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## Aktuelle Tendenzen in der Linguistik

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# Lean syntax: how argument structure is adapted to its interactive, material, and temporal ecology

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### Abstract

It has often been argued that argument structure in spoken discourse is less complex than in written discourse. This paper argues that lean argument structure, in particular, argument omission, gives evidence of how the production and understanding of linguistic structures is adapted to the interactive, material, and temporal ecology of talk-in-interaction. It is shown how lean argument structure builds on participants' ongoing bodily conduct, joint perceptual salience, joint attention, and their orientation to expectable next actions within a joint project. The phenomena discussed in this paper are verb-derived discourse markers and tags, anaphora in responsive actions, and ellipsis in first actions, such as requests and instructions. The study draws from transcripts and audio- and video-recordings of naturally occurring interaction in German from the Research and Teaching Corpus of Spoken German (FOLK).

### 1 Language in multimodal interaction

Language use in face-to-face encounters occurs in the context of embodied interaction. It makes use of and is constrained by various multimodal resources: voice, of course, but also gesture, gaze, facial expression, posture, movement in space, and manipulation of (semiotic) objects (Goodwin 2000; Norris 2004; Mondada 2016; Deppermann 2018a). In embodied interaction that pursues practical tasks, such as providing primary care to a patient, redecorating a room together, or teaching someone how to drive a car, language is not necessarily the primary resource of interactive conduct (Schmitt 2015; Mondada 2018). Often, talk and other resources combine in systematic ways in multimodal practices – the most thoroughly researched example is spatial deictic reference and its relationship to gesture, gaze, and bodily-spatial configurations (e.g., Schegloff 1984; Goodwin 2003; Kendon 2004; Mondada 2005; Fricke 2007; Stukenbrock 2015).

Both the multimodal ecology of language use and its embeddedness within the temporalities of the flow of the interaction between various participants shape syntactic structures (Keevallik 2018). Participants have the ability and face the need to synchronize actions and understandings in the here and now of the flow of talk-in-interaction. This leads to an emergent “online-syntax” (Auer 2009): Syntactic structures are sensitive to the simultaneous monitoring of ad-

dressees' responses during speaking and they are adapted to still other contingencies involved in the coordination of talk and bodily action (e.g. Mondada 2009, 2015, 2018). Processes of online-syntax may lead, e.g., to self-repairs or expansions of syntactic structures (Goodwin 1979).

Situated language use thus is adaptive to its interactive and bodily spatial context. In the long term, this adaptivity can lead to the conventionalization of adaptive constructions. In this paper, I will look at how one specific order of linguistic organization, i.e., argument structure, is adaptive to the interactive and multimodal context in which it is produced. I will show how the adaptation of argument realizations to the interactive, material, and temporal contingencies of social interaction leads to "lean" syntax. In this paper, "lean syntax" refers to argument realizations which are "reduced" from the point of view of the full realization of argument frames, which are said to be associated with verbs in the (mental) lexicon.

## 2 Language as a complex adaptive system

Over the last years, thoughts about how the complexity of linguistic structures can be viewed as adaptive to the ecology of language use have importantly enhanced our understanding of the nature of language. In a seminal paper, Beckner et al. (2009: 2) have pointed out the main determinants of the adaptivity of linguistic structures: "Processes of human interaction along with domain-general cognitive processes shape the structure and knowledge of language." Croft (2017) has made the case that linguistic complexity is adapted to conceptual complexity and that it is tied to the evolution of joint projects in social interaction. Yet most research has focused on the cognitive and usage-based factors impinging on the development and change of linguistic structures (e.g., Tomasello 1999, 2003; Barlow & Kemmer 2000; Bybee 2010). The focus of this paper, in contrast, will be on interactive and embodied aspects of the adaptivity of linguistic structures.

When considering 'complexity', it is important to distinguish between different objects of complexity: languages as whole linguistic systems, linguistic sub-systems (e.g., the range of variants in a morphological paradigm), types of linguistic forms (e.g., the articulatory complexity of sounds or the composition of grammatical constructions), and tokens (concrete texts, utterances, phrases, etc.). There are also different approaches for how to account for the complexity of structures. Developmental or evolutionary perspectives are concerned with the identification of mechanisms which account for the emergence of new options on the level of the linguistic system (see Mufwene et al. 2017). In contrast, this paper adopts a situated, functional perspective, asking how linguistic structures are adaptive to the ecology of the immediate temporal and material context of their production. As Croft states, the contingencies of situated use are both the starting points and the constraints for diachronic processes of conventionalization.

zation: “It is only in its social interactional context that the evolution of linguistic complexity can be understood. (...) the evolution of social-cognitive complexity (in terms of joint action) is a prerequisite for the evolution of structural complexity of linguistic signals” (Croft 2017: 103).

Prior research has shown that, at least in some respects, written language is usually syntactically more complex than spoken language (Koch & Oesterreicher 1985). Written language exhibits more complex and more highly integrated sentential structures, using, e.g., more subordination, recursion, and parenthesis. Spoken language, in contrast, makes use of repair and cut-off, and employs ellipsis, repetition, and shorter clausal, incremental structures. Koch and Oesterreicher (1985) account for these differences in terms of an oral vs. written “conception” which is tied to prototypical differences in the contexts of the production of linguistic structures. While the conceptually oral mode is characterized by spontaneity, interactivity, transitoriness, mutually known participants, and the co-presence of speaker and recipient in a shared spatio-temporal situation, the conceptually written mode is planned and materially fixed (i.e., permanent); the text is often addressed to an unknown recipient who cannot immediately respond and who is not known to the writer. Koch and Oesterreicher thus tie differences in the complexity of syntactic structures in talk and writing to the different conditions which typically hold for their production. However, in their study of appositions, Imo and Lanwer (2017) show that the complexity of syntactic structures in talk-in-interaction is adapted to the common ground that the speaker assumes to share with the addressee: Less complex syntactic structures require more common ground and more inferential work on the part of the recipient, while more complex linguistic structures avoid ambiguity and non-understanding and are inferentially less demanding (Imo & Lanwer 2017: 20f.). Linguistic structures thus may be complex in different ways for speakers versus recipients. Bisang (2014, 2015) therefore distinguishes overt syntactic complexity from hidden inferential complexity: Forms which exhibit low overt complexity imply more hidden complexity because they require more inferential effort.

These studies deal with the relationship between linguistic complexity on the one hand and cognitive and pragmatic factors on the other only by reference to verbal communication. Yet language use in social interaction is multimodal. Multimodal resources like gaze, gesture, facial expression, etc. add observable complexity to communicative processes (as is painfully evident for every scholar of video transcription). Therefore, some scholars assume that multimodality is more complex than monomodality just because of the greater number of modes or resources which are involved (e.g., Bateman et al. 2017). Still, this seems to be a rather artificial observer’s point of view, which is not founded in an analysis of the effort involved in the processing and production of multimodal vs. monomodal conduct. It is not clear whether multimodal affordances imply more inferential work, e.g., for identifying a referent, than when explicit lexical references are provided. Of course, there are situations in which multimodality leads

to an increase in cognitive complexity, resulting in delays and failures to respond, as is clearly documented in studies of multi-activity (e.g., Nevile 2012). Yet experimental research shows that mutual understanding is much faster and more effective when participants can use visual information than when they have to rely on talk alone (Fussell et al. 2000). The observations about the multimodal conditions that favor the production and understanding of lean syntactic structures, which will be reported in this paper, also clearly show that the ecological affordances of multimodal, bodily situated interaction allow for the production of leaner structures and for faster understanding, as is evident, e.g., in early (bodily) responses to turns at talk by recipients (Deppermann & Schmidt forthc.). The multiplicity of resources reduces the complexity of understanding processes by priming, creating expectations, discarding alternatives, and restricting possible inferences, rather than causing additional processing effort.

This paper focuses on overt syntactic complexity in multimodal, bodily, situated, face-to-face interaction. I will discuss how the following contextual factors of situated language use impinge on the complexity of syntactic structures:

- interactivity (sequentiality, joint attention, simultaneous responses, partner model knowledge, orientation to a joint project)
- material ecology (objects, spatial and embodied configuration of the participants),
- temporality (presence, absence and time courses of objects, bodily actions and events).

One other factor, which is highly important, will not be considered here: Participants' shared interactional histories beyond the immediate interactional sequence are an important prerequisite for the use of increasingly economical forms of reference and action-formation as well (Clark & Wilkes-Gibbs 1986; Deppermann 2018c).

