Two scrambling strategies in German: Evidence from PPs

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We argue that scrambling to the middle field in German does not form a syntactically homogeneous class. Instead, there are two distinct types of movement involved: (i) feature-triggered movement typically targeting the left periphery (Rizzi, 1997; Miyagawa, 1997, a.o.), i.e., movement which is determined within syntax proper; and (ii) semantically licensed, and competition based type of movement (Reinhart, 1995, 2006; Fox, 2000; Kučerová, 2007, 2012), determined at the syntax-semantics interface. The empirical evidence comes from scrambling of definite PPs in German.

1. The puzzle. Though scrambling in German has been widely studied, an area which lacks a sufficient account is scrambling of PPs. German is a language with two definite articles: so called *weak article* (THE_w) and so called *strong article* (THE_s). Even though both of these articles are definite, they differ in how they establish definiteness (Ebert, 1971; Krifka, 1984; Schwager, 2007; Schwarz, 2009). Interestingly, the only place where we can observe a morphological difference between them in Standard German is in PPs: while THE_w obligatorily contracts with certain prepositions (e.g., [von] + [dem]$_{weak}$ → vom), THE_s never contracts ([von] + [dem]$_{strong}$ → von dem).[1]

We present a new observation, namely, that scrambling of definite PPs depends on the type of the definite article. While a PP with THE_s (PP$_s$) obligatorily scrambles in canonical scrambling environments, (1), scrambling of PPs with THE_w (PP$_w$) is optional, (2).[2]

(1) a. *Hans hat <u>ein Foto</u> **von dem Spieler** gemacht.
         Hans had a photo from THE_s player made
    b. Hans hat **von dem Spieler** <u>ein Foto</u> gemacht.
         Hans had from THE_s player a photo made
     'Hans took a picture of the player.'

(2) a. Hans hat <u>ein Foto</u> **vom** **Gewinner** gemacht.
         Hans had a photo from-THE_w winner made
    b. Hans hat **vom** **Gewinner** <u>ein Foto</u> gemacht.
         Hans had from-THE_w winner a photo made
     'Hans took a picture of the winner.'

Furthermore, if PP$_w$ scrambles, (2b), it must be interpreted as topic (Reinhart, 1981; Prince, 1984). In contrast, scrambled PP$_s$ may be interpreted as topic, but it can also obtain a neutral definiteness (*given*) interpretation which a PP$_w$ obtains in situ, (1b).

We argue that current theories of scrambling fail to capture this variation, be it syntactic or semantically based theories. According to feature-driven theories of movement, a particular interpretation is strictly tied to a functional projection (Rizzi, 1997; Miyagawa, 1997, among others), but here the two articles do not differ in the meaning they contribute. They only differ in how their

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[1]In dialects the distinction may be manifested by morphologically distinct forms throughout the whole paradigm, as in Bavarian *des biachl/'s biachl* 'the book' or *dea ma/da ma* 'the man' (Ebert, 1971; Hartmann, 1978, 1980).

[2]Unless indicated otherwise, the data are from fieldwork conducted by the second author.

meaning is established. Since both PP_w and PP_s have an established referent (given) and since in the critical minimal pairs their information-structure role is the same, these theories incorrectly predict there should be no difference in scrambling of PP_w and PP_s. A similar issue arises for syntax-semantics interface theories of scrambling according to which the obtained interpretation is a result of a particular configuration (Reinhart, 1995, 2006; Neeleman and van de Koot, 2008, among others). These theories incorrectly predict that definite PPs should behave homogeneously depending on other syntactic and semantic material present in the structure.

2. The proposal. We argue that both proposed types of scrambling exist in German. While the topic interpretation arises via feature-driven movement, the givenness interpretation of THE_s results from semantically motivated movement (syntax-semantics interface). Concretely, we assume that the topic-related feature-driven movement is obligatory and targets a syntactically uniform position (e.g., Frey 2000). Such movement yields uniform semantic interpretation, and is insensitive to how definiteness is established. In contrast, scrambling for givenness is triggered by competition at the syntax-semantics interface. Such movement is free but licensed only if it yields an interpretation not available otherwise (Fox, 1995, 2000; Reinhart, 1995), and consequently involves a reference set computation (Reinhart, 1995, 2006), i.e., semantic competition. This type of scrambling is sensitive to licensing conditions on semantic denotations, such as presuppositions, and as such does not apply homogeneously to every definite item. In particular, we follow Kučerová (2007, 2012) in that scrambling for givenness arises only if the DP does not grammatically encode presuppositions.

However, for this system to work we need to develop a new model of definiteness in German. We argue that definiteness in German is encoded in two distinct ways. As for THE_w, the critical meaning component is encoded in the lexical entry of the definite article, while the critical component of THE_s is encoded in the syntactic structure. As we show it is this distinction which has consequences for syntax.

