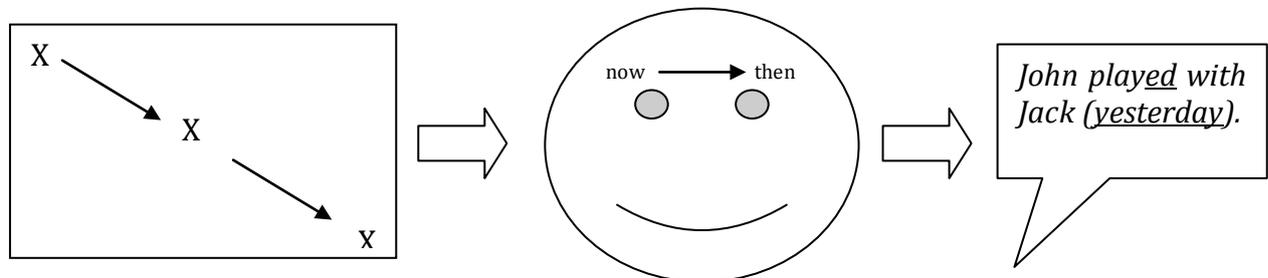


## I. Time & Tense

Relationship World – Cognition – Language: Spacetime as a real-world phenomenon → our linear conceptualisation of it ('meaning') → grammaticalisation of the conceptualisation as Tense



1. Real world: There are real things in the world out there (are there?), things that have nothing to do with us humans. What we refer to as *time* might be the dimension (4<sup>th</sup>) – spacetime – through which we in our 3D-world move

2. Cognition: Our mind enables us to take those things of the outside world that are thinkable, and form abstract concepts out of them. Our conceptualisation of time is linear, as an arrow progressing through the world around us. Witness time-metaphoric expressions:

- time comes and goes
- time passes
- Zeit vergeht
- back then

3. In principle, a grammar universally available to all humans (i.e. UG) could make available just anything thinkable as a grammatical category. However, for whatever reasons, it does not. For example, there exists no language that has a category for 'degree of affection towards a person/thing', while this would sure be thinkable. Thus, it seems that UG makes available only a portion of our concepts (e.g. TIME, yes, AFFECTION, no). Call this the **UG concept menu**. In the course of their development, languages may choose from this menu which categories they would like to have. Japanese, for ex., chose *honorification* (a form of social deixis), expressing the degree of respect towards a person *as a functional morpheme*! English, of course, didn't choose this category.

Naturally, these observations lead to questions conc. the universality of cognition & language:

Q: Does every language have Tense? A linear concept of time? A conceptualisation of time at all? [universalism vs. relativism]

a. No, there *are* languages that haven't selected Tense from UG menu. However, absence of grammatical means of expressing time (i.e. Tense morphology), doesn't mean that time distinctions cannot be expressed at all: Chinese, e.g., uses another functional system, aspect, to express pastness (e.g. perfective aspect means that an event occurred in the past). And, of course, all languages can make use of *lexical means* (indications of time, e.g. *last Saturday*) to express tense. So, while a language may lack the grammatical sys-

tem to express time (i.e. Tense), this doesn't mean that distinctions of time cannot be described in that language, nor that speakers of that language cannot think in terms of time!

b. Some relativists believe that some cultures have developed other conceptualisations of time than the linear one we are acquainted with in the Western world. E.g. some cultures are claimed to have a concept of *cyclic time*, with recurring periodic cycles. But as I see it, this concerns the cultural concept of *calendar*, and not whether time progresses linearly (even if time progressed in circles, it would still be linear, in some sense).

c. Some even more radical relativists argue that some cultures haven't developed a concept of time in the first place. E.g., according to Dan Everett, the Amazonian tribe of the Piraha don't have a concept of time as it's hasn't proven to be useful in their style of society. This has been strongly debated, however, and counter-evidence *pro* time have been produced.

NOTE: Grammatical (functional) vs. lexical expression of tense: *Jochen played a gig yesterday*. → Both the functional morpheme <PAST> and the adverbial *yesterday* refer to the same time in the real world.

## Reichenbach

Hans Reichenbach (1891-1953), a German philosopher, semanticist and logician, developed a logical tense semantics on only a dozen pages of his 1947 book *Elements of Symbolic Logic*. To the present day, the basic model has remained valid and still constitutes the foundation of any theory of tense.



The ingredients: Tenses comprise three points of times – the **point of the event E**, the **point of speech S** and – as an innovation – the **point of reference R**. S is the NOW of the speaker's deictic centre (Bühler's *origo*: I–HERE–NOW); E is the relative time of the event; and R is a reference point from which an event (at E) is viewed. These time points can be related either as being simultaneous (**simple**: X,X, e.g. S,E) or as sequential (**anterior** vs. **posterior**: X–Y, e.g. E–S). The relation between all time points can be visualised as time arrows.

So what does R buy us? For example, the difference between (Simple) Past and the present perfect:

*Past*: I went to a concert (yesterday).      ---E/R<sub>go</sub>-----S---->      E,R–S

*Present Perfect*: I've never gone to a concert.      ---E<sub>go</sub>-----R/S-->      E–R,S

R,S describes the *present relevance/current orientation* flavor of the present perfect!

Traditional grammar recognises **6 tenses**, which can be described as follows using R.'s system (for future tenses R. uses *shall* instead of *will*, which is more natural nowadays):

1. Past Perfect	I had seen John	---E <sub>seen</sub> ---R---S--->	E–R–S
2. Simple Past	I saw John	---E/R <sub>saw</sub> -----S--->	E,R–S
3. Present Perfect	I have seen John	---E <sub>seen</sub> -----R/S-->	E–R,S

4. Present	I see John	-----S/R/E----->	S,R,E
5. Simple Future	I will see John	-----S,R---E <sub>see</sub> ---->	S,R-E
6. Future Perfect	I will have seen John	---S----E <sub>seen</sub> ----R---->	S-E-R

Note: Progressive aspect (-ing) is treated as an *extended tense* by R., but as a property of only E (its duration)!

Overall, R.'s system permits 13 logically possible tenses:

<u>Relation</u>	<u>Reichenbach's Term</u>	<u>Traditional Term</u>
E_R_S	Anterior past	Past perfect
E,R_S	Simple past	Simple past
R_E_S	Posterior past	—
R,S,E	Posterior past	—
R,S_E	Posterior past	—
E,S,R	Anterior present	Present perfect
S,R,E	Simple present	Present
S,R_E	Posterior present	Simple future
S_E_R	Anterior future	Future perfect
S,E_R	Anterior future	Future perfect
E,S_R	Anterior future	Future perfect
S,R,E	Simple future	Simple future
S,R_E	Posterior future	—

So, what's with the —'s? Is there neither a posterior past nor a posterior future in English?

And why are there three anterior futures and posterior pasts?