Formal acceptability experiments as a tool for exploring variation in constituent order

Formal acceptability experiments can capture fine gradations in the acceptability of constituent order variants in a way that is helpful in understanding the mechanisms underlying these variants. In German, for instance, OS order leads to slight degradation (Weskott & Fanselow 2011), reminiscent of what occurs with wh-fronting (Cowart 1997). Nevertheless, this methodology has not been widely used to explore variation in constituent order within languages. We suggest that this has been a mistake: acceptability experiments can yield detailed, fine-grained information about constituent order, and linguists should make greater use of them. We present experimental results for English, where we show that the fine-grained results are valid (i.e., correspond to what is known about the structure of English), and from a field experiment in Malayalam, where we show that the results yield valuable insights into "flexible" constituent order in this language. For both languages, participants rated the six logical variants of transitive sentences, with animate S and inanimate O, on a 7-point scale.

Experiment 1: Results (transformed to z-scores, N=45) are in Fig. 1. Pairwise t-tests show a 4-way distinction: SVO>OSV>OVS>{SOV, VSO, VOS}. The "intermediate" orders are as expected: OSV is the result of topicalization (resulting in degradation, c.f. German) and OVS is indistinguishable from SVO, but with implausible animacy on both subject and object. Overall, this experiment is a proof of concept: it shows that such experiments can be both highly sensitive and valid (i.e., make sense given what is known about the language).

Experiment 2: Results (z-scores, N=18) are in Fig. 2. Pairwise t-tests show a 3-way distinction: {SOV, OSV}>{SVO, OVS}>{VSO, VOS}. SOV is standardly described as the canonical order in Malayalam, so the high rating for that order is not surprising. All other orders are also allowed, though, so why the 3-way distinction?

We suggest this arises because argument-drop is pervasive in Malayalam. Given the canonical verb-final order, when speakers encounter a verb, they expect it to signal the end of the clause, no matter how few arguments have been expressed at that point. Each post-verbal argument results in reanalysis, which is known to be costly to the processor and result in reduced acceptability (e.g., Ferreira & Clifton 1986). As expected, with two such post-verbal arguments, the reduction is even greater (see 1-4).

(1) Verb-medial

  a. [iʃa t̪iɳːu]$_{C?}$ oru maːŋa
     Isha ate   a   mango

  b. [oru maːŋa t̪iɳːu]$_{C?}$ iʃa
     a   mango Isha   ate

(2) Verb-initial

  a. [[t̪iɳːu]$_{C?}$ iʃa]$_{C?}$ oru maːŋa
     ate   Isha a   mango

  b. [[t̪iɳːu]$_{C?}$ oru maːŋa]$_{C?}$ iʃa
     ate   a   mango Isha

These experiments suggest that formal acceptability experiments are a valuable tool to explore variation in constituent order. Practically speaking, this methodology is ideal for fieldwork, as it is is portable and can be conducted with audio stimuli. Furthermore, these experiments are sensitive (i.e., yield fine-grained distinctions), valid (i.e., yield results that make sense and are interpretable), and useful in uncovering and understanding new facts in languages such as Malayalam, for which more theoretical work in the domain of constituent order remains to be done.
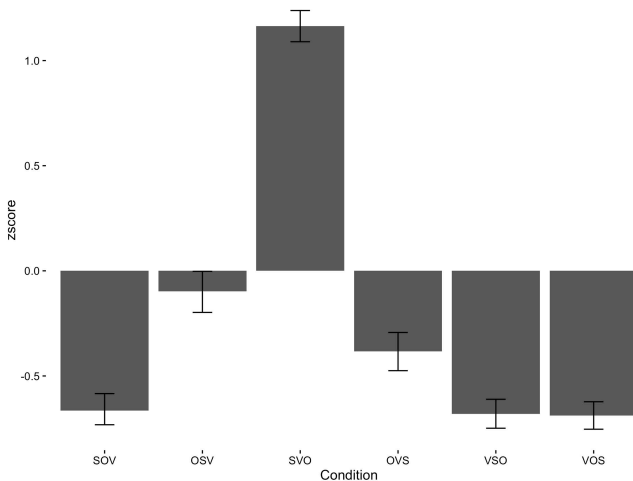
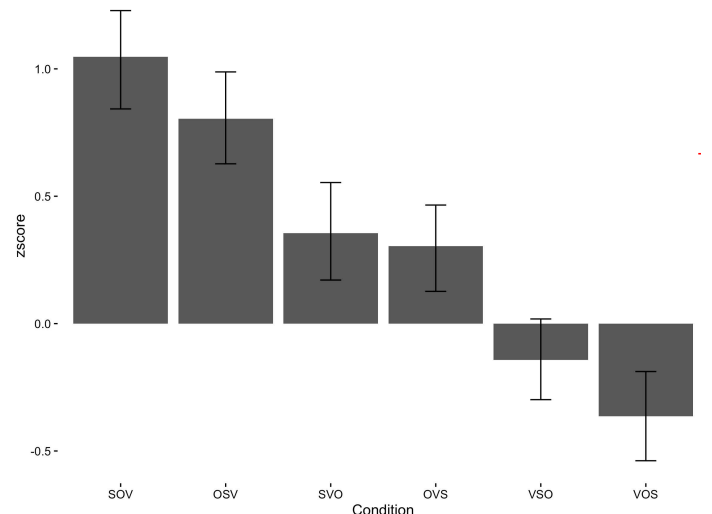Word count: 499

Fig. 1: English Order

Fig. 2: Malayalam Order