Mapping the linguistic system

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Introduction: The novel observation that is central to this paper is that speakers are able to judge syntactic constructions that are not part of their own language variety. When they are asked to rank a number of variants of such a construction on a scale, this ranking turns out to be parallel to the geographic frequency distribution of these variants. We consider three possible explanations for this striking fact, based on (i) processing, (ii) familiarity and (iii) the syntactic system. We argue that only the third option can explain the behavior of the speakers.

Background: The case study reported in this paper involves two aspects of verb clusters that exhibit variation in the Dutch dialects: the order of the verbs in the cluster and interruption of the verb cluster by non-verbal material. Examples are given in (1) and (2).

(1)   Ik vind dat iedereen moet$_1$ kunnen$_2$ zwemmen$_3$.   (Verb cluster order 1-2-3)

   I find that everyone must can   swim

   'I think that everyone should be able to swim.'

(2)   a.   Ik vind dat Jan een   schuur moet   bouwen   (Standard Dutch)

      I find that Jan a   barn   must built

   b.   Ik vind dat Jan moet een   schuur bouwen.   (Certain Flemish Dutch dialects)

      I find that Jan must a   barn   built

      'I think that Jan should build a barn.'

There is much variation in the order of the verbs in the cluster in (1); (cf. Barbiers 2005; SAND Volume II, Barbiers et al. 2008). While all varieties of Dutch have verb cluster constructions, we find a clear geographic distribution of different orderings across the language area, with differences in frequency of occurrence. Verb cluster interruption shows a lot of geographical variation too, here with respect to the type of constituent that can interrupt the cluster (cf. SAND Volume II). Two factors turn out to be relevant, the complexity of the interrupting constituent and the position in the syntactic hierarchy (in the sense of Cinque 1999) where this element is base-generated (Hendriks 2014). The clear geographic distribution of the various variants of these two constructions makes it possible to investigate if speakers have intuitions on variants that occur in language varieties different from their own.

Methodology: We asked informants to compare the six logically possible orders of the verb cluster in (1) in terms of acceptability and rank them relative to each other. Since there were six variants this results in a ranking from 1 (best) to 6 (worst). A similar task was used for the cluster interruption construction in (2).

Results: There is a high degree of correspondence between the speakers' rankings and the number of locations in the Dutch language area that have a particular construction. (i) verb cluster orders that are more frequent amongst the varieties of Dutch are ranked higher and (ii) speakers in areas where verb cluster interruptions are only used sporadically and with many restrictions, nevertheless have intuitions that correspond to the observed syntactic patterns in the Flemish varieties of Dutch. The graph illustrates one of a
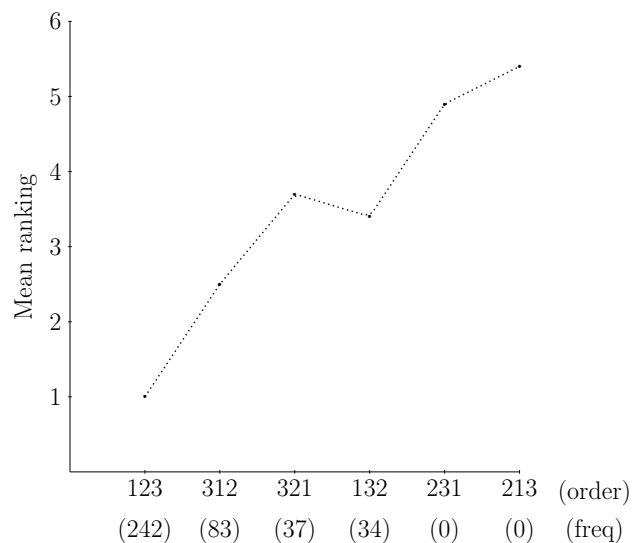
number of results that exhibit this correspondence. The verb orders in order of frequency of occurrence in SAND Volume II are given on the x-axis and the mean score of each item provided by our informants (1-6) on the y-axis.

Analysis: The question is now how to explain this correspondence. We test three possible hypotheses.

(i) Speakers are guided by processing principles. It could be that general processing principles determine both the geographic frequency of the variants and the rankings provided by the speakers, leading to a correspondence between the two, as has been suggested by in Hawkins (2004) for typological variation. According to Hawkins (op. cit., p. 123), there is a principle of Minimize Domains, which states that the human processor prefers to "minimize the connected sequences of linguistic forms and their conventionally associated syntactic and semantic properties in which relations of combination and/or dependency are processed." Hawkins provides a measure to calculate the minimum number of words that have to be processed in order to combine syntactically and semantically related elements. We demonstrate that the predictions from this apparatus are not in line with the speakers judgments: the orders that should be preferred by the human processor do not lead to higher scores in the comparative judgment task. We also demonstrate that observed preferences for crossing over nesting dependencies (Bach et al. 1986) cannot account for the speakers' judgments either. Both results strongly suggest that speakers do not solely rely on processing preferences in assessing unknown constructions

(ii) Speakers are guided by familiarity. We demonstrate that language contact, i.e. contact with dialects in which one particular order is dominant, does not influence speakers' judgments on word orders that are not present in their own language variety. Furthermore, even informants in areas where verb cluster interruptions are rare, have intuitions that correspond to the patterns observed in varieties of Dutch where these constructions do occur. We can thus conclude that speakers do not solely rely on their familiarity with other variants of Dutch in assessing unknown constructions.

(iii) Speakers are guided by the grammatical system. We demonstrate that the speakers are potentially guided by general properties of the grammatical system in assessing other languages. First, people's ranking of various verb cluster orderings can be linked to the manner in which the possible orderings observed in verb clusters are syntactically derived. Secondly, we demonstrate that judgments of verb cluster interruptions provided by speakers of languages spoken outside Flanders correspond to observed patterns of verb cluster interruption occurrences within Flanders: (i) verb cluster interruptions by elements with less syntactic structure are judged better than verb cluster interruptions by elements with more syntactic structure and (ii) verb cluster interruptions by elements that are base-generated syntactically close to the main verb are more acceptable in a verb cluster than elements that are base-generated in a higher position (Hendriks 2014).

Conclusion: Processing preferences and familiarity cannot account for the observed correspondence between speakers' intuitions of a construction and that construction's geographic distribution. Potentially, the intuitions follow from properties of the grammatical system.

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