

A Formal Semantic Analysis of Two Types of Locative-to-Aspect Grammaticalization Paths

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Overview

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Introduction: Locative >> Progressive Grammaticalization

It has been well-established that the progressive aspect marker may originate from a locative expression cross-linguistically. (Bybee et al. 1994)

- Germanic: English (Heine 1994); German (Deo 2009, fn. 24); Dutch (Comrie 1976, p. 99).
- Celtic: Welsh (Comrie 1976).
- Kra-Dai: Thai (Wang 2015, Matisoff 1991).
- Austroasiatic: Vietnamese (Wang 2015, Matisoff 1991).
- Sino-Tibetan: Chinese (Wang 2015); Lahu (Matisoff 1991); Burmese (Matisoff 1991).
- Niger-Congo: Igbo (Lord 1993, p. 14).

Introduction: Examples.

Old English:

- (1) Ac gyrstandæg ic wæs on huntunge.
But yesterday I was at/on/in hunting
“But yesterday I was hunting.”

Chinese:

- (2) Wǒ zài kànshū.
I at/PROG read
“I am reading.”

Introduction: cognitive explanations.

The following explanations in terms of the cognitive connections between locations, events, and time, have been offered by many researchers (e.g. Bybee et al. 1994)

Spatial Metaphor:

- The concrete spatial meaning is metaphorically transferred to events, which are regarded as some kind of location.

Temporal Inference:

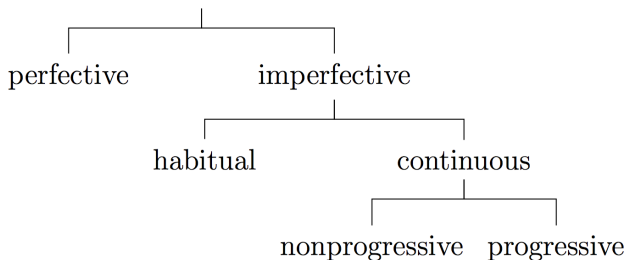
- The temporal meaning is then inferred from the spatial meaning, since the activity must also have its temporal extension alongside its space.

Introduction: goals of this research.

The cognitive explanations are intuitively correct. But we may further ask and answer the following two questions.

- In terms of spatial metaphor, are there further linguistic ontological differences?
- In terms of temporal inference, how does it take place in its semantics?

Two types of spatial metaphor: AT vs. IN



The progressive is a subset of the continuous aspect, as shown by the classification of aspectual meanings (Comrie 1976, p. 25, cited by Bybee et al. 1994, p. 138)

Two types of spatial metaphor: AT vs. IN in Chinese

There are 4 aspect markers in Chinese related to the progressive.

- The progressive: zài (preverbal, i.e. zài + VP).
- The durative/non-progressive: -zhe (verbal suffix, V-zhe Object).
- The continuous: zhèngzài (preverbal, i.e. zhèngzài +VP).
- The continuous: -ne (sentence-final particle).

Two types of spatial metaphor: AT vs. IN in Chinese

In terms of grammaticalization:

- zài- < the locative verb/preposition zài.
- -zhe < the verb "to adhere".
- zhèngzài < a construction meaning "right at the time of VP-ing".
- -ne < location noun "inside".

I'll focus on the progressive marker (PROG) zài- and the continuous marker (CONT) -ne here.

Two types of spatial metaphor: AT vs. IN in Chinese

The PROG *zài* can precede verbs of activities (both physical as in Ex. 2 on slide 4 and psychological activities).

- (3) *Wǒ zài xiǎng...*
I PROG think
'I am thinking ...'

It is not compatible with stative verbs, e.g. "like" or adjective, i.e. "silly".

Unlike in English, aspectual coercion is not possible with these types of predicates in Chinese. ☞ cf. You are being silly but I'm liking it.

Two types of spatial metaphor: AT vs. IN in Chinese

The CONT -ne is compatible with activities, and some stage-level adjectives. E.g.

- (4) Tā yí-ge-rén tōutōude gāoxìng ne.
he one-CL-person secretly happy CONT
'He is secretly happy over there by himself.'

The CONT -ne is also compatible with sentences containing the durative (DUR) -zhe. Thus -ne has the widest distribution, encompassing both the PROG zài and the DUR -zhe.

Two types of spatial metaphor: AT vs. IN in Chinese

Therefore, there are at least two subtypes of spatial metaphor, and they correspond to different aspect markers. The Chinese data show:

- PROG zài- → AT-type.
- CONT -ne → IN-type.

Two types of spatial metaphor: AT vs. IN in English

The English PROG ‘be V-ing’ is compatible with activity verbs, and can be combined with certain stative verbs, and stage-level adjectives but aspectual coercion is required. Thus in these cases, the statives acquired a “progressive” meaning.

You are being silly but I’m liking it.

We have also seen that in terms of grammaticalization the English PROG is derived from “be at V-ing”, which weakened to “be a-V-ing”, and then to “be V-ing”.

