Annotating Temporal Relations in Catalan and Spanish

TimeML Annotation Guidelines

Version TempEval-2010

Roser Saurí

Contents

1 Introduction

This document describes the annotation guidelines for marking up *temporal relations* in Catalan and Spanish corpora according to the specifications for TempEval 2010, a task in the SemEval International Workshop on Semantic Evaluations which is devoted to modeling and learning temporal information in natural language text.[1] Temporal information in the TempEval corpora follows the specification language TimeML (Pustejovsky et al., 2005), where temporal relations are referred to as *TLinks*.

[1] http://www.timeml.org/tempeval2/

TimeML was first developed in 2002 in an extended workshop called TERQAS (Time and Event Recognition for Question Answering Systems),[2] which focused on the issue of answering temporally based questions regarding events and entities in news articles. In 2003, TimeML was further developed in the context of the TANGO workshop (TimeML Annotation Graphical Organizer).[3] In addition, TimeML has been consolidated as an international cross-language ISO standard (ISO WD 24617-1:2007), and has been adopted as the annotation language for TempEval since its first edition in 2007 (Verhagen et al., 2007, 2009).[4]

The current guidelines cover both Catalan and Spanish, since there are no remarkable differences between these two languages with regard to temporal relations. Given their similarity, examples will be given in any of these languages. For the present annotation task, event entities and time expressions must have been already identified and marked up in text. For this, refer to the appropriate annotation guidelines for events (Saurí & Pustejovsky, 2009a; Saurí et al., 2009) and time expressions (Saurí & Pustejovsky, 2009b; Saurí et al., 2009), both for Catalan and Spanish, within the TempEval 2010 framework.

In what follows, section 2 analyzes the notion of temporal link (or `TLink`) as understood in TimeML, and presents its simplified version according to the TempEval evaluation. Then, section 3 addresses the task of annotating `Tlinks` in the specific context of the TempEval 2010 contest.

2 Temporal Links (or `TLinks`)

TimeML uses the tag `TLink` (standing for Temporal Link) in order to represent the temporal relationship holding between two events, between two time expressions, or between an event and a time expression. A `TLink` connects the two involved entities and makes explicit whether they take place at the same time, one before the other, etc.

TimeML has a set of 13 fine-grained `TLinks` relation types based on James Allen's interval logic (Allen, 1983) and which are introduced in subsection 2.1. For the TempEval evaluation, however, this set of labels has been simplified into a set of 6 relations (presented in section 2.2) in order to reduce the complexity of the task and thus obtain a better understanding of the problem to be addressed.

2.1 TimeML temporal relations

The set of relation types for the TimeML `TLink` tag includes those listed in what follows:

1. **Entity A is** SIMULTANEOUS **to entity B:** Two event instances are judged simultaneous if they happen at the same time, or are temporally indistinguishable in context,

[2] http://www.timeml.org/site/terqas/index.html
[3] http://www.timeml.org/site/tango/index.html
[4] http://nlp.cs.swarthmore.edu/semeval/tasks/index.php

i.e. occur close enough to the same time that further distinguishing their times makes no difference to the temporal interpretation of the text.

2. **Entity A is** BEFORE **entity B:** As in the following example between the events *muerte* and *investigan*:

   (1) *Investigan* la *muerte* de un detenido en la celda del cuartel de la Guardia Civil.

3. **Entity A is** AFTER **entity B:** This is just the inverse of the preceding relation. So the two events of the previous example can alternatively be annotated as expressing an **after** relation, if the directionality is changed.

4. **Entity A is** IMMEDIATELY BEFORE **entity B:** As in the following sentence between *empieza* and *sitúa*.

   (2) Tan buen punto como *empieza* el juego, la cámara se *sitúa* a la espalda de Nathan y permite un amplio ángulo de visión.

5. **Entity A is** IMMEDIATELY AFTER **entity B:** This is the inverse of the preceding relation.

6. **Entity A is** INCLUDING **entity B,** as is the case between the event (in italics) and the temporal expression (underlined) in the following example:

   (3) *Manifestación* de profesores el pasado jueves en Barcelona contra el proyecto de ley educativa.

