



STRING DIAGRAMS FOR TEXT

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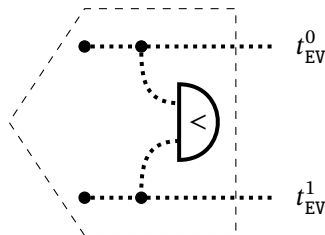
Continuous relations for semantics

We want to reason formally with and about pictorial iconic representations, of the sort one might draw to solve a problem in elementary geometry stated in words, involving topological concepts such as **touching** and **inside**. To do this in string diagrams, I introduce and investigate the category of continuous relations, **ContRel**.

1.0.1 *A text-circuit analysis of temporal anaphora*

Definition 1.0.1.

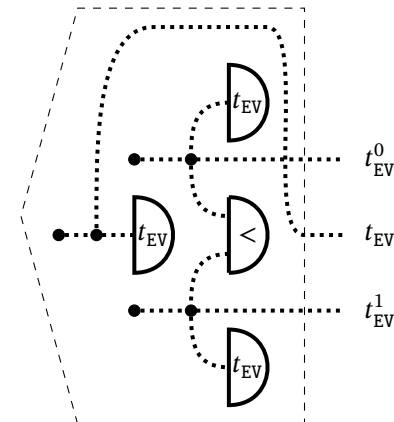
Episodic event
(Interval determined by ordered endpoints)



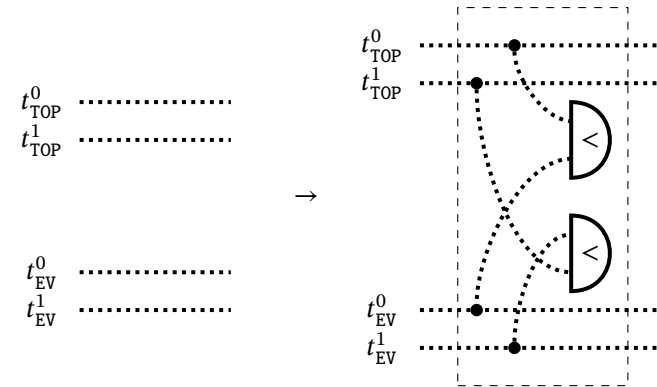
Habitual event (as constraint)
(An arbitrary open set on $[0, 1]$)



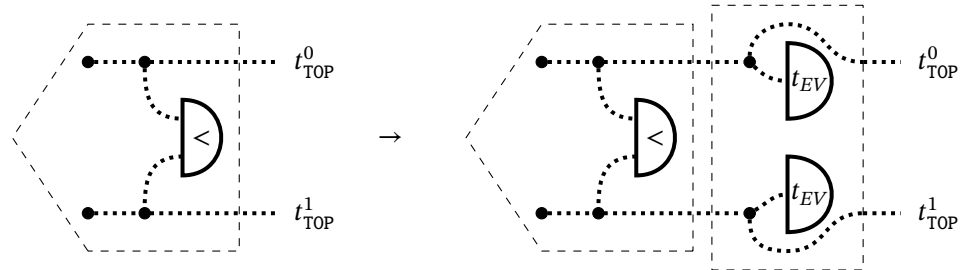
Hybrid event
(Open set with endpoints)



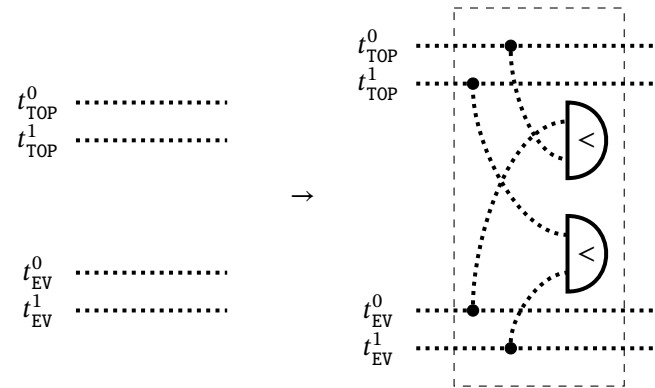
Perfective: $t_{EV} \subseteq t_{TOP}$
 (Event time contained within topic time)



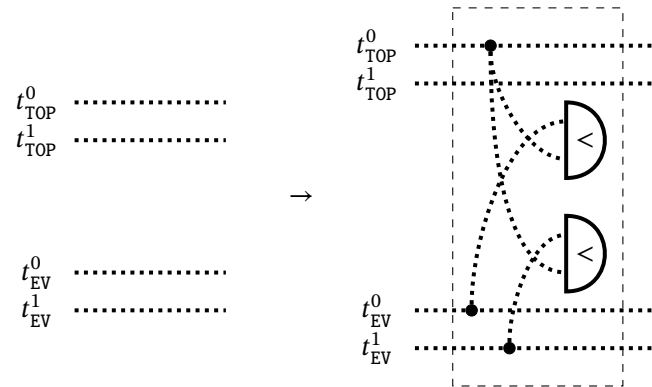
Imperfective: $t_{TOP} \subset t_{EV}$
 (Episodic time contained within habitual event time)



Progressive: $t_{\text{TOP}} \subset t_{\text{EV}}$
 (Event is ongoing throughout topic time)



Terminative: $t_{\text{EV}} < t_{\text{TOP}}^0$
 (Event will have been completed by the topic time)



Example 1.0.2.

Kaajk'ucho'on túun way tekàajil x Jaxleyile, (1)

When we arrived,
 PERFECTIVE

kilike' tuláakal máake', (2)

we saw,
 PERFECTIVE

táan uya'aliko'obe' jach (3)

everyone was saying

NON-PERFECTIVE WRT. (1,2)

ts'uyu'ubiko'ob ti' ràadyoe' (4)

(they) had heard on the radio

TERMINATIVE WRT. (1,2)

túun tàal le siklòono'. (5)

the cyclone was coming.

(4) NON-PERFECTIVE WRT. (5)

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Bibliography