Gold Annotated Sentences Extracted from TimeML 1.2.1 Annotation Guidelines

An event taking place at certain duration before/after a point in time

1. John left 2 days before yesterday.

   - t0 = document creation time (DCT) - 2002-something

   - <EVENT eid="e1" class="OCCURRENCE" >left</EVENT>

   - <TIMEX3 tid="t1" type="DURATION" value="P2D" beginPoint="t2" endPoint="t3">
     2 days</TIMEX3>
   - <TIMEX3 tid="t2" type="DATE" value="2002-07-10" temporalFunction="true"
     anchorTimeID="t0">yesterday</TIMEX3>
   - <TIMEX3 tid="t3" type="DATE" value="2002-07-08" temporalFuntion="true"
     anchorTimeID="t1"/>

   - <TLINK timeID="t1" relatedToTime="t2" signalID="s1" relType="BEFORE"/>
   - <TLINK eventInstanceID="ei1" relatedToTime="t3" relType="IS_INCLUDED"/>

2. I'm leaving on vacation two weeks from next Tuesday

   - t0 = document creation time (DCT) - 2002-something

   - <EVENT eid="e1" class="OCCURRENCE">leaving</EVENT>

   - <TIMEX3 tid="t1" type="DURATION" value="P2W" beginPoint="t2" endPoint="t3">two
     weeks</TIMEX3>
   - <TIMEX3 tid="t2" type="DATE" value="2002-07-02" temporalFunction="true"
     anchorTimeID="t0">next Tuesday</TIMEX3>
   - <TIMEX3 tid="t3" type="DATE" value="2002-07-23" temporalFunction="true"
     anchorTimeID="t1"/>

   - <TLINK timeID="t1" relatedToTime="t2" signalID="s1" relType="AFTER"/>
   - <TLINK eventInstanceID="ei1" relatedToTime="t3" relType="IS_INCLUDED"/>

3. A major earthquake struck Los Angeles three years ago today

- t0 = document creation time (DCT) - 2002-something

- <EVENT eid="e1" class="OCCURRENCE" >earthquake</EVENT>
- <EVENT eid="e2" class="OCCURRENCE" >struck</EVENT>

- <TIMEX3 tid="t1" type="DURATION" value="P3Y" beginPoint="t2" endPoint="t3">three years ago</TIMEX3>
- <TIMEX3 tid="t2" type="DATE" value="2002-07-12" temporalFunction="true" anchorTimeID="t0">today</TIMEX3>
- <TIMEX3 tid="t3" type="DATE" value="1999-07-12" temporalFunction="true" anchorTimeID="t1"/>

- <TLINK eventInstanceID="ei1" relatedToEvent="ei2" relType="IBEFORE"/>
- <TLINK eventInstanceID="ei1" relatedToTime="t3" relType="IS_INCLUDED"/>

4. John left 2 days ago.

- <EVENT eid="e1" class="OCCURRENCE">left</EVENT>

- <TIMEX3 tid="t1" type="DATE" value="2002-07-08" temporalFunction="true" anchorTimeID="t0">2 days ago.</TIMEX3>

- <TLINK eventInstanceID="ei1" relatedToTime="t1" relType="IS_INCLUDED"/>

Annotator's comment: 'ago' is NOT a signal but a part of the TIMEX3 expression. The TIMEX3 expression returns a DATE (not a DURATION), which needs to be computed by a temporal function relative to the DCT or the Speech time. "2 days ago" is ALWAYS a DATE computed relative to the DCT, in contrast to expressions like "2 days before", which necessarily relate two events and thus introduce a TLINK with the magnitude attribute. This can be observed in the 3 following examples.

