the relevance of syntactic structures for syntactic variation; or,

the interaction of effects on the particle verb alternation

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• Thanks to:
  – Bill Haddican
  – Kyle Gorman, Laurel MacKenzie, Joel Wallenberg
a variationist’s view of the world
vers une architecture
plumbing the depths

• economy principles
  — some variable alternations are like categorical ones
    so don’t duplicate the machinery (Guy & Boberg 1997)
  — some variable alternations aren’t like categorical ones
    these must be outside the grammar (MacKenzie 2012)
  — can we further justify these w/ appeal to learnability?

• theoretically and/or empirically-motivated architectural constraints
  — ‘phonetics can’t read’ — ‘grammars can’t count’
    so if something is counting, it can’t be the grammar
  — if effects interact, they must apply at the same stage
the variable

• one of a few English ‘alternations’
• long history of study
• but what are ‘alternants’ theoretically?
• using VOP vs. VPO – agnostic labels
• no referential meaning difference
• little or no social meaning difference
• compare to ditransitive (‘dative alternation’)
• what is beyond the ‘envelope of variation’?
  – idioms (fixed and favoring) – VOPP constructions
the syntax

Head raising of the particle

Old information object contexts

cut [TopicP [DP the tree][TOPIC] [Topic' Topic [PredP [DP the tree] down]]]

Narrow object focus contexts

cut [TopicP down [TOPIC] [Topic' Topic [PredP the tree down]]]

• does syntax just give options, or does variation arise there?
• if the latter, potential for duplication of machinery
• if the former, in the syntax you have X[+_F] or you don’t
• but does the lexicon work the same way?
the data

- two acceptability judgment experiments
- subjects judged sentences ‘bad’ (0) to ‘good’ (1)
- object weight: ‘the (lumpy 10-pound) pumpkin’
- object oldness: via cataphoric pronoun
  Because she had no money… vs. Because it tasted funny…
  … Susan spit the conference dinner out.
- 32 stimuli, all compositional (Lohse et al. 2004)
- 32 fillers/normalizers – treated as fillers here
- able to look at VPO and VOP separately
the data

• experiment 2: 125 subjects from USA
• object length is now fixed
• four topic/focus conditions via question prompt
  – Q1. What did the friends do? (VP focus)
  – Q2. What did the friends pass around? (object focus)
  – Q3. What happened? (wide focus)
  – Q4. What happened to the beer? (object topic)
  – A1-4. The friends passed the beer around.
• worked much better than the cataphoric pronoun
• won’t discuss today, very similar analytical issues
the effects

• ‘social’: time, register/style, variety: US vs. UK
• ‘individual’: interacts with all the below
• prosodic: object weight
  – affected by processing constraints
  – never represented in syntax
• information-structural: old/new, topic/focus
  – affected by processing constraints
  – sometimes represented in syntax
• lexical: verb, particle, V-Prt pair: not today
the predictions

• ~100 years of research
  – corpora that must treat VOP/VPO as a choice
  – experiments that treat VOP/VPO as a choice

• a heavy object should…
  – make VOP order worse
  – have no effect on VPO order (make slightly worse?)

• a discourse-old (or topic) object should…
  – make VOP order better
  – make VPO order worse (probably both?)
object weight

response ~ order * weight + (order * weight | subject) + (order * weight | stimulus)
response ~ order * weight + (order * weight | subject) + (order * weight | stimulus)

- $b = -0.096$
- $r = -0.497$
- $p \approx 0$

object weight

effect of heavy object - VOP

effect of heavy object - VPO

0.0

-0.5

0.5

1.0

-2.0

-1.5

-1.0

-0.5

0.0

0.5

stimulus
effect of heavy object - VOP

response ~ order * weight + (order * weight | subject) + (order * weight | stimulus)

b = -0.096
r = -0.497
p ~ 0

UK / IRL (152)
Canada (32)
USA (113)
object newness

\[ \text{response} \sim \text{order} \times \text{focus} + (\text{order} \times \text{focus} | \text{subject}) + (\text{order} \times \text{focus} | \text{stimulus}) \]

VOP - old: 7.91
VOP - new: 8.27
VPO - old: 7.89
VPO - new: 8.37

\[ +0.36 \quad +0.49 \]

\[ p = .12 \]
object newness

response ~ country * order * focus + (order * focus | subject) + (order * focus | stimulus)

UK / IRL (152)
USA (113)

<table>
<thead>
<tr>
<th></th>
<th>VOP - old</th>
<th>VOP - new</th>
<th>VPO - old</th>
<th>VPO - new</th>
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<tr>
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<td>8.39</td>
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<td>7.62</td>
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<td>+0.45</td>
<td>+0.63</td>
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</tr>
</tbody>
</table>
object newness

response ~ country * order * focus + (order * focus | subject) + (order * focus | stimulus)

UK / IRL (152)
USA (113)
object newness

response ~ country * order * focus + (order * focus | subject) + (order * focus | stimulus)

UK / IRL (152)
USA (113)
object weight * object newness?
object weight * object newness?

object: old, light
order: VOP
mean: 8.60

object: old, heavy
order: VOP
mean: 8.35

object: new, light
order: VOP
mean: 8.57

object: new, heavy
order: VOP
mean: 8.34
object weight * object newness!

- **Object: Old, Light**
  - Order: VPO
  - Mean: 8.42

- **Object: Old, Heavy**
  - Order: VPO
  - Mean: 8.59

- **Object: New, Light**
  - Order: VPO
  - Mean: 8.54

- **Object: New, Heavy**
  - Order: VPO
  - Mean: 8.64
conclusions

• prosodic and information-structural effects on word order variation can be elicited experimentally
• measuring acceptability on 11-point Likert scale, then treating it as linear – while not ideal! – gave better results than attempts at normalization
• subjects vary along every dimension you measure
• subject random effects are very valuable data
• two word order ‘alternants’ can appear linked or ‘yoked’ together, cf. quantum entanglement
• object weight and information status can interact
more discussion and questions

• constituent length can be extragrammatical, but it can also affect ‘grammar competition’
• can ‘the same’ effect be in 2 places (economy)?
• despite (arguably) being represented in syntax, information structure also affects competition
• does any variation arise in the syntax proper?
• can we constrain ‘grammar competition’ to make it distinguishable from ‘lower-level’ variation?
• whether 2 or 3 levels, syntax = phonology?


references (2)


