

THE SYNTAX, INFORMATION STRUCTURE, AND PROSODY OF
GERMAN ‘VP’-FRONTING

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1. INTRODUCTION. This paper investigates a type of verb phrase fronting in German that appears to go against the general, possibly cross-linguistic preference for heavier (longer, more complex)¹ elements coming toward the end of utterances (see e.g. Francis 2010, Wasow 2002, Gibson 1998, Hawkins 1994, and Quirk et al. 1985 – this research program goes as far back as Behagel 1909). Our goal is to show that German verb phrase fronting actually does not violate this preference for “heavy after light” even if the fronted verb phrase is complex enough to include the subject of the sentence.

Familiar phenomena exhibiting “heavy after light” are CP-EXTRAPOSITION (see Rosenbaum 1967 and, for a more recent overview and analysis of extraposition phenomena, Baltin 2006), HEAVY NP-SHIFT (see e.g. Arnold et al. 2000 and Wasow 1997), and PARTICLE SHIFT (see e.g. Kayne 1985 and Svenonius 1992). Sentential (CP)-subjects regularly occur at the end of the sentence rather than in the canonical sentence-initial subject position, as illustrated in 1b, where the expletive *it* fills the subject slot, allowing the CP-subject to stay low.

- (1) a. [_{CP} That this is an interesting issue] is obvious.
b. It is obvious [_{CP} that this is an interesting issue].

Heavy direct objects tend to shift from their canonical position immediately right of the verb to the end of the sentence, as illustrated in 2b.

- (2) a. The authors added [_{DIR OBJ} this discussion] to the introduction.
b. The authors added to the introduction [_{DIR OBJ} this discussion about heavy elements occurring after light elements].

¹ For an overview of what “weight” is in the linguistic sense, see Shih & Grafmiller 2011. See also Francis 2010 on “grammatical weight”.

Similarly, particle verb constructions exhibit the preference of “heavy after light” in that a verb’s particle can follow the direct object but tends to show up immediately adjacent to the verb when the direct object is heavy.² This is shown in 3a-b.

- (3) a. She **talked** [DIR OBJ her colleague] **up** to the university committee.
 b. She **talked up** [DIR OBJ her colleague from Hannover, Germany] to the university committee.

Given this general preference, we might expect the displacement of a constituent to the beginning of the sentence (other than that of a *Wh*-phrase) to involve constituents that are not heavier than the material they leave behind. Fronting the direct object in 4, for example, is compatible with “heavy after light”.

- (4) a. I like [DIR OBJ beans].
 b. [DIR OBJ Beans], I like.

When it comes to verb phrase fronting (see e.g. Emonds 1976, Akamajian et al. 1979, and Gazdar et al. 1982), it immediately becomes apparent that “heaviness” is not necessarily determined by length. The grammatically fronted VP in 5b, for instance, is clearly longer than what it leaves behind (henceforth, everything following the fronted constituent (in square brackets) will be referred to as the POST-FRONTING CONTEXT).

- (5) a. He said she could [VP hit the ball hard].
 b. And [VP hit the ball hard], she did.
 c. *And [VP hit the ball hard], she.

In 5b, the post-fronting context only consists of the subject *she* and the dummy auxiliary *do*. The VP, consisting of the main verb *hit*, its direct object *the ball*, as well as the adverb *hard*, has been moved from its canonical position to the front. This kind of fronting could still be argued not to go against the preference of “heavy after light” because the subject and the tense-bearing

² See Svenonius 1992 for an argument against particle shift involving Heavy NP-Shift.

auxiliary, though being phonologically lighter³ than the fronted verb phrase, are heavy enough in content. After all, the post-fronting context in 5b (unlike in 5c) contains everything a main clause in English minimally needs, namely a subject and a verbal element indicating tense (finiteness).

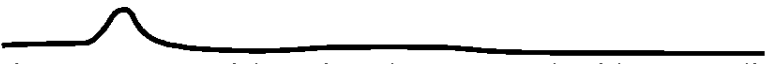
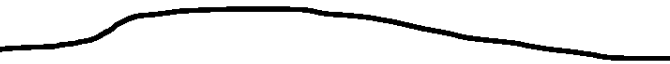


Including the subject in a fronted verbal constituent would certainly seem to make that constituent too heavy (or the post-fronting context too light).⁴ This intuition, however, is proven wrong by German, the language being investigated here. German allows not only fronting of verbal constituents containing a derived subject, i.e. an underlying direct object (see e.g. Grewendorf 1989), but also fronting of verbal constituents containing a true, non-derived (agentive) subject. We will argue that subject-included verb phrase fronting in German is nonetheless a phenomenon that can be said to follow the preference for “heavy after light”.

The phenomenon is illustrated in 6a-b with intransitive verbs (unaccusative and unergative, respectively) and in 7a-b with transitive verbs (passivized and non-passivized, respectively). As indicated by the approximate intonation contours above the examples, while both intransitive and transitive verbs can participate in the subject-included fronting construction, sentences with fronted unergative or active transitive verb phrases (see b-examples) come with very different intonation than sentences with fronted unaccusative or passive verb phrases (see a-examples). The b-examples would be unacceptable with the intonation pattern of the a-examples.⁵

³ For discussions of phonological complexity/weight, see e.g. Anttila et al. 2010, Benor & Levy 2006, and McDonald et al. 1993.

⁴ In English, including the subject in a fronted verbal constituent would furthermore violate the EPP on T, unless an expletive subject were to fill Spec TP.

⁵ Only in the answer to an echo-question would the intonation pattern of the a-examples work for the b-examples. As explained in section 3.3, we treat echo-question answers as an exception and therefore leave them out of the discussion.

- (6) a.  [Ein Tiger entwichen] ist dem Wanderzirkus neulich.
 a.NOM tiger escaped has the.DAT traveling-circus the other day
 ‘A tiger escaped from the traveling circus the other day.’
- b.  [Ein Außenseiter gewonnen] hat hier noch nie.
 an.NOM outsider won has here yet never
 ‘An outsider has never won here yet.’
- (7) a.  [Ein gutes Medikament verschrieben] wurde ihr von diesem Arzt.
 a.NOM good drug prescribed was her.DAT by this doctor
 ‘A good drug was prescribed for her by that doctor.’
- b.  [Ein Italiener Pizza gegessen] hat hier noch nie.
 an.NOM Italian pizza.ACC eaten has here yet never
 ‘An Italian has never eaten pizza here yet.’

In the a-examples (with a derived subject), the high peak associated with the stressed syllable (all caps) in the fronted portion of the sentence is immediately followed by a fall, while it is followed by continued high pitch in the b-examples (with an underlying subject). Thus, the fronted portion ends with relatively low pitch in the former, but the pitch is still high at the right edge of the fronted phrase in the latter. Exact pitch tracks are provided in sections 3.1 and 3.2.

The fact that German even allows verbal constituents with an underlying subject, i.e. structurally, an agentive *vP*, in fronted position (as in 6b and 7b) is reflected in the literature (see e.g. Haider 1990, 2006, De Kuthy & Meurers 2003, and Wurmbrand 2001, 2004) but has not been fully explored. What has been overlooked almost entirely is that examples of this type, with an agentive subject, are much more marginal (grammatical but less readily produced and

accepted) than examples like 6a and 7a, with a derived, non-agentive subject,⁶ and further, that they are acceptable only with high pitch at the right edge of the fronted phrase. Taken together with the later low pitch, this gives the sentence an overall rise-fall, commonly called the BRIDGE-(OR HAT-)CONTOUR INTONATION (see e.g. Büring 1997). The significance of this prosodic contour and also the importance of the post-fronting context in these examples, which forces a certain information structure, are the main focus of the analysis we propose. As for the bigger picture, this contribution draws attention to a syntactic phenomenon that speakers find acceptable only given a very specific intonation contour and information structure, suggesting that syntactic well-formedness depends at least in part on both phonology and pragmatics. This in turn draws attention to the importance of the interfaces, syntax-phonology as well as syntax-pragmatics.

It will be shown that fronted agentive *v*Ps are instances of so-called I(NTONATION)-TOPICS (see e.g. Jacobs 1997, Molnár & Rosengren 1997, and Steube 2001) and that they require the fronted material to be “condensed” in that the subject lacks the information-structural impact that it normally has. In a sense to be made clear in the next two sections, the information-structural impact of the subject is forced to blend with that of the predicate. This observation, concerning the reduced impact of the subject, is in line with the well-known definiteness effect in verb phrase fronting constructions, discussed by Kratzer (1984), Grewendorf (1989), Haider (1990), Wurmbrand (2001, 2004), and De Kuthy & Meurers (2003): Only subjects that are not true definites are acceptable in fronted verb phrases. We claim that it is the information-structurally condensed nature of the fronted agentive *v*P that makes this syntactically complex constituent light enough to be moved to the beginning of the sentence and thus not go against the preference for “heavy after light”.

The rest of the article is structured as follows. Section 2 provides an overview of the verb phrase (‘VP’)-fronting possibilities in German, showing how much material can normally be included in the fronted constituent besides the verb, and how a more complex verbal constituent can be fronted with the kind of intonation and post-fronting context that condenses the constituent. Section 3 lays out in detail how the particular post-fronting context and intonation contour that are needed for the inclusion of an agentive subject in the fronted constituent trigger the condensed kind of information structure alluded to here. The claims made in this section are

⁶ The German verb *entweichen* in 6a, unlike its English counterpart *escape* is necessarily unaccusative and therefore has a non-agentive subject. It means ‘escape’ in the sense of ‘accidentally get out’ as in air escaping from a tire with a slow leak. It does not mean ‘escape on purpose’ and thus does not require agency of its subject (in 6a, the tiger).

supported by the results of experimental studies reported on in section 4. The focus of section 5 is the analysis of fronted agentive *v*Ps as I-topicalization and the status of the intonation contour associated with fronted *v*Ps. Section 6 offers a summary, ties up some loose ends, and makes an important connection to the previous literature on German verb phrase fronting by shedding new light on the range of the definiteness effect.

2. ‘VP’-FRONTING AND THE SYNTACTIC COMPLEXITY OF ‘VP’. As shown in examples 4 and 5 of the introduction, and more systematically in 8 here, English allows fronting of a variety of constituents: an object (see 8a), a prepositional phrase (see 8b), and even a VP (see 8c), but not a verbal constituent including a subject (see 8d).

- (8) a. [Crab], I like. [Shrimp], I don’t.
 b. [To me], that seems silly; [to him] it seems totally normal.
 c. They said she could hit the ball hard, and [hit the ball hard] she did.
 d. *[Breakfast served] is here all day.

As we know from 6-7 of the introduction, German, in contrast to English, does allow fronting of verbal constituents including the subject. Of course, the fronting possibilities in German and English are not expected to be entirely parallel because German is a VERB-SECOND (V2) language that essentially requires topicalization in main clauses, and English is not. Thus, fronting in general is expected to be more productive in German than in English. Following Frey (2006), we assume that fronting of verbal constituents is actual discourse-related (or information-structure-driven) movement, not just FORMAL MOVEMENT, the latter of which happens solely for the purposes of arriving at V2 order. We are dealing with A-bar movement to Spec CP then (or, if the CP-domain is split up into TopP, FocP, FinP, etc. à la Rizzi 1997, with A-bar movement to Spec TopP or FocP – the exact information structure of verb phrase fronting constructions will be discussed in sections 3 and 5). We typically get a DP, PP, or AdvP in initial position (Spec CP) followed by the finite verb in second position (C), or, in the case of ‘VP’-fronting, which is just another instance of the V2 pattern, we get a nonfinite verb phrase (VP or *v*P) in initial position

and a finite auxiliary in second. The following describes what exactly the contents of a fronted German verb phrase can be.⁷

Intransitive verbs, with or without modifiers (see 9), transitive verbs with their internal argument, and even ditransitive verbs with both of their internal arguments (see 10) are readily acceptable as fronted constituents (VPs). When the fronted constituent includes the subject of the sentence, the verb is typically unaccusative or a passivized transitive (see 11 and 12). These facts are well-known, and some of the examples we give here are oft-cited in the literature. For the first three examples, we give both the fronted and the unfronted version of each sentence. After that, we only give the fronted versions.

(9) intransitive V:

- a. [Lernen] wollte er gestern nicht. / Er wollte gestern nicht lernen.
 study wanted he yesterday not / he wanted yesterday not study
 ‘He didn’t want to study yesterday.’
- b. [Im Bett gelegen] hat er. / Er hat im Bett gelegen.
 in.the bed lain has he / he has in.the bed lain
 ‘He was lying in bed.’

(10) (indirect object +) direct object + V:

- a. [Ein Buch gelesen] habe ich. / Ich habe ein Buch gelesen.
 a.ACC book read have I.NOM / I have a book read
 ‘I read a book.’
- b. [Einem Studenten einen Wagen geschenkt] hat ein Millionär hier gestern.
 a.DAT student a.ACC car given has a.NOM millionaire here yesterday
 ‘A millionaire gave a student a car here yesterday.’

⁷ We limit ourselves to verb phrases showing up in initial position in their entirety (i.e. not containing a trace). For discussions of partial (remnant) verb phrase fronting in German and Dutch, see e.g. Webelhuth & den Besten 1987, Müller 1998, and (more recently) Ott 2010).

(11) subject + passive V:

- a. [Viele Jobs angeboten] wurden einem damals.
 many.NOM jobs offered were one.DAT then
 ‘Many jobs were offered to us back then.’
- b. [Das Auto zu Schrott gefahren] wurde der Mama.
 the.NOM car to scrap driven was.PASS the.DAT mom
 ‘What happened to Mom was that her car was totaled.’

(12) subject + unaccusative V:

- a. [Ein Fehler unterlaufen] ist ihrem Mann damals.
 a.NOM mistake occurred has her.DAT husband then
 ‘What happened to her husband back then was that he made a mistake.’
- b. [Ein verrückter Gedanke durch den Kopf geschossen] ist dem Opa.
 a.NOM crazy thought through the.ACC head shot has the.DAT grandpa
 ‘What happened to grandpa is that a crazy thought came to him.’

So far, we have seen that, when the fronted verbal constituent includes the subject, as in 11 and 12, this subject is derived, i.e. the underlying direct object, playing the role of undergoer. Moving on to unergative and transitive verb phrases, however, we see that verbal constituents with true subjects, i.e. nonderived, underlying subjects, playing the agent role, are not readily frontable, at least not if we continue to use the kind of post-fronting context given in 9-12 (as opposed to the special context and intonation given in 6b and 7b of the introduction). This is illustrated by the badly degraded examples in 13 and 14. To the best of our knowledge, examples of this type have not been given any attention in the literature at all.

(13) subject + unergative V:

- a. ?*[Linguisten gespeist] haben dort gestern.
 linguists.NOM dined have there yesterday
 Intended: ‘Linguists dined there yesterday.’

- b. *[Affen gesessen] haben auf der Wippe.
 monkeys.NOM sat have on the seesaw
 Intended: ‘Monkeys sat on the seesaw.’

(14) subject (+ indirect object) + direct object + transitive V:

- a. *[Ein Idiot Mamas Auto zu Schrott gefahren] hat damals leider.
 an.NOM Idiot mom’s car.ACC to scrap driven has then unfortunately
 Intended: ‘What happened back then unfortunately was that an idiot totaled mom’s car.’
- b. *[Ein Millionär einem Studenten einen Wagen geschenkt] hat hier gestern.
 a.NOM millionaire a.DAT student a.ACC car given has here yesterday
 Intended: ‘What happened here yesterday was that a millionaire gave a student a car.’

Notice that 10b and 14b are identical except for the fact that the latter includes the subject in the fronted constituent. Given this comparison, it seems that normally only lexical VPs, i.e. verbal constituents that maximally include the main V with its internal arguments, may be fronted, and that verbal constituents that include an agentive *vP*-layer and therefore the verb’s external argument (Hale & Keyser 1993, Chomsky 1995, Kratzer 1996), may not be fronted.

However, because of grammatical instances of fronted *vPs* like our 6b and 7b, it is commonly claimed that *vPs* do in fact front in German. The following examples from Haider 1990, De Kuthy & Meurers 2003, and Wurmbrand 2001 (grouped into sets by author), the first of which is the same as our 6b, are all acceptable and therefore confirm that, in the right post-fronting context, agentive *vPs* can front. Given that TP cannot front due to the trace of the auxiliary that moves from T to C (Haider 1990, Wurmbrand 2001, 2004),⁸ the ‘VP’ in German ‘VP’-fronting can maximally consist of an agentive *vP* and is minimally a lexical VP.^{9,10}

⁸ Head traces must be different from XP-traces in the context of VP-fronting in that reconstruction cannot save them. If TP moves to Spec CP after the Aux in T has moved to C, the trace of the Aux in the fronted TP would be too high up in the structure to be c-commanded by its antecedent, and this would lead to an “improperly governed” head trace.

⁹ Wurmbrand (2001, 2004), following Diesing (1996), argues that definite objects move out of the lexical VP into the agentive *vP*-layer, so that only a verb and its indefinite internal argument(s) are frontable as a lexical VP; other object+V combinations are remnant-fronted as agentive *vPs* with a subject trace in Spec *vP*. Since it is not clear (at least not for German) whether this movement of definite DPs out of the lexical VP takes place overtly or covertly and what the landing sites are, we take all fronted verbal constituents that do not contain the verb’s external argument to be plain VPs, or at least non-agentive *vPs*. According to Abels (2003), there is a prohibition against

- (15) a. [Ein Außenseiter gewonnen] hat hier noch nie.
 an.NOM outsider won has here yet never
 ‘An outsider has never won here before.’
- b. [Linguisten gespeist] haben dort noch nie.
 linguists.NOM dined have there yet never
 ‘Linguists have never dined there before.’
 (Haider 1990: 94, 97)
- (16) a. [Das Telefon geklingelt] hat hier schon lange nicht mehr.
 the.NOM phone rung has here yet long not anymore
 ‘The telephone hasn’t been ringing here in a long time.’
- b. [Ein Hund gebellt] hat hier noch nie.
 a.NOM dog barked has here yet never
 ‘A dog has never barked here before.’
 (De Kuthy & Meurers 2003: 2, 4)
- (17) ?[Ein Millionär einem Studenten einen Wagen geschenkt] hat hier noch nie.
 a.NOM millionaire a.DAT student a.ACC car given has here yet never
 ‘It has never happened here that a millionaire gave a student a car.’
 (Wurmbrand 2001: 641)

Wurmbrand’s ditransitive *Millionär*-example 17, which is worse than 15-16 but still marginally acceptable, differs from our example 14b, which is unacceptable, only in the post-fronting context (‘has here yesterday’ vs. ‘has here never before’, the part of the sentence

moving the complement of a phase-head. If only agentive *vP*, the phase-defining layer of the verbal domain, could front, however, we would not have a straightforward account of fronted constituents consisting of object+V or pass./unacc.subject+V. If the DP in this kind of constituent is indefinite, we are dealing with plain VP-fronting, even in Wurmbrand’s account.

¹⁰ Since the subject in German does not necessarily vacate Spec *vP* to move to Spec TP, as it does in English (Wurmbrand 2006), we cannot assume that it is always *vP* that fronts, even if only the verb or object+verb shows up in initial position. We take the external argument to stay in Spec *vP* unless it is itself the topic or focus and therefore moves to Spec CP to be in initial position. (An argument against all verb phrase fronting actually being *vP*-fronting can also be found in Ott 2010).

following the square brackets enclosing the fronted material). Notice that all the examples here have very similar, if not identical, post-fronting contexts (basically ‘AUX here never before’) that are strikingly different from the post-fronting contexts in our examples 9-14. It is striking that the examples of grammatical *v*P-fronting across the literature have this unacknowledged similarity. The fact that the discussion of *v*P-frontability has relied on this type of example (15-17) has masked the significant restrictions on the construction.

Bringing together our observation that fronted verb phrases can normally not be bigger than a bare VP (see example sets 9-14) and the fact that fronted verb phrases can be as big as *v*P under certain circumstances (see examples 6b and 7b of the introduction and 15-17), the following section explains the importance of the post-fronting context in terms of both information structure and intonation.

3. DIFFERENT POST-FRONTING CONTEXTS, INFORMATION STRUCTURE, AND INTONATION CONTOURS.

3.1 THE ORDINARY POST-FRONTING CONTEXT. The post-fronting context familiar from our examples 9-14, which we will call the ordinary one, consists of an auxiliary (the finite verb), a referential DP, a time adverbial, and/or a place adverbial. It is used when the fronted material is the FOCUS (i.e. new information), while the rest of the utterance contains material that has been talked about (i.e. old information). Example 6a, repeated here as 18a, for instance, would fit into a conversation in which a particular traveling circus has been mentioned and the speaker wants to draw attention to the news of a tiger having escaped from this circus. The ordinary post-fronting context can also coincide with CONTRASTIVE FOCUS on the fronted material. In this case, the VP is fronted with the goal of correcting the content of another VP, either previously uttered or considered as a possibility by the interlocutors (see 18b).

- (18) a. [Ein Tiger entwichen] ist dem Wanderzirkus neulich.
 a.NOM tiger escaped has the.DAT traveling-circus the other day
 ‘A tiger escaped from the traveling circus the other day.’

b. [Ein Tiger entwichen] ist dem Wanderzirkus,

a.NOM tiger escaped has the.DAT traveling-circus

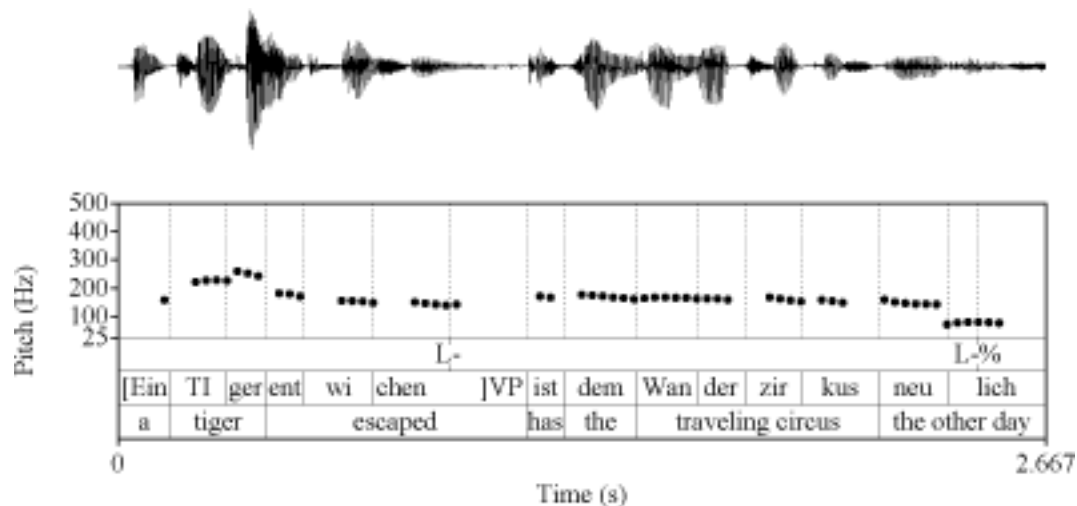
nicht [ein Löwe gestorben].

not a.NOM lion died

‘What happened to the traveling circus was that a tiger escaped, not that a lion died.’

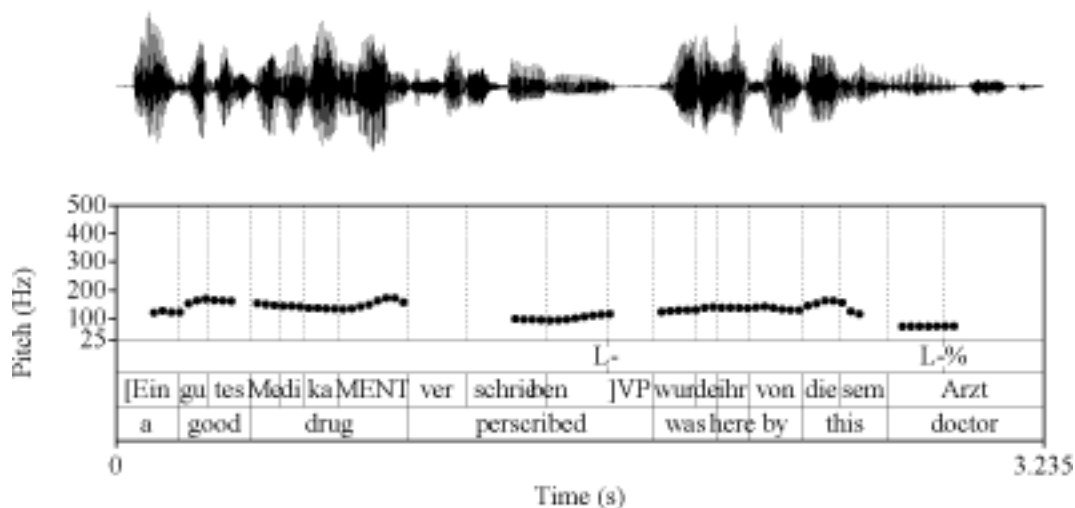
The information structure in 18a-b goes with the intonation contour shown in examples 6a and 7a of the introduction, which are repeated here under their original example numbers but with their actual pitch tracks, notated with the relevant boundary tones.¹¹ We leave aside the question of what the best representation of the pitch accents is and draw the reader’s attention to the boundary tone at the right edge of the fronted verb phrases.

(6) a.



¹¹ The recordings of all of our examples come from native speakers of German in the Department of Germanic & Slavic Studies at the University of Georgia. We especially thank Martin Kagel and Inge Dibella.

(7) a.



While there's a high pitch peak associated with the stressed syllable of the DP (in caps), the right edge of the fronted VP is associated with a low boundary tone. This is in contrast to what we will see in the actual pitch tracks of examples 6b and 7b below, where the fronted verb phrase is associated with a high boundary tone.

3.2 THE *HIER NOCH NIE* POST-FRONTING CONTEXT. There is only one element that the virtually invariable post-fronting context in 15-17, which we will call the *hier noch nie* ('here never before')-context, and the ordinary post-fronting context consistently have in common. This element is the auxiliary, which, due to the main clause V2-requirement that the finite verb be in second position, must move to C and thus immediately follow the fronted constituent. Otherwise, the *hier noch nie*-context is different. The key ingredient of this context seems to be a quantificational adverb, often accompanied by a deictic place adverbial. Crucially, it turns the situation expressed by the fronted material into a situation that is quantified over rather than one that is asserted to have happened, and this goes hand in hand with the fronted constituent functioning as a CONTRASTIVE TOPIC (see e.g. Féry 2007). Now, what is a quantified-over situation, and what is a contrastive topic? Take Haider's (1990) classic example [*Ein Außenseiter gewonnen*] *hat hier noch nie* 'An outsider has never won here before' (our 6b and 15a). In an attempt to capture the fronting of the agentive *vP* in the English translation, we might try a cleft construction: 'It has never happened here before that an outsider won.' Or, in order to convey that the situation expressed by the fronted material has already been introduced into the

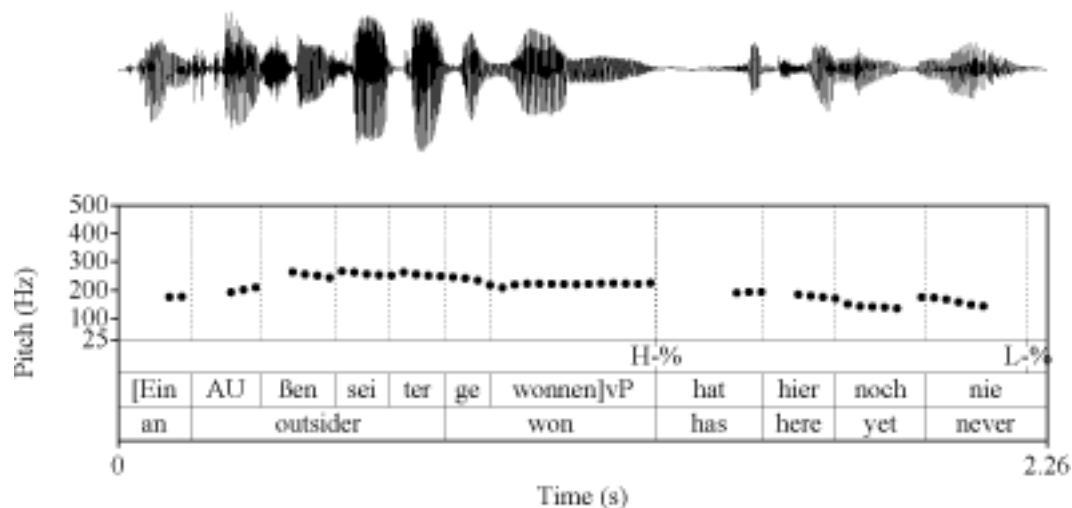
conversation and is now being commented on, we might say ‘As for outsiders winning, that has never happened here before.’ Notice that we are not asserting anything about a certain outsider winning or not. We are simply quantifying, that is, saying something about how frequently a certain type of situation occurs, here the situation of an outsider winning. It is a generic situation because it does not involve a specific participant, i.e. there is no referential DP that picks out a specific individual.¹² Also, by quantifying over the situation rather than asserting that it happened, we are automatically contrasting its frequency or likelihood with similar types of situations (for more detail on contrastive topics, see section 5). Four of the examples in 15-17 have *noch nie* ‘never before’ as their quantificational adverb, one has *schon lange nicht mehr* ‘not for a long time’, but an adverbial expressing a positive frequency, such as *schon oft* ‘already often’ would work just as well (see experimental studies in section 4).

- (19) [Katzen Mäuse gejagt] haben hier schon oft.
 cats mice chased have here already often
 ‘It has often happened here that cats chased mice.’

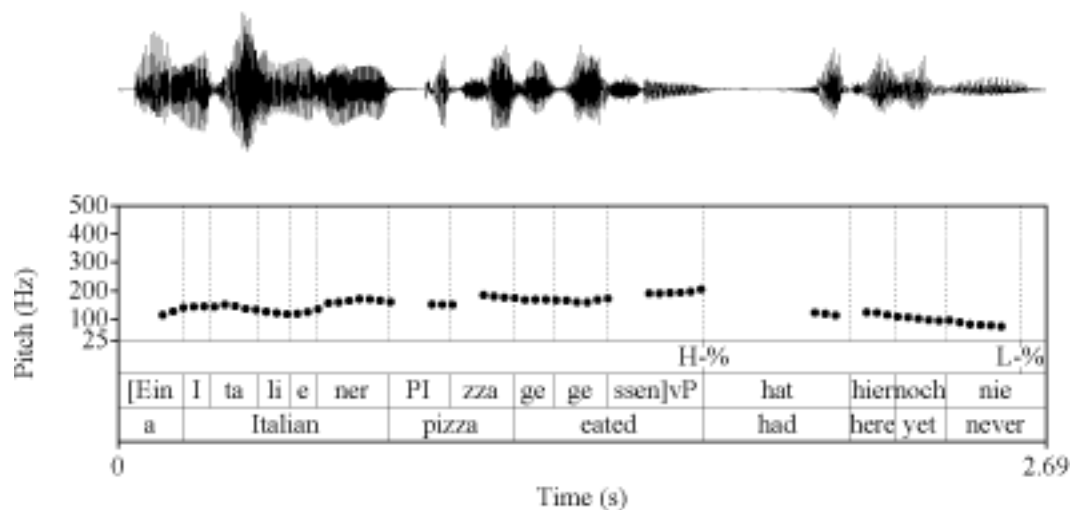
The information structure triggered by the *hier noch nie*-context goes with the intonation contour shown in examples 6b and 7b of the introduction, which are, again, repeated here under their original example numbers but now with pitch tracks notated with boundary tones.

¹² Notice that we make a distinction here between specific and nonspecific DPs. The former, whether morphologically definite or not, pick out a particular entity. The latter do not. Generic DPs fit into the latter category. DPs can also be divided into existential and non-existential, however. These two categorizations (ways of dividing up nominals) do not line up. Crucially, some nonspecific DPs fall into the existential category, but our generic nonspecific DPs fall into the non-existential category (see the discussion of STRONG subjects in section 3.4). Using the latter of the two categorizations, Diesing (1996) groups together generic and specific DPs because they are both non-existential, i.e. they do not assert the existence of an entity. Using the former of the two categorizations, however, we group together generic and non-specific DPs because they both fail to refer to a particular entity. This is significant in that generic DPs, according to Diesing, can never be included in a fronted lexical VP as all non-existential DPs must move out of the VP. In line with Zwart 2007 (and as addressed in footnotes 9 and 10), we do not adopt Diesing’s system because it is far from clear that certain portions of semantic representation can be mapped to fixed phrase structure labels.

(6) b.



(7) b.



Rather than falling after the high pitch peak associated with the DP bearing main stress, the pitch remains high up to the right edge of the fronted portion and then gradually falls, hence Büring's (1997) term BRIDGE CONTOUR.¹³ We will get back to both this special intonation contour and the information structure it signals, namely the presence of a contrastive topic, in section 5.

¹³ This intonation contour is also known as BRÜCKENAKZENT ('bridge accent') (Wunderlich 1991), HUTKONTUR ('hat contour') (Uhmann 1991, Féry 1993), WURZELKONTUR ('root contour') (Jacobs 1996), and RISE-FALL CONTOUR (Krifka 1998).

3.3 THE FRONTED VERB PHRASE AS A SINGLE INFORMATION-STRUCTURAL UNIT. Although agentive vPs have been taken to be able to front in the more recent literature that touches on verb phrase fronting in German, it has long been established that subject-containing constituents with derived subjects, i.e. lexical VPs, are more natural candidates for fronting. Grewendorf (1989) used VP-fronting as an unaccusative diagnostic for this reason, and De Kuthy & Meurers (2003), building on Webelhuth 1990, have found that only a nominal that can project focus on the whole clause, i.e. be the FOCUS EXPONENT¹⁴ of the sentence when no fronting is involved, may be part of the verb phrase in fronted position. As illustrated by the data in 20, the direct object of a transitive verb (a-b) and the subject of a passive (e-f) or unaccusative (g-h) verb, but not the subject of a transitive verb (c-d) can be the focus exponent.¹⁵ The first example of each set shows whether the nominal in question can function as focus exponent (in caps), i.e. bear main stress in an appropriate answer to the question *Was ist passiert?* ('What happened?'), and the second example shows this nominal as part of a fronted verbal constituent.

- (20) a. Der Präsident hat gestern den HUND gestreichelt.
 the.NOM president has yesterday the.ACC dog petted
 ‘The president petted the DOG yesterday.’
- b. [Den Hund gestreichelt] hat der Präsident gestern.
 the.ACC dog petted has the.NOM president yesterday
- c. # Der PRÄSIDENT hat gestern den Hund gestreichelt.
 the.NOM president has yesterday the.ACC dog petted
 ‘The PRESIDENT petted the dog yesterday.’

¹⁴ Following De Kuthy & Meurers (2003), we use the term ‘focus exponent’ to refer to the constituent that bears main stress when we are dealing with an out-of-the-blue utterance or a response to the question “What happened?”. An utterance like this is also known as an ALL-FOCUS (or BROAD-FOCUS) sentence.

¹⁵ A transitive subject can be the focus exponent in contexts where at least parts of the VP are Given (Büring 2006), as in the following question-answer pair (Büring’s example 19).

- Q: Wo hast du denn den schönen Pulli her?
 where have you then the nice sweater from
- A: Den hat mir [GERDA geschenkt]_{FOC}
 it has me G. given
 ‘How did you get that nice sweater? – Gerda gave it to me.’

Since 20c is an answer to the question *What happened?*, the VP in this context is not Given (not even in part), so that we do not expect the subject to be able to project focus here.

- d. *[Der Präsident den Hund gestreichelt] hat gestern.
 the.NOM president the.ACC dog petted has yesterday
- e. Ein gutes MEDIKAMENT wurde ihr von diesem Arzt verschrieben.
 a.NOM good drug was her.DAT by this doctor prescribed
 ‘A good DRUG was prescribed to her by that doctor.’
- f. [Ein gutes Medikament verschrieben] wurde ihr von diesem Arzt.
 a.NOM good drug prescribed was her.DAT by this doctor
- g. Ein FEHLER ist ihrem Mann damals unterlaufen.
 a.NOM mistake has her.DAT husband then happened
 ‘Her husband made a MISTAKE.’
- h. [Ein Fehler unterlaufen] ist ihrem Mann damals.
 a.NOM mistake happened has her.DAT husband then

To reiterate, De Kuthy & Meurers’ claim is that, since the subject of a transitive verb cannot be the focus exponent of its clause, it also cannot be included in a fronted verbal constituent. They explain this finding by referencing Webelhuth (1990), who notes that a fronted verbal constituent needs to be focused, and that focusing just a part of it is not sufficient. In other words, they claim that the fronted verbal constituent needs to be focused as a unit. Thus, they predict that a nominal that cannot project focus onto its clause as a whole also cannot project focus onto a fronted constituent as a whole.

Including data with unergative subjects like the *Außenseiter* (‘outsider’) example, De Kuthy & Meurers show that the fronted constituent is correctly focused in the answer to the question in 21 (De Kuthy & Meurers’ example 12, p. 92). They do not comment on the effect of the *hier noch nie*-context, however.

(21) Was ist hier noch nie passiert? (‘What has never happened here?’)

- [Ein AUSSENSEITER gewonnen]_{FOCUS} hat hier noch nie.
 an outsider won has here yet never

Notice that this focus is the type associated with the answer to an echo-question. The person who is asking the question knows that something has never happened before at the place of utterance but did not catch what it was or does not want to believe it. The response therefore fills the gap in what the listener understood by emphatically repeating in fronted position the situation that has never happened before.

Bringing the discussion back to the main point of this section, regarding the two different post-fronting contexts, the intonation patterns associated with them, and their information-structure effects, the intonation pattern that goes with the fronting in 21 is not our special bridge contour, and this is so despite the *hier noch nie*-context. Rather, the intonation comes closer to the contour we have argued to be triggered by the ordinary post-fronting context. As we noted in our discussion of examples 18a-b, the ordinary post-fronting context can be used for either regular focus or contrastive focus. The *hier noch nie*-context, which we have associated with the fronted material as contrastive topic (rather than focus), on the other hand, is incompatible with regular focus. It can only coincide with focusing the fronted material in the context of answering an echo-question, a context that we treat as an exception and will thus leave out of the discussion.

In their Summary and Outlook section, De Kuthy & Meurers (2003) briefly draw attention to fronted vPs like *ein Außenseiter gewonnen* ('an outsider won') being analyzable as topics with bridge-contour intonation and point out that that Weibelhuth's (1990) analysis of fronted verbal constituents as necessarily focused is too restrictive. They tentatively suggest that it might be better to require the fronted constituent to be "a uniform information unit" (p. 99). This is precisely where we pick up the investigation. We take De Kuthy & Meurers' finding that the subject of a transitive verb cannot be included in a fronted verbal constituent because of its inability to function as focus exponent to mean the following: Given the ordinary post-fronting context, inclusion of an agentive subject, i.e. the verb's external argument, in the fronted constituent forces this constituent to be interpreted as two units with separate information-structural impact, namely as subject and predicate. Thus, the ordinary post-fronting context makes it impossible for the external-argument-containing fronted constituent to form a single information-structural unit. And, given Weibelhuth's and De Kuthy & Meurers' findings, forming a single information-structural unit must be a well-formedness requirement for the fronted portion of fronting constructions. The connection between De Kuthy & Meurers' finding and our extension of it is that not being able to project focus in a non-fronting all-focus sentence means

having special information-structural status. This holds for any agentive subject in a sentence without fronting and in a fronted verbal constituent followed by the ordinary post-fronting context. Just as stressing such a nominal will give it focus that is not projected to the rest of the sentence, displacing it as part of a fronted verbal constituent will give it special status, and this is incompatible with the need for fronted constituents to form an information-structural unit.

We conclude that it is the function of the *hier noch nie*-context, present in all of the grammatical examples of fronted vPs but absent in all of the ungrammatical ones, to condense the fronted material into a single information-structural unit. Quantifying over the situation expressed by the fronted material rather than asserting that it happened takes away the information-structural impact that an agentive subject normally has in fronted position and thereby makes it acceptable as part of the fronted constituent. Let us test this by following De Kuthy & Meurers' logic (as illustrated in examples 20a-h). Does the *hier noch nie*-context allow for the agentive subject *der Präsident* in 20c to be the focus exponent, i.e. project neutral focus, when bearing stress in the sentence without fronting?

- (22) a. Der PRÄSIDENT hat hier noch nie den Hund gestreichelt.
 the.NOM president has here yet never the.ACC dog petted
 'The PRESIDENT has never petted the dog here.'
- b. [Der Präsident den Hund gestreichelt] hat hier noch nie.
 the.NOM president the.ACC dog petted has here never before

It is certainly possible in the context of 22a to stress the subject. The direct object does not have to be stressed, unlike in the ordinary context in 20a. But the only way to stress *Präsident* (without giving it a correction-type contrastive focus) is to also stress another element in the latter part of the sentence, for example, the quantificational adverb *nie*. In fact, just like in our fronting examples with the *hier noch nie*-context, we get a bridge-contour intonation in 22a, with the rise on the first syllable of *Präsident* and the lowest point of the fall on the other element of the sentence bearing stress. So, whether in a vP-fronting construction or not, the *hier noch nie*-context allows for the subject to be stressed. However, since 22a could not be uttered in response to the question *Was ist passiert?* 'What happened?', this is not neutral stress. Thus, even if it is the only DP bearing stress, *Präsident* is not the focus exponent projecting neutral focus onto its

clause in this context. Yet, as shown in 22b, it can be included in the verbal constituent in fronted position. What this test showed us then is that De Kuthy & Meurers' generalization, namely that only a DP that is the focus exponent of its clause can be fronted as part of a verbal constituent of this same clause, does not hold for sentences with the *hier noch nie*-context.¹⁶ This is exactly what we expect given that examples of *vP*-fronting in the *hier noch nie*-context are acceptable despite the inclusion of the external argument.

Taking a closer look at 22b, the version of the sentence with *vP*-fronting, *der Präsident* could be any of the country's former presidents or the current president, i.e. does not pick out a specific person and therefore allows for a generic reading despite the definite article.¹⁷ Similarly, *den Hund* 'the dog', despite its definite D, is interpreted as nonspecific, namely as the dog at the place referred to by *hier* 'here', which must be a place (e.g. the White House) with which people associate the presence of a dog. This means that the situation described by the fronted *vP* can be interpreted as generic and thus be quantified over rather than asserted as having happened.

3.4 THE THETIC VERSUS CATEGORICAL DISTINCTION. The finding that the fronted constituent must form a single information-structural unit can be captured nicely by the THETIC/CATEGORICAL distinction, along the lines of Brentano 1874, 1924, Kuroda 1972, and Ladusaw 1994. Given the definitions in 23, an assertion about the frequency of the occurrence of a generic situation is associated with athetic judgment. Thus, in order for a fronted *vP* to be acceptable, it must trigger athetic rather than a categorical judgment in the speaker/hearer. The two different judgment types are defined as follows.

¹⁶ Since a sentence with the *hier noch nie*-context could never be uttered out of the blue (i.e. is not an all-focus sentence), it is unsurprising that it cannot be uttered in response to *Was ist passiert?* ('What happened?'). Interestingly, when De Kuthy & Meurers (2003) test the ability of verbal arguments to be part of fronted verbal constituents, they always use a *hier noch nie*-type of adverbial expression as the post-fronting context, although the corresponding non-fronting version of the sentence does not include such an expression. When they test Webelhuth's (1990: 53) claim that "a topicalized constituent containing a verb has to be focused", they change their neutral context-providing question from *Was ist denn hier für eine Aufregung?* ('What's all the excitement about?') to *Was ist hier noch nie passiert?* ('What has never happened here?') and thereby integrate the *hier noch nie*-context into the question.

¹⁷ De Kuthy & Meurers (2003) call nominals like *the president* SEMANTIC DEFINITES, that is, cases where the definite article is combined with a noun representing a concept that necessarily applies to only one object (in the case of *the president*, to only one person at a given time). Other such nominals are *the weather*, *the moon*, and *the heart*. As pointed out by one of our anonymous reviewers, in English, it is hard to interpret *the president* in the translation of 22 as any president other than the current one. In German, it seems easier to get the generic (here, more in the sense of habitual) reading.

- (23) a. Categorical: subject and predicate require two separate interpretation acts (in Brentano's terms, a *DOPPELURTEIL* 'double judgment'):
- (i) the act of recognizing the subject
 - (ii) the act of confirming/denying what is expressed by the predicate about the subject
- b. Thetic: the single act of confirming/denying the existence of an eventuality of a certain type (in Brentano's terms, an *EINFACHES URTEIL* 'simple judgment')

A thetic judgment is incompatible with a *STRONG* subject (Milsark 1974), that is, with a DP picking out a particular entity, which is unable to occur in existential sentences but able to occur as topic;¹⁸ in Ladusaw's (1994: 3) terms, a subject denoting an entity whose existence is "presupposed ... in the sense that a precondition for making the judgment is that the mind of the judge must be directed first to an individual, before the predicate can be connected to it". Furthermore, thetic judgments draw their basis from material originating in the VP (Ladusaw 1994, based on Diesing 1992). Thus, proposing that a sentence with a fronted subject-containing verbal constituent must trigger a thetic judgment, we predict, in accordance with De Kuthy & Meurers (2003), that VP-internal DPs (passive/unaccusative subjects) can be part of the fronted constituent, while VP-external DPs (transitive/unergative subjects) generally cannot.¹⁹ An agentive subject in Spec *vP* can be part of the fronted constituent, however, if the content of this *vP* is quantified over rather than asserted. This is because the quantificational *hier noch nie*-context allows for a thetic judgment by turning potentially specific DPs into nonspecific/generic ones, as illustrated in 24. Just like a name, an indefinite DP will be interpreted as specific in the ordinary post-fronting context (see 24a, where both *Bello* and *ein kleiner Hund* 'a little dog' lead to ungrammaticality), but unlike a name, it is interpreted as nonspecific/generic in the *hier noch nie*-context (see 24b).

¹⁸ It is not clear how generic nominals fit into this picture. They pattern as weak in that they do not pick out a particular entity, but they seem to pattern as strong in that they are bad in existential sentences but good as topics.

¹⁹ This is irrespective of whether the DPs are (non)specific and/or (non)existential (see footnote 12) but has to do with their internal vs. external argument status.

- (24) a. *[Bello/ Ein kleiner Hund herum-gelaufen] ist gestern im Park.
 Bello/ a.NOM little dog around-run has yesterday in.the park
 ‘Bello/A little dog ran around in the park yesterday.’
- b. [Ein kleiner Hund herum-gelaufen] ist hier noch nie.
 a.NOM little dog around-run has here yet never
 ‘A little dog has never run around here.’

24a triggers a categorical judgment, 24b a thetic one, and our explanation for the difference in grammaticality is that only a thetic judgment, which does not single out the subject as separate from the predicate, allows for an agentive *vP* to form a single information-structural unit.

4. EVIDENCE FROM TWO EXPERIMENTAL STUDIES. The idea behind the questionnaire-based studies to be described in this section was that fronting a transitive *vP*, including the verb and its two arguments, is even less likely to be acceptable than fronting an unergative *vP*, including only the verb and its one (external) argument. And, in order for a transitive *vP* construction to be acceptable at all, as already established, the content of the fronted material must be a quantified-over situation with generic participants, triggering a thetic interpretation. The specific hypothesis tested was that the more conventional the situation described by the fronted material, the more likely it is for speakers to get a thetic interpretation and therefore find the fronting construction acceptable. This is based on the assumption that something conventional is easy to process because we associate it with a situation already stored in our brains, and crucially, that this situation automatically comes with types of, not specific, participants. In short, we assume that nominals describing participants in a conventional situation are maximally generic and therefore most likely to fit into a single information-structural unit, triggering a thetic interpretation.

Two surveys were conducted in order to compare the acceptability of fronted *vPs*. The *vPs* consisted of both regular *vPs* with a nominative-marked subject and a verb in past participle form and ACCUSATIVUS CUM INFINITIVO (ACI) *vP*-complements to the perception verb *sehen* ‘see.’ In this latter case the subject is accusative-marked, like in an EXCEPTIONAL CASE MARKING (ECM)-construction, and the verb is in infinitive form. The stimuli *vPs* were constructed on a continuum of sentences with a nonspecific subject in a generic situation (i.e. ‘cats chase mice’, ‘students do their homework’) on the one extreme and non-generic sentences due to a specific subject (‘our

cats chase mice’, ‘Lisa and Moritz do their homework’) on the other extreme. In-between these two ends of the continuum were cases with a less generic situation (i.e. ‘big cats [tigers, lions, etc.] chase mice’, ‘parents do their homework’). What is accepted as generic and specific was checked by a prior survey in which 26 native speakers of German categorized specificity of a sentence’s subject and the conventionality of the sentence’s situation on a 5-point scale (see Appendix 1 for experiment set-up).

The survey was done in two parts. Thirty adult native speakers in Germany, recruited from family connections in Hannover, judged the acceptability of unfronted and fronted past participle vPs. Another 30 adult native German speakers, recruited from a German playgroup in Narberth, Pennsylvania judged the acceptability of unfronted and fronted ACI vPs. Examples of each type of sentence are given in 25 and 26. In each set, sentence (i) is generic with a nonspecific subject, (ii) is less generic, and (iii) is not generic due to the specific subject.

(25) Past participle vPs:

a. Unfronted:

- i. Katzen haben hier schon oft Mäuse gejagt.
cats have here already often mice chased
‘Cats have often chased mice here.’
- ii. Raub-katzen haben hier schon oft Mäuse gejagt.
prey-cats have here already often mice chased
‘Big cats have often chased mice here.’
- iii. Unsere Katzen haben hier schon oft Mäuse gejagt.
our cats have here already often mice chased
‘Our cats have often chased mice here.’

b. Fronted:

- i. [Katzen Mäuse gejagt] haben hier schon oft.
cats mice chased have here already often
‘It has often happened here that cats chased mice.’

- ii. [Raub-katzen Mäuse gejagt] haben hier schon oft.
prey-cats mice chased have here already often
'It has often happened here that big cats chased mice.'
- iii. [Unsere Katzen Mäuse gejagt] haben hier schon oft.
our cats mice chased have here already often
'It has often happened here that our cats chased mice.'

(26) ACI vPs

a. Unfronted:

- i. Man sieht hier oft Katzen Mäuse jagen.
one sees here often cats mice chase
'One often sees cats chasing mice here.'
- ii. Man sieht hier oft Raubkatzen Mäuse jagen.
one sees here often prey-cats mice chase
'One often sees big cats chasing mice here.'
- iii. Man sieht hier oft unsere Katzen Mäuse jagen.
one sees here often our cats mice chase
'One often sees our cats chasing mice here.'

b. Fronted:

- i. [Katzen Mäuse jagen] sieht man hier oft.
cats mice chase sees one here often
'Cats chasing mice is something you see here often.'
- ii. [Raubkatzen Mäuse jagen] sieht man hier oft.
prey-cats mice chase sees one here often
'Big cats chasing mice is something you see here often.'
- iii. [Unsere Katzen Mäuse jagen] sieht man hier oft.
our cats mice chase sees one here often
'Our cats chasing mice is something you see here often.'

The grammaticality judgments are shown in Figure 1, where the lower the score (i.e. the closer to a score of 1), the more acceptable the type of sentence.

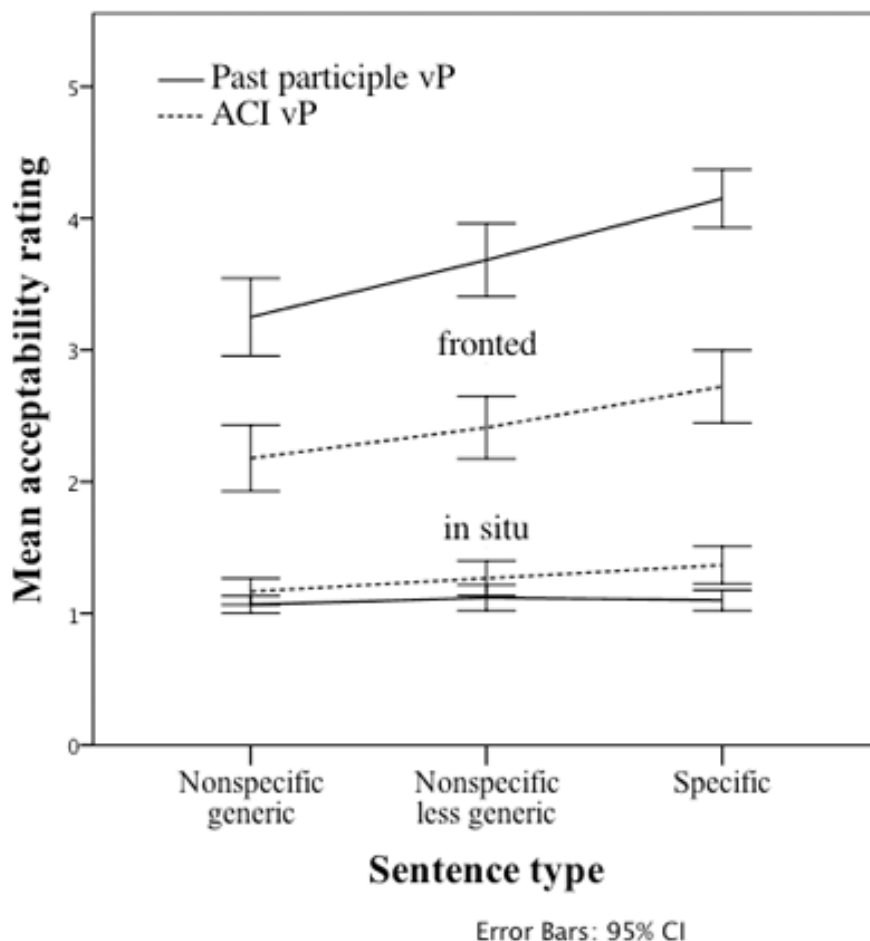


Figure 1: Mean acceptability ratings for past participle vPs and ACI vPs in situ vs. fronted, where '1' is the highest rating.

The linear mixed effects model (with a random effect of subject) is given in Appendix 3. Post-hoc simple effects tests showed that the unfronted sentences were all equally good; that is, ACI vPs were not significantly better or worse than past participle vPs ($p=0.227$), nor did the sentence type have a significant effect on the acceptability rating ($p=0.409$). While the sentences with fronted ACI vPs were judged to be better than those with fronted past participle vPs ($p<0.001$), the effect of sentence type was not different for past participle and ACI vPs (as the interaction of *vP type* and *sentence type* was not significant $p=0.729$). For both types of vP, speakers found the fronted constituent most acceptable if it was a generic situation with a nonspecific subject. Fronted vPs with a less generic situation were judged significantly worse

than those with unfronted *v*Ps for both types of *v*Ps ($p < 0.001$). In turn, *v*Ps with a non-generic situation, due to a specific subject, were judged significantly worse than the in-between cases with a less generic situation ($p < 0.001$).

The difference in acceptability between the two types of fronted *v*Ps indicates that the nominative-marked subject present in the past participle *v*P makes for a more marginal fronting construction. Fronted ACI *v*Ps, on the other hand, are presumably less marginal because they contain the accusative-marked subject of the infinitive, not the nominative-marked subject of the main verb. The latter is not displaced. This may make the fronted *v*P seem less complex, with the accusative-marked subject being treated more like an object. The fact that each step on the continuum toward a non-generic situation results in decreased acceptability corresponds with our expectation that fronted *v*Ps are more acceptable if they can be given athetic interpretation and thus processed as a single information-structural unit. The fact that fronted *v*Ps with specific subjects are much less acceptable is expected both because of the definiteness effect (as has been previously noted with fronted verb phrases in German) and, in our terms, because specific subjects are incompatible with thethetic interpretation that fronted *v*Ps require in order to be acceptable.

These results are in line with recent work in psycholinguistics. As argued by Grodner & Gibson (2005), memory constrains comprehension. The heavier the moved constituent, i.e. the more processing memory is required to interpret it, the harder it gets to properly integrate the constituent back into the site from which it was extracted. HEAVY here means containing NPs establishing discourse referents. Thus, a specific subject, like *ein kleiner Hund* ‘a little dog’ in the post-fronting context of 24a, which points to a specific place and time and therefore triggers a categorical interpretation, is heavy. On the other hand, a non-specific subject, like *ein kleiner Hund* ‘a little dog’ in the post-fronting context of 24b, which is our quantificational *hier noch nie*-context and therefore triggers athetic interpretation, is LIGHT. It is unsurprising, then, that the generic participants in quantified-over fronted *v*Ps are nominals that are light enough for our processing memory, especially, when they are embedded in a conventional situation.

5. I-TOPICALIZATION. We have now established the syntax of ‘VP’-fronting, namely that the fronted verbal constituent may be no bigger than a lexical VP in the ordinary post-fronting

context²⁰ but as big as an agentive *v*P in the *hier noch nie*-context (with bridge-contour intonation). Furthermore, appealing to Weibelhuth 1990 and De Kuthy & Meurers 2003, we have argued that verbal constituents are only acceptable in fronted position if they form a single information-structural unit. This, we have shown, is compatible with fronted agentive *v*P's needing athetic (as opposed to categorical) interpretation in the sense of Brentano 1874, 1924, Kuroda 1972, and Ladusaw 1994. So far, however, we have only hinted at the information-structural content of the fronted constituent. As indicated by the difference in intonation contour between fronted lexical VPs and fronted agentive *v*P's that we have observed, the two types of verbal constituents typically come with different information structure. While a lexical VP fronted in the ordinary post-fronting context can be a contrastive topic, it is more likely to express contrastive focus.²¹ An agentive *v*P in the *hier noch nie*-context, on the other hand, is necessarily a contrastive topic.²²

5.1 CONTRASTIVE TOPICS. To elaborate on the difference between these two types of contrast, contrastive focus is easiest to explain as a correction-type contrast, as illustrated in 18b, repeated here as 27.

(27) [Ein Tiger entwichen] ist dem Wanderzirkus,
 a.NOM tiger escaped has the.DAT traveling-circus
 nicht [ein Löwe gestorben].
 not a.NOM lion died

‘What happened to the traveling circus was that a tiger escaped, not that a lion died.’

Here the fronted material is the new information and therefore the focus. A contrastive topic, on the other hand, is old information in that it has already been talked about in one way or another, and it is paired with a focus in the post-fronting context. An oft-cited English example of contrastive topicalization (see e.g. Büring 2003), is 4b of the introduction, repeated here as 28.

²⁰ But see footnotes 6 and 7. By lexical VP, we mean a verbal constituent that does not contain an agentive *v*P-layer. In frameworks where the head of VP is merely the verbal root which needs to move to a verbalizing *v*-head before it is even a word, this verbalizer-*v*P is included in what we call lexical VP here.

²¹ For a general overview of different types of topic and focus, see Erteschik-Shir 2007.

²² The one exception to this is a fronted agentive *v*P expressing focus in the answer to an echo-question, as discussed in connection with example 21 in section 3.3.

(28) [Beans], I like.

We are left to wonder what it is that the speaker does not like. An appropriate context for this utterance might be one where the topic of conversation has been legumes, and the speaker has expressed that she is not a big fan of this type of food. When the host of the party suddenly comes to the table in order to serve some beans, the speaker can utter 28 to make clear that she was referring to other kinds of legumes when she said that he did not like them. She is moving the conversation away from legumes in general, narrowing it down beans.

In Haider's (1990) classic *Außenseiter* ('outsider')-example, repeated here as 29, it is not the situation described by the fronted material that is the focus but, rather, how frequently it happens. The rise-fall bridge-contour intonation that goes with contrastive topics is indicated by all capital letters marking the syllables bearing the intonational pitch accents, a forward slash marks the beginning of the topic phrase, and a backward slash marks the end of the focus phrase.

(29) [/Ein AUßenseiter gewonnen] hat hier noch NIE\
 an.NOMoutsider won has here yet never
 'An outsider has never won here before.'

A context that this example might naturally occur in is one where the question being discussed (the D(iscourse)-topic) is how often spectacular outcomes happen at the place of utterance, in this case, perhaps a horse racing venue. Since outsiders winning is one of the situations that make for a spectacular outcome, 29 is an acceptable answer to the question. Like 28, this is an example of what Büring (1997) calls a PARTIAL TOPIC, "partial" because the D-Topic is not exhaustively answered but narrowed down. What all contrastive topics (including Büring's partial topics) have in common is that they are chosen out of a set of inferable alternatives. In the scenario just described, alternatives to outsiders winning are, for example, favorites losing, or favorites winning by a nose. And, more obviously than in the case of plain S(entence)-topics, contrastive topics are not complete without the focus they lead up to. This lack of completion is

signaled by the stretched-out high plateau part of the bridge-contour intonation, which is an instance of what Grice et al. (2005) term the “incompleteness” contour of German.²³

5.2 THE PROSODY OF *v*P-TOPICS. Thanks to their distinct intonation contour, contrastive topics are also known as I(NTONATION)-TOPICS (see e.g. Jacobs 1997, Molnár & Rosengren 1997, Krifka 1998, Steube 2001, and Mehlhorn 2001). The two characteristic successive pitch accents are a rise on the I-topic in the pre-field (CP-domain) and a fall on the focus in the middle field of the sentence, and they are linked by a high plateau. While many phrasal categories with a number of different grammatical functions can be fronted as I-topics, agentive *v*Ps have to be. The following is an example of a subject DP as I-topic. In the context of a conversation about what everyone’s kids got for Christmas, the bridge-contour intonation with its pitch accents on the I-topic and the focus lets people know (even without the continuation given in parentheses) that the speaker’s other child(ren) got different kinds of Legos.

(30) /Niko hat Harry Pötter Legos\ gekriegt (und /DOminik CARS Legos\).

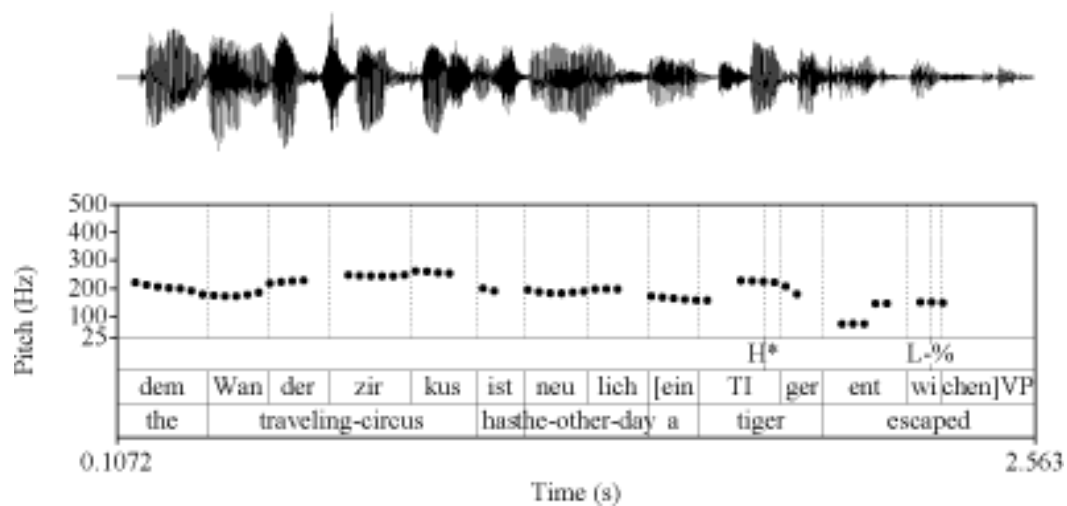
Niko has Harry Potter Legos gotten (and Dominik Cars Legos)

‘Niko got Harry Potter Legos (and Dominik, Cars Legos).’

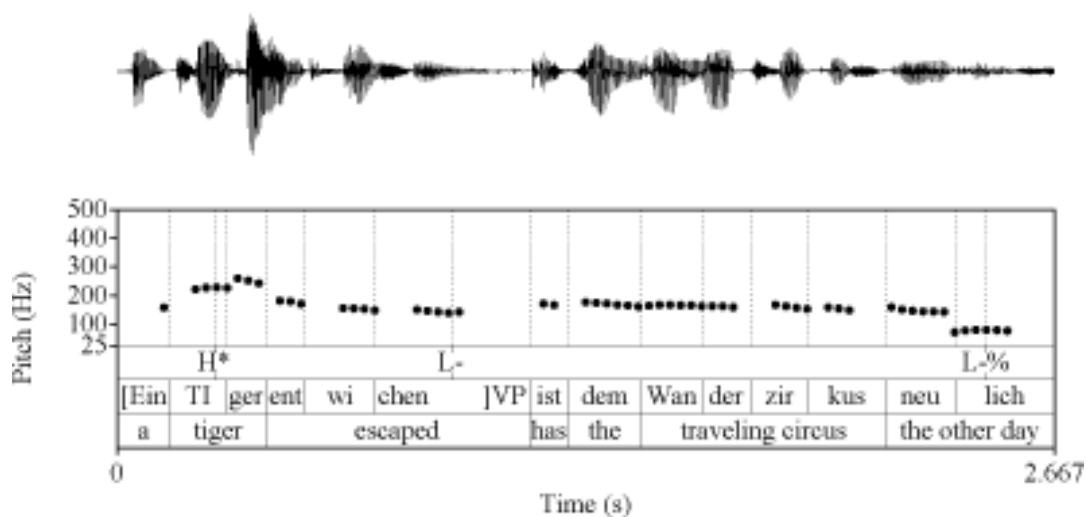
Fronted DPs, PPs, lexical VPs, etc. can occur as I-topics or take on different information-structural content. When they are fronted but not I-topics, no special intonation is involved. DPs receive a pitch accent (H*) normally, and we see this in the DP *Tiger* in both the unfronted and fronted VPs below which show both the boundary tones and the high tone on the relevant nominal.

²³ See Mehlhorn 2001 for a careful examination of the prosody of the German bridge contour (‘Hutkontour’ in her terms).

(31) a.

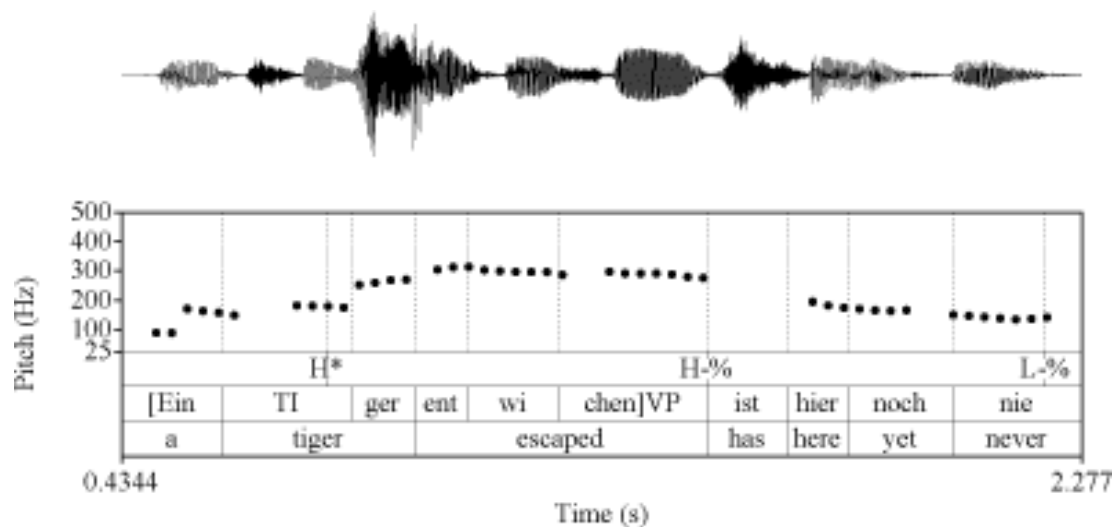


b.