### 3 Complexity of argument structure in talk-in-interaction

The argument structure of a verb determines the linguistic expression of experience according to basic ontological categories. Argument structure thus is the interface between linguistic structure and the cognitive conceptualization of experience (Goldberg 1995, 2006). Argument structure determines which kinds of arguments are both conceptually and syntactically required by a verb (Boas 2011, 2014; Engelberg et al. 2011, 2015). Yet, according to some theoretical approaches, argument structure patterns can also have a more schematic, lexically independent status and be creatively applied to verbs which usually come with a different argument structure (Goldberg 1995). It is undisputed that the core argument roles, which are common even across typologically unrelated

languages, are the intransitive subject (S), transitive subject (A),<sup>1</sup> and transitive object (O). Other arguments like indirect, directional, local, or resultative objects can be obligatory from the point of view of the argument frame associated with specific verbs. However, the argument status of some constituents, such as adverbials, is disputed.

In valence grammar, statements about argument structure (patterns) are linked to lexical meanings and are stated as properties of lexical entries.<sup>2</sup> Yet corpus-based studies show that argument realization in both text and interaction often deviates considerably from context-free intuitions about which arguments are obligatory if the verb is used in a clause which can be understood in a context-free manner. Such intuitions about necessary arguments and about the well-formedness of linguistic constructions do not predict which arguments are (or have to be) realized in the service of producing an utterance which is intelligible to specific recipients in a specific moment of interaction.

The complexity of argument (structure) realization concerns the number of arguments which are realized in relation to a verb and the lexical complexity of realized arguments (clitics vs. pronominal vs. full lexical phrases). Building on data from typologically different languages, Du Bois (1987, 2003a, 2003b) claims that there are universal constraints on argument structure realization in spoken language. These constraints concern the maximum number of lexically realized core arguments within a clause, that is, their lexical complexity depending on their information status (given vs. new). Moreover, within transitive clauses, the occurrence of lexical/new arguments is not randomly distributed between the two core arguments; rather, there is a constraint against lexical/new arguments in the syntactic role of A ('transitive subject'). It can be inferred from the constraints that lexical/new arguments are preferentially realized in the S ('intransitive subject') and O (direct object) roles.

	<i>Grammar</i>	<i>Pragmatics</i>
<i>Quantity</i>	Avoid more than one lexical core argument	Avoid more than one new core argument
<i>Role</i>	Avoid lexical A (= transitive subject)	Avoid new A

Table 1: Constraints of preferred argument structure (Du Bois 2003a: 75)

Du Bois accounts for this "preferred argument structure" in spoken language in terms of cognitive limitations on information processing (see Table 1). The constraints are reminiscent of Chafe's "one new idea" constraint per intonation phrase (Chafe 1994), which resonates with Du Bois' constraint of "avoid more than one new core argument" in particular.

<sup>1</sup> A stands for 'agentive'.

<sup>2</sup> This claim is rejected by Construction Grammar (Goldberg 1995, 2006), which claims that more schematic argument structure constructions exist independently from the verbs that they usually instantiate.

In a conversational corpus from German talk-in-interaction (2 hours, 2923 clauses), Proske (2013; see Table 2) found evidence for the constraint “Avoid lexical A” as well. In her study, subjects of transitive verbs were only very rarely lexical. Subjects of intransitive verbs and direct objects were non-lexical in the majority of cases as well, but they were realized by full lexical NPs much more often than were the ‘transitive subjects’. In transitive clauses, mostly only one lexical argument occurred (= “avoid more than one lexical core argument”). Du Bois’ constraints also held true for the distribution of new vs. given referents: “Avoid new A” and “avoid more than one new argument constraint” (numbers not shown here).

	Non- lexical*	Lexical	Proper name	Compl. clause	Sum
S (subj. intr.)	<b>1124</b> (80%)	<b>241</b> (17%)	<b>25</b> (2%)	<b>22</b> (1%)	<b>1412</b> (100%)
A (subj. tr.)	<b>1440</b> (96%)	<b>34</b> (2%)	<b>37</b> (2%)	<b>0</b>	<b>1511</b> (100%)
O (dir. obj.)	<b>673</b> (44%)	<b>569</b> (38%)	<b>4</b> (1%)	<b>165</b> (17%)	<b>1511</b> (100%)
Sum	3237 (73%)	844 (19%)	66 (2%)	287 (6%)	4434 (100%)

\*elliptical and pronominal

Table 2: Preferred argument structure in German (Proske 2013: 67)

However, the preference for lexical vs. non-lexical arguments in the different syntactic roles is verb-specific to a large degree (see Table 3).

Verb	Number of occurrences	Number of lexical objects
<i>haben</i> ('have')	203	<b>160 (79%)</b>
<i>es gibt</i> ('there is')	33	<b>23 (70%)</b>
<i>machen</i> ('do')	157	<b>62 (40%)</b>
<i>sehen</i> ('see')	51	<b>10 (19%)</b>
[...]		
<i>gucken</i> ('look')	34	<b>3 (9%)</b>
<i>sagen</i> ('say')	131	<b>8 (6%)</b>
<i>meinen</i> ('mean')	30	<b>1 (3%)</b>
<i>glauben</i> ('believe')	16	<b>0 (0%)</b>
<i>denken</i> ('think')	42	<b>0 (0%)</b>
<i>wissen</i> ('know')	68	<b>0 (0%)</b>

Table 3: Number of lexical arguments associated with different verbs (Proske 2013: 100)

Table 3 clearly shows that some transitive verbs (such as *haben*, *es gibt*, *machen*) have lexical (and new) objects much more often than others (such as *sehen*, *sagen*, *meinen*). Like copula constructions, simple transitives such as *haben* ('have') and *machen* ('make/do') often introduce new, lexically realized referents. In contrast, verbs that often take complement clauses as objects (such as *meinen*, *glauben*) occur with a much lower number of new object referents that are realized as lexical NPs. The complement clause also contains new information, of course, but in the form of a whole new proposition, not a new referent. In terms of how the flow of information is coded in language, argument structure therefore cannot be considered independently from the syntactic complexity of subordination, because both subordinate clauses and phrasal arguments (especially pronouns) can code propositional information.

In a comparative study on the realization of argument structure patterns with the mental verb *wissen* ('to know') and the motion verb *kommen* ('to come') in German, Zeschel (2017a, b) found that the number of arguments varied according to different discourse domains. The domains included were those of Private, Institutional, Web, Fiction, and Science discourse. 400 instances of occurrences of each verb in each of the five domains were analyzed. There was a remarkable tendency towards realizing fewer arguments in co-present, oral interaction (conversations and institutional interactions, although these were rather informal) than in web-based interaction (chats) and written genres (fiction and science). In particular, occurrences of the verb without any argument were only found in the

two oral domains (Private and Institutional); occurrences with only one argument (= the subject) were more frequent in the oral domains as well. Both tendencies were more acute in the more informal private conversations than in institutional talk. In contrast, three arguments occurred significantly more frequently in science texts than in the other discourse domains (see Diagrams 1 and 2).

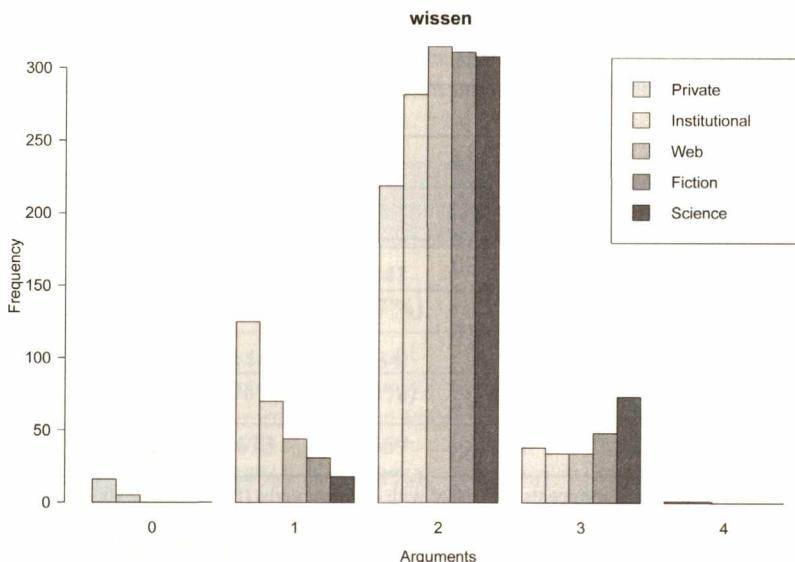


Diagram 1: Number of arguments of the verb *wissen* ('to know') in different domains of discourse (from Zeschel 2017a: 45)