An event taking place at certain duration before/after another event

5. John left 2 days before the attack.

- `<EVENT eid="e1" class="OCCURRENCE" tense="PAST" aspect="PERFECTIVE">left</EVENT>`
- `<EVENT eid="e2" class="OCCURRENCE" tense="NONE" aspect="NONE">attack</EVENT>`

- `<TIMEX3 tid="t1" type="DURATION" value="P2D" temporalFunction="false">2 days</TIMEX3>`

- `<TLINK eventInstanceID="ei1" signalID="s1" relatedToEvent="ei2" relType="BEFORE" magnitude="t1"/>`

6. 5 days after he came back Mary got sick.

- `<EVENT eid="e1" class="OCCURRENCE" tense="PAST" aspect="PERFECTIVE"> came</EVENT>`
- `<EVENT eid="e2" class="OCCURRENCE" tense="PAST" aspect="PERFECTIVE"> got</EVENT>`

- `<SIGNAL sid="s1">after</SIGNAL>`

- `<TIMEX3 tid="t1" type="DURATION" value="P5D" temporalFunction="false">5 days</TIMEX3>`

- `<TLINK eventInstanceID="ei1" signalID="s1" relatedToEvent="ei2" relType="BEFORE" magnitude="t1"/>`

Assaf's comment: SIGNAL tags don't seem to be necessary, since the TLINK tags include them. Caevo doesn't produce SIGNAL tags.

7. Two months before the attack, a report was sent.

- <EVENT eid="e1" class="OCCURRENCE" tense="NONE" aspect="NONE">attack</EVENT>
- <EVENT eid="e2" class="OCCURRENCE" tense="PAST" aspect="PERFECTIVE">sent</EVENT>
-
- <TIMEX3 tid="t1" type="DURATION" value="P2M" temporalFunction="false">Two months</TIMEX3>
- <SIGNAL sid="s1">before</SIGNAL>

- <TLINK eventInstanceID="ei1" signalID="s1" relatedToEvent="ei2" relType="AFTER" magnitude="t1"/>

Annotator's comment: The TIMEX3 expression here is considered here to be of type=DURATION, since it establishes the length of the interval separating the 2 events. As such, the value for the value attribute is already known (P2D, P5M, etc.) and therefore the temporalFunction attribute returns false as its value. There is only one TLINK relating the two events, which introduces both the magnitude attribute (pointing to the ID of the TIMEX3 expression) and the signalID attribute.

8. The attack was not expected at all, although a report had been sent 2 months before.
- <EVENT eid="e1" class="OCCURRENCE" tense="NONE" aspect="NONE">attack </EVENT>
- <EVENT eid="e2" class="I_STATE" tense="PAST"aspect="PERFECTIVE">expected </EVENT>
- <EVENT eid=e3>sent</EVENT>

- <TIMEX3 tid="t1" type="DURATION" val="P2M" temporalFunction="false">2 months</TIMEX3>
- <SIGNAL sid="s1">not</SIGNAL>
- <SIGNAL sid=s2>before</SIGNAL>

- <SLINK eventInstanceID="ei2" signalID="s1" relType="NEGATIVE"/>
- <SLINK eventInstanceID="ei2" subordinatedEvent="e1" relType="MODAL"/>
- <TLINK eventInstanceID="ei1" relatedToEvent="ei3" relType="AFTER" magnitude="t1" signalID="s2"/>

Assaf's comment: we can ignore the SLINKs for the time being.

9. Mary arrived yesterday but John left 2 days before.

- <EVENT eid="e1" class="OCCURRENCE" tense="PAST" aspect="PERFECTIVE">arrived</EVENT>
- <EVENT eid="e2" class="OCCURRENCE" tense="PAST" aspect="PERFECTIVE">left</EVENT>

- <TIMEX3 tid="t1" type="DATE" value="2002-07-09" temporalFunction="true" anchorTimeID="t0" valueFromFunction="tf1">yesterday</TIMEX3>
- <TIMEX3 tid="t2" type="DURATION" value="P2D" temporalFunction="false">2 days</TIMEX3>
- <SIGNAL sid="s1">before.</SIGNAL>

