). All mentions of these four aspects of a GPEs will be marked GPE and coreferenced.



In this sentence,

The people of France welcomed the agreement.

there are two mentions

[The people of France] GPE
[France] GPE

The mention of the population of France is marked GPE, rather than PER. These mentions would be coreference as they refer to different aspects of a single GPE.

Explicit references to the government of a country (state, city, etc.) are to be treated as references to the same entity evoked by the name of the country. Thus "*the United States*" and "*the United States government*" are mentions of the same entity. On the other hand, references to a portion of the government ("*the Administration*", "*the Clinton Administration*") are to be treated as a separate entity of type Organization, even if it may be used in some cases interchangeably with references to the entire government (compare "*the Clinton Administration signed a treaty*" and "*the United States signed a treaty*").

Sometimes the names of GPE entities may be used to refer to other things associated with a region besides the government, people, or aggregate contents of the region. The most common examples are sports teams:

[**المغرب**] يهزم [**كينيا**] بعد وقت إضافي

[***New York***] defeated [***Boston***] 99-97 in overtime.

These are to be recorded as distinct entities, not as mentions of the GPE entity. Thus, in this example, both "*New York*" and "*Boston*" would evoke Organization entities. Please refer to 6.2 for more discussions.

3.3.1 Subtypes for GPEs

We will further classify GPE entities with the following subtypes. GPE entities which do not fit into the subtypes defined below will not be annotated.

Continent

Taggable mentions of the entireties of any of the seven continents: North America, South America, Antarctica, Europe, Asia, Africa, and Australia.

ويشمل التقرير أسماء أربع وعشرين دولة معظمها من [**آسيا**] وأمريكا الوسطي والجنوبية

The report included names of 24 countries mostly from[**Asia**], Latin America, and Central America

تحاول [**اوروبا**] ان تتحد

[**Europe**] is trying to unite

Nation

Taggable mentions of the entireties of any nation.

وافقت [**السعودية**] على تخفيف أعباء الديون المتراكمة على اليمن

[**Kingdom of Saudi Arabia**] agreed to forgive part of Yemen's debt

اصيب مصريان برصاص الجيش [**الاسرائيلي**]

Two Egyptians were injured by [**Israeli**] bullets

State-or-Province

Taggable mentions of the entireties of any state, province, or canton of any nation.

[**محافظة القاهرة**]

[**Cairo Governorate**]

كما وقع حادثان اخران في[**محافظة القليوبية** شمال القاهرة] حيث لقي رجل واربعة نساء مصرعهم

There were two more accidents in [**Kalyoubia Governorate** north of Cairo] where a man and four women died.

محافظ [**سا ليسبيرج**] شواسبيرجر

[**Salzburg**] governor Schausberger

تم التوقيع علي وثيقة الاستقلال في [**بنسيلفانيا**]

The Declaration of Independence was signed in [**Pennsylvania**]

County-or-District

Taggable mentions of the entireties of any county, district, prefecture, or analogous body of any state/province/canton. Usually a County-or-District is bigger than a city, but smaller than a State-or-Province. Note in a lot of Arabic countries, there is not such infrastructure. You can find such mentions in files which reports news in other countries though.

This classification is according to US system, which may no apply to many other countries.

[**مرتفعات الجولان**]

[the **Golan Heights**]

Population-Center

Taggable mentions of the entireties of any GPE below the level of County-or-District, including cities, villages in Arabic countries. Units that are smaller than villages are considered as LOC-Region-General. Please refer below for more information.

عقد سفيرا أوزبكستان وأفغانستان اجتماعا ثانيا في [**العاصمة** الباكستانية]

The ambassadors of Uzbekistan and Afghanistan met in the [Pakistani **capital**]

اصيب عشرة اشخاص على الاقل بجروح في [**مدينة اشمون**] في حادث طريق بالامس

At least ten persons were injured in a road accident in [**Ashmoun city**]

ذكر المعهد الدولي للدراسات الاستراتيجية في [**لندن**] أن تجارة الأسلحة الدولية انخفضت

The International Institute for Strategic Studies in [**London**] said that the international weapon trade has slowed down

صرح مصدر في السفارة الاميركية في [**الرياض**] اليوم الثلاثاء ان وزيرة الخارجية الاميركية مادلين اولبرايت ستصل الى العاصمة السعودية في وقت لاحق

The American Embassy spokesman said Tuesday that US Secretary of State Madelaine Albright will arrive in [**Riyadh**] later today

يبدو أن احتفالات عيد الميلاد في [**مدينة بيت لحم**] بالذات والتي ولد فيها السيد المسيح ستكون مناسبة كئيبة هذا العام

It seems that the Christmas celebrations in [**Bethlehem**] the town where Jesus was born, will be sad event this year

GPE-Cluster

Named groupings of GPEs that can function as political entities.

Eastern Europe	أوروبا الشرقية
Western Europe	أوروبا الغربية
the European Union	الاتحاد الأوروبي
the Middle East	الشرق الأوسط
Southeast Asia	جنوب شرق آسيا
Latin America	أمريكا اللاتينية
The West	الغرب
The East	الشرق

The Gulf should be tagged as a Location/Region /natural when it refers to the sea , but as GPE/ Clusters when referring to countries around the Gulf.

Special

A closed set of GPEs for which the conventional labels do not straightforwardly apply.

.ان الشرطة [**الفلسطينية**] اوقفت فلسطينيا يشتبه في انه يتعامل مع اسرائيل

The [**Palestinian**] police arrested a Palestinian suspected of dealing with Israel

The following entities are also tagged as GPE /Special

Northern Ireland	ايرلندا الشمالية
Hong Kong	هونغ كونغ
Taiwan	تايوان

3.3.2 GPE-like Locations and Organizations

Incidental, non-political clusters of GPEs should be marked Location. Please refer to 3.4 for further discussion.

[جنوب **الولايات المتحدة**]

[the southern **United States**]

Coalitions of governments, as well as the UN, are organizational bodies and should be marked Organization.