   This relation is used also to connect two events in a 'SET/SUBSET' RELATIONSHIP. In the following isentence, for instance, the 14 killings (*asesinatos*) includes the 3 homicides (*homicidios*).

   (4) Estos tres *homicidios* son parte de los 14 *asesinatos* que se habían registrado hasta ayer a las 5:00 de la tarde.

7. **Entity A is** BEING INCLUDED **in entity B.** Relation inverse to the preceding one.

8. **Entity A holds** DURING **the duration of entity B:** Specifically applicable to states or events (in italics below) that persist throughout a duration (underlined). Note that the time expression must always be of type `duration`.[5]

   (5) El ex jefe de la Comandancia de la Guardia Civil de Guadalajara ha sido *suspendido* de sus funciones, de manera cautelar, durante tres meses.

[5] In ISO TimeML, this relation type is substituted for by the relation MEASURES.

9. **Entity A is the** BEGINNING **of entity B.** For instance, the first temporal expression in the example below (*a las 6h*) signals the beginning of the event in italics (*practicando*):

   (6) Se sabe que el sospechoso estuvo *practicando* esgrima entre las 6h y las 7h.

10. **Entity A is** BEGUN BY **entity B.** Relation inverse to the one just introduced.

11. **Entity A is the** ENDING **of entity B.**

    (7) Se sabe que el sospechoso estuvo *practicando* esgrima entre las 6h y las 7h.

12. **Entity A is** ENDED BY **entity B.** Relation inverse to the one just introduced.

In addition, `TLink`s are also used in the following situation:

13. **Event** IDENTITY**.** In the example below, the expressions *drove* and *drive* refer to the same event in the world.

    (8) Los nuevos brotes se *podan* durante el verano. Durante la *poda*, las ramas segregarán abundante látex.

    Event identity is a very important relationship, so please make sure that all identity links are annotated.

2.2 TempEval temporal relations

For the TempEval task, the 13 TimeML temporal relations are simplified to a set of 6. These are:

1. **Entity A is** BEFORE **entity B.** Subsuming the temporal relations `before` and `immediately before` presented in the previous section.

2. **Entity A is** AFTER **entity B:** Inverse of the preceding relation, hence subsuming the TimeML relations `after` and `immediately after`.

3. **Entity A** OVERLAPS **entity B.** Subsuming here the TimeML relation types of: `simultaneous, during, including`, and `being included`.

4. **Entity A is** BEFORE OR OVERLAPS **entity B.** This relation can be used in two different situations:

   (a) Entity A begun earlier than entity B and it lasted during (part of) the length of event entity B.

(b) It is not clear whether entity A happened before or is overlapping B. That is, the relation is underspecified between these two values.

5. **Entity A** OVERLAPS OR IS AFTER **entity B.** As in the previous case, this relation can be used in two different situations: one in which entity A overlaps and extends past the length of B, and a second one in which the relation is underspecified.

6. **The relation between entities A and B is** VAGUE**.** It is not clear what is the temporal relation between the two entities. As above, this may respond to two different situations:

   (a) Complete underspecification: Entity A can either be before, after, or overlapping entity B.

   (b) Non appropriateness. A temporal relation between the two entities seems impossible to establish.

2.3 Annotation examples

Here, we present some sentences to illustrate the use of `TLinks` in different situations. These examples are annotated following the TimeML standard (we will see examples of the TempEval annotation further ahead). Moreover, they do not give detailed annotation of events, times and signals – please refer to the appropriate documents for instructions on annotating these (Saurí & Pustejovsky, 2009a,b; Saurí et al., 2009a,b). Also, we only show the mark-up for those entities which are relevant to the examples.

A `TLink` has to be created each time a temporal relationship holding between two events, two timexes, or an event and a timex, needs to be annotated. This includes the also very important relationship of event identity. Generally speaking, `TLinks` between two events or between two time expressions are understood as relations of *ordering*, whereas `TLinks` between an event and a time expression express relations of *anchoring*.