- <TLINK eventInstanceID="ei1" signalID="s1" relatedToEvent="ei2" relType="AFTER" magnitude="t2"/>
- <TLINK eventInstanceID="ei1" relatedToTime="t1" relType="IS_INCLUDED"/>

An event taking place before/after another event (no explicit gap)

10. She was sick after the play.
- <EVENT eid="e1" class="STATE" tense="NONE" aspect="NONE">sick</EVENT>
- <EVENT eid="e2" class="OCCURRENCE" tense="NONE" aspect="NONE">play</EVENT>
- <SIGNAL sid="s1">after</SIGNAL>

- <TLINK eventInstanceID="ei1" signalID="s1" relatedToEvent="ei2" relType="AFTER"/>

11. She was sick for 2 hours after the play.
- <EVENT eid="e1" class="STATE" tense="NONE" aspect="NONE">sick</EVENT>
- <EVENT eid="e2" class="OCCURRENCE" tense="NONE" aspect="NONE">play</EVENT>

- <TIMEX3 tid="t1" type="DURATION" value="P2H" temporalFunction="false">2 hours</TIMEX3>
- <SIGNAL sid="s1">for</SIGNAL>
- <SIGNAL sid="s2">after</SIGNAL>

- <TLINK eventInstanceID="ei1" signalID="s1" relatedToTime="t1" relType="HOLDS"/>
- <TLINK eventInstanceID="ei1" signalID="s2" relatedToEvent="ei2"relType="AFTER"/>

Annotator's comment: There are two TLINKs: The first one introduces the holding relation between the state of being sick and the time it took (2 hours). The second one states the ordering of the two events. Since there is no explicit reference to the duration of the interval between the two events, the second TLINK does not introduce the magnitude attribute.

<u>An event taking place at certain (potentially repeated and non-continuous) span of time</u>

12. John taught for 20 minutes every Monday.

- <EVENT eid="e4" class="OCCURRENCE" tense="PAST" aspect="PERFECTIVE">taught </EVENT>

- <TIMEX3 tid="t2" type="DURATION" value="PT20M" anchorTimeID="3">20 minutes</TIMEX3>
- <TIMEX3 tid="t3" type="DATE" value="XXXX-WXX-1">Monday</TIMEX3>
- <SIGNAL sid="s5">for</SIGNAL>
- <SIGNAL sid="s6">every</SIGNAL>

- <MAKEINSTANCE eiid="ei4" eventID="e4" signalID="s6" cardinality="EVERY"/>

- <TLINK eventInstanceID="ei4" relatedToTime="t2" signalID="s5" relType="HOLDS"/>
- <TLINK timeID="2" relatedToTime="t3" relType="IS_INCLUDED"/>

Annotator's comment: One EVENT, two TIMEX3s and two SIGNALs need to be created. In addition, the following tags are needed:

(a) One MAKEINSTANCE with cardinality **every**, as signaled by the expression every.

(b) One TLINK linking the duration 20 minutes to the event.

(c) One TLINK linking the TIMEX3 Monday to the TIMEX3 20 minutes.

Assaf's comment:

1. HOLDS is incorrect, it should be DURING.
2. The MAKEINSTANCE tag is what carries the meaning "EVERY". However, the repetitive property might also be inferable from t3's value="XXXX-WXX-1".

13. John left between Monday and Wednesday

- <EVENT eid="e1" class="OCCURRENCE" tense="PAST" aspect="PERFECTIVE">left </EVENT>

- <TIMEX3 tid="t1" type="DATE" value="2002-07-15" temporalFunction="true" anchorTimeID="t0" valueFromFunction="tf3"/>Monday</TIMEX3>
- <TIMEX3 tid="t2" type="DATE" value="2002-07-17"temporalFunction="true" anchorTimeID="t0" valueFromFunction="tf3"/>Wednesday</TIMEX3>
- <SIGNAL sid="s1"/>between</SIGNAL>

- <TLINK eventInstanceID="ei1" relatedToTime="t1" signalID="s1" relType="IAFTER"/>
- <TLINK eventInstanceID="ei1" relatedToTime="t2" signalID="s1" relType="IBEFORE"/>

Annotator's comment: This current solution is not completely adequate, but we will keep it temporarily.

