Configurationality in Turkish: The case of OVS sentences

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Although Turkish is sometimes described as non-configurational (e.g., Lewis, 1975), recent work characterizes Turkish as configurational (Kornfilt, 1994, 1997; Kural, 1997). The status of non-casemarked objects in Turkish provides evidence of its configurationality. Although Turkish is traditionally described as being free word order (with all 6 word orders being grammatical when objects are overtly casemarked), only SOV and OVS are grammatical when objects are not overtly casemarked. Overt case is dropped when objects are nonspecific, and non-casemarked objects must be next to the verb to receive structural case (Erguvanlı, 1984; Kornfilt, 1997, Kural, 1992). Topicalized elements move to sentence-initial position, focused elements move preverbally, and backgrounded elements move post-verbally (Kornfilt, 1997).

Based on data from 1 child (Ekmecki, 1986), Kornfilt (1994) argued that a head configurationality parameter exists, and this parameter is set by age 2. However, 3 to 5 year old Turkish children appear to have significantly more difficulty understanding non-casemarked OVS sentences than non-casemarked SOV sentences (Batman-Ratyosyan & Stromswold, 2002). In addition, although Turkish adults judge non-casemarked SOV and OVS sentences significantly better than non-casemarked *SVO and *OSV sentences, they rate SOV sentences significantly better than OVS sentences (Batman-Ratyosyan & Stromswold, 1999).

**Design.** 28 native adult Turkish speakers listened to semantically reversible SOV and OVS sentences. For each sentence, they indicated which of two animals corresponded to the agent, and rated the sentence’s grammaticality. Half of the sentences were SOV (examples 1, 2 and 3) and half were OVS (4, 5 and 6). Half had overt object casemarking (1 and 4) and half did not (2, 3, 5 and 6). Half of the sentences were presented with discourse context (3 and 5) to support topicalization (Ward & Prince, 1991), and half were presented in isolation. An indefinite determiner preceded the object in half of the non-casemarked sentences (2, 5). All nouns were animals and animals were paired so that each animal was equally plausibly as the agent of the sentence. The verbs *şit* (push), *öp* (kiss), *sev* (pet), *döv* (beat), *ısr* (bite), *çek* (pull), *oksa* (caress) and *kokla* (sniff) were used, with each verb appearing equally often in each sentence type.

1. **SOV**
   At *fil-i* it-sin.
   The horse-ACC push-OPT
   'Let the horse push the elephant'

2. **S det O V**
   At bir *fil* it-sin.
   The horse an elephant push-OPT
   'Let the horse push an elephant'

3. **Context S O V**
   Context: Bu oyun-da at-lar oyna-sın. Sentence: *At fil it-sin.*
   Context: This game-Loc horse-Pl play-Opt.
   Sentence: The horse an elephant/elephants push-OPT
   'In this game, horses play. Let the horse push an elephant/elephants'

4. **O V S**
   *Fil-i* it-sin at.
   The elephant-ACC push-OPT horse
   '(Let it be that) the elephant the horse push(es)'

5. **Context det O V S**
   Context: Bu oyunda fil-ler oyna-sın. Sentence: *Bir fil it-sin at.*
   Context: This game-Loc elephant-Pl play-Opt.
   Sentence: An elephant push-OPT the horse
   'In this game elephants play. Let it be that an elephant the horse push(es)'

6. **O V S**
   *Fil* it-sin at.
   An elephant push-OPT the horse
   '(Let it be that ) an elephant/elephants the horse push(es)
Results. Adults correctly interpreted SOV sentences more often than OVS sentences (95% vs. 75% correct, $F(1, 27) = 52.76, p < .0005$). Adults also did better when objects were overtly casemarked (96% vs. 74% correct, $F(1, 27) = 48.37, p < .0005$). There was a significant interaction between Word Order and Case-marking ($F(1, 27) = 58.46, p < .0005$), with adults doing very well on casemarked and non-casemarked SOV sentences and casemarked OVS sentences (95% correct for all 3), but at chance-level on non-casemarked OVS sentences (53% correct). Thus, adults only require overt casemarking for correct interpretation of OVS sentences. Adults did better on non-casemarked sentences that contained a determiner than those that did not (83% vs. 66% correct, $F(1, 27) = 33.94, p < .0005$). There was a significant interaction between Word Order and Determiner ($F(1, 27) = 37.07, p < .0005$), with presence of a determiner improving adults’ comprehension of OVS sentences (71% vs. 37% correct, $F(1, 27) = 37.25, p < .0005$), but not SOV sentences (95% correct for both). Adults’ grammaticality judgements mirrored their interpretation results. Adults rated SOV sentences better than OVS sentences, and casemarked sentences better than non-casemarked sentences (both $p$'s < .0005). Adults preferred non-casemarked and casemarked SOV and casemarked OVS sentences to non-casemarked OVS sentences (all $p$’s < .0005). Adults also rated non-casemarked sentences with determiners more acceptable than those without ($p < .01$).

Discussion. According linguistic descriptions of Turkish, non-casemarked NNV sentences must be SOV and non-casemarked NVN sentences must be SVO. Why then do Turkish adults do so poorly interpreting semantically reversible non-casemarked OVS sentences? One possibility is that non-casemarked OVS sentences are not grammatical in Turkish. It is possible, for example, that in OVS sentences, the topicalized O moves to a position where it can no longer receive structural case from the verb. Consequently, adults judge such sentences unacceptable and assign thematic roles to nouns randomly. There are two reasons to doubt this explanation. First, scrambling languages often allow topicalization of non-casemarked objects (Baker, p.c.). Second, Turkish adults prefer non-casemarked OVS sentences to truly ungrammatical SVO and OSV sentences (Batman-Ratyosyan & Stromswold, 1999).

An alternative possibility is that adult Turkish speakers cannot interpret scrambled sentences (i.e., non-SOV sentences) unless they are given additional cues as to grammatical roles of NPs. Our results and previous results indicate that overt object casemarking is a strong (morphological) cue that allows Turkish speakers to interpret scrambled sentences correctly. Our finding that adults do better on non-casemarked OVS sentences when an indefinite determiner precedes the object suggests that the indefinite determiner is a weak semantic/pragmatic cue for which noun is the object (e.g., the indefinite determiner creates a semantic/pragmatic asymmetry between the two NPs and the less specific NP is interpreted as the object). We analyzed our own spontaneous speech corpora and those of Slobin and Bever (1982) to investigate what cues are used signal grammatical roles in scrambled and unscrambled sentences. Consistent with our comprehension results, SOV sentences were three times more common in adult Turkish speech than OVS sentences. 78% of utterances were casemarked, and non-casemarked OVS sentences were very rare (6% of utterances). Thus, in spontaneous speech adults use word order and case-marking to mark grammatical roles. Turkish speakers could use knowledge of the thematic hierarchy (that agents are more likely to be realized as subjects than are themes, etc) and their knowledge of the relative plausibility of different events to correctly assign grammatical roles to NPs in non-casemarked sentence. We classified sentence as semantically reversible (e.g., “boy see girl” or irreversible (e.g., “boy read book”). Overall, 60% of casemarked SOV sentences were semantically irreversible, and 71% of casemarked OVS sentences were semantically irreversible. Virtually all of adults’ non-casemarked sentences were semantically irreversible (97% for SOV, 100% for OVS). These results indicate that Turkish speakers provide morphological and semantic/pragmatic cues for grammatical roles of nouns in scrambled sentences. In summary, our results indicate that when word order is the only cue to grammatical roles, SOV is the only word order Turkish adults regularly use or comprehend.