Long-distance Agreement with Intransitive Matrix Verbs in Hungarian

Szilvia Daczó (Bielefeld University)

1 Introduction In this talk, I address the phenomenon of long-distance object-verb agreement (LDA) in present-day Hungarian, specifically focusing on the curious instances where the matrix verb undergoes LDA despite being *intransitive* (henceforth, iLDA). This is unexpected because although Hungarian has object-verb agreement (Bartos 1997, Kiss 2002, Bárány 2017), this should only apply to transitive verbs. Nevertheless, in examples like (1), object agreement appears instead of the canonical subject agreement in (2). The form in (1) is possibly motivated by the presence of a definite object selected by the transitive infinitive.

(1) *Mindenféle faramuszi módokon iparkodt-**uk** négyszögesíte-ni a kör-t ...*
All-kinds-of tricky ways strove-1PL.SBJ>3.OBJ square-INF the circle-ACC
'We stove to square the circle in all kinds of tricky ways [...]'(MNSZ/doc334, Oravecz et al. 2014)

(2) *Mi iparkodt-**unk** minden-t el-olvas-ni.*
We strove-1PL.SBJ everything-ACC VM-read-INF
'We strove to read everything.'

Bárány (2020) suggests that iLDA could arise by analogy to the regular LDA with transitive matrix verbs (henceforth, tLDA; viz.(3)), causing the object agreement configuration to be selected. My work is also motivated by iLDA having been 'treated' as ungrammatical in previous literature, barring conjugation with *-lak/-lek* (Kálmán et al. 1989, den Dikken 2004).

(3) *A gyerekek elkezdt-**ék** megír-ni a levele-t.*
the children began-3PL.SBJ>3.OBJ write-INF the letter-ACC
'The children began to write the letter.'

2 Preliminary Work I first conducted a corpus search using MNSZ and Google. I used the 28 iLDA-capable intransitives identified by Lehr (1905). Over 600 iLDA instances were found (e.g., (1)), which vary in tense, morphemic subject and object features (person-number, all possible patterns seen), and word order among V-INF-OBJ (6 permutations attested). This reveals *some* use of this structure, thereby implying that iLDA is sometimes possible and is not categorically ungrammatical to speakers. The distributions match with Bárány (2020).

3 Current Work I present the findings of a pilot experiment. My interest lies in the morpho-syntactic representation of iLDA and the factors which might influence its perception. I designed an acceptability judgement task where participants rated the naturalness of sentences on a 1-7 scale. The primary aim was to establish an acceptability baseline for this phenomenon in the synchronic grammar (RQ1 How acceptable is iLDA today?). This has not been measured before, although the use of iLDA has been documented for centuries (Simonyi 1914 referring back 300 years, also Simonyi 1886, 1895, Szinnyei 1895, Illés 1902, Csefkó 1911). Furthermore, it was manipulated whether participants saw the iLDA sentence by itself or directly after a conventional tLDA sentence such as (3) (RQ2 Do ratings depend on whether participants first see tLDA?).

Moreover, iLDA sentences could have the order V-INF-OBJ, OBJ-V-INF, or *pro* (where the object was phonologically null). These were the most frequent orders in the corpus search (RQ3 Does word order affect ratings?).

My hypothesis was that iLDA sentences would receive lower ratings when presented by themselves, but acceptability would increase after presentation of a tLDA sentence. This could be caused by underlying analogy(cal generalisation) or structural priming (viz. Ivanova et al.

2012, 2017, for priming in the processing of anomalous sentences). For word order, I did not posit a hypothesis. Besides, why iLDA has not gained popularity over time is an open question.

4 Results and Discussion 20 people completed this task (M = 35.7 years old, 14 male). Fig.1 shows that iLDA sentences were considered 'moderately grammatical' (M = 3.72, SD = 1.99). Moreover, ratings of 5-7 — indicating (near)naturalness — amounted to ≈40% of iLDA responses. This implies that anomalous sentences *can* be comprehended (Ivanova et al. 2012, 2017). Furthermore, ungrammatical fillers (M = 1.71, SD = 1.35) were significantly less acceptable than iLDA (coefficient = -2.41, SE = 0.20, $p|z| < .001$, odds ratio = 0.09, a large effect). These results signify that iLDA sentences are, in general, not simply ungrammatical.

Next, Fig.1 also shows that iLDA is rated differently according to condition, but contrary to the hypothesis, iLDA is favoured significantly more when *not* preceded by tLDA (coefficient = 0.28, SE = 0.13, $p|z|$ = .035, odds ratio = 1.32, a moderate effect). A reason might be that instead of facilitation by structural analogy, iLDA sentences appeared *more unnatural in comparison* to tLDA, especially in a conscious judgement task. I assume that blocking occurred instead.

Following, a multivariate mixed-effects regression model was fitted with the fixed effects of condition, word order, verb, and the random effect of participant. I found substantial between-participant variation regarding preference for iLDA (variance = 1.45, SD = 1.21; Fig.2).

Furthermore, I found that word order influences rating (Fig.3). With moderate effect sizes, OBJ-V-INF had significantly higher ratings than V-INF-OBJ and especially *pro* (which affected ratings negatively). *pro* (here corresponding to *-lak/-lek*) being the least favoured contradicts the literature (e.g., Szécsényi & Szécsényi 2020), but it might stem from the sentences appearing without context, where lacking an overt object may be odd. Regarding the other orders, OBJ-V adjacency increased the acceptability of iLDA (viz. Santesteban et al. 2013 on OBJ-V agreement in Basque).

Thirdly, by-verb variation arose, such that iLDA was rated highest with *bátorkodik* (in accord with the corpus data) and 10 of the remaining 13 verbs decreased ratings significantly. That iLDA is perceived more natural with certain verbs over others implies that the synchronic representation of iLDA is verb-specific (token-based), which is likely due to its infrequency.

Figure 1: Acceptability rating by condition

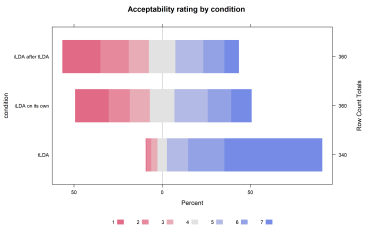


Figure 2: Acceptability rating of iLDA by participant

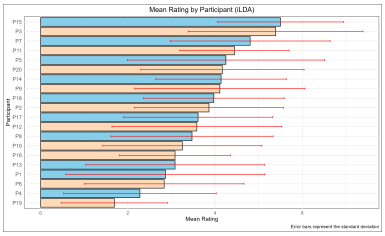
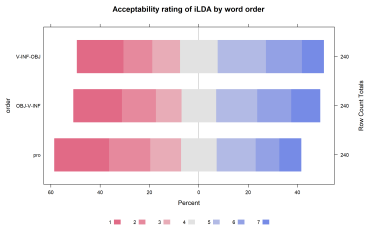


Figure 3: Acceptability rating of iLDA by word order



5 Conclusion Overall, iLDA is shown not to be completely ungrammatical, therefore the morpho-syntax of Hungarian must allow for this structure. However, the variability and amount of significant factors restrict the representational generality and the theoretical generalisability of iLDA. This also begins to explain why iLDA has existed for centuries yet seems to stagnate in popularity. Further, more extensive experiments are planned as part of this study.

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