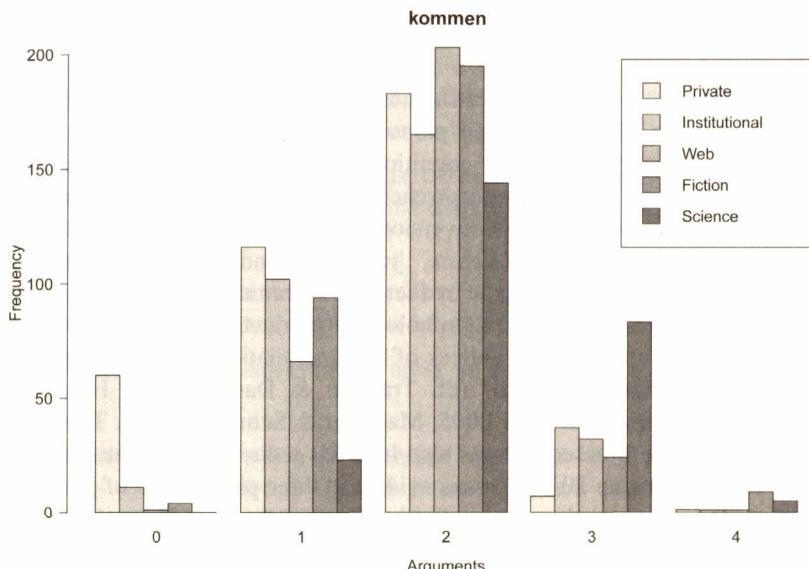


Diagram 2: Number of arguments of the verb *kommen* ('to come') in different domains of discourse (from Zeschel 2017b: 253)

A number of other studies have identified specific constructions and phenomena of lean argument structure. Auer (1993) analyzes the so-called “unechte Verb-spitzenstellung” in spoken German, i.e., the omission of a topical argument in the front-field before the finite verb. Hennig (2004) writes about some peculiarities of valence-realization in spoken German, also pointing to the ellipsis of front-field constituents and the non-realization of constituents due to cut-off. Ruppenhofer and Michaelis (2010) review a range of genre-based argument omissions, arguing that conventions of genre may override lexical valence constraints, e.g., in labelese, instructional imperatives, diary style, match reports, and quotative clauses. Omission of the 1st person subject is recurrent in the climax of autobiographical narratives (Sandig 2000; see also Günthner 2006). Similar to imperatives, ‘deontic’ or ‘free’ infinitives in German are used for proposing, instructing, and requesting. They do not co-occur with a subject (Fries 1983) and often exhibit object omission (Deppermann 2006, 2007: ch.3).

In sum, prior research has shown that although argument omission is clearly constrained by syntactic factors (see the chapters in van Craenenbroeck & Temmerman 2018), its acceptability in context depends on pragmatic and genre-related factors as well. Section 4 deals with lean argument structure in grammaticalized verb-based constructions. Their use rests on the affordances of sequentiality and the temporality of turn-construction. Section 5 discusses sequential and bodily spatial contingencies that matter for the realization and understanding of argument omission in analepsis and ellipsis.

## 4 Lean argument structure in grammaticalized verb-centered phrases

A boundary case of lean argument structure, albeit a very important one, is the grammaticalization of verb-centered phrases. In a study of ten matrix clause verbs in spoken German (verbs of cognition, perception, and communication), Imo (2007) points out that many occurrences of these verbs in present-day verbal interaction have undergone a conversion from full verbs to discourse markers (*ich mein*, ‘I mean’), tags (*siehste*, ‘you see’), and even modal particles (*glaub*, ‘believe’). Morphophonetic reduction, semantic bleaching, autonomy from syntactic context, restricted morphological productivity, and loss of paradigmatic variation are common indices of the grammaticalization of (parts of) full clauses to phrases or words (cf. Traugott & Dasher 2002; Hopper & Traugott 2003; Auer & Günthner 2005; Maschler & Schiffрин 2015). The grammaticalization of verb-based phrases also includes reduced argument structures (Helmer & Deppermann 2017). This is evident in three phenomena of grammaticalization: Discourse markers, tags, and imperatives as discourse particles. All of these are restricted to and made possible by the affordances of using language in the context of interaction. Yet, in contrast to the use of ellipsis (see section 5.2), embodiment here is not the crucial factor.

### 4.1 De-verbal discourse markers

In German, de-verbal discourse markers like *ich mein(e)*, *ich denk(e)*, *ich weiß nicht* (Imo 2007; Helmer et al. 2016; Bergmann 2017) operate on the discursive and speech-act levels (Blühdorn 2017), indexing the relationship of the upcoming action to the prior turn and/or the epistemic or evaluative stance of the speaker towards the upcoming turn (Traugott 1995). They are syntactically disintegrated, i.e., they inhabit a peripheral position with respect to the utterance in their scope (usually, turn-initial, more rarely parenthetically or turn-final), and they exhibit no congruence relationship to their environment and no subordinate marking. They neither occur with object NPs nor overtly code the syntactic dependency of following clauses. Yet, as Auer (1998) has shown, there is a continuum between matrix clauses and discourse markers. There are three different syntactic variants in which verb-based phrases like *ich weiß (nicht)*, *ich denke*, *ich meine* can occur:

- (1) [matrix clause + subordinate marker (*dass*, *ob*, *warum*, etc.) + V<sub>final</sub>-clause]: There is syntactic and semantic dependency between the subordinate and the matrix clause.

- (2) [matrix clause + verb second (V2)-clause]: There is no syntactic dependency between the two clauses, but there is semantic dependency in the sense that the matrix clause expresses a propositional attitude towards the V2-clause, i.e., the V2-clause semantically still realizes an argument of the matrix clause verb.
- (3) [discourse marker + V2-clause]: There is neither syntactic nor semantic dependency, but the discourse marker frames the following talk pragmatically.

The distinction between the cases in (2) (matrix clause without formal subordination) and (3) (discourse marker) can be ambiguous, as extract 1 shows.

Extract 1: Public mediation session FOLK\_E\_00068\_SE\_01\_T\_09\_DF\_01\_c745\_01:48:12-01:48:

