The semantics of durative phrases

(13) [[Durative NP]] = \lambda \vec{R}_{ e/s}[\vec{R}(e/s) & \mu(e/s)] = \text{Num} \land \text{Hom}(e/s)

- e : events
- s : states
- r : a temporal trace function from events to times
- \mu : a mesure unit function, which yields a number
- \text{Hom} : a predicate representing homogenity
- \vec{R} : a variable with a flexible semantic type involving a sequence or more eventuality arguments. (Piñón 1999)

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When the durative phrase is adjoined to VP

(14) When the durative phrase is adjoined to VP

[[VP]] = R(\vec{R}_{ x/s})
[[tershi-nian VP]] = \lambda \vec{R}_{ e/s} \vec{R}(e/s) & \text{Year}(\tau(e)) = 20 \land \text{Hom}(e/s)](R(\vec{R}_{ x/s}))
= \lambda e[R(\vec{R}_{ x/s}(e)) & \text{Year}(\tau(e))] = 20 \land \text{Hom}(e/s)]
[[AgroP]] = \lambda e[\text{Agro}(x_k)(e) & \text{Year}(\tau(e))] = 20 \land \text{Hom}(e/s)]
[[VoiceP]] = \lambda e[\text{Voice}(x_k)(e) & \text{drive}(\text{taxi})(e) & \text{Year}(\tau(e))] = 20 \land \text{Hom}(e/s)]
[[AgrsP]] = \lambda e[\text{Agrs}(x_k)(e) & \text{drive}(\text{taxi})(e) & \text{Year}(\tau(e))] = 20 \land \text{Hom}(e/s)]

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Existential Closure Rule (Piñón 1999, 11): a default mechanism will existentially close the result state argument of a verb or verbal complex if nothing else does.

\lambda R \lambda e [\exists s(R(s)(e))]
Against the 'since-completion' reading of R-related duratives

- 'since completion' reading can be derived as an incorrect inference to the R-related Reading.

\( (5) \) Zhe-dong fangzi wo gai-le san nian le  
this-CL house I build-PAR three year PAR
(i) 'I have been building this house for three years.'
(ii) 'It's three years since I built the house. / I built this house and the result state has existed for three years.'
\( \rightarrow \) wo san nian qian gai-le zhe-dong fangzi I three year ago build-PAR this-CL house
'I built this house three years ago.'

- The 'since' reading derives from lexical entries.

\( Ta \ pao-le \ san-ge \ xiaoshi. \)
He run-ASP three-CL hour
(i) 'He ran for three hours.'
(ii) 'It's been three hours since I finished running.'
\( \rightarrow \) when an atelic event is terminated at any arbitrary time, that terminated event is also a completed event.
\( \rightarrow \) it fails reason for 'since-completion' reading which make it useful for atelic situations.
The duration of the time as specified by the durative phrase is related only to the result state.

(19) John ba men guan-le san-ge xiaoshi le
John BA door close-Asp three-Cl hour PAR
(Lit.) ‘John has closed the door for three hours.’

(i) three hours
||
| close | reopen |

(ii) * close | reopen | close

Since interval vs. The duration of result state

(i) \[\text{\\textit{since interval}}\]
\[\text{event completed} \rightarrow \text{speech time}\]

(ii) \[\text{\\textit{since interval}}\]
\[\text{event completed} \rightarrow \text{the end for the result state} \rightarrow \text{speech time}\]

Incremental theme sentences

- Incremental theme verb: \textit{kan} ‘read’, \textit{xie} ‘write’, \textit{gai} ‘build’
- P-related and R-related Reading

(20) a. Ta zuotian (zhi) likai-le jiaoshi shi fenzhong
he yesterday only leave-Asp classroom ten minute
(i) ‘Yesterday he (only) left the classroom for ten minutes.’

b. Ta zuotian kai-hui deshihou turan hunmi-le
he yesterday open-meeting when suddenly faint-Asp

(iii) ‘Yesterday it was (only) ten minutes since he left the classroom.’

(21) a. Ta (yijing) xie-le na-feng xin san tian le
he already write-Asp that-Cl letter three day PAR
(i) ‘He has been writing that letter for three days.’

b. Ta xie-le san tian na-feng xin le
he write-Asp three day that-Cl letter PAR
‘He has already been writing that letter.’
a. Na-feng xin, wo xie-le san tian le, keshi hai mei
that-CL letter I write-ASP three day PAR but yet not
ji-chuqu
send-out → R-related Reading
‘It’s three days since I wrote that letter, but I haven’t sent it out.’

b. Na-feng xin, wo xie-le san tian, jieguo mei xie-wan
that-CL letter I write-ASP three day result not write-finish
‘I wrote that letter for three days, but didn’t finish it.’
→ P-related Reading 1

c. Na-feng xin, wo xie-le san tian, cai xie-wan
that-CL letter I write-ASP three day EMP write-finish
‘It took me three days to write that letter.’
→ P-related Reading 2

Remark:
(22a) wo xie-le san tian na-feng xin, * keshi hai mei
I write-PAR three day that-CL letter, but yet not
ji-chuqu
send-out
→ conflict between P-related Reading and ‘send-out’