- **Anchoring an event to a time expression.** Consider the sentence:

(9) El equipo del profesor Cohn *presentó*$_{ei_1}$ su trabajo el lunes pasado$_{t_1}$.

The temporal relation holding between the event ei_1 (*presentó*, in italics) and the time expression t_1 (*el lunes pasado*, underlined) is marked up by means of the following `TLink`:

(10)

`TLink:`	`event instance ID:`	ei_1 (*presentó*)
	`related to time:`	t_1 (*el lunes pasado*)
	`relation type:`	IS_INCLUDED

- **Anchoring multiple instances of the same event mention.** In the sentence:

(11) Nos *reunimos*$_{ei_1/ei_2}$ con el profesor Cohn el lunes$_{t_1}$ y el jueves$_{t_2}$.

the event mention *reunimos* points in fact to two independent events, identified with event IDs ei_1 and ei_2. Each of them is related to a different time expression. Hence, the annotation results into the following two `TLinks`:

(12) `TLink:` `event instance ID:` ei$_1$ (*reunimos*)
`related to time:` t$_1$ (*el lunes*)
`relation type:` IS_INCLUDED

(13) `TLink:` `event instance ID:` ei$_2$ (*reunimos*)
`related to time:` t$_2$ (*el jueves*)
`relation type:` IS_INCLUDED

- **Anchoring an event to a set of times.** In the next sentence, the time expression *cada lunes* refers to a set of times.

(14) El consorcio se *reúne*$_{ei_1}$ cada lunes$_{t_1}$.

The `TLink` representing the temporal relation holding between the event and the temporal expression looks like this:[6]

(15) `TLink:` `event instance ID:` ei$_1$ (*reúne*)
`related to time:` t$_1$ (*cada lunes*)
`relation type:` IS_INCLUDED

- **Measuring the length of an event.** When the length of an event is quantified by means of a time expression of type `duration`, the relation between this and the event is expressed through a `TLink` of type DURING.[7]

(16) Nos *reunimos*$_{ei_1}$ con el grupo del profesor Cohn durante casi dos horas$_{t_1}$.

(17) `TLink:` `event instance ID:` ei$_1$ (*reunimos*)
`related to time:` t$_1$ (*casi dos horas*)
`relation type:` DURING

[6]Note that *reúne* must be annotated as expressing an event of plural cardinality, since it actually denotes a set of events, each of which takes place on a different Monday (*lunes*). Furthermore, the temporal relation expressed above is not completely satisfactory in that it misses the distributional relation between each event instance of *reúne* and the time reference in the set of *lunes*. Future additions to ISO TimeML will contemplate a major expressivity for cases like this.

[7]In ISO TimeML, the relation MEASURES substitutes for DURING.

• **Ordering two events.** Two events in the same or different sentences may be in a temporal relation. For example:

(18) Después de la *reunión*$_{ei_1}$, *visitamos*$_{ei_2}$ las partes más interesantes del campus.

(19) `TLink:` `event instance ID:` ei$_1$ (*reunión*)
`related to event:` ei$_2$ (*visitamos*)
`relation type:` BEFORE

• **Ordering event mentions referring to multiple instances, in cases of (partial) overlap.** Similar to the expression *reunimos* in (11), the noun *asesinatos* in the sentence below refers to multiples instances of the same event type.[8] Moreover, the noun *cases* points to one of these instances.

(20) La policia investiga los *asesinatos*$_{ei_1}$ de 14 mujeres. En uno de los *casos*$_{ei_2}$ ya ha habido detenciones.

The `TLink` representing the relationship between these two events looks as follows:

(21) `TLink:` `event instance ID:` ei$_1$ (*asesinatos*)
`related to event:` ei$_2$ (*casos*)
`relation type:` INCLUDES

• **Event identity.** Two event expressions can refer to the same event in the world. In TimeML, there is a special relation to indicate that, IDENTITY, although strictly speaking it is not a relation of a temporal nature.

(22) Nos *reunimos*$_{ei_1}$ con el equipo del profesor Cohn durante dos horas. Después de la *reunión*$_{ei_2}$, visitamos las partes más interesantes del campus.

