Overview

- universals and variation
- the role of functional categories
- the role of pragmatics
- impediments to further exploration
- the final frontier: mood (and modality)
- final thoughts

Universals and variation

- a non-exhaustive survey of in-depth studies
  - ignoring the usual suspects (English, French, German, Italian, Russian...)
  - plus the pioneering typological work by Dahl 1985 (covering 64 languages based on responses to an extensive questionnaire) and follow-ups

- an emerging picture consistent with the findings and, mutatis mutandis, with Klein 1994
  - across languages, the contextual interpretation of finite eventuality descriptions involves determining
    - the values of 3+ variables:
      - situation time $t_{sit}$ - the runtime of the described eventuality
      - coding time $t_u$ - the time of utterance/processing
      - topic time $t_{top}$ - the time the utterance makes an assertion or asks a question about
      - reference times $t_{r1}, t_{r2}, t_{r3}, ...$ - times given in context that may constrain $t_{top}$
      - reference time variables may be present in the semantics of the utterance due to, e.g., true relative tenses

- possible relations to be determined
  - $t_{sit}$ may be related to $t_{top}$
    - via semantic viewpoint aspect relations
  - $t_{top}$ may be related to $t_{v}$ or $t_{r}$
    - via semantic tense relations

- an example

\[(1.1) \ [\text{When I arrived in Nijmegen}]_{S1}, \ [\text{Wolfgang's book had just been published}]_{S2}\]

- $t_{sit}(S_1) = \text{the time of the publication of Wolfgang's book}$
- $t_{sit}(S_2) = \text{the time of the speaker's arrival}$
- $t_{top}(S_1) < t_u$ by simple past tense
- $t_{top}(S_2) \leq t_{top}(S_1)$ by perfective aspect value of the simple past
- $t_{top}(S_1) = t_{top}(S_2)$ by the when-clause construction
- $t_{top}(S_2) < t_{top}(S_1)$ by anterior past value of the perfective

- v - vii diverge from Klein 1994 in view of the perfectivity of the perfective under the past-in-the-past interpretation
  - cf. Bohnemeyer 2003
Temporality: across languages

Universals and variation (cont.)

• how the values of the variables are determined
  - tu is always present as part of the deictic center
  - all values may in principle be specified or
    constrained by adverbials, temporal clauses, etc.
  - tsit may be constrained vis-à-vis ttop
    by aspect markers and pragmatic inferences
  - ttop may be constrained vis-à-vis t/tu,
    by tense markers and pragmatic inferences

• where languages vary
  - the lexicalization of eventuality descriptors
    • that introduce entailments about realization conditions
  - the grammaticalization of aktionsart operators
    • that map descriptors to eventuality/situation classes
  - the grammaticalization of functional categories
    of viewpoint aspect and tense
  - the grammaticalization of constructions of adverbial
    modification, temporal subordination, etc.
  - the conflation of other meanings
    in such functional categories and constructions
    • especially mood, modality, evidentiality

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The role of functional categories

• the relations R(tsit, ttop), R(ttop, tu), R(ttop, t)
  may be constrained by functional categories

• Standard German
  - R(ttop, tu) is constrained in terms of
    • an obligatory distinction b/w ttop < tu and ~(ttop < tu)
    • an optionally marked distinction b/w tu < ttop and tu ⊆ ttop
  - R(ttop, ttop) is constrained in terms of
    • a distinction b/w ttop < ttop and ~(ttop < ttop)
      marked obligatorily in non-narrative discourse
    • a distinction b/w ttop ⊆ ttop and ~(ttop ⊆ ttop)
      expressed through weakly grammaticalized, colloquial constructions
        • or lexical periphrases
    • optional lexical periphrases for ttop < tsit

The role of functional categories (cont.)

• universal, as far as we know
  - the concept of time
    • although spatial metaphors for time are language-specific
      and may influence reasoning about time
      - e.g., Bohnemeyer 2010; Boroditsky, Fuhrman, & McCormick
        2008; Boroditsky & Gaby 2010
    • the pragmatic inferences involved
      in determining the values of the four variables
The role of functional categories (cont.)