Thus the English PROG can be regarded as an AT-type.

Two types of spatial metaphor: AT vs. IN in English

There isn't really an IN-type continuous marker in English. But "in the middle of" seems to be compatible with both activities and with certain statives, and no coercion is required (i.e. no "progressive" meaning)

The following examples, either googled or searched for in a corpus, are not common but nonetheless exist.

- (5) "I am in the middle of starting over." (song by Sabrina Carpenter.)
- (6) "He was happiest when in the middle of a long depression." (BYU Corpus of Contemporary American English)
- (7) "Our story opens up in the middle of marital bliss." (Online movie review of The Amazing Spiderman.)
- (8) "When you're in the middle of being in love with someone, you just don't stop to ask." (Author quote from Sarah Ockler)

Two types of spatial metaphor: AT vs. IN in English

In contrast, the same statives are not compatible with the English PROG, and these can't even be coerced.

- (9) ✓ I am starting over.
- (10) ✗ He was being depressed.
- (11) ✗ The couple was being blissful in their marriage.
- (12) ✗ You are being in love.

Two types of spatial metaphor: AT vs. IN in English

Thus we see that in English there is some distinction between the AT-type and the IN-type, although to a lesser extent.

- The AT-type corresponds to the PROG.
- The IN-type corresponds to the CONT.

Two types of spatial metaphor: AT vs. IN

Some hypotheses so far:

- There is evidence for cross-linguistic distinction between the AT-type and the IN-type aspect markers and their semantics.
- The distinction reflects a further dichotomy in spatial metaphor.
- The cross-linguistic nature shows that there should be some cognitive underpinnings to such a distinction, which could be reflected in the linguistic ontology.

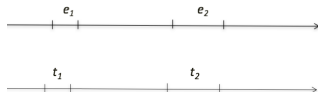
AT-type and Eventualities: the generalization

Prepositions:

- Sun (2008) points out that the Chinese preposition *zài* is “semantically underspecified”, i.e. without reference to the three-dimensions of an object.
- We see that initially the English preposition “on” can mean “at, in, on”, i.e. also semantically underspecified.

Eventualities:

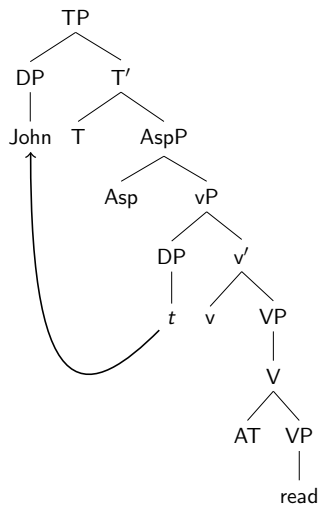
- Events and time intervals can be represented linearly on a time line.



- Time intervals are regarded as “empty events” (Bonomi 1997)

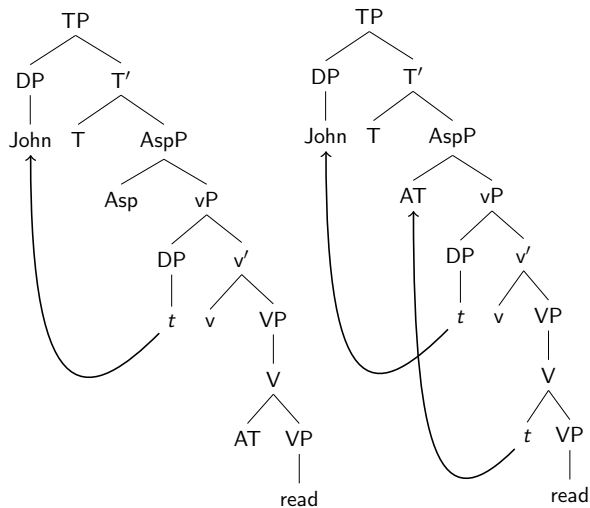
AT-type and Eventualities: syntactic reanalysis.

I use “John AT read” as a pseudo-sentence to cover the Chinese example.
(The trees are illustrative, omitting many details.)



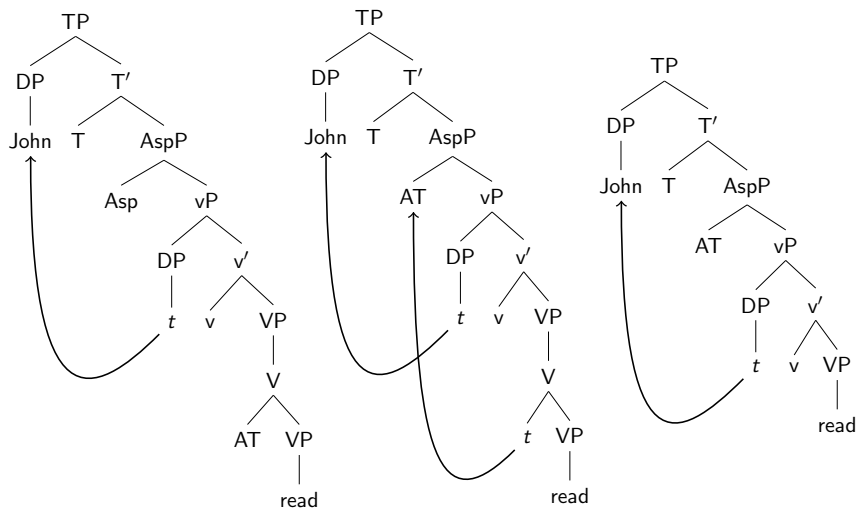
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AT-type and Eventualities: syntactic reanalysis.