(23) `TLink:` `event instance ID:` ei$_1$ (*reunimos*)
`related to event:` ei$_2$ (*reunión*)
`relation type:` IDENTITY

3 Annotating `TLinks` in the context of TempEval-2010

The data to be used for the TempEval evaluation has been simplified in two respects. First, the original set of 13 TimeML temporal relation types has been reduced to a set of 6, as presented in the previous section. Second, not all possible `TLinks` will be annotated, but only those satisfying certain structural relations, precisely the `TLinks` connecting:

- An Event and a Time Expression (Task C in TempEval-2010)

[8] Given that the cardinality is higher than 10, there are no separated event IDs for each instance, but only one tag. The multiplicity of instances is expressed in the `cardinality` attribute of the `EVENT` tag. Refer to the event annotation guidelines for further detail.

- An Event and the Document Creation Time (Task D)
- Two main Events in consecutive sentences (Task E)
- Two Events in a relation of syntactic dominance (Task F)

The coming sections focus on each of these annotation tasks.

3.1 Task C: TLinking an Event and a Time Expression

For this annotation task, determine the temporal relation between an event and a time expression in the same sentence. The event and the time expression have to be in either of the following syntactic relations:

1. **The event must syntactically dominate the time expression**

   Prototypical cases of this relationship are sentences with an NP or adverbial functioning as the temporal adjunt of the event expression. For instance:

   (24) a. El 19 de enero se *reunieron* todas las partes.
   b. El asesino se *encontró* con la víctima a las 4h de la tarde.

   In other constructions, the relation between the event and the time expression is even stronger. For example, the time expression can be the complement of a verbal event:

   (25) a. La acusación *pide* 15 años de prisión.
   b. Se *cumplieron* doce años de su liberación.

   In Catalan and Spanish, there are also cases in which it is the time expression, and not the event, the syntactically dominating element.

   (26) a. Hace 3 meses que se *fue*.
   b. Este mismo equipo hace cuatro años que *investiga* sobre el cáncer de mama.

   The `TLink` for the relation between *hace cuatro años* and *investiga* in this last example (26b) must be of type DURING, given that the time expression is of time duration and expresses the length of the investigation expressed by the event:

   (27) a. Este mismo equipo hace cuatro años$_{t_1}$ que *investiga*$_{ei_1}$ sobre el cáncer.
   b. `TLink:` `event instance ID:` ei$_1$ (*investiga*)
   `related to time:` t$_1$ (*cuatro años*)
   `relation type:` DURING (TimeML) / OVERLAP (TempEval)

2. **The event and the time expression must occur in the same noun phrase**

   (28) a. Los años de *transición* llevaron menos cambios de los esperados.

b. Se cumplieron doce años de su *liberación.* sobre el cáncer.

In the last example (28b) there are in fact 2 `TLinks`. A first one between *doce años* and *liberación*, which takes place within the scope of the same NP, and a second one between *cumplieron* and *doce años*, presented in example (25):

(29) a. Se *cumplieron*$_{ei_1}$ doce años$_{t_1}$ de su *liberación*$_{ei_2}$.

b.
`TLink:`	`event instance ID:`	ei_1 (*cumplieron*)	
	`related to time:`	t_1 (*doce años*)	
	`relation type:`	AFTER	(TimeML/TempEval)
`TLink:`	`event instance ID:`	ei_2 (*liberación*)	
	`related to time:`	t_1 (*doce años*)	
	`relation type:`	BEFORE	(TimeML/TempEval)

Similar examples are:

(30) a. La acusación *pide*$_{ei_1}$ 15 años$_{t_1}$ de *cárcel*$_{ei_2}$.

b.
`TLink:`	`event instance ID:`	ei_1 (*pide*)	
	`related to time:`	t_1 (*15 años*)	
	`relation type:`	BEFORE	(TimeML/TempEval)
`TLink:`	`event instance ID:`	ei_2 (*cárcel*)	
	`related to time:`	t_1 (*15 años*)	
	`relation type:`	DURING (TimeML) / OVERLAP (TempEval)	

(31) a. Se *produjó*$_{ei_1}$ 4 días$_{t_1}$ antes de que *empezara*$_{ei_2}$ todo.