Assaf's comment: The annotation is inadequate because it means that the event *left* occurred in the open range (Monday,Wednesday) rather than the closed range [Monday,Wednesday], as it should have been. In the current annotation scheme there is no way to indicate that an occurrence took place in a closed range. The relations BEGUIN_BY and ENDED_BY are used for enduring events. I assume it is better to use BEGUIN_BY and ENDED_BY, to mark the range correctly, and to infer whether it's an instantaneous or an enduring event based on the value of the *class* attribute as either occurrence vs. *state*.

14. John taught from 1994 through 1999.

- <EVENT eid="e4" class="OCCURRENCE" tense="PAST" aspect="PERFECTIVE">taught </EVENT>

- <TIMEX3 tid="t2" type="DATE" value="1994">1994</TIMEX3>
- <TIMEX3 tid="t3" type="DATE" value="1999">1999</TIMEX3>
  <SIGNAL sid="s5">from</SIGNAL>
- <SIGNAL sid="s6">through</SIGNAL>

- <TLINK eventInstanceID="ei4" relatedToTime="t2" signalID="s5"relType="BEGUN_BY"/>
- <TLINK eventInstanceID="ei4" relatedToTime="t3" signalID="s6" relType="ENDED_BY"/>

Annotator's comment: in this case, one EVENT and the two TIMEX3s need to be created. In addition, the following tags are needed:

(a) One automatically created MAKEINSTANCE for the event.

(b) One TLINK to capture the fact that the event started in 1994.

(c) One TLINK to capture the fact that the event finished in 1999.

This then should lead to a duration, which is automatically created by the closure part of the tool.

Assaf's comment:

(a) We can ignore the last sentence, as we don't use their tool.

(b) The event is marked as *occurrence* while the teaching is understood here as an enduring event. The annotation *state* looks more adequate. In general, it looks like the annotators kept the *state* annotation only for stative verbs like *sick*. We won't follow this guideline, and use *state* for any event whose durative nature is important in a typical context in which the sentence is interpreted. A minimal pair:

  a. John taught between 1994 and 1999 => John taught in 1996. Hence *state*.
  b. John left between 1994 and 1999 =/=> John left on 1996. Hence *occurrence*.

An event causing another event

15. The rains caused the flooding.
- <EVENT eid="e1" class="OCCURRENCE">rains</EVENT>
- <EVENT eid="e2" class="OCCURRENCE">caused</EVENT>
- <EVENT eid="e3" class="OCCURRENCE">Flooding</EVENT>
- <TLINK eventInstanceID=e1 relatedtoEvent=e3 relType="BEFORE" />
- <TLINK eventInstanceID=e1 relatedtoEvent=e2 relType="IDENTITY" />

16. John caused the fire.
- <EVENT eid="e1" class="OCCURRENCE">caused</EVENT>
- <EVENT eid="e2" class="OCCURRENCE">fire</EVENT>
- <TLINK eventInstanceID=e1 relatedtoEvent=e2 relType="BEFORE" />

17. Kissinger secured the peace at great cost.
- <EVENT eid="e1" class="OCCURRENCE">secured</EVENT>
- <EVENT eid="e2" class="OCCURRENCE">peace</EVENT>
- <TLINK eventInstanceID=e1 relatedtoEvent=e2 relType="BEFORE" />

18. He kicked the ball, and it rose into the air
- <EVENT eid="e1" class="OCCURRENCE">Kicked</EVENT>
- <EVENT eid="e2" class="OCCURRENCE">rose</EVENT>
- <TLINK eventInstanceID=e1 relatedtoEvent=e2 relType="BEFORE" />