

WHEN THE GRAMMATICAL PRINCIPLE OF AGREEMENT IS ITSELF  
RESTRICTED IN AGRAMMATISM

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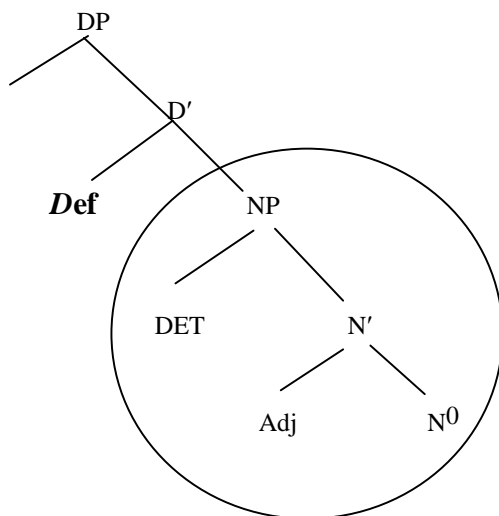
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### The problem

In sentence repetition tests performed by a Hungarian speaking agrammatic Broca's aphasic patient, we observed that indefinite object - verb agreement is strongly limited but definite object - verb agreement is unimpaired in the patient. Based on our data we suggest that the grammatical principle of Agreement is itself damaged in agrammatic aphasia, rather than the language production/processing mechanism or working memory.

### Background

The basic structure of Hungarian nominal phrases is as follows (É. Kiss, 2002):



The structure contains an internal NP consisting of the  $N^0$  head, an optional adjective, and the DET (determiner) a category including the indefinite article (*egy* ‘a’), numerals (*öt* ‘five’) and quantifiers (*minden* ‘all’). The internal NP is indefinite in the default case. The NP is surrounded by a DP shell that has a head of the category *D*. The category marked by *Def* includes the definite article (*a/az*). The DP is definite in the default case. DP/NP is marked for accusative with the case ending *-t*. Examples:

<b>DP</b>	[—	<b>[Def</b>	<b>NP</b>	[DET	Adj	N-acc]]]
< <i>def</i> >	[	<b>[a/az</b>	[ <i>öt</i>	<i>barna</i>	<i>vizslá-t</i> ]]	
	[	<b>[the</b>	[ <i>five</i>	<i>brown</i>	<i>beagle-acc</i> ]]]	
		< <i>indef</i> >	<b>[egy/minden</b>	<i>barna</i>	<i>vizslá-t</i> ]	
			<b>[a/every</b>	<i>brown</i>	<i>beagle-acc</i> ]	

Suffixes of a transitive finite verb express the person and number of the subject and also express of definiteness feature of the direct object.

The definite direct object is of the category DP: a *Def* head is present and is followed by an accusative NP. The definite direct object triggers the inflections of the **definite conjugation** of the Hungarian verb: *Vdef* due to agreement with the feature value <*definite*> of the direct object DP.

Examples:

Én lát- <b>om</b> ...	}	
I see-1sg. <b>def</b>		
Te lát- <b>od</b> ...		... <b>az</b> öt barna vizslá- <b>t</b> .
You see-2sg. <b>def</b>	}	... <b>the</b> five brown beagle- <b>acc</b> .
Misi lát- <b>ja</b> ...		
Mike see-3sg. <b>def</b>	}	

An indefinite direct object is of the category of NP consisting of a *DET N'-acc* structure. In this case the verb carries the inflections of the **indefinite conjugation: *Vindef*** due to agreement with the feature value *<indef>* of the direct object. Examples:

Én lát- <b>ok</b> ...	}	
I see -1sg. <b>indef</b>		
Te lát- <b>sz</b> ...		... <b>egy/minden</b> barna vizslá- <b>t</b> .
You see-2sg. <b>indef</b>	}	... <b>a /every</b> brown beagle- <b>acc</b> .
Misi lát- <b>Ø</b> .....		
Mik see-3sg. <b>indef</b>	}	

## Method

The subject was a 54-year-old right-handed man, the lesion was ischaemic stroke on the area of the left arteria cerebri media, time since damage: 11 months. The patient was classified as Broca's aphasic with the Hungarian version of the Western Aphasia Battery. The patient avoided using indefinite objects agreeing with the verb in his spontaneous speech.