2.1. TWO TYPES OF PRESUPPOSITIONS. We follow a basic observation made in Krifka (1984) and subsequent work that while THE_w denotes semantic uniqueness (in a sense to be made precise), THE_s denotes anaphoricity in the sense of requiring a discourse antecedent. However, as observed by Schwager (2007) and Schwarz (2009), this view cannot be entirely correct because there are contextual uses of both strong and weak articles. As Schwager showed, THE_s is is exclusively referential, but THE_w does not have to be. In order to account for the contrast, Schwager proposed that while THE_s presupposes a discourse referent, THE_w presupposes a *functional concept P* ("such that in all worlds w in CG: P(w) ∈ N(w) and P does not depend locally on the current conversation"). This account in and of itself does not give us the desired syntactic distinction. We argue, however, that this can be achieved if we clarify the notion of presuppositions Schwager assumes. In particular, we argue that Schwager's presupposition of a discourse referent and the presupposition of a functional concept are categorically distinct and in turn correspond to two distinct grammatical representations.

Concretely, we argue that THE_w encodes a presupposition within its lexical entry, i.e., its semantic denotation is a *partial function* (Heim, 1991). Consequently, there is no syntactic structure corresponding to semantic uniqueness. In contrast, the requirement of THE_s to have an antecedent does not correspond to a presupposition in the same formal sense, i.e., its denotation is not a partial function. Instead, we model D as a *variable* which needs to be bound either from the context or within the structure, similarly to a situational pronoun of Percus (2000).

Since THE_w does not introduces a variable in the structure as its presupposition is part of

the lexical entry, it follows that only semantics is sensitive to this type of presupposition, but not syntax. In contrast, since THE_s introduces a variable in the structure, instead of having a presupposition in its lexical entry, we expect both syntax and semantics to be in principle sensitive to such a representation.

The proposed distinction has some immediate consequences. First, it is expected that THE_s does not morphologically contract because of the presence of a larger syntactic structure. Furthermore, since THE_w lacks the pronominal-like part of syntactic structure (the variable is essentially a pronoun), it follows that cross-linguistically weak articles do not always have an overt grammatical realization (think proper names, words like *mother, father*...). Finally, since the variable representation of the strong article includes a situational pronoun, it is expected that the strong definite article – unlike the weak article – may function as a demonstrative which is correct as well.

2.2. PRESUPPOSITIONS IN SYNTAX. The basic observation relevant for scrambling is that both of the articles are given, i.e., they share their information structure and at some level of representation require to be presupposed in the common ground (Schwarzschild, 1999). In the case of THE_s this is achieved by the binding requirement, i.e., the requirement that THE_s NP must corefer with an antecedent. In contrast, THE_w NP is given by entailment (from the presupposition of a functional concept). But this raises the question of why it is that if they both are given, THE_s NP must scramble, while THE_w NP scrambles only in order to get a topic interpretation. We follow Kučerová (2007, 2012) in that if a structure is to encode givenness, it is not sufficient to *interpret* something as given. Instead, if something is in the common ground, and the speaker wants to express it in an utterance, then the speaker must *grammatically mark* that it is given in her utterance (see the Maximize Presupposition Principle of Heim (1991)). Consequently, we can understand scrambling as a way to encode information about the common ground into the grammar. Technically, scrambling allows to create a structure which adds a presupposition to the scrambled element.[3]

We argue that to contain a variable in and of itself is not sufficient to grammatically mark a presupposition. Instead, THE_s NP must scramble to be grammatically marked as presupposed. In contrast, no special syntactic operation is needed for THE_w NP: its presupposition is already grammatically marked in the lexical entry of the article, nothing else needs to be added in syntax.

2.3. TWO TYPES OF SCRAMBLING. Based on the discussed data, we argue that there are two distinct types of scrambling in German. First, there is a type of movement which arises at the syntax-semantics interface. This movement is not feature-driven, instead, it is free but costly, and licensed only if it yields an interpretation (in our case, a presupposition) not available otherwise (cf. Fox 1995, 2000; Reinhart 1995). This is the obligatory type of scrambling we observe with PP_s, as in (1). The reason is that THE_s NP is strictly anaphoric, and as such it cannot grammatically mark the relevant presuppositional content without being scrambled. The scrambling requirement does not apply to THE_w NP as this type of article encodes presupposition in its lexical entry which is sufficient for marking of givenness, hence, scrambling is not necessary, which means in turn that it is excluded by the principle of economy of representations. In contrast, the type of movement which is common both to PP_s and PP_w, i.e., movement for topic, is not based on semantic competition. As we have seen, any definite item may scramble to become a topic. This type of movement shares properties with a feature-driven type of movement, such as *wh*-movement.

3. Theoretical consequences. The presented findings suggest that cross-linguistically and even

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[3]See Kučerová 2012 for technical details.

within a language, scrambling does not form a homogenous syntactic class. Interestingly, the difference goes beyond the well-established (though purely understood) distinction between A- and A'-scrambling (Mahajan, 1990). There is a type of scrambling which seems to associate with a particular syntactic position in a way similar to *wh*-movement. But there is also a type of scrambling which is competition based and arises only if the relevant interpretation cannot be achieved otherwise, in a way similar to quantifier raising (Fox, 2000). Furthermore, if the proposal is on the right track, whether or not a language may employ the latter scrambling strategy might be predictable from the definiteness properties of a given language.

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