23<sup>3</sup>

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01 KA °n (.) ich sehe zwar hIEr (.) ein (.) GLEISplan,
      Although I see here a track plan
02   °n (.) der mEInem ÄHnelt,
      which resembles my (plan)
03 aber da sind noch zusätzliche STRiche eingefügt, (.)
      but there have been additional lines inserted
04 die hab ich nich geTAN,
      I haven't done this
05 °n ich weiß nich ham SIE des ergänzt,
      I don't know have you added this
06 ich [WEIB es nicht. ]
      I don't know
07 XM     [((unverständlich))]
```

In a public mediation session concerning a railway construction project, the speaker KA complains that additional lines have been inserted in the official track plan, which he did not add. He prefaces his following question to a member of the opposing party with “ich weiß nich” (‘I don’t know’, line 05). This can be interpreted as a discourse marker that indexes an upcoming dispreferred question, which amounts to an implicit criticism, namely, KA’s guess that the addressee has changed KA’s plan. But it can also be interpreted as a statement of ignorance about whether the addressee has changed the plan.

KA repeats “ich WEIB nicht” in turn-final position (line 06) with a focal accent of its own and adds the pronominal object “es”. With these alterations he makes clear that now the ‘statement of ignorance’ meaning is intended. Whereas the variants with direct object *das weiß ich nicht*, *ich weiß es/das nicht* cannot be used as discourse markers, the variants without direct object *ich weiß nicht* and without subject and object *weiß nicht* can (but do not have to) be discourse

<sup>3</sup> Transcripts conform to the transcription convention GAT2 (Selting et al. 2011) with additional multimodal transcription according to Mondada (2018).

markers (Helmer et al. 2016).<sup>4</sup> This clarification shows that participants themselves are aware of the potential ambiguity of expressions that can either instantiate verb-based discourse markers or matrix-clause verbs. Participants thus seem to be sensitive to the relevance of argument realization for the syntactic status and thus the meaning of linguistic structures of this kind.

Verb-based discourse markers have a reduced argument structure in comparison to their sources, i.e., matrix clause verbs and transitive verbs. There is no pronoun that indexes co-reference to either prior or ensuing talk. Instead, they index relationships to immediately prior talk and convey subjective stances by building on the temporality of turn-construction and sequence organization and on the conditions of working memory (salience and accessibility): The scope of a discourse marker is provided for by adjacency within the turn and across turns.<sup>5</sup>

#### 4.2 Mental-verb tags

Tags are another environment for the emergence of grammaticalized verb-based constructions with reduced argument structure. The mental verbs *verstehen* und *wissen* have developed the tag-variants *verstehst(e)* (Deppermann 2011) and *weißt(e)* (Günthner 2017), which occur only in the second person singular with an enclitic schwa-subject pronoun or without a subject, and which exhibit no object. These tags profile the dyadic speech situation of a speaker addressing a specific hearer, which, reflexively, is presupposed as the condition for producing recipient-designed turns (see also Langacker 2016). They are used as requests for acknowledgement or confirmation, as in extract 2.

<sup>4</sup> The object-less variant *weiß ich nicht* cannot be a discourse marker, either. Word order matters here in addition to argument realization patterns.

<sup>5</sup> Since the interpretation of the pragmatic scope of discourse markers builds on adjacency, but not on formal marking, it is often not clear how far their scope extends. The prospective scope of a discourse marker may well transcend the immediately following clause (cf. Günthner 2000).

Extract 2: Expert interview FOLK\_E\_00044\_SE\_01\_T\_01\_DF\_01\_c865\_23:22-23:40

- 01 GB die kommen nich aus der ROCKrichtung;=weißte?=  
*they do not come from the rock genre, y'know*
- 02 die denken (.) irgendwie:- (0.4) EY, ((schnipst))  
*they think like ey ((fingersnip))*
- 03 ich kann mitnicken,  
*I can nod along*
- 04 das wird ((schnipst)) (0.2) der bel die band des JAHres,=  
*this will be ((fingersnip)) the b- the band of the year*
- 05 =so ungefähr weißte? [°h       ]  
*or something y'know*
- 06 AH [hm\_h:m;]
- 07 GB (0.2) und ähm dass das möglicherWEISE,  
*and uh that this possibly*
- 08 überhaupt nich radioTAUGlich is,  
*is not at all radio-friendly*

Similar to discourse markers, verb-based tags seem to have developed from analepsis – originally with a preceding proposition/statement as their object – to pursuits of uptake with an unspecified scope (which may even be cataphoric; see Deppermann 2011).

#### 4.3 Imperative-based particles

A specific site of grammaticalization of German verb constructions is the imperative. Various imperatives of verbs of movement, perception, and cognition have started to grammaticalize as discourse particles, e.g., *komm* ('come'), *guck* ('look'), *warte* ('wait'), and *pass auf* ('pay attention') (Proske 2017; Günthner 2017). In German, as in most languages, the imperative occurs without a subject (Aikhenvald 2010). Imperatives that develop into discourse particles lose other arguments, which are obligatory in other uses of the verb, as well (e.g., no directional adverbial is required with *komm* ('come') and *guck* ('look')). The imperative *komm* ('come'), for example, is used to request from the addressee that they change (or stop) their current activity in accordance with what can be taken as common ground among the participants (Proske 2014). An example is extract 3 from classroom interaction. The teacher uses “*komm*” (line 03) in order to insist that the pupil delivers the answers which the teacher had already requested before in line 02.

Extract 3: German literature lesson in a College of Continuing Education for Business and Economics FOLK\_E\_00127\_SE01\_T01\_DF91\_c541\_23:41-23:55

01 TE wir sammeln- (.) wir sammeln WEIter; (2.1)  
 we collect            we go on collecting

02 TIna, (0.5) na?:? (0.2) was hast du AUFgeschrieben; (.)  
 tina                huh?            what have you written down?

03 komm            SAG\_s mir (.)            bitte;  
 come.PTCP tell.IMP-it.CL me please  
 come on    tell me                    please

04 LI ich hab bei dem ZWEIde mehr aufgschriebe;  
 I have written down more concerning the second

As with many discourse markers and tags, *komm* ('come') as a discourse particle<sup>6</sup> does not specify its pragmatic scope, i.e., which action is mandated, and, as with the informal use of imperatives in German, it has no overt subject. The zero-argument structure of imperative-based discourse particles thus builds on the mutual salience of the participation framework of the communicative event, the ongoing action of the partner, and the relevant common ground.

## 5 Lean argument structure in multimodal interaction

The studies referred to in section 3 give evidence of a tendency towards less complex argument structures in talk-in-interaction. Du Bois (2003a) and Proske (2013) explain this by reference to preferences of information structuring in order to avoid cognitive overload. In this section, I argue that there are still other factors which favor lean argument structures in multimodal interaction:

- the sequential structure of interaction,
- the affordances of bodily spatial configurations,
- the accessibility of ongoing actions,
- participants' mutual orientation to joint projects,
- and participants' joint attention.

In traditional grammatical terminology, there are two types of argument omission: Analepsis and ellipsis (Klein 1993; Zifonun et al. 1997; Hoffmann 1999; Knobloch 2013; but see Hennig 2006: 257–264 for problems with this distinction). Analepsis rests on prior verbalization and the structural latencies which it has created (Auer 2014, 2015), and which can be taken to be still salient for the recipient. For this, sequentiality is key. Ellipsis rests on the salience and/or re-

<sup>6</sup> Unlike discourse markers, but like other imperatives, the use of imperatives as a discourse particle can be an action of its own, which asks the addressee to perform some action. However, unlike other imperatives or interjections, discourse particles emerging from imperatives often preface an action (see Proske 2014, 2017).

coverability of referents and other bits of knowledge. They are both rooted in joint attention, the salience of actions, events and objects, and in bodily spatial configurations. ‘Analepsis’ and ‘ellipsis’ are to be understood as syntactic terms here: Only those syntactic structures in which an obligatory argument of the main verb is not expressed are considered to be analeptical/elliptical. This is in contrast to a semantic or pragmatic understanding of ‘ellipsis’, according to which unexpressed background knowledge, presuppositions, etc. that are crucial for a sufficient understanding of a turn at talk, are also considered to be elliptical (cf. Hoffmann 1999).

### 5.1 Argument omission in responsive actions: analepsis

The possibility of analepsis is afforded by the fact that linguistic structures are inevitably realized in a linear fashion. Analepsis in written language can be realized as gapping – especially in constructions using conjunctions (Ross 1967) – or as stripping, sluicing, verbal ellipsis, object ellipsis, etc. (van Cranenbroeck & Temerman 2018, Part III). Such structures can also be found in talk-in-interaction, although they are sometimes structurally different from writing and thus call for different explanations (for sluicing, see, e.g., Hopper 2015). However, the most distinctive kind of analepsis in talk-in-interaction builds on sequentiality, i.e., analepsis in responsive actions. In this case, analepsis builds on a prior turn by another interlocutor (Thompson et al. 2015). This has also been termed ‘adjacency ellipsis’ (Klein 1993); yet, as we will see, the antecedent turn does not necessarily have to be immediately adjacent, but can be more remote from the analeptic turn as well.

The omitted argument is often the topic, which is taken over from prior talk. Topic-drop analepsis can exhibit different kinds of semantic, syntactic, and pragmatic relations between analepsis and the antecedent/anchor (Helmer 2016). A highly frequent use of topic-drop analepsis is the use of mental verb in first person singular (*ich weiß/denk/glaub/mein/finde*, ‘I know/think/guess/mean/find’) without an object or an object clause in responsive turns like comments and assessments. In extract 4, the instructor informs the trainee driver that she has changed to first gear.

Extract 4: Driving lesson FOLK\_E\_00169\_SE\_01\_T\_02\_DF\_01\_c350\_41:10-41:17

- 01 STU ((changes gears))  
 02 (1.75)  
 03 INS jetzt is der ERste drin.  
     now it's first  
 04 STU (0.4) ja ich WEIS.  
     yes I know  
 05 (0.3) [wollt i]ch,  
     (that's what) I wanted  
 06 INS [gut. ] (0.3)  
     good  
 07 INS ja, (.) gut.  
     yes good

Since mental verbs express propositional attitudes, the antecedent is usually not an NP, but a clause or even a longer stretch of discourse. Extract 4 shows that anaphora often cannot be explained by a simple deletion account. This would require that the original structure and the deleted structure were morphosyntactically identical, which is often not the case (see also Winkler 2005). In the most frequent case of anaphoric propositional arguments with mental verbs, the original main clause has to be transformed into a dependent clause. The operations to be performed can be quite complex, as extract 5 shows.

Extract 5: Conversation among friends FOLK\_E\_00066\_SE\_01\_T04\_c393\_01:59:07-01:59:23

- 01 UD [jan] de[LAY.         ]  
     Jan Delay  
 02 JO               [de jan DE]lay,  
     Jan Delay  
 03 gen[au:=-der (macht) des auch:]  
     exactly he (does) this too  
 04 AL       [schneewittchen oder so war] en lied von IHM; ne?  
     Snow White or something was a song by him, right?  
 05 (0.8)  
 06 UD schneEWITTchen?  
     Snow White?  
 07 AL (.) ja;  
     yes  
 08 (1.1)  
 09 UD [von udo LINden]berg?  
     by Udo Lindenberg?  
 10 PA [schneewittchen]  
     Snow White

11 AL ja; (0.4)  
 yes

12 PA KENN i nich;=  
 know.1SG I NEG  
 I don't know

13 UD = wässt ich jetzt NICH; (0.6)  
 know.1SG I now NEG  
 I don't know now

14 AL war ziemlich am ANfang.  
 was.3SG quite at-the beginning  
 (it) was quite at the beginning

15 (0.9)

16 PA kenn isch NISCHT; (0.3)  
 know.1SG I NEG  
 I don't know

17 UD ähm (0.3) kann SEIN aber ich kenn\_s nIch. (0.6)  
 PTCL may.3SG be.INF but I know.1SG-it NEG  
 erm (it) may be but I don't know it

18 PA kann ja nich Alles kEnnen;  
 can.3SG PTCL NEG everything know  
 (one) cannot know everything

In the most straightforward case, the topic-drop anaphora co-refers to an antecedent constituent which can be phonetically copied from a prior turn as “schneewittchen von udo lindenberg”, lines 06/09, which serves as the antecedent for lines 12, 14, and 16. Yet instances of more complex anaphora (see Schwarz-Friesel & Consten 2011 for complex anaphora) occur in our example as well: In 13 and 17, anaphora of a proposition from prior discourse (*that [the song] schneewittchen was a song by Udo Lindenberg*, cf. lines 04, 06, 09) has to be assembled from several prior turns and to be adapted syntactically from main clauses to a subordinate clause. In addition, although anaphora often builds on adjacency (as in line 12 building on lines 04, 06, and 09), antecedents may also be more remote (as in lines 13 and 17 which build on lines 04, 06, and 09 as well). Other adaptations concern word order, clause type, and morphological processes, as in extract 6.

Extract 6: Driving lesson FOLK\_E\_00168\_SE01\_T02\_c128\_31:27-31:31

01 INS is das hier VORfahrt,  
 is this here priority

02 STU (0.8) Ø MÜSSTE Ø;  
 should.3SG  
 (it) should (be)

03 INS nö. (0.3)  
 no

In extract 6, the turn in line 02 consists only of a modal verb, which modalizes the whole proposition implied in the prior question. Subject, adverb, predicative noun, and infinitive are all omitted. The interrogative in indicative mood (line 01) must be transformed into a modal declarative, which additionally requires the transformation of the 3rd person singular verb (“ist”, ‘is’) into an infinitive (*sein*, ‘to be’).

Responsive anaphora can also require deictic adaptation of the interpretation of the anaphora, as in extract 7.

Extract 7: Conversation among friends FOLK\_E\_00132\_SE\_01\_T\_14\_DF\_01\_c655-658\_01:24:11-01:24:15