### *Sentence repetitions*

We have conducted sentence repetition tests. The sentences tested consisted of three main constituents S(subject), V(erb), O(bject). The word order varied, exhibiting SVO and OVS sequences. The target sentences consisted of min. 4, max. 10 syllables. The repetition task consisted of 160 stimulus sentences with 80 <definite> and 80 <indefinite> direct objects.

## Results

### *Responses:*

#### Agreement between definite object and verb

Grammatical: 73/80 91,25%

Ungrammatical: 7/80 8,75 %

#### Agreement between indefinite object and verb:

Grammatical: 6/80 7,5%

Ungrammatical: 51/80 63,75%

Fragmentisation, no agreement: 23/80 28,75%

## Discussion

### *Dissociations in object–verb agreement:*

(i) Responses to stimuli with **definite** direct objects: in all cases where the subject succeeded in producing at least the *D-head* constituent of the direct object DP he was also able to produce *Vdef*, the definite verbal conjugation. In other words: no *D-head* without *Vdef* in the responses. A definite direct object DP with a *D-head* elicits a grammatical *Vdef* form, excluding the appearance of ungrammatical *Vindef*, there is no \* [<Def>DP-acc *Vindef*] in the patient's responses to stimuli involving definite objects. The relation is strictly unidirectional (*D-head* → *Vdef*) and not biconditional. It follows from this observation that whenever a *DP-acc* is a goal category for object - verb agreement, the subject is able to construct a grammatical agreement relation.

(ii) The responses given to stimuli involving **indefinite** objects show that the accessibility of <Indef>*NP-acc* as a goal category for agreement is strongly limited. The subject produced **both** *Vindef* and *Vdef* forms with an <Indef>*NP-acc*. Some responses to stimuli with indirect object were strongly fragmented, in that any constituent of the indefinite object - verb construction may be missing, hence there is no dependence relation between <Indef>*NP-acc* and *V-indef*.

## Conclusion

Indefinite object - verb agreement is strongly limited but definite object - verb agreement is unimpaired in the patient. The dissociation took place in terms of the **values** of the definiteness feature, not in terms of its underspecification (cf. Burchert et al. 2005). What was actually damaged was the local mechanism of agreement between **one**

**concrete value** of the definiteness feature of DP/NP and the verb, the applicability of Agreement as a grammatical principle was limited to that extent.

In the case of other feature categories, the principle of Agreement remained intact: in the whole material of responses, the agreement of person/number features of the subject with the verb form was grammatical all the way through.

<Def>*DP-acc* is a more complex structure than “mere” <Indef>*NP-acc*, but the former is involved in an unimpaired agreement relation, whereas the latter is involved in an impaired agreement relation. Therefore, the deficit is not affected by structural complexity.

As for the frequency of *V-forms*, in the Hungarian National Corpus (157 million words) *Vindef* forms are almost twice as frequent as *Vdef* forms. The impaired agreement type is based on the more frequent verbal forms (*Vindef*) and the unimpaired one is connected to the less frequent verbal forms (*Vdef*). Therefore, the deficit does not exhibit a direct frequency effect.

According to these observations, the grammatical principle of Agreement is **itself** damaged in our patient, rather than the language production/processing mechanism or working memory. It is only a specific value of the agreement category that is affected, not the category at whole.

## References

- É. Kiss, K. (2002). *The Syntax of Hungarian*, Cambridge: Cambridge University Press.
- Burchert, F., Swoboda-Moll, M. & De Bleser, R. (2005). Tense and Agreement dissociations in German agrammatic speakers: Underspecification vs. hierarchy. *Brain and Language*, 94, 188–199.