Evidence for the syntactic reanalysis in Chinese:

- In Old Chinese (roughly 1st millennium BC), the word *zài* is a verb (not a preposition), and it can take a stative predicate as object. In early Middle Chinese (4-6th centuries), *zài* became a preposition (PP precedes VP), and the focus began to shift to the following verb.
- I argue that the PROG *zài* is an instance of secondary grammaticalization. The prepositional use facilitates the shift of focus to the following verb.
- The emergence of the PROG *zài* is late Middle Chinese (ca. 10th century). So chronologically speaking it is also reasonable, i.e. Verb>>Preposition>>PROG

AT-type and Eventualities: syntactic reanalysis.

Evidence for the syntactic reanalysis in English:

- Originally the -ing form of the verb is the gerund form that turns the verb into a nominal object of the preposition "at".
- Eventually the focus shifts to the -ing form of the verb, resulting in the reduction of the phonological form of "at".
- With the loss of the "at" altogether, the -ing form is realized as a present participle, rather than a gerund.

Stage 1:

- What is stated:
 $\exists s. \exists e. [\text{Existing}(s) \wedge \text{Theme}(s, \text{John}) \wedge \text{Reading}(e) \wedge \text{Loc}(s, e)]$
- What is implied:
 $\exists x. \exists e. [\text{Reading}(e) \wedge \text{Agent}(e, x)]$
 $x = \text{John}$
- Ontological inference:
"existing" is as good as an "empty event".
Thus $[\exists s. \text{Existing}(s)] \rightarrow \exists t.$

AT-type and Eventualities: semantic reanalysis.

Stage 2:

- Simplification/Reanalysis:

$\exists t. \exists e. [\text{Reading}(e) \wedge \text{Agent}(e, \text{John}) \wedge \text{Loc}(t, e)]$

- Temporal inference:

“Location of t is e ” $\rightarrow t \subseteq e \rightarrow t \subseteq t'$ of e .

- Partial specification of PROG semantics:

$\exists t. \exists t'. \exists e. [\text{Reading}(e) \wedge \text{Agent}(e, \text{John}) \wedge \text{Hold}(e, t') \wedge t \subseteq t']$

AT-type and Eventualities: further development.

The dynamicity of PROG has to be derived via an inference when it is mostly used with activities.

Thus the eventuality is further restricted to a certain type of events, excluding states, and other non-dynamic events.

Thus CONT >> PROG

IN-type and Situations: the generalization.

- The preposition IN refers to the non-linear aspect of an object.
- Situations are parts of possible worlds.
- Typically a statement is about the state-of-affairs in a particular situation.

IN-type and Situations: syntactic reanalysis.

I will use “John IN read” as a pseudo-example.

Presumably the same kind of syntactic reanalysis should take place as in the case of the AT-type. But here I will skip the illustration.

IN-type and Situations: semantic reanalysis.

When we say “John IN read”, we are saying that “John is in the situation of reading”, or equivalently “In the situation s , John is reading”.

There is also another situation that is involved, i.e. the situation of the speaker uttering this sentence.

Therefore we may represent the semantics using just situations, without reference to “time intervals” as:

$$\exists s. \exists s'. [\text{Read}(\text{John})(s) \wedge \text{Speak}(\text{“I”})(s') \wedge s' \leq s]$$

IN-type and Situations: semantic reanalysis.

In the situation semantics proposed by Cipria and Roberts (2000, p. 314), they define a new function called “Time” to “assign to each situation an interval, its temporal extension” .

Thus: $[s' \leq s] \leftrightarrow [\text{Time}(s') \subseteq \text{Time}(s)]$

Further:

If: $\exists s. \exists s'. [\text{Read}(\text{John})(s) \wedge \text{Speak}(\text{“I”})(s') \wedge s' \leq s]$

Then: $\exists s. \exists s'. [\text{Read}(\text{John})(s) \wedge \text{Speak}(\text{“I”})(s') \wedge \text{Time}(s') \subseteq \text{Time}(s)]$

Cognition and Linguistic Ontology

Eventualities and situations are cognitively different, and they are reflected as different semantic objects in language. The spatial metaphor involved in Locative>>PROG/CONT is based on such a distinction.

Semantic reanalyses

Time intervals are regarded as empty intervals, which leads to a shift of focus. In contrast, the Time function gives rise to a temporal inference that leads from situation to CONT.

Thank you!



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