```

01 KA welche adRESse hast du noch mal,=
    what is your address again
02 =der sören wollte mIch nämlich ABholn.
    Sören (=name) wanted to pick me up.
03 (0.65)
04 KA welche äh he ((Lachansatz))
    what ((laughs))
05 AM °h äh na JA,
06 [direkt beim] LIDL.
    erm well directly at the LIDL market
07 JA [xxx xxx xxx]

```

The anaphora here requires an interpretative shift from the second person in the antecedent question (“hast du”, ‘have you’, line 01) to the first person in the answer in line 06 (Auer 2014). Yet the extract shows that the interpretation of the anaphora often cannot be accounted for by copying the antecedent even with (morpho-)syntactic adaptions (cf. Hall 2018). The phrase “direkt beim lidl” (line 06) cannot replace “welche” in line 01: *\*ich habe die Adresse direkt beim Lidl* (‘I have the address directly at Lidl’s’) would not count as stating an address. The turn “direkt beim LIDL”, instead, states where AM’s apartment is located – a piece of information that, from a pragmatic point of view, is probably more helpful to Sören, who should pick up KA (see line 02), than a street name. Thus the anaphora builds on a metonymic relationship between “adRESse” and the place formulation “direkt beim LIDL”. Extract 7 is an instance of indirect anaphora (Helmer 2016: 150–166, Helmer 2017): There is no co-referential antecedent, but only an anchor in prior talk which is inferentially related to what the anaphora must be taken to mean (cf. Schwarz 2000 for indirect anaphora).

In her study on topic-drop anaphora in German talk-in-interaction, Helmer (2016: 76) found that only 33.3% of the antecedents were phrasal (NP, VP, AdjP). 41.6% had clausal (i.e., propositional) antecedents, whereas in 20% the anaphora was only inferentially related to a prior anchor, and in 5.2% it referred back to a speech act (and not its proposition or a referent).

As in extract 7, omission of subject and verb (phrase) can often be found in question-answer sequences. *Wh*-questions are usually answered by an anaphora implemented with a phrase that expresses the semantic role which the *wh*-question pronoun opens up as an answer slot (cf. Thompson et al. 2015: 16–49). In extract 8, the answers in lines 02 and 11 implement only the semantic roles of direction (“wo”, ‘where’ → “rechts”, ‘right’) and theme (“WELche regel”, ‘which rule’ → “RECHTS vor LINKS”, ‘right before left’) which were asked for in the preceding questions.

Extract 8: Driving lesson FOLK\_E\_00168\_SE\_01\_T\_02\_c780-791\_46:01-47:18