For Incremental Theme verb:

Lin(2007)
- Obj. + DP P-related or R-related Reading
- DP + Obj. Only P-related Reading

Lu’s idea
- Obj. + DP + le P-related Reading or R-related Reading
- Obj. + DP only P-related Reading

- Numeral objects vs. Definite objects
  (according to whether the event culminate)

While there is no implication of culmination for a definite object,
a numeral object always implies the completion of the event.
The semantics of Incremental Theme verbs vs. Durative Phrases

- R-related reading of durative phrases in Incremental Theme sentences (the same way as we treated achievement verbs)
- P-related reading of durative phrases in Incremental Theme sentences

Filip (2001)
- there are cases where the nominal argument has a quantized interpretation but the grammatical aspect is imperfective

(24) Ivan jel’ jabloko pjat’ minút/??za pjat’ minút
(Russian)
Ivan eat.PAST apple.SG.ACC five minutes/??in five minutes
(i) ‘Ivan was eating an/some/the apple ??for five minutes/in five minutes’
(ii) ‘Ivan ate an/some/the apple for five minutes/??in five minutes.’

Noun phrases vs. Verbal predicates (with respect to aspectual composition)

Lexical Aspect: the quantization properties of nominal arguments may influence the quantization properties of verbal predicates

Grammatical Aspect: the perfective vs. imperfective distinction
Æ Jabloko obtains a count interpretation instead mass interpretation

(25) Ivan jel bird jabloko, a Boris egó jel tóze.
Ivan eat.PAST apple.SG.ACC and Boris it eat.PAST too
(i) 'Ivan was eating? an/the/some apple, and Boris ate it, too.'
(ii) 'Ivan ate an/the/some apple, and Boris ate it, too.'

quantization-cumulativity vs. partivity-totality
(Incremental Theme arg.) (verb)

(26) Perfective Verb: \( \lambda P \cdot e \langle P(e) \& \text{TOT}(P) \rangle \) (Filip 2001, 474)
Imperfective Verb: \( \lambda P \cdot e \langle P(e) \& \text{PART}(P) \rangle \)
\[
\text{PART} = \lambda P \cdot e \langle P(e') \& e' \preceq e \rangle
\]
(Filip 2001, 475)
Æ a perfective verb represents a given state of affairs in its totality and hence is quantized.
Æ the imperfective operator takes predicates of states, processes or events and maps them onto partial states, processes and events.

Kritka's Mapping to Object principle (1998)
Every subpart of an event corresponds to a subpart of the Incremental Theme.

(27) \( [[\text{gal}]] = \lambda y \cdot s \cdot \lambda e \langle \text{Build}(y)(e) \& \text{Result}(e, y, s, \text{Be-built}) \rangle \)
Æ R-related reading

(27') \( [[\text{PART}]] = \lambda P \cdot s \langle s, s, \text{e} > \lambda y \cdot \lambda e \langle e, e \rangle \langle \text{Result}(y)(s)(e') \& e' \preceq e \rangle \)
Æ P-related reading

. 'e' \( \preceq e' \) a P-related durative is compatible with a completed or incomplete event. (see (26))

(28) b. Na-feng xin, wo xie-le san tian, jieguo mei xie-wan
that-CL letter I write-ASP three day result not write-finish
'It was three days, but I didn’t finish it.'
Æ e' < e

c. Na-feng xin, wo xie-le san tian, cai xie-wan
that-CL letter I write-ASP three day EMP write-finish
'It took me three days to write that letter.'
Æ e' = e
e' = $e \text{ vs. Result state}$ (Caudal, 1999)

\[ \text{event} \quad \text{inner stage} \quad \text{result stage} \quad \text{primary RS} \quad \text{secondary RS} \quad (\text{transition funktion: cause a definite change of state}) \]

\[ e' = e: \quad \text{EVENT} = IS + P_{RS} \]

- **Bufen (neirong) 'part(content)' in Chinese**
  - a. Wo yijing du-le nei-ben shu de bufen neirong le
     I already read-Asp that-Cl book Poss part content Par
     'I already read part of that book'.
  - b. Wo yijing du-le bufen nei-ben shu le
     I already read-Asp part that-Cl book Par
     'I already read part of that book.'
  - a. *Wo yijing du-le yi/liang-ben shu de bufen neirong le
     I already read-Asp one/two-Cl book Poss part content Par
     'I already read part of one/two book(s)'.
  - b. *Wo yijing du-le bufen yi/liang-ben shu le
     I already read-Asp part one/two-Cl book Par
     'I already read part of one/two book(s).' (32)

- (23)
  - partitive constructions (in English) are subject to a constraint to the effect that the embedded NP must be definite
    - a. one of these/the/my cat
    - b. *one of some/three/no cats

- **Conclusions**
  - P-related Reading: DP can be adjoined to every maximal projection;
  - R-related Reading: DP must be adjoined to the most deeply embedded result XP projection;
  - Incremental Theme Verb: \( \pm \) inherently telic; PART-Operator; indefinite numeral Object + telic.

\( (31) \)
References