(2.1) Als ich Wolfgang-s Büro betrat, when I(NOM) Wolfgang-GEN.SG office(ACC.SG) enter:PRT3SG
schrieb er einen Brief wrote:PRT3SG he(NOM) INDEF:SG.ACC.M letter(ACC.SG)
‘When I entered Wolfgang’s office,
he wrote / was writing a letter’

(2.2) Taroo-wa [terebi-o mi-ta ato-de] benkyoo-suru Taro-TOP TV-ACC watch-ANT after-LOC study-NONPST
‘Taro will study after watching TV.’ (Ogihara 1999: 329)

(2.3) Taroo-wa kinoo hon-o yon-da Taro-TOP yesterday book-ACC read-ANT
‘Taro (had) read the book yesterday.’
NOT: ‘As of yesterday, Taro had read the book.’ (Ogihara 1999: 330)

The role of functional categories (cont.)

(2.4) Ts’o’k in=mèet-ik le=nah=o’ TER A1SG=do:APP-INC(B3SG) DET=house=D2
‘I (will) have/had built the house’

(2.5) Táan in=mèet-ik le=nah=o’ PROG A1SG=do:APP-INC(B3SG) DET=house=D2
‘I am/was/will be building the house’

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The role of pragmatics

- $R(t_{sit}, t_{top})$, $R(t_{top}, t_u)$, and $R(t_{top}, t_r)$ are partially complementary
- if one is specified or constrained, the others may be inferred via Gricean implicatures

The role of pragmatics (cont.)

- Standard German
  - telicity-based viewpoint implicatures
    • telic descriptions trigger stereotype implicatures to $t_{sit} \subseteq t_{top}$
    • atelic descriptions trigger scalar implicatures to $t_{top} \subset t_{sit}$
      - cf. Bohnemeyer & Swift 2004
  - viewpoint-based tense implicatures with non-past tense forms
    • $t_{sit} \subseteq t_{top} \Rightarrow (t_u < t_{top}) \vee (t_u < t_{sit})$
    • $t_{top} \subset t_{sit} \Rightarrow (t_u < t_{top})$
      - cf. Ehrich 1992; Leiss 1992

The role of pragmatics (cont.)

- Yucatec
  - in conversation, $t_u \subset t_{top}$ by stereotype implicature
  - in narratives, $t_{top}$ is inferred to be the $t_{sit}$ of a suitable clause in preceding discourse
    • resulting in temporal anaphora interpretations; cf. Bohnemeyer 2010

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Impediments to further exploration

- two major obstacles slowing down the crosslinguistic study of semantics
  - 'interface uniformity'
  - a widespread assumption in mainstream Generative Grammar

  "The syntax-semantics interface is maximally simple, in that meaning maps transparently into syntactic structure; and it is maximally uniform, so that the same meaning always maps onto the same syntactic structure." (Culicover & Jackendoff 2005: 47)

  - entails
    - since \( R(t_{top}, t_{mid}) \), \( R(t_{mid}, t_{bottom}) \), and \( R(t_{bottom}, t_u) \) are constrained by functional categories in some languages
    - they must be so constrained in all languages

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The final frontier: mood (and modality)

- the greatest theoretical desideratum currently
  - a "unified field theory" of temporality in language
  - a three-step program
    - develop a theory of mood
      - a complex family of functional categories that have to do with the relation between topic worlds and utterance worlds
    - integrate this with theories of modality and evidentiality
    - integrate the result into the theory of temporality

Final thoughts

- agreed!
- however
  - the conceptual elements of temporal interpretation do appear to be strikingly similar across languages
  - we still need to explain how this is possible

"Learning a language, then, is simply a matter of finding out what the local clothing is for universal concepts we already have (Li & Gleitman 2002). The problem with this view is that languages differ enormously in the concepts that they provide ready-coded in grammar and lexicon." (Evans & Levinson 2009: 435)
References