```

01 INS wo müss_ma HIN?
      where do we have to go?
02 STU (0.3) ø recht[s.]
      (to the) right
03 INS           [ j ]a,
      yes
(...)
10 INS <<t> WELche regel> gilt hier?
      which rule applies here?
11 STU ø RECHTS vor LINKS;
      right before left

```

This strategy of rhematization (Ehlich & Rehbein 1986) restricts the anaphoric turn to containing only the new information which has been made conditionally relevant. Phrasal responses are most economical in terms of turn-design and optimally satisfy the “preference for progressivity” (Schegloff 2007: 15) in terms of interactional, pragmatic progression. Thompson et al. (2015: 28–31) claim that clausal responses are not only less frequent, but also index some kind of trouble with the action sequence. Thus minimization is not only more efficient, but also differs from “full” forms in pragmatic meaning.

Minimization of turn-design leads to borderline cases of anaphora in which it is not clear that a syntactic analysis (which is suggested by the term “anaphora”) is still warranted. A case in point is the use of the local deictic *da* (‘there’) in response to a request, accompanied by a pointing gesture or – as in extract 9 – by the presentation of the requested object.

Extract 9: Room redecoration FOLK\_E\_00217\_SE\_01\_T\_02\_DF\_01\_c0022-0035\_00:00:57\_00:01:16

01 PZ HOL mal da den den den ich da weggelegt hab;=  
     just fetch there the the which I put aside  
 02 =diesen (.) HAKen dingsdabumsda;  
     this hook whatchamacallit  
 03 TZ ((short laugh))  
 04 PZ den nehmen wir daFÜR?  
     we'll take it for this  
 05 TZ (.) hi hi  
 06 (1.8)  
 07 PZ hm pff  
 08 (1.2)  
 09 PZ <<reads> LANGsam und im KREUZgang auf die wand auftragen;>=  
     <<raeds> apply on the wall slowly and crosswise>=  
 10 =einfach mal (0.3) machen; (.)  
     just simply do it  
 11 isch egal;  
     don't mind  
 12 °hh (.) ähm h°  
 12 (0.4)  
 13 TZ #DA-  
     there  
     #fig. 1  
 14 (0.6)  
 15 PZ DANke schön-  
     thank you

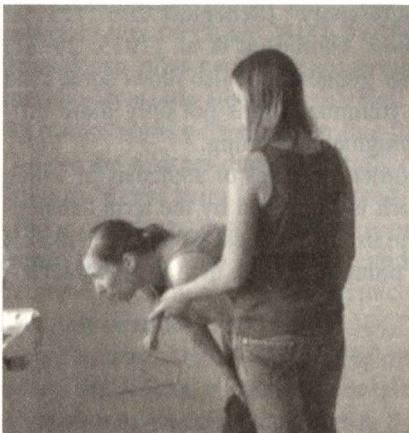


Figure 1: TZ presents hook to PZ, who is still reading

PZ asks TZ to bring her the paint roller hook in line 01. While TZ is looking for the object, PZ reads some painting instructions (line 09) and comments on them (line 10). As TZ arrives with the paint roller hook, PZ is still reading. TZ now says “DA-” (‘there’, line 13) to attract PZ’s attention to the object, which she holds in her hand, stretched into PZ’s peripheral field of vision (Fig. 1). In line

15, PZ recognizes that TZ has complied with her request by thanking her. *Da* in response to a request can be understood as analepsis building on the antecedent request (*da ist das haken dingsbumsda*, ‘there is the hook whatchamacallit’). Nevertheless, its primary use in this sequential position together with pointing or showing is simply to attract the addressee’s attention directly to the requested visible object – which is possible without an interpretation as analepsis. This is supported by the fact that in all nine cases of *da* + pointing/showing produced in response to a request in the video-recordings of the FOLK corpus (version 2.12 as of 2019), the addressee’s attention to the object does not seem to be secured. If this is the case, however, requestees present or hand over the requested objects without referring to them verbally.

In sum, this section has shown that the immediately preceding sequential trajectory of the interaction provides a basis that is preferentially used for producing analeptic structures of various kinds. Analepsis exploits the affordances of the sequentiality of social interaction. Yet analeptic structures are mostly more complex than just copying a phrase from prior talk – they often involve more complex linguistic structures like clauses, larger stretches of discourse, or actions, and they require linguistic and inferential work to accommodate antecedents and anchors to the analeptic structure. Analeptic structures often require more than just recency or adjacency of structural latencies of prior talk that are still salient to the participants. Additional factors can play a decisive role for producing and understanding analeptic structures:

- discourse-topic tracking;
- tracking of sequential structures of interaction, in particular, pending projections<sup>7</sup> for next actions from prior talk (e.g., questions still waiting for an answer, requests that have not yet been complied with, etc.);
- linguistic knowledge, in particular, valence restrictions of the analeptic turn;
- pragmatic reasoning based on world-knowledge and sequentially emerging common ground concerning most probable antecedents and anchors;
- inferences that connect the analeptic structure with prior talk, mostly by metonymy;
- visual evidence from embodied action, which guides the recipient’s attention and which can disambiguate references. In such cases, the boundaries between analepsis and ellipsis are often blurred (see below).

Of course, these factors are often interrelated, e.g., valence restrictions allowing for a range of possible antecedents, which are narrowed down by discourse-

<sup>7</sup> In interaction analysis, “projections” refer to normative expectations concerning next actions which are created by an action (see Auer 2005). Projections are important for the anticipation and coordination of actions as well as for the interrelation of actions that do not fulfill projections, making inferences about their producer and their intentions available.

tracking and pragmatic reasoning, which allow a recipient to infer the antecedent or anchor. Analepsis is a prime example for cases of economy of linguistic form that hide a complexity of inferential processes (Bisang 2014, 2015).

## 5.2 Argument omission in first actions: ellipsis

In the previous section, we saw how responsive actions like answers, compliant responses, or comments can be built by analepsis. In contrast, first pair-part actions, like questions, instructions, or requests, which do not continue an ongoing sequence but initiate a new one, instead use ellipsis for minimal turn-design. The mutual salience of objects, (body) movements, and ongoing actions of the parties to an interaction allows for the omission of NPs, VPs, and clauses and for the production of verbal fragments which come without any definite clausal frame.

In task-oriented interactions, such as teaching, instructing, requesting, testing, and interviewing, lean syntactic structures are used to a great degree. Extract 10 is an example from a driving school.

Extract 10: Driving lesson FOLK\_E\_00168\_SE\_01\_T\_02\_c780-791\_46:01-47:18

In extract 10, all turns are produced with a lean syntax. The responsive turns in lines 02 ("RECHTS", 'right') and 11 ("RECHTS for LINKS", 'right before

left') are analectical (see extract 8 in sect. 5.1.1). In addition, we find three elliptical turns.

The initial question "wo muss\_ma HIN" ('where must we (go) to', line 01) is an instance of a so-called 'absolute use' (Kaiser 2017) of a modal verb: The modal verb *müssen* is used like a main verb; an infinitive verb of movement, which would be needed if the modal verb were used as an auxiliary, is omitted. Absolute modal uses are particularly frequent with directional constructions (Kaiser 2017). In terms of information structure, they profile (in the sense of Langacker 2008: 66–70) the direction, which is also realized as the rheme and (at least in the example) receives the focal accent, whereas the mode of movement is not expressed. In our case, the mode of movement is provided for by the participants' current joint bodily action, driving the car.

The joint bodily action 'driving', which is salient for both participants and which is agentively controlled by both of them, also accounts for the use of the imperative "stopp" (line 08) without a direct object: The speaker can assume that it is evident for the addressee that it is the car which is to be stopped.

These two ellipses lend themselves to a phonological reduction analysis of ellipsis (Winkler 2018), i.e., the elided structure is not overtly produced, but is present in deep structure: In line 01, the infinitive verb form *fahren* can be added;<sup>8</sup> in line 08 the direct object *das Auto* (or also: *die Weiterfahrt*) could be used. Yet in the FOLK corpus, out of 115 occurrences of *stopp* as an imperative, none is realized with an object.

In cases such as the turn in line 05 "SCH::ULterblick" ('shoulder-check'), the phonological reduction analysis becomes arbitrary: The number of possible syntactic formats is hard to constrain (imperative or (modal) declarative; definite or indefinite article; *Schulterblick* as subject or object, etc.). The correct understanding of the phrase "SCH::ULterblick" does not require syntactic completion, but it is a matter of pragmatic situated reasoning. In addition to knowing the meaning of the term 'shoulder-check', for a correct understanding here the addressee is required to at least infer:

- a specific action: an instruction (and not, e.g., a reference or announcement),
- a specific agent: the driver (and not a self-directed announcement of the speaker),
- a specific direction: that the shoulder check has to be carried out towards the right (and not to the left).

These inferences must build on at least the following epistemic, attentional, and bodily spatial resources:

<sup>8</sup> Nevertheless, it has to be noted that not all absolute uses of a modal verb with a directional object allow for the addition of an infinitive verb form without a change in meaning. Rather, the construction has its own meaning, which includes that the mode of movement towards the direction is not relevant (Kaiser 2017).

- knowledge of the task structure of the series of actions which have to be performed by a driver when turning right or left at an intersection,
- an orientation to the current joint project and the participation structure (instructor-student) of instructed driving,
- an awareness of the local spatial conditions of the road.

This discussion should make clear that in such cases distinctions cannot be made in any principled way between those components of situated meaning of a turn which are to be accounted for by the properties of syntactic ellipsis because they have to be added for syntactic reasons, and those components which are equally necessary for proper situated understanding, but which belong to the pragmatic, interactional, and bodily context.

Note that there is still more knowledge which has to be presupposed for a correct response, e.g., what to monitor using a shoulder-check, in which precise moment it should occur, how it is to be coordinated with steering, braking, clutching, and using the turn signal. Participants' close alignment within a joint project and the mutual expectability of next actions are not only sequentially and perceptually based, they also heavily rely on common ground and shared routines. Therefore, increasingly lean syntactic structures develop over the course of shared interactional histories that make next actions within routine sequences and series of actions highly predictable (see Deppermann 2018b). This is clearly the case in extracts 6, 8, 10, and 13 from driving lessons and extracts 11, 12, and 14 from emergency drills, in which the participants carry out routine instructional sequences that they have previously rehearsed and performed repeatedly.

As far as argument realization with the six most frequent transitive verbs in instructions and requests in the FOLK corpus (version 2.12) is concerned, especially imperatives are frequently used without any argument (39.0%), followed by deontic infinitives (see Table 4).

Arguments	IMP (n=500)		Deont INF (n=183)		V1-INTER (n=189)		DECL (n=502)		Modal DECL (n=506)	
Zero	195	<b>39.0</b> %	31	<b>16.9</b> %	5	<b>2.6</b> %	29	<b>5.8</b> %	48	<b>9.5</b> %
V- PTCL	84	<b>16.8</b> %	18	<b>9.8</b> %	8	<b>4.2</b> %	102	<b>20.3</b> %	9	<b>1.8</b> %
Dir Obj clit	35	<b>7.0</b> %	0	<b>0.0</b> %	15	<b>7.9</b> %	35	<b>7.0</b> %	26	<b>5.1</b> %
Dir Obj PRO	141	<b>28.2</b> %	15	<b>8.2</b> %	75	<b>39.7</b> %	159	<b>31.7</b> %	17	<b>33.6</b> %
Dir Obj lex	175	<b>35.0</b> %	99	<b>54.1</b> %	70	<b>37.0</b> %	222	<b>44.2</b> %	21	<b>41.7</b> %

Arguments	IMP (n=500)		Deont INF (n=183)		V1-INTER (n=189)		DECL (n=502)		Modal DECL (n=506)	
Indir Obj PRO	70	<b>14.0</b> <b>%</b>	3	<b>1.6</b> <b>%</b>	43	<b>22.8</b> <b>%</b>	84	<b>16.7</b> <b>%</b>	89	<b>17.6</b> <b>%</b>
Indir Obj lex	7	<b>1.4</b> <b>%</b>	2	<b>1.1</b> <b>%</b>	5	<b>2.6</b> <b>%</b>	3	<b>0.6</b> <b>%</b>	12	<b>2.4</b> <b>%</b>
PP-Obj	16	<b>3.2</b> <b>%</b>	30	<b>16.4</b> <b>%</b>	17	<b>9.0</b> <b>%</b>	40	<b>8.0</b> <b>%</b>	43	<b>8.5</b> <b>%</b>
Adv	58	<b>11.6</b> <b>%</b>	36	<b>19.7</b> <b>%</b>	29	<b>15.3</b> <b>%</b>	55	<b>11.0</b> <b>%</b>	53	<b>10.5</b> <b>%</b>
Object- clause	26	<b>5.2</b> <b>%</b>	12	<b>6.6</b> <b>%</b>	17	<b>9.0</b> <b>%</b>	43	<b>8.6</b> <b>%</b>	38	<b>7.5</b> <b>%</b>

Table 4: Argument realization with transitive verbs used in requests and instructions<sup>9</sup> (verbs: machen, nehmen, geben, lassen, sagen, stoppen; max. n=100 per verb; data from FOLK version 2.12)

Requests and instructions often concern bodily actions (verbs: *make/do, let, say, stop*) and the transfer of objects (verbs: *give, take*). In contrast to declarative- and interrogative-formatted requests and instructions, imperatives and deontic infinitives are specifically used to ask for actions that have to be performed immediately (and not in some more remote future), are highly expectable given the sequential context, and are routine actions, which can be performed unproblematically and without much effort by the addressee (Deppermann 2018b; Mondada 2017). The production of imperatives and deontic infinitives is therefore closely tied to the bodily spatial configuration of the ongoing embodied interaction. Object ellipsis occurs if the object is mutually perceptually salient to the participants and if the object plays an expectable role within an ongoing joint project (Zinken & Deppermann 2017). In contrast to earlier assumptions, I have shown that it is not sufficient that the object is co-present in the situation; in addition, the speaker has to assume that the addressee is attending to it and is prepared for the request and the ways in which the object matters to the request.

Here is an example from an emergency drill, which shows how object ellipsis is tied to joint attention and bodily action. After having retrieved the bottle with the Ringer's solution (lines 01–05), the officer-in-chief (OCH) instructs his assistant (AS2) to check whether the Ringer's solution, which should be attached to the patient, "runs", i.e. whether the bottle is dispensing the liquid (lines 07–09).

<sup>9</sup> Realization of the subject was not examined, because imperatives and deontic infinitives usually do not occur with a subject.

Extract 11: Emergency drill FOLK\_E\_00138\_SE\_01\_T\_01\_c842\_11:12-11:28

01 OC aber (.) wo\_s jetzt die RINGER-  
but where is the Ringer's now

02 AS1 (0.5) d\_RINGER liegt daneben da [unten.]  
the Ringer's lying next to it down there

03 OCH [ah- ]

04 (1.4)

05 AS1 dort JETZT,#  
there now

06 (2.6)

07 OCH \$also (.) HALT #mal,=  
so keep.IMP PTCL  
so just keep (it)  
och \$.....  
#fig. 2

08 AS2 = DRAN \$machen oder nich?=  
there-on make.INF or not  
(should I) attach (it) or not  
och .....\$grasps Ringer's und hands it to AS2-->

09 OCH =\$und halt mal\$# HOCH und guck ob sie läuft.\$  
and keep.IMP PTCL up and look.IMP if it runs  
and keep (it) up and see if it's running  
och ----->\$.....\$takes strip->  
as2 \$..... \$takes Ringer's and keeps it up----->  
#fig. 3

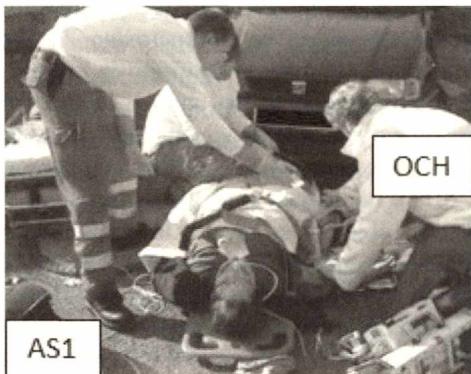


Figure 2: OCH reaches for the Ringer's solution saying: "halt mal" ('keep PTCL').



Figure 3: OCH hands the Ringer's solution to AS2 saying: "halt mal hoch" ('keep up PTCL').

The Ringer's solution is explicitly mentioned both in OCH's initial question (line 01) and in AS1's answer (line 02) by a full lexical NP. In both cases, OCH does not see the object. Using the change-of-state token "ah-" (line 03; Golato 2010), OCH indexes that he has been able to identify the object. While formulating his request "also HALT mal-" (line 07), OCH starts to reach for the bottle with the Ringer's solution (Fig. 2). This move occurs within the visual field of the addressee AS2; in addition, this object has been talked about before by OCH in line 01. The object omission in line 07 therefore could be considered to be analepsis (regarding lines 01 and 02), especially since there has been no mention of a competing topical object in-between. Yet an analysis as ellipsis seems to be more pertinent. OCH'S and AS2's joint bodily orientation to the Ringer's solution through gaze and gesture is crucial, because there are competing objects which are possibly equally relevant in terms of next practical actions (especially the strips which AS1 is preparing in parallel). And OCH's initial question has projected the attachment to the Ringer's solution as a next expectable joint project. AS2 builds on these shared attentional and pragmatic orientations in his response "DRAN machen oder nich?" ('(should I) attach (it) or not', line 08), which omits the object as well. AS2's question displays his anticipation of the future course of action which OCH's request could be seen to project and AS2's understanding of what is required from him in this joint project in terms of his role within the local division of labor. However, OCH does not respond to AS2's question, but he instead hands the Ringer's solution over to AS2 and asks him to keep it up ("halt mal HOCH", 'keep-IMP up', line 09); again, the object is omitted, as this time it is both visually and manually salient to both participants (Fig. 3). Extract 11 is one of the many examples in our sample in which object omission can be accounted for both by analepsis and by ellipsis: The Ringer's solution had already been mentioned in line 01, but only when it was requested (lines 07–09) was it also attended to by the manual action of the requester and eventually by that of the requestee as well (line 07).

The most frequent transitive verb used as an imperative is *machen* ('to make/do', n=540). *Machen* is often used as a passe-partout verb that refers to the ongoing action of the addressee or as a pro-verb that co-refers to an action which was mentioned earlier (Kress 2017). In the following case, "mach NOCH mal," ('just once again') co-refers to an action which the addressee AS talked about before, namely, attaching a belt ("ZIEHEN", 'pull', line 02).

Extract 12: Emergency drill FOLK\_E\_00140\_SE\_01\_T\_01\_c737-744\_00:14:16-00:14:24