b.
`TLink:`	`event instance ID:`	ei_1 (*produjo*)	
	`related to time:`	t_1 (*4 días*)	
	`relation type:`	BEFORE	(TimeML/TempEval)
`TLink:`	`event instance ID:`	ei_2 (*empezara*)	
	`related to time:`	t_1 (*4 días*)	
	`relation type:`	AFTER	(TimeML/TempEval)

It is important to be carefull when annotating predicates like *pronosticar*, *preveer*, *aplazar*, and similar ones, which imply a reference to a future time but which, however, express an event that takes place at a prior time. For example, the temporal relation between *fijaron* and *octubre* in the next example, must be of type BEFORE, and not OVERLAP.

(32) a. Las elecciones presidenciales se *fijaron*$_{ei_1}$ para octubre$_{t_1}$.

b.
`TLink:`	`event instance ID:`	ei_1 (*fijaron*)	
	`related to time:`	t_1 (*octubre*)	
	`relation type:`	BEFORE	(TimeML/TempEval)

3.2 Task D: TLinking an Event and the Document Creation Time

In this annotation task, determine the temporal relation between each event and the Document Creation Time (DCT). For example,

(33) a. Las células de la médula ósea se $acaban_{ei_1}$ de $revelar_{ei_2}$ como una excelente fuente para $fabricar_{ei_3}$ neuronas cerebrales.

b.
TLink:	event instance ID:	ei_1 (*acaban*)
	related to time:	t_0 (DCT)
	relation type:	BEFORE (TimeML/TempEval)
TLink:	event instance ID:	ei_2 (*revelar*)
	related to time:	t_0 (DCT)
	relation type:	BEFORE (TimeML/TempEval)
TLink:	event instance ID:	ei_3 (*fabricar*)
	related to time:	t_0 (DCT)
	relation type:	VAGUE (TempEval)

3.3 Task E: TLinking two Main Events in consecutive sentences

In this task, determine the temporal relation between two main events in consecutive sentences.

(34) a. Victoria Adams $está_{ei_1}$ triste porque ha perdido el diamante que adornaba el anillo de pedida que le regaló David Beckham. La Spice $perdió_{ei_2}$ la piedra (que vale 13 millones de pesetas) en Manchester, donde juega su marido.

b.
TLink:	event instance ID:	ei_1 (*está*)
	related to event:	ei_2 (*perdió*)
	relation type:	AFTER (TimeML/TempEval)

3.4 Task F: TLinking two Events in a relation of syntactic dominance

In this task, determine the temporal relation between two events, where one syntactically dominates the other. For example:

(35) a. El propietario $decidió_{ei_1}$ $subir_{ei_2}$ el precio del alquiler.

b.
TLink:	event instance ID:	ei_1 (*decidió*)
	related to event:	ei_2 (*subir*)
	relation type:	BEFORE_OR_OVERLAP (TempEval)

The following cases need to be taken into account:

1. **Reporting events:** In most cases, the reporting event syntactically dominates over the main event in the reported fragment:

(36) a. El propietario *dijo*$_{ei_1}$ que *subiría*$_{ei_2}$ el precio del alquiler.
b. `TLink:` `event instance ID:` ei$_1$ (*dijo*)
`related to event:` ei$_2$ (*subiría*)
`relation type:` BEFORE (TimeML/TempEval)

(37) a. "Todo optimista *parece*$_{ei_1}$ un tonto, teniendo en cuenta cómo evoluciona el mundo", *advirtió*$_{ei_2}$ Harnoncourt.
b. `TLink:` `event instance ID:` ei$_2$ (*advirtió*)
`related to event:` ei$_1$ (*parece*)
`relation type:` OVERLAP (TempEval) / IS_INCLUDED (TimeML)

A second type of reporting situations are expressed by means of constructions introduced by prepositions (or prepositional groups) such as *según, de acuerdo con* (Spanish), *segons, d'acord amb* (Catalan), etc. In this case, it is the reporting preposition (or prepositional group) the element that is syntactically dominated by the main event in the reported fragment:

(38) a. *Según*$_{ei_1}$ los datos, el semestre pasado la situación *empeoró*$_{ei_2}$.
b. `TLink:` `event instance ID:` ei$_2$ (*empeoró*)
`related to event:` ei$_1$ (*según*)
`relation type:` BEFORE (TimeML/TempEval)

2. **Main event of a clause in the subject position:** No `TLink` will be created between that event (e.g., *trobada* (Catalan) or *encuentro* (Spanish)) in the example below) and the main predication in the sentence (e.g., *suposar* (Catalan), *supuso* (Spanish)).

