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## Two usage-based accounts of agrammatic aphasia

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Agrammatic aphasia is a type of aphasia associated with damage to Broca's area in the left inferior frontal gyrus. As the name suggests, agrammatic aphasia is defined as an impaired capacity for producing grammatical items. In agrammatic speech, grammatical items are left out or subsituted with other items (e.g. Goodglass 1996). Agrammatic aphasia is thus a testing ground for theories of what grammar is, and a precise and empirically adequate theory of what grammar is makes possible a profound understanding of agrammatic aphasia and its causes. As pointed out by Geurts (2000), however, the notions of grammar and grammatical items have for a long time remained pre-theoretical and intuition-based. One consequence of this is that the distinction between grammatical and lexical items has been recast in terms of distinctions like those between function and content items or between closed- and open-class items that are theoretically unanchored and sometimes vaguely defined. This has in turn led to wrong predictions when it comes to agrammatic aphasia. For instance, both pronouns and prepositions belong to closed classes, but contrary to what one would expect based on this, not all pronouns and not all prepositions are affected to a similar degree in agrammatic aphasia (e.g. Friederici 1982; Ishkhanyan et al., subm.).

This paper proposes a new understanding of agrammatic aphasia and its causes which is based on a recent usage-based theory of what grammar is (Boye & Harder 2012). According to this theory, grammatical items (morphemes, words, constructions) have two defining properties: 1. They are by convention discursively secondary (background); 2. They are dependent on a host item. Languagespecific criteria for grammatical status can be derived from these two properties. Notably, it follows from the discursively secondary status of grammatical items that they cannot be focalized or addressed in subsequent discourse (outside metalinguistic contexts).

This paper first gives a survey of existing studies of agrammatic speech (e.g. Friederici 1982; Ishknanyan et al. 2017) and of ongoing studies of verbs and prepositions in Dutch and Danish agrammatic speech – studies which, based on or reconsidered in relation to the above-mentioned criteria, demonstrate that the usage-based theory makes correct predictions about the behaviour of pronouns and prepositions in agrammatic speech. Subsequently, it outlines two complementary ways of understanding agrammatic aphasia and its causes, each centred on one of the two defining properties of grammatical items. On one understanding, agrammatic speech is a result of a cognitive resource reduction (cf. e.g. Caplan 2012): due to limited resources, agrammatic speakers are unable to produce full-fledged linguistic strings and leave out grammatical items because these, being discursively secondary, can be dispensed with for communicative purposes. On the other understanding, agrammatic speech is the result of an impaired capacity for combining simple items into complex wholes: this impairment affects grammatical items as these are dependent on (combination with) host items.

## References

Boye, Kasper & Peter Harder. 2012. A usage-based theory of grammatical status and grammaticalization. Language 88 (1), 1-44.

Caplan, David. 2012. Resource reduction accounts of syntactically based com-prehension disorders. In Roelien Bastiaanse & Cynthia K. Thompson (eds.), *Perspectives on Agrammatism*. New York: *Psychology Press*, 34–48.

Friederici, Angela D. 1982. Syntactic and semantic processes in aphasic deficits: The availability of prepositions. *Brain and Language* 15 (2), 249–258.

Geurts, Bart. 2000. Explaining grammaticalization (the standard way). Linguistics 34 (4), 781-788.

Goodglass, Harold. 1976. Agrammatism. In: Haiganoosh Whitaker & Harry A. Whitaker (eds.), *Studies in Neurolinguistics*. New York: Academic Press, 237–260.

Ishkhanyan, Byurakn, Halima Sahraoui, Peter Harder, Jesper Mogensen & Kasper Boye. 2017. Grammatical and lexical pronoun dissociation in French speakers with agrammatic aphasia: A usage-based account and REF-based hypothesis. *Journal of Neurolinguistics* 44, 1–16.