```

01 AS dann spannt_s ZIE:MLich,
      then it stretches quite a lot

02 da kannsch ni_mehr ZIEHEN danach [(oder?)]
      there you cannot pull afterwards or?
03 OCH                                [ natürlich SPANNT_s.
                                         of course it stretches

04 (0.3)

05 OCH mach    NOCH <<pp>>mal,>
      make.IMP still      PRT
      just once again

06 AS hm::;
      uhum

```

Both the pro-verb and the passe-partout uses of imperative *machen* mostly occur without an object. Often (as in extract 12), the object-omission builds both on perceptual-practical salience and the continuing relevance of the action that was referred to before.

Objects currently in use by the recipient are particularly salient and therefore can be omitted in instructions or requests, especially if it is expectable that a next action which involves the object will be mandated. Here is an example from driving school. The student is manipulating the steering wheel while reverse parking the car.

## Extract 13: Driving lesson IDS FAHR\_02\_15

```

01      #(0.9)
      stu #turns steering wheel to the left---->
02 INS $guck *jetzt# haste schon *deine Linie,=
      look.IMP now have.2SG=you already your line
      look now you've already got your line
      ins $looks out of right window
      ins      *horizontal gesture along right window front to back*,...
      stu ----->#
03 INS =genAU,
      exactly
04 INS jetzt drehste      #einfach WEIter;
      now turn.2SG=you simply further
      now (you) simply turn further
      stu          #turns steering wheel to the left---->>

```

The student turns the steering wheel to the left while the car is entering the parking lot (lines 01–02). When the back of the car has entered the parking lot (line 02), the instructor asks the student to continue turning the steering wheel (line 04). She uses a declarative sentence without a direct object, and the student follows her instruction immediately as soon as she has produced the verb which denotes the mandated action (“drehste”, ‘turn’) without waiting for an object; no object is produced, either. Since the use of the steering wheel has been the focus of the student’s prior manual actions and because the routine series of driving actions to be performed for reverse parking is highly expectable, a smooth and highly synchronized collaboration between the participants emerges which allows for the use of only lean syntactic structures in the instructions.

In contrast to the above examples, a more complex syntactic argument structure is used to produce a request if the addressee’s current course of action is not aligned with the action mandated by the speaker in their request (Zinken & Deppermann 2017; Deppermann 2020). Non-alignment of the addressee’s actions with the request involves:

- Speaker and addressee do not share a (visual) focus on some object or activity,
- the mandated action is not expectable for the addressee, and/or
- the addressee is currently pursuing a different line of action.

While imperatives usually occur with a lean syntactic structure, there are also cases with more complex syntax. Such cases show very clearly that it is not the imperative as such but the relationship of the imperative to the ongoing and projectable next actions and to the bodily spatial multimodal configuration which accounts for the syntactic complexity. One example is extract 14 from an emergency drill.

Extract 14: Emergency drill FOLK\_E\_00140\_SE\_01\_T\_01\_c214-227\_03:36-03:50