(39) La *trobada*$_{ei_1}$ va *suposar*$_{ei_2}$ una millora important.

(40) El *encuentro*$_{ei_1}$ *supuso*$_{ei_2}$ una mejora importante.

3. **Main event of a clause in object position:** The event subcategorizing for the object clause syntactically dominates the main event of that clause. Hence, a `TLink` is established between the two:

(41) a. La víctima ha *demanat*$_{ei_1}$ que es *respecti*$_{ei_2}$ la seva intimitat.
b. `TLink:` `event instance ID:` ei$_1$ (*demanat*)
`related to event:` ei$_2$ (*respecti*)
`relation type:` BEFORE (TimeML/TempEval)

(42) a. La víctima *pidió*$_{ei_1}$ que se *respetara*$_{ei_2}$ su intimidad.
b. `TLink:` `event instance ID:` ei$_1$ (*pidió*)
`related to event:` ei$_2$ (*respetara*)
`relation type:` BEFORE (TimeML/TempEval)

4. **Main event in relative clauses:** For any noun introducing a relative clause which expresses an event, we will create a `TLink` between it and the main event in the relative clause, regardless of the function of that noun in the relative clause: subject or object.

   - Noun acting as the subject in the relative clause:

   (43) a. La *trobada*$_{ei_1}$, que va *suposar*$_{ei_2}$ una millora important, va passar desaparcebuda per la major part de la societat.
   b. `TLink:` `event instance ID:` ei$_1$ (*trobada*)
   `related to event:` ei$_2$ (*suposar*)
   `relation type:` BEFORE (TimeML/TempEval)

   (44) a. El *encuentro*$_{ei_1}$, el cual *supuso*$_{ei_2}$ una mejora importante, pasó desapercibido entre la sociedad.
   b. `TLink:` `event instance ID:` ei$_1$ (*encuentro*)
   `related to event:` ei$_2$ (*supuso*)
   `relation type:` BEFORE (TimeML/TempEval)

   - Noun acting as the object in the relative clause:

   (45) a. La *trobada*$_{ei_1}$ que va *organitzar*$_{ei_2}$ la coordinadora d'entitats va passar desaparcebuda per la major part de la societat.
   b. `TLink:` `event instance ID:` ei$_1$ (*trobada*)
   `related to event:` ei$_2$ (*organitzar*)
   `relation type:` AFTER (TimeML/TempEval)

   (46) a. El *encuentro*$_{ei_1}$ que *organizó*$_{ei_2}$ la coordinadora de entidades pasó desapercibido en la sociedad.
   b. `TLink:` `event instance ID:` ei$_1$ (*encuentro*)
   `related to event:` ei$_2$ (*organizó*)
   `relation type:` AFTER (TimeML/TempEval)

5. **Reduced relative clauses:** The temporal relation between the nominal event and the participial one will be annotated with a `TLink`.

   (47) a. La *trobada*$_{ei_1}$ *organitzada*$_{ei_2}$ per la coordinadora d'entitats...
   b. `TLink:` `event instance ID:` ei$_1$ (*trobada*)
   `related to event:` ei$_2$ (*organitzada*)
   `relation type:` AFTER (TimeML/TempEval)

   (48) a. El *encuentro*$_{ei_1}$ *organizado*$_{ei_2}$ por la coordinadora de entidades...
   b. `TLink:` `event instance ID:` ei$_1$ (*encuentro*)
   `related to event:` ei$_2$ (*organizado*)
   `relation type:` AFTER (TimeML/TempEval)