مندوبوا[**الإتحاد الأوروبي**] صوتوا لصالح تغليظ العقوبات على إيران

[**حلف الأطلنطي**] يحذر من الإنتشار النووي

3.3.3 Formulaic GPE Constructions: Nested Region Names

A series of nested region names, such as "Provo, Utah" evokes one entity for each region. Thus "Provo, Utah" evokes one entity for the population center (with mention "Provo, Utah") and a second one for the state (with mention "Utah"). In Arabic, due to the absence of punctuation, there are several variants of this structure:

[**طرابلس**] ، [**لبنان**]

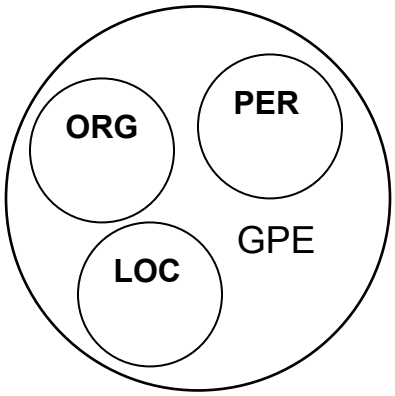
[**Tripoli**],[**Lebanon**]

[**القاهرة**]، [**مصر**]

[**Cairo**] [**Egypt**]

3.3.4 GPE Mention Roles

Annotators need to decide for each entity mention in the text which role (Person, Organization, Location, GPE) the context of that mention invokes. This judgment typically depends on the relations that the entity enters into.



- **GPE.ORG** - France signed a treaty with Germany last week.
- **GPE.PER** - France vacations in August.
- **GPE.LOC** - The world leaders met in France yesterday.
- **GPE.GPE** - France produces better wine than New Jersey.

In the examples above, the name “France” refers to a range of concepts. Annotators must select the Role which matches the function of the GPE mention.

The GPE role may be used in contexts that highlight the nation (or state or province or city, etc.) aspect of the GPE entity, as distinct from the government, populace, and location, but it may also be used in contexts referring to an indistinct amalgam of more than one of the aspects of a GPE (government, population, location, and nation).

France *produces better wine than New Jersey.*	GPE Role (whole nation)
France*’s greatest national treasure*	GPE Role (indistinct referent)

The following sections give particular guidelines for frequently encountered cases, with examples.

GPE.ORG

GPE.ORG is used for GPE mentions that refer to the entire governing body of a GPE. It is important to differentiate between a part of the government (the executive branch, the courts) and the entire governing body. Below are some examples of contexts in which GPE.ORG should be used.

Political Communication and Decision-making

ORGs are responsible for decisions to take military actions. ORGs are also responsible for political communication events such as announcements, agreements, statements, denials, expressions of approval and disapproval, etc. So, if *China* agrees to something, *China* is a GPE.ORG.

أصدرت [**الولايات المتحدة**] تقريرها السنوي عن الدول الرئيسية التي تهرب المخدرات

[The **US**] published its annual report on the main drug exporting countries

Governments

While the entity type for governments is GPE, the role for governments should always be GPE.ORG.

ان [**حكومة روسيا**] وكثير من السياسيين سيقدمون نقدا لاذعا للولايات المتحدة في حالة اكتشافهم تجاهلها لهم

But [the Russian **government**] and many politicians will be stridently critical of the United States if they believe they are being ignored.

أعلن مسؤولون صوماليون ان [**حكومتهم**] توصلت الى اتفاق مع اثيوبيا الخصم السابق على أن يعمل البلدان معاً

Somali officials declared that [their **government**] concluded an agreement of cooperation with its former enemy Ethiopia

Note that when the government is related to person it is annotated as ORG. GOV

[**حكومة بوش**]

[Bush **administration**]

GPE.PER

As stated above, populations of a GPE are treated as GPE.PER. However, it is sometimes difficult to determine whether a reference to people is a reference to the population as a whole.

[**اليابانيون**] يحملون مسؤولية ضخمة لحروب النصف الأول من القرن

[The **Japanese**] have a considerable responsibility for the wars of the first half of the century

In this example, the phrase *the Japanese* may be interpreted as the population of Japan, or the government of Japan, or the Japanese military, or even some part of the Japanese population. If the annotator believes that the phrase in question refers to the population of the GPE, or most of the population of a GPE, then the annotation should be GPE.PER and the mention is a name mention. However, if the annotator believes the phrase refers to a group of people, then PER is the

assigned annotation and the mention is nominal because it does not refer to the name of a person. Example:

أفاد بتلر بأنه يمكن انهاء الحظر الاقتصادي اذا سمح [**العراقيون**] للمفتشين بأداء واجبهم

Butler says those economic sanctions could be lifted soon if [the **Iraqis**] allow the inspectors to do their job.

GPE.LOC

GPE.LOC is used when a mention of a GPE entity primarily references the territory or geographic position of the GPE.

/ن مراسلتنا أليشاراي في مكتبنا الإقليمي في[**آسيا**] أفادت بأن عملية عزل الرئيس استرادا قد تستغرق ستة أشهر

Sabah, our reporter in our regional [**Asia**] office , reported that dismissing president Estrada may take six months

أعلنت في [**مدينة الرياض** في السعودية] عن إصابة ثلاثة بريطانيين بجراح يوم أمس أثر وقوع انفجار في سيارة كانت تقلهم

It was reported in [**Riyadh City** in Saudi Arabia] that 3 Britons were injured when their car was blown up

لم يعلن أحد مسئوليته عن أي من الحادثين الذين وقعا بعد أسبوع من إلقاء قنبلة على مبنى السفارة الأمريكية في[**العاصمة** اليمنية صنعاء]

No one claimed responsibility for either of the two incidents that occurred one week after the bombing of the American Embassy building in [**Sanaa**]

إن مساحة [**فرنسا**] 547090 كيلو متر مربع

[**France**] has an area of 547,090 square kilometers

المقاتلات الجوية الأمريكية حلقت فوق[**أفغانستان**]

U.S. warplanes flew over [**Afghanistan**]

In nested mentions of the form *[child,[parent]]*, the parent GPE always takes a GPE role; the child's role depends on context.

[**طرابلس** ، لبنان]

[**Tripoli**, Lebanon]

ا

Dateline mentions of GPEs are given a location role.

[**بيروت** – لبنان 1-5-2005

[**Beirut** – Lebanon] 1 - 5 – 2005

GPE.GPE

GPE.GPE is used when more than one of the other GPE roles is being referenced at once or when no one role stands out in the context. Below are a few particular contexts in which GPE.GPE should always be used.

GPE Postmodifiers (Premodifiers in English)

Postmodifiers are inherently vague and difficult to decompose. For this reason, all GPE postmodifiers will be assigned the role GPE.GPE.

القوات [**الأسرائيلية**]

[**Israel**] troops

رجال بوليس [**نيو يورك**]

[**New York**] policemen

رئيس الوزراء [**البريطاني**]

[**British**] Prime Minister

طائرة المتابعة [**الأمريكية**]

[**U.S**.] surveillance aircraft

العلم [**العراقي**]

[**Iraqi**] flag

مواجهات اندلعت بعد ظهر اليوم الاربعاء بين فلسطينيين وبين الجيش [**الاسرائيلي**] في مدينة بيت لحم وضواحيها في الضفة الغربية

Clashes broke out on Wednesday in Jerusalem and its suburbs between Palestinians and the [**Israeli**] army

Military Activity

Similarly, military activities like invasions, military strikes, bombings, etc. are considered to be acts carried out by and directed at entire nations (not distinguishable from the government, people and location of that nation) and therefore are associated with GPEs. Both the aggressors and the victims in these cases are marked GPE.GPE.

كان من الممكن أن تستخدم المدينة بعض الاجراءات الوقائية في عام 1979 حينما قام [**الأتحاد السوفيتي**] بغزو أفغانستان

The city could have used some special protection in nineteen seventy-nine when the [**Soviet Union**] invaded Afghanistan.

Activities Associated with GPEs

Certain activities are associated with GPEs and therefore invoke a GPE role. For example, in *a pro-Iraq rally, Iraq* is assigned a GPE.GPE annotation. A rally is generally concerned with a nation as a whole, rather than exclusively a location or government.

حظرت السلطة الفلسطينية التجمعات المدافعة عن [**العراق**] و لكن هذا الحظر لم يؤخذ في الأعتبار

The Palestinian Authority has banned pro- [**Iraq**] rallies, but that ban was widely ignored.

Athletes, Sports Teams, and GPEs

Athletes and teams are associated with GPE.GPEs as in example below.

Lance Armstrong of Team United States won the Tour of France 7 times.

However, when a GPE name is used as a team name (as in *Boston beat Philly*), the entity is marked as a Nickname Metonymy. Please refer to 6.2 for further discussion.

Political associations

Political associations hold between people and GPEs. So in *Hillary Clinton (D-NY)*, *NY* is marked GPE.GPE.

"ستكون المناقشات عنيفة " قال توماس سايرمندوب الحزب الديمقراطى -[**اوهايو**]

“This is going to be a brutal fight," said Rep. Thomas C. Sawyer D-[**Ohio**].

صرح مجدي الصياد – الحزب الوطني – [**بني سويف**] - بان الحكومة ستعضد محدودي الدخل

Magdy El Sayad National Party-[**Beny Sweif**] said that the government will support low income people

3. 4 Locations

Places defined on a geographical or astronomical basis which are mentioned in a document and do not constitute a political entity give rise to Location entities. These include, for example, the solar system, Mars, the Hudson River, Mt. Everest, and Death Valley.

Places distinguished *only* by the occurrence of an event at that position ("the scene of the murder", "the site of the rocket launching") are not entities.

3.4.1 Subtypes for Locations

We will further classify Location entities with the following subtypes. Locations that do not fit into the subtypes defined below will not be tagged.

Address

A location denoted as a point such as in a postal system or abstract coordinates ("31° S, 22° W"). The name of a location in a postal system is also an address.

[**17 شارع فؤاد**]

[**17 Foad St**.]

Boundary

A one-dimensional location such as a border between GPE's or other locations.

اعلن الجيش الاسرائيلي مساء اليوم الجمعة احباط محاولة تسلل "لمجموعة ارهابية" على[**الحدود**] مع لبنان

The Israeli army announced Friday evening that it had stopped a terrorist group from crossing the Lebanese [**borders**]

Celestial

A location which is otherworldly or entire-world-inclusive The rule of thumb is to tag world, earth, globe in addition to all other planets as LOC celestial

قال علماء إن **كوكب** [**المريخ**] ربما كان في بداياته أرضاً للبحيرات بعد اكتشاف طبقات لصخور رسوبية على غرار تلك الموجودة على[**الأرض**]

Scientists say that planet [**Mars**] may have had lakes after discovery of layers of rocks similar to those on [**Earth**]

يدور الصاروخ حول[**الارض**] بسرعة مهولة

The space ship orbits at high speed around the [**Earth**]

Water-Body

Bodies of water, natural or artificial (man-made).

بدأت امس تدريبات عسكرية مصرية سعودية مشتركة جوية وبحرية في[**البحر الاحمر**]

Combined Egyptian- Saudi air and naval military training began yesterday around the [**Red Sea**]

Land-Region-natural

Geologically or ecosystemically designated, non-artificial locations.

قتل مائة وسبعون شخصا بعد اندلاع حريق في قطار يحمل متزلجين إلى منتجع شتوي في[**جبال** الألب]

170 skiers were killed in a fire on a train at a winter resort in [**the Alps]**

Region-International

Taggable locations that cross national borders.

ويحظر ايضا سفر المسؤولين في حركة طالبان حتى حدود رتبة وزير، الى[**الخارج**]

Region-General

Taggable locations that do not cross national borders.

بعد ظهر اليوم الخميس حدث هجوم مسلح على سيارتهم في[شمال **الضفة الغربية**]

There was an armed attack Thursday afternoon on cars in [northern **West Bank**]

قتل اثني عشر شخصا على الأقل في هجوم في[**الجزء** الذي تسيطر عليه الهند من كشمير]

At least twelve people were killed in an attack in [the Indian **region** of Kashmir]

3.4.2 Sub-parts of Locations and GPEs

Portions of GPE entities or Location entities, such as "*the center of the city*", "*the outskirts of the city*", or "*the southern half of New Jersey*" constitute Location entities in their own right. When general locative phrases like “top,” “bottom,” “edge,” “periphery,” “center,” and “middle” are used to pinpoint a portion of a markable location, they are markable locations.

1) The [**Sudan** the southern] where the southern is an adjective while Sudan is treated as a NOM.LOC This construct occurs rarely in Arabic.

[**السودان** الجنوبي]

2) South-genetive Sudan where south is a NOM.LOC, while Sudan is a NAM.GPE

[جنوب **السودان**]

When the text implies “south of the nation of Sudan”, there are two taggable mentions: [South-genetive Sudan] where south is the head (NOM-LOC-Region-General) and [Sudan] is (NAM-GPE-Nation)

3) When the text implies “the southern part of the nation of Sudan” , there is only one mention “Sudan” for the whole extent. It will be Nom LOC

[**جنوب** السودان]

[**South** of the Sudan]

The construction of 2) and 3) is exactly the same in Arabic, and has to be understood from the text in most of cases. In some other cases it is almost impossible to distinguish between them.

3.4.3 Non-Locations

It is easy to start interpreting all objects as locations. Every physical object implies a location because the space that each physical object occupies is the "location" of that object. In addition, our language is full of location modifiers (which are often prepositional phrases) that pinpoint objects and activities, and even abstract concepts:

"معطفك تحت الكلب"

"Your coat is under the dog."

"الأرنب مختبئ خلف هذة الصخرة"

"The rabbit is hiding behind that rock."

"لدي فكرة في مخيلتي"

"I have an idea in my head."

Viewed from a certain angle, "the dog," "that rock" and "my head" become locations. Very "location-ish" nouns make such an interpretation even more tempting:

"لقد أسقط المفاتيح علي الأرض"

"He dropped the logs on the ground."

"لقد أعاد المصباح الي مكانه مرة أخري"

"He put the lamp back in its place."

However, none of these are taggable location expressions. They do not fall within any of the classes defined above for taggable locations. The annotator must be careful not to fall down this slippery slope.

Do not tag compass points when they serve as adjectives or refer to directions, as in "the ants are heading north" and "they are found as far north as Maine." Compass points should only be tagged when they refer to sections of a region, as in "the far west."

[الشرق الأقصى]

[الشرق الأدنى]

These will be annotated as Loc.Reg. International. YES

3.5 Facilities

A facility is a functional, primarily man-made structure. These include buildings and similar facilities designed for human habitation, such as houses, factories, stadiums, office buildings, gymnasiums, prisons, museums, and space stations; objects of similar size designed for storage, such as barns, parking garages and

airplane hangars; elements of transportation infrastructure, including streets, highways, airports, ports, train stations, bridges, and tunnels. Roughly speaking, facilities are artifacts falling under the domains of architecture and civil engineering.

3.5.1 Subtypes for Facilities

We will further classify Facility entities with the following subtypes. Facility entities which do not fit into the subtypes defined below will not be tagged.

Airport

A facility whose primary use is as an airport.

[**مطار لاجواردیا** في نيو يورك] كان كارثة هذا العام

[New York's **La Guardia airport**] has been a nightmare this year

Plant

One or more buildings that are used and/or designed solely for industrial purposes: manufacturing, power generation, etc.

شب حريق في [**مصنع** الكاوتش] في شبرا

Building-or-Grounds

Man-made/-maintained buildings, outdoor spaces, and other such facilities. This includes anything from a tent to a hotel to a ranch to Disneyland.

مئات الفلسطينيين أدخلوا إلى[**المستشفيات** الإسرائيلية] لتلقى العلاج

Hundreds of Palestinians were treated in [Israeli **hospitals**]

أمر الجيش الإسرائيلي الفلسطينيين بمغادرة[**مكاتب** الاتصال المشتركة في الضفة الغربية وقطاع غزة]

The Israeli army ordered the Palestinians to move out of the [joint communication **offices]** of the in West Bank and Gaza strip

رجل أعمال سعودي يسعى إلى تجنب تسليمه إلى الولايات بتهم تتعلق بتفجير[**السفارتين** الأمريكتين]

A Saudi businessman is trying to avoid extradition to the US to be tried on charges of blowing up [the two American **embassies**]

56 اعتقلوا فجراً من[***منازلهم***]

56 were arrested in the early morning in[their **homes**]

وحاول اقرباء القتيل والجرحى اشعال النار في[**محطة** للبنزين في المدينة]

The relatives of the dead and the wounded attempted to set fire to [the gas **station** in the city]

Subarea-Facility

Taggable portions of facilities. The threshold of taggability of subarea-facility is the ability of the area to contain a normally proportioned person comfortably. Individual rooms of buildings are considered subarea-facilitiy, but other portions of buildings, such as walls, windows, or doors, are not tagged.

الجلسة الاولى من المحاكمة جرت في حضور المحاميين امام [**غرفة** الاتهام الخامسة في المحكمة العسكرية]

The first session of the trial was attended by the lawyers in[the 5th. Charge **room** in the military court]

وقد تمكن رسام من[**زنزانته** في سياتل] من الاستماع الى اقوال الشهود في مونتريال بفضل نظام كاميرات بحلقة مقفلة

Rassam was able to hear the witnesses in Montreal from[**his jail** cell in Seattle] via the closed circuit video

[**بهو** الفندق]

[The hotel **lobby]**

Path

A facility that allows fluids, energies, persons or vehicles to pass from one location to another. For example: streets, canals, and bridges.

كانت القوات الاسرائيلية تمنع المواطنين من التنقل عبر[**الشوارع** الرئيسية]

The Israeli forces prevented the movement of people in [the main **streets**]

[**الخطوط** الهاتفية] انهارت

[Telephone **lines**] were knocked down……

4 Entity Class

Each taggable entity must be assigned a class that describes the kind of reference the entity makes to something in the world. The distinction between referential and attributive uses of an NP is given by the following definitions for ACE:

A mention is referential if it (a) introduces a new entity into the discourse or (b) is a definite descriptive term, a name, or an anaphoric expression for a referential mention previously occurred in the discourse.

A mention is attributive if the mention (a) states a property or properties about an entity referenced by another mention within the same sentence – often as an appositive to or part of a predicate on the other mention – or (b) qualifies an entity through immediate modification within the same phrase.

Referential mentions are further divided into generic and non-generic classes. A generic mention refers to a class/kind/species of objects or a typical representative of that class/kind/species and does not point to or pick out any specific individual object(s) of that class/kind/species. So if any property predicates on a generic mention, it means the entire class referred to by the mention has that property, or all/most/any members of that class have the property.

A non-generic referential mention refers to one or more individual member entities of a particular class. The entity or entities can be accounted for by pointing (specific) or cannot be precisely accounted for (underspecified).

Please see Appendix A for the Decision Tree for Entity Class. This tree steps through the process of assigning a class to an entity.

4.1 Negatively Quantified (NEG)

An entity is NEG when it has been quantified such that it refers to the empty set of the type of object mentioned.

لا **[محامي** عاقل] يترافع في مثل هذه القضية

[No sensible **lawyer**] would take that case.

Please note that we do not assign NEG for entities introduced by negated predicates.

إنهم ليسوا**[بمحامين]**

They are not [**lawyers**].

لا يوجد[**متهم** محدد] حتي الان لكن المسئولين قالوا ان عديد من مجموعات الشرق الاوسط من التوقع ان تخضع للتحريات

There aren't [any confirmed **suspects**] yet, but officials say several Middle East groups are expected to be investigated.

4.2 Non-referential/Attributive/Ascriptive (ATR)

An entity is ATR when it is not being used to refer, but rather to attribute some property or attribute to some entity. The titles (3.1.2), the nominal mention in apposition (5.4.1) and postmodifiers (5.1.9) all fall into this class. Note that not all postmodifiers are tagged as ATR. For example, in

[الجيش[**الاسرائيلي**]

Israeli is an ATR; but in

قمة[**العرب]**

Arab is considered as a SPC. The difference between these two structures is that in “the Army the Israeli”, ”the Israeli is a postmodifier of “the army”, while in “summit the Arab” which is equivalent to “the summit of the Arabs” in English, “the Arabs” is a SPC. In the following examples where the title is followed by proper name, the title is annotated as ATR.

[**الرئيس** الاسد]

[**President** Al-Asad]

[**الدكتور** علي]

[**Dr.** Ali]

[**الكيميائي** سمير]

[**The chemist** Samir]

If the title is followed by an adjective, it is annotated as SPC, as shown in the following examples:

[**الرئيس** المصري]

[The Egyptian **president**]

[**الطبيب** البارع]

[The smart **physician**]

[**الطالب** المهمل]

[The careless **student**]

4.3 Specific Referential (SPC)

An entity is SPC when the entity being referred to is a particular, unique object (or set of objects), whether or not the author or reader is aware of the name of the entity or its anchor in the (local) real world.

حظرت السلطة الفلسطينية التجمعات المدافعة عن[**العراق**] و لكن هذا الحظر لم يؤخذ في الأعتبار

The Palestinian Authority has banned pro-[**Iraq**] rallies, but that ban has been widely ignored.

[3 **جنود** اسرائيليين]

[Three Israeli **soldiers**]

4.4 Generic Referential (GEN)

An entity is GEN when the entity being referred to is not a particular, unique object (or set of objects). Instead GEN entities refer to a kind or type or class of entity. Notice that the mentions in question are still understood to be referential

in that they point to actual things in the world rather than saying that an object 'has that property' or some similar notion. In fact, the subject NP in all the following examples has a generic reading:
In Arabic, an entity must have a definite determiner to be considered generic

[**المحامون**] مخلصون فى عملهم

[**Lawyers**] are honest

[**المهندسون**] مبتكرون

[**Engineers**] are creative

[**الممرضات**] يعتنون بالمرضى

[**Nurses**] take care of the patients

What is common to these examples is the predicate: it's a kind-level predicate, meaning the predicate describes a property of a kind of entities. Individual- and species-level predicates are also triggers:

[**الأطباء**] يحبون قراءة الأبحاث الحديثة

[**Physicians**] like to read new researches

4.5 Under-specified Referential (USP)

We reserve the term underspecified for non-generic non-specific reference. Underspecified references include quantified NP's in modal, future, conditional, hypothetical, negated, uncertain, question contexts (in all cases the entity/entities referenced cannot be verified, regardless of the amount of "effort").

[بعض **الأمريكان**] لا يحبون البيتزا

[Some **Americans**] don't like pizza

Another example of an underspecified entity is a mention of a large number of entities where the actual members of the set are not necessarily identifiable and the number used is an estimate.

[آلآف **الناس**] سيحضروا المؤتمر

[**Thousands** of people] will attend the conference.

However, if the phrase was in the past tense as in the following example, we will tag it as specific

[آلآف **الناس**] حضروا المؤتمر

[**Thousands** of people] attended the conference.

While we try to define the other four categories as precisely as possible, annotators may still encounter NPs that cannot be classified. In these cases, annotators should make these NPs Underspecifed. By partitioning these truly ambiguous cases into the USP category, annotators will be able to make clearer distinctions between the other four categories, thus improving consistency.

5 Mention Types/Mention Levels

For each entity, we record and coreference all mentions of the entity. As mentioned, an entity refers to an object or set of objects in the world. A mention is a reference to an enity. A single entity can have multiple representations, such as proper name, noun phrase, pronoun. If multiple mentions refer to the same entity, we need to coreference them. (In the tool, the way of coreference is to put all mentions of an entity in the same row).

سيلقي[[**الرئيس**[**الاسد**]] خطاب باكر **وهو** سيستعرض فيه انجازاته و المشاكل التي يبحث لها عن حل و سيصحب[**الرئيس**] اغلب الوزراء

[**President** [**Al Assad**]] will give a speech tomorrow. **[He**] will enumerate all [**his**] achievements and the problems that [**he**] still hopes to solve. [**The President**] will be accompanied by most of the ministers

Mentions will frequently be nested; that is, they will contain mentions of other entities. For example, the phrase

[رئيس[**فورد**]]

[**The president** of[**Ford**]]

is a mention of an entity of type Person, and contains the name "Ford", a mention of an entity of type Organization. It is even possible for a noun phrase to contain an embedded mention of the same entity. For instance,

[[**الرئيس**[**مبارك**] [**الذي**] رشح نفسه لفترة رئاسية جديدة]

[[**President**[**Mubarak**]] [**who**] is running for new presidency period]

Mentions are categorized at several levels. At the top level there are two major types, simple and complex mentions. This top level distinction is motivated by the fact that some mentions have complex syntactic structures that cannot be easily annotated without breaking the syntactic analyses and/or information loss. Subcategorizations of mentions types are syntactically motivated. The following table lists all the types we distinguish for Arabic.

Simple Mentions	Named (**NAM, NAMPRE**)
	Nominal (**NOM, NOMPRE**)
	Pronominal (**PRO**)
	Headless nominal (**HLS**)
	Partive Constructions (**PTV**)
	WH-Question words and specifiers (**WHQ**)
Complex Mentions	Apposition Constructions (**APP**)
	Complex constructions taking a relative clause (**ARC**)

We will tag the mention as PTV only when it contains the preposition “of” as in:

[**خمسة** من الأطفال]

[**Five** of the kids]

But for other cases it will be tagged as NOM as in:

[**بعض** من الأطفال]

[**Some** of the kids]

5.1 Simple Mentions

Simple mentions are full noun phrases. For each simple mention, we record its full extent and its head.

5.1.1 Mention Extent

The extent of a mention consists of the entire nominal phrase. In case of structures where there is some irresolvable ambiguity as to the attachment of modifiers, the extent annotated should be the maximal extent. In the case of a discontinuous constituent, the extent goes to the end of the constituent, even if that means including tokens that are not part of the constituent. Thus, in

[[**الرئيس**[**مبارك**][**الذي**] رشح نفسه لفترة رئاسية جديدة]

[[**President** [**Mubarak**][**who**] is running for another term in office]

the extent of the mention is the entire phrase:

الرئيس مبارك الذي رشح نفسه لفترة رئاسية جديدة

The extent includes all the modifiers of a nominal phrase, including prepositional phrases and relative clauses.

Generally speaking, tokens are broken at white space, and each item of punctuation is treated as a separate character. As a rule, we do not include punctuation such as commas, periods, and quotation marks in the extent of a

mention unless words included within the extent continue on after the punctuation mark.

Conjoined Mentions that are Modified

In constructions of conjoined mentions that share the same premodifiers or postmodifiers, each of the conjoined heads is tagged as the head of a single mention. The following examples will yield two tagged mentions.

20 رجل وامراءة غضبي	
Nom mention	[20 **رجل**وامراءة غضبي] [20 angry men and women]
Nom mention	[20 رجل و**امراءة** غضبي [20 angry men and women]

بيل كلينتون وجيمي كارتر من الرؤساء السابقين	
NAM	[**بيل كلينتون** وجيمي كارتر من الرؤساء السابقين] [**Bill Clinton** and Jimmy Carter who are both former presidents]
NAM	[بيل كلينتون **وجيمي كارتر** من الرؤساء السابقين] [Bill Clinton and **Jimmy Carter** who are both former presidents]

5.1.2 Mention Head

In addition to the extent of the nominal phrase, the head of the phrase must be marked. In

[**اعضاء** هيئة التدريس] قاموا برحلة

the full mention is

أعضاء هيئة التدريس

and the head is اعضاء. If the syntactic head of the phrase is a multi-token item, the first right token is marked. If the head is a proper name, however, then the whole extent of the name is considered to be the head. In the following examples, the mention is enclosed in brackets and the head is underlined:

أصبح [**أحمد نظيف**] رئيس الوزراء الجديد

5.1.3 Names (NAM)

Proper nouns and nicknames.

[**John**] [**جون**]

وزير الدفاع[**وليام كوهين**]

Defense Secretary [**William Cohen**]

مخيم اللاجئين قرب **طرابلس**

[[**Nahr el Bared** refugee camp near Tripoli]]

[**جامعةالملك فهد** في [**جدة**]]

5.1.4 Nominal Constructions (NOM)

A noun quantified with a determiner, a quantifier, or a possessive.

[**المحامي**]

5.1.5 Pronouns (PRO)

Pronouns with the exception of wh-question words and the specifier 'that'. A pronominal paradigm if Arabic consists of 12 forms: In singular and plural, the 2nd and 3rd persons differentiate gender, while the 1st person does not. In the dual, there is no 1st person, and only a single form for each 2nd and 3rd person. Traditionally, the pronouns are listed in order 3rd, 2nd, 1st.

Personal pronouns

Person الضمير	**Singular** مفرد	**Plural** جمع	**dual** مثنى
3rd male	هو	هم	هما
3rd female	هي	هن	هما
2nd male	أنت	أنتم	أنتما
2nd female	أنتٍ	أنتن	أنتما
1st	أنا	نحن	

Notes:

In Arabic the pronoun is normally not used. Instead, there are a lot of enclitic forms of the pronoun which are affixed to nouns (representing genitive case, i.e. possession) and to verbs (representing accusative, i.e. a direct object). However, we do not tag enclitic pronouns as in:

مكتبته حكومتهم جامعتنا

His library Their government our university

5.1.6 WH-Question Words and Specifiers (WHQ)

WH-question words.

[**الذي**]
المدير[**الذي**] تحدث عن

الجندي الروسي[**الذي**] انتظر عدة ايام قبل ان يطلب الطوارئ
المانيا [**حيث**] اعتقلوا بالامس

5.1.7 Headless Mentions (HLS)

Headless mentions are constructions in which the nominal head is not overtly expressed. Although these mentions are technically headless, we will assign as head the quatifiers such as the numbers in the following. Note that in Arabic, there are similar structures like the English expression “the toughest”. We treat these as Nominals rather than Headless mentions.

[أكثر من ***30***]

جُرح[***35***]

5.1.8 Partitive Constructions (PTV)

Partitive constructions have two elements: the part and the whole. The first element of a partitive construction lacks a head and quantifies over the second element. Just as in Headless mentions, we will tag the right most premodifier of the first element as the head of the partitive construction.

[**بعض** من المحامين]

[**some** of the lawyers]

There are some constructions with prepositional phrase that greatly resemble partitives**, but should not be tagged as partitives**. The first element of these constructions is a nominal that can function as a head.

Examples of non-partitives (two entity mentions):

[ثلاث **أعضاء** من الفريق]

[Three **members** of the team]

5.1.9 Postmodifier Mentions (NAMPRE, NOMPRE)

Postmodifier mentions (the premodifiers in English) are those mentions which occur in a modifying position before another word(s). It is immaterial whether or not the word being modified is a taggable entity.

In almost all cases, the construction of the Postmodifier mention must be identical to the construction of the mention as it would occur in a NOM, or NAM construction. The only exception to this rule is the transformations that occur on name-mentions of LOC's and GPE's in their premodifier positions. Transformations of names or nominal mentions for any other types of entities are not taggable.

[القوات **الاسرائيلية**]

[The **Israeli**] troops

[الناشرون **اللبنانيون**]

[The **Lebanese**] publishers

اللغة[**الالمانية**]

[The **German**] language

Taggable	**Not Taggable**
وزير الخارجية[**الروسي**] the [**Russian**] foreign minister	الامم الستالينية Stalinist nations
مناطق[**الجبل**] [**mountain**] regions	المناطق الجبلية mountainous regions
منح[**الحكومة**] [**government**] grants	المنح الحكومية federal grants
قري[**الالب**] [**Alpine**] villages	Machiavellian strategy

5.1.10 NAM vs. NOM

Some ambiguities can arise when trying to make a NAM-NOM distinction. It may appear that a NOM is being used to name something, or that a NAM mention may be decomposable into a few NOMs.

A general property of NAMs is that they are defined to pick out one particular entity as a referent. They are unique identifiers, like "Vladimir Putin" or "The United States."

NOMs, on the other hand, define an entire category. They can pick out a referent which belongs to its category, but only after disambiguating it from all

other potential members of its category. If a nominal mention is used as an individual reference in a discourse, the head noun often has to be “individualized” via quantification and/or qualification with determiners, adjectives, relative clauses, etc.

سيلقي[**الاسد**]] خطاب باكر وهو سيستعرض فيه انجازاته و المشاكل التي يبحث لها عن حل و سيصحب[**الرئيس**] اغلب الوزراء

[**Al Assad**] is a NAM while [The **President**] is a NOM.

One of the trickiest parts of distinguishing NAM's and NOM's is NOM's modified by NAM's such that they only have one referent where the NOM refer to an entire category, as:

جيش اميركا

America’s army

المحكمة العليا المصرية

the Egyptian Supreme Court

[**الجيش** الاسرائيلي]

the Israeli **army**

In the above examples, *army*, *supreme court* are twocategories, which makes them two NOM mentions in ACE. But with the GPE modifying the categories, they pick out a specific referent in each category. It is hard to decide whether the whole string should be treated as a NAM or a NOM mention with GPE NAMPRE. Looking up the real name of the entity is not a good option for any entity type, since consistency is more important than accuracy and annotation speed can't afford to drop. Hence, we adopt the following rules in Arabic:

For such NOMs with embedded GPEs, if the GPE is in the form of noun, and the whole string is an iddafa, treat the whole iddafa is a NAM

[جيش اميركا]

America’s army

[حكومة ايرلندا]

Ireland’s government

[محكمة فيلادلفيا]

Philadelphia court

[**محكمة بلدية فيلادلفيا**]

[Philadelphia Municipal Court]

[بنك القاهرة العام]

[**Cairo National Bank**]

If the GPE is in an adjectival form, treat it as a NOM embedded with a GPE, for example:

[**المحكمة** العليا المصرية]

[**the Egyptian**] Supreme Court]

[**الجيش** الاسرائيلي]

[**the Israeli**] army]

In cases of GPE modified NAMs, we also need to consider whether the GPE is part of the head of the name or a nested GPE entity. For example:

European Automobile Manufacturers' Association
Chinese Center for Disease Control and Prevention

The rule is to include the GPE as part of the head of the name, even though "*Automobile Manufacturers' Association"* or *"Center for Disease Control and Prevention"* could be stand-alone NAMs. Annotators may often find the two versions of names in the same file.

[European Automobile Manufacturers' Association]NAM-ORG

[الإتحاد الأوروبى لصناع السيارات]

[Automobile Manufacturers' Association]NAM-ORG

[إتحاد صناع السيارات]

[Chinese Center for Disease Control and Prevention]NAM-ORG

[المركز الصينى لمكافحة ومنع الأمراض]

[Center for Disease Control and Prevention]NAM-ORG

[مركز مكافحة ومنع الأمراض]

5.2 Complex Constructions

The purpose of complex constructions is to identify difficult regions where the simple mention extent rules do not apply. We do not identify heads for complex constructions. Within the extent of a complex construction, simple mentions will be annotated. Each of these complex constructions has rules for extent.

5.2.1 Appositive Constructions (APP)

Apposition is a construction which consists of two or more full mentions which refer to (or predicate on) the same entity. The two mentions are placed side by side, with one explains or characterize the other. Superficially this looks similar to a noun modifying another noun. However, they are different in that in an appositive construction, the first NP and the second NP roughly refers to the same entity, whereas this is not the case in a noun-noun compound. In annotation, the APP-mention itself has no head-assignment.

[[**الرئيس** [**الروسي**][**بوتين**]]

[[**Russian**][**president**][**Valdmir Putin**]]

[[**رئيس**[**روسيا**] [**بوتين**]]

[[**Russia's**] [**President**]**Putin**]] (not an APP in English)

[[**امين** عام [**الامم المتحدة**] [**كوفي عنان**]]

[[**Secretary** General to [**the UN**][**Kofi Anan**]]

Another structure in Arabic similar to App constructions is the construction of proper names with titles (3.1.2 and 3.1.3), such as "the president Putin" which is not considered as an apposition. The difference is that when the nominal head has modifiers, we treat the whole phrase as an APP; when the nominal head has no modifiers, we tag the nominal as the head of a NOM mention and the proper name as a NAM mention. Below is the annotation for these two structures.

Title with proper name

[**البابا** [يوحنا بولس الثاني]] [**Pope** [John Paul II] NOM.ATR	PER.Individual
[**يوحنا بولس الثاني**] [**John Paul II**] NAM. SPC	

Apposition:

[الرئيس الروسي بوتين] [Russian president Putin] APP.SPC	PER.Individual
[**الرئيس** الروسي] [Russian **president**]Nom. Atr.	

[بوتين] [**Putin**] NAM. SPC	

5.2.2 Complex Constructions taking a Relative Clause (ARC)

An ARC-construction is an appositional construction with an adjacent relative clause that is an adjunct to the entire apposition, rather than just to the Nominal mention or Name mention. In ARC-constructions, the component entity mentions and the WHQ mention all are tagged and assigned heads, after which the headless ARC-tag is applied.

[رئيس روسيا بوتين الذي اصبح في السلطة عام 2000] [Russian president Putin who took power in 2000] ARC	*PER.Individual*
[**رئيس** [**روسيا**][**بوتين**]] [[**Russian**]**president**]**Putin**] APP	
[**رئيس** روسيا] NOM.PER [Russian **president**]	
[***بوتين***] [**Putin**]	
[***الذي***] [**who**]	

6 Nickname Metonymy

Metonymy occurs when a speaker uses a reference to one entity to refer to another entity (or entities) related to it. For example, in the sentence below *Beijing* is a capital city name that is used as a reference to the Chinese government:

Beijing *will not continue sales of anti-ship missiles to Iran.*

While this phenomenon occurs in many different contexts and to varied degrees, we are only interested in what we are calling "Nickname Metonymy" for the purposes of this stage of the annotation process. This kind of metonymy occurs when the name of one entity is used to refer to another entity. The pure metaphoric mentions as in "*he is my sun*" is not treated as metonymy, but as attributive nominal. The sections below outline several common examples. This is not an exhaustive list. Any example of this kind of reference should be identified. We will coreference the mention with the entity to which the mention

refers in the context and indicate that this is an example of Nickname Metonymy by selecting the check box.

6.1 Capital City or Government Seat (FAC) Names standing in for Country's Government

Cases in which the capital city or the building that is the seat of government is used to refer to the nation's government are marked as classic metonyms.

[**بكين**] لن تستمر في بيع القاذفات المضادة للسفن الي ايران

[**Beijing**] will not continue sales of anti-ship missiles to Iran.

In this example there are two senses of the word Beijing: the city Beijing and the government of China. We will tag Bejing as the government of China (GPE.ORG) mention and coreference it with the China entity. If there is a later mention of the city of Beijing (for example, Cohen left {the city} this morning), it would be a GPE.LOC mention of the Beijing entity.

Common examples of government seats used to refer to the nation's government are "The White House" and "The Kremlin". We will tag these according to the entity to which they refer.

[**طهران**] لن توقف برنامجها النووي

صرح [**الكريملين**] بأن روسيا ستستعمل حق الفيتو

[**البيت الأبيض**] يطلب تشديد العقوبات على إيران

6.2 City name for Sports Team

When the name of a GPE refers to a sports team, the mention is marked for Nickname Metonymy. The mention is coreferenced with the sports team's entity.

[**امريكا**] عادت بالذهب

[**مصر**] حازت على بطولة كأس أفريقيا لكرة القدم

7 Cross-Type Metonymy

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 entity 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 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 (the sequence is reversed in the Arabic example. The first mention is reflecting the ORG, while the second references the FAC).

قال المتحدث الرسمي[**للمستشفى**] ان سعيد 42 عام لقي حتفه بعد ساعة في[**مستشفى القديس جون ماكومب**] و المتهم توفي بعد ذلك في نفس الليلة

Walters, 42, died an hour later at [**St. John Macomb Hospital**]. The suspect died later that same night, according to[**hospital**] spokeswoman Rebecca O'Grady . His name wasn't released.

We will annotate examples like this as follows.

CE	***Argument 1***	***Cross type metonymy***
CE1(Arabic)	**مستشفي القديس جون ماكومب** **St. John Macomb Hospital**	CE1 (ORG. Med/Sci)
CE2 (Arabic)	**للمستشفي** **hospital**	CE2 (FAC. Buid/Ground

Appendix:

Some annotation examples:

FAC.Building

Decision	Name
FAC.Building	ميناء العقبة
FAC.Building	معتقل جوانتانامو

FAC.Subarea

Decision	Name
FAC.Subarea	حدائق الزهور

GPE.Cluster

Decision	Name
GPE.Cluster	دول البلقان
GPE.Cluster	دول الكمنويلث
GPE.Cluster	دول الشرق
GPE.Cluster	دول الإتحاد الأوروبي
GPE.Cluster	مجموعة الثمان دول الصناعية الكبرى
GPE.Cluster	دول الشرق الأوسط
GPE.Cluster	دول جنوب آسيا
GPE.Cluster	دول جنوب شرق آسيا
GPE.Cluster	دول الغرب

GPE.Continent

Decision	Name
GPE.Continent	أفريقيا
GPE.Continent	أنتراكتيك
GPE.Continent	أنتراكتيكا
GPE.Continent	آسيا
GPE.Continent	ألآسيوي
GPE.Continent	أوروبا

GPE.Continent	أمريكا الشمالية

GPE.County

Decision	Name
GPE.County	مقاطعة فيرفاكس

GPE.Nation

Decision	**Name**
GPE.Nation	أمريكا
GPE.Nation	أستراليا
GPE.Nation	محور الشر
GPE.Nation	جزر كايمان
GPE.Nation	الصين
GPE.Nation	الكونغو
GPE.Nation	إنجلترا
GPE.Nation	إيران
GPE.Nation	العراق
GPE.Nation	إسرائيل
GPE.Nation	الكوري
GPE.Nation	أسبانيا

GPE.Pop

Decision	**Name**
GPE.Pop	أطلنتا
GPE.Pop	بغداد
GPE.Pop	هونج كونج
GPE.Pop	كاي إيراجو
GPE.Pop	ماكاو

Gaza

Decision	**Name**
GPE.Pop	غزة

GPE.Special

Decision	Name
GPE.Special	فلسطين
GPE.Special	تايوان

GPE.State

Decision	Name
GPE.State	قطاع غزة
GPE.State	أيرلندا الشمالية
GPE.State	الضفة الغربية

LOC.Land-Reg

Decision	Name
LOC.Land-Reg	جزر الأزور
LOC.Land-Reg	جزر الكناري
LOC.Land-Reg	المنحدر القاري
LOC.Land-Reg	دييجو جراسيا
LOC.Land-Reg	جزر اليس
LOC.Land-Reg	إيفريست
LOC.Land-Reg	الهيمالايا
LOC.Land-Reg	شبه الجزيرة الكورية
LOC.Land-Reg	جبل إيفريست
LOC.Land-Reg	جزر نيشانجزهان
LOC.Land-Reg	هضبة سيكاميان
LOC.Land-Reg	جزيرة أربيونان

LOC.Reg-Gen

Decision	Name
LOC.Reg-Gen	وسط جاكارتا
LOC.Reg-Gen	ألساحل الشرقي
LOC.Reg-Gen	شرق تكساس

LOC.Reg-Int

Decision	Name
LOC.Reg-Int	القطب الشمالي
LOC.Reg-Int	الشرق الأقصي
LOC.Reg-Int	آسيا الكبرى
LOC.Reg-Int	الهند الصينية
LOC.Reg-Int	كشمير
LOC.Reg-Int	مانشو
LOC.Reg-Int	مانشوريا

LOC.Water

Decision	Name
LOC.Water	بحر العرب
LOC.Water	الأطلنطي
LOC.Water	خليج شيزابيك
LOC.Water	نهر الفرات
LOC.Water	المحيط الهندي
LOC.Water	نهر خور عبدالله
LOC.Water	نهر خوسر
LOC.Water	بحيرة جينيف
LOC.Water	البحيرات العظمى
LOC.Water	المحيط الباسيفيكيف
LOC.Water	البحر الأحمر
LOC.Water	خليج سان فرانسيسكو
LOC.Water	مضيق جبل طارق
LOC.Water	نهر دجلة
LOC.Water	البحر الأصفر

Land Areas Named by Water References

Decision	Name
LOC.Water, LOC.Reg-Int	الكاريبي

LOC.Water, GPE.Cluster	الخليج
LOC.Water, LOC.Reg-Int	البحر الأبيض المتوسط
LOC.Water, GPE.Cluster	الخليج الفارسي

ORG.Non

Decision	Name
ORG.Non	حزب الإتحاد

Palestine

Decision	Name
PER.Group, GPE.Special	الفلسطينيين
ORG.Gov	السلطة الفلسطينية
ORG.Gov	منظمة التحرير الفلسطينية

NOT TAGGABLE

Decision	Name
NOT TAGGABLE	اللاتينية