```

01 AS2 hm, <<all> SAG mir nochmal kurz->
      PTCL tell.IMP me once=again shortly
      uhuh tell me once again quickly
02 AS2 %DIE kommen zuerst hier Ab,
      these must be removed first
03 hier Oben da;=ne?
      here on the top there, right?
06 OCH momEnt momEnt;
      wait wait
07 (2.0)
08 OCH HIER #nimm jetz erstmal kurz n_PRO+splint; (.)%
      here take.IMP now for=now shortly a=prosplint
      here now first shortly take a pro-splint
      ...%point pro-splint%
09 hier an den ARM-
      here at the arm

```

The officer-in-chief (OCH) has just finished bandaging the patient when his assistant (AS2) asks him how the belts of a spine-board which is needed to transport the patient must be prepared (lines 01–03). This request for confirmation is unrelated to the current action of the addressee and it is not expectable, because the assistant should know how to prepare the spine-board. Moreover, the addressee, OCH, does not see AS2 approaching (and thus does not expect to be addressed by him) and OCH does not see the object (the spine-board) which AS2 holds up before AS2's turn starts. The syntax of AS2's imperative turn in line 01 includes an indirect object ("mir", "me") and two temporal adverbials, "nochmal" ('once again', which indexes that AS2 is aware that he should know) and "kurz" (which is used to minimize the imposition of the addressee). Instead of just asking the question, the imperative serves as a projector construction (cf. Hopper & Günthner 2010).

In line 08, in turn, OCH produces an instruction, which is equally unexpected for AS2. Instead of answering AS2's question from lines 01–03, in line 06 ("moment moment", 'wait wait') OCH defers his answer and thereby suspends the course of action AS2 has initiated. OCH instead asks AS2 to attach a pro-splint at the patient's arm. Prefaced by an attention getter ("HIER", 'here'), the imperative turn includes the explicit mention of the object ("prosplint"), and the mandated action is further specified by a directional adverbial ("hier an den ARM", 'here at the arm'). Three temporal adverbials are added, "jetzt erstmal kurz" ('now first shortly'), which show that the mandated action has priority (over the course of action which AS2 had initiated before) and that the imposition caused by this instruction will only be minimal (just as AS2 implied in line 01). OCH's instruction is clearly not projected by the ongoing course of interaction and thus cannot be expected by AS2. To the contrary, OCH suspends the ongoing activity (and thereby AS2's practical focus) by initiating a new joint project and a new instruction sequence. The object of OCH's instruction (the

pro-splint) has not been in the visual focus of the addressee. Therefore, it has to be mentioned explicitly.

This section has discussed interactive and multimodal conditions for the use of lean syntactic structures, i.e., analepsis and ellipsis, in responsive actions and in first actions, focusing on those that are formatted as imperatives.

The perceptual availability of objects and movements, joint attention to them, and the joint orientation to an expectable upcoming practical action create affordances for using ellipsis, whereas the mere spatial co-presence of an object is not sufficient. In addition to perceptibility, the relationship of a verbal turn to a joint project of speaker and addressee and its pertinence to the current activity of the addressee is a decisive condition for object ellipsis. Thus, the synchronization of mutual co-orientation to the surrounding space, objects, and ongoing action allows for economic turn-design and lean argument structure (Zinken & Deppermann 2017; Deppermann 2020). The distinction between ellipsis and analepsis proves not to be useful in many cases. Rather, an object which has been mentioned before can (continue to) be visually and/or practically salient. While prior mentioning may have made the object salient in the first place, its current perceptual and practical salience can be decisive for the unambiguous identification of the referent.

## 6 Conclusion: interactional and multimodal conditions for using lean syntactic structures

This paper has provided manifold evidence for various tendencies in talk-in-interaction in German to use lean syntax, i.e., implement syntactic structures which do not realize the full argument structure of the main verb. On a fairly general level of analysis, the properties of preferred argument structure (in the sense of Du Bois 2003a, b) seem to be valid in general. Yet a closer look at corpus data shows that there are verb-specific patterns. Moreover, peculiarities of lean argument structure are associated with specific kinds of actions in specific sequential positions in the sense of “positionally sensitive grammars” (Schegloff 1996). The occurrence of lean argument structure depends on the position of the clause within the turn and the sequence. In addition, especially for sequence-initiating actions, the multimodal configuration of body, space, objects, and practical actions of the participants plays a major role for the possibility of producing lean argument structures. Variation in argument structure is thus tied to the ecological conditions for the production and understanding of talk-in-interaction and the resources it affords.

The factors listed in Table 5 could be seen to favor lean vs. complex argument structure in talk-in-interaction.

	Lean argument structure	Complex argument structure
Material environment	Reference to present objects/events under conditions of joint perceivability (mostly visibility) and joint salience	Reference to absent, imperceptible or unattended objects/events
	No referential alternatives (which are practically relevant)	Referential alternatives
	Object is already being used/held by speaker or addressee	Object is not being used/held by participants
Body	Bodily co-orientation (gaze-direction, gaze-following)	No bodily co-orientation
	Joint attention	No joint attention Attention to competing foci
	Pointing	No pointing
	Body is stationary	Body moves in space
Temporality	Reference to present or immediate past/future events	Reference to remote past or future events
	Urgency of response	Non-urgent/non-immediate response
	Expected response has already started	Addressee is bodily engaged otherwise
Interaction	Sequential/discourse-topic antecedent (+closeness, salience, unambiguity)	No antecedent
	Common ground (shared knowledge, shared experience)	No common ground (no knowledge, competing assumptions)
	High expectability (routine sequences/scripts/actions, next move has been projected)	Low expectability (no routine)
	Ongoing joint project (shared goal, preparedness to cooperate)	No joint project; addressee is involved in different project
	Sequential projections are still open	Initiation of new sequence

Table 5: Interactive and multimodal factors impinging on argument structure complexity

These are only tendencies that do not necessarily determine argument structure realization. We need more studies to better understand how the individual factors are interrelated and ranked in relation to each other. The relevance of these factors for the different phenomena of lean argument structure, of course, is not

uniform. The basic speaker-addressee constellation allows for addressee ellipsis (e.g., in imperatives and deontic infinitives) and for speaker ellipsis (e.g., in narratives and responsive comments). The availability of bodily, spatial, and object-related resources together with joint attention, gesturing, and bodily co-orientation allows for object ellipsis and the use of object pronouns. Mutually observable, ongoing practical actions support this effect. If a verbal action occurs within a joint project and is highly expectable from the prior talk or practical action, especially if the prior talk has created a strong and even grammatically shaped expectation for the syntactic format of the response (as with a *wh*-interrogative), lean structures are favored. Affordances from prior talk, especially the accessibility of prior actions, propositional content, discourse topics, and pending relevances and projections from the ongoing sequence, constrain possible understandings and inferences. Therefore, they not only allow for the omission of objects, instrumentals, directionals, locatives, and other specifications, but also for the indexical metacommunicative reference to the prior interactional sequence.

This paper has made a case for the pervasiveness of lean argument structure in talk-in-interaction and has argued that its use can be accounted for by the resources provided by the interaction itself and its bodily, spatial, and object-related ecology. However, the same factors can also cause syntactic structures in interaction to become more complex: Turns can be grammatically extended beyond a first syntactic point of completion (Auer 1996), and their shape can be adapted to varying contingencies of recency (Goodwin 1979); there are specific syntactic structures like apposition (Imo & Lanwer 2017), self-repair (Pfeiffer 2015, 2017), and right dislocation (Horlacher 2015; Pekarek Doehler et al. 2015; Proske & Deppermann 2020) that are means to produce complex syntactic structures which are sensitive to phenomena like lack of response, non-understanding, or failure to identify referents. Therefore, this paper does not make the claim that the syntax of spoken language generally tends to be more simple. Rather, it argues that participants flexibly adapt the syntactic structure they are producing to the specific local interactive and bodily contingencies at hand. They use these contingencies as a resource, while equally observing them as constraints for the production of their discourse. They do so in a highly synchronized and temporally sensitive manner, closely monitoring the change of relevant constraints and affordances and the effects which they might have on the partner's availability, attention, possible understandings, and inferences. Very often this allows and favors the use of lean argument structure. My claim thus is that participants use lean structures whenever it is suitable for practical purposes and sufficient mutual understanding, depending on the concrete local sequential, visuo-spatial, bodily, and epistemic contextual conditions of speech production in social interaction. Yet, by reference to the same constraints, local contingencies of situated talk can lead to the online generation of more complex syntactic structures.

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