6. **Reflexive passive constructions:** As stated in point 2 above, no `TLinks` between an event in subject position and the main verbal predication will be created, except for the casee of reflexive passive constructions. For example:

(49) a. La *festa*$_{ei_1}$ es va *celebrar*$_{ei_2}$ el diumenge passat.
b. `TLink:` `event instance ID:` ei$_1$ (*festa*)
`related to event:` ei$_2$ (*celebrar*)
`relation type:` OVERLAP (TimeML/TempEval)

(50) a. La *fiesta*$_{ei_1}$ se *celebró*$_{ei_2}$ el pasado domingo.
b. `TLink:` `event instance ID:` ei$_1$ (*fiesta*)
`related to event:` ei$_2$ (*celebró*)
`relation type:` OVERLAP (TimeML/TempEval)

7. **Modal events:** A `TLink` will be introduced in order to express the temporal relation between a modal verb and its subordinated event.

(51) a. Les autoritats no *podran*$_{ei_1}$ *assistir*$_{ei_2}$ al funeral.
b. `TLink:` `event instance ID:` ei$_1$ (*podran*)
`related to event:` ei$_2$ (*assistir*)
`relation type:` BEFORE_OR_OVERLAP (TempEval)

(52) a. Las autoridades no *podrán*$_{ei_1}$ *asistir*$_{ei_2}$ al funeral.
b. `TLink:` `event instance ID:` ei$_1$ (*podrán*)
`related to event:` ei$_2$ (*asistir*)
`relation type:` BEFORE_OR_OVERLAP (TempEval)

8. **Light verb constructions:** A `TLink` will indicate the relation between the two event expressions. In the strict TimeML annotation, this relation will be of type IDENTITY, whereas for the TempEval annotation, it will be of type OVERLAP.[9]

(53) a. Van donar les gràcies a tots els qui els van *fer*$_{ei_1}$ *suport*$_{ei_2}$.
b. `TLink:` `event instance ID:` ei$_1$ (*fet*)
`related to event:` ei$_2$ (*suport*)
`relation type:` OVERLAP (TempEval) / IDENTITY (TimeML)

(54) a. Agradecieron a los que les *mostraron*$_{ei_1}$ *apoyo*$_{ei_2}$.
b. `TLink:` `event instance ID:` ei$_1$ (*mostraron*)
`related to event:` ei$_2$ (*apoyo*)
`relation type:` OVERLAP (TempEval) / IDENTITY (TimeML)

9. **Other periphrases:** In both Catalan and Spanish, verbal periphrases are common means to convey semantic information such as causality, event aspect, certain nuances of modality, etc. The temporal relation between the two eventive expressions in a verbal periphrasis will be marked up by means of a `TLink` of the type that is deemed appropriate in every case.

[9]This is clearly a case where we are missing information due to the TempEval simplification of the annotation scheme.

(55) a. Els van *fer*$_{ei_1}$ *creure*$_{ei_2}$ que no passava res.
b. `TLink:` `event instance ID:` ei$_1$ (*fer*)
`related to event:` ei$_2$ (*creure*)
`relation type:` BEFORE_OR_OVERLAP (TempEval)

(56) a. Les *hicieron*$_{ei_1}$ *creer*$_{ei_2}$ que no pasava nada.
b. `TLink:` `event instance ID:` ei$_1$ (*hicieron*)
`related to event:` ei$_2$ (*creer*)
`relation type:` BEFORE_OR_OVERLAP (TempEval)

10. **Coordinated events:** Due to the constraints imposed by BAT, the annotation tool currently employed, only one of the temporal relations can be marked up by means of a `TLink`. The second relation will be annotated as a free comment in the appropriate box.

- The coordination takes place at the syntactically dominating level:

(57) a. Van *analitzar*$_{ei_1}$ i *descriure*$_{ei_2}$ el *conflicte*$_{ei_3}$ amb detall.
b. `TLink:` `event instance ID:` ei$_1$ (*analitzar*)
`related to event:` ei$_3$ (*conflicte*)
`relation type:` AFTER (TempEval/TimeML)
c. Comment: Additional `TLink` between *descriure*$_{ei_2}$ and *conflicte*$_{ei_3}$, of type AFTER.

(58) a. *Analizaron*$_{ei_1}$ y *describieron*$_{ei_2}$ el *conflicto*$_{ei_3}$ en detalle.
b. `TLink:` `event instance ID:` ei$_1$ (*analizaron*)
`related to event:` ei$_3$ (*conflicto*)
`relation type:` AFTER (TempEval/TimeML)
c. Comment: Additional `TLink` between *describieron*$_{ei_2}$ and *conflicto*$_{ei_3}$, of type AFTER.

- The coordination takes place at the syntactically dominated level:

(59) a. Van *descriure*$_{ei_1}$ el *conflicte*$_{ei_2}$ i la seva *gestació*$_{ei_3}$.
b. `TLink:` `event instance ID:` ei$_1$ (*descriure*)
`related to event:` ei$_2$ (*conflicte*)
`relation type:` AFTER (TempEval/TimeML)
c. Comment: Additional `TLink` between *descriure*$_{ei_1}$ and *conflicte*$_{ei_3}$, of type AFTER.

(60) a. *Describieron*$_{ei_1}$ el *conflicto*$_{ei_2}$ y su *gestación*$_{ei_3}$.
b. `TLink:` `event instance ID:` ei$_1$ (*describieron*)
`related to event:` ei$_2$ (*conflicto*)
`relation type:` AFTER (TempEval/TimeML)
c. Comment: Additional `TLink` between *describieron*$_{ei_1}$ and *gestación*$_{ei_3}$, of type AFTER.

11. **Copulative constructions:** Predicative verbs (e.g. *ser, estar*) will be connected to their attributive complement via a `TLink` as well.

(61) a. L'ambient era_{ei_1} $insoportable_{ei_2}$.

b.

`TLink:`	`event instance ID:`	ei_1 (*era*)
	`related to event:`	ei_2 (*insoportable*)
	`relation type:`	IDENTITY (TimeML) / OVERLAP (TempEval)

(62) a. El ambiente era_{ei_1} $insoportable_{ei_2}$.

b.

`TLink:`	`event instance ID:`	ei_1 (*era*)
	`related to event:`	ei_2 (*insoportable*)
	`relation type:`	IDENTITY (TimeML) / OVERLAP (TempEval)

References

Allen, J. (1983). Maintaining knowledge about temporal intervals. *Communications of the ACM*, *26*(11), 832–843.

Pustejovsky, J., Knippen, B., Littman, J., & Saurí, R. (2005). Temporal and event information in natural language text. *Language Resources and Evaluation*, *39*(2), 123–164.

Saurí, R., Batiukova, O., & Pustejovsky, J. (2009). *Annotating Events in Spanish. TimeML Annotation Guidelines*. Fundació Barcelona Media and Brandeis University. Version TempEval-2010.

Saurí, R. & Pustejovsky, J. (2009a). *Annotating Events in Catalan. TimeML Annotation Guidelines*. Fundació Barcelona Media and Brandeis University. Version TempEval-2010.

Saurí, R. & Pustejovsky, J. (2009b). *Annotating Time Expressions in Catalan. TimeML Annotation Guidelines*. Fundació Barcelona Media and Brandeis University. Version TempEval-2010.

Saurí, R., Saquete, E., & Pustejovsky, J. (2009). *Annotating Time Expressions in Spanish. TimeML Annotation Guidelines*. Fundació Barcelona Media and Brandeis University. Version TempEval-2010.

Verhagen, M., Gaizauskas, R., Schilder, F., Hepple, M., Katz, G., & Pustejovsky, J. (2007). SemEval-2007 task 15: TempEval temporal relation identification. In *Proceedings of the Fourth International Workshop on Semantic Evaluations (SemEval-2007)*, (pp. 75–80)., Prague, Czech Republic. Association for Computational Linguistics.

Verhagen, M., Gaizauskas, R., Schilder, F., Hepple, M., Moszkowicz, J., & Pustejovsky, J. (2009). The TempEval challenge: identifying temporal relations in text. *Language Resources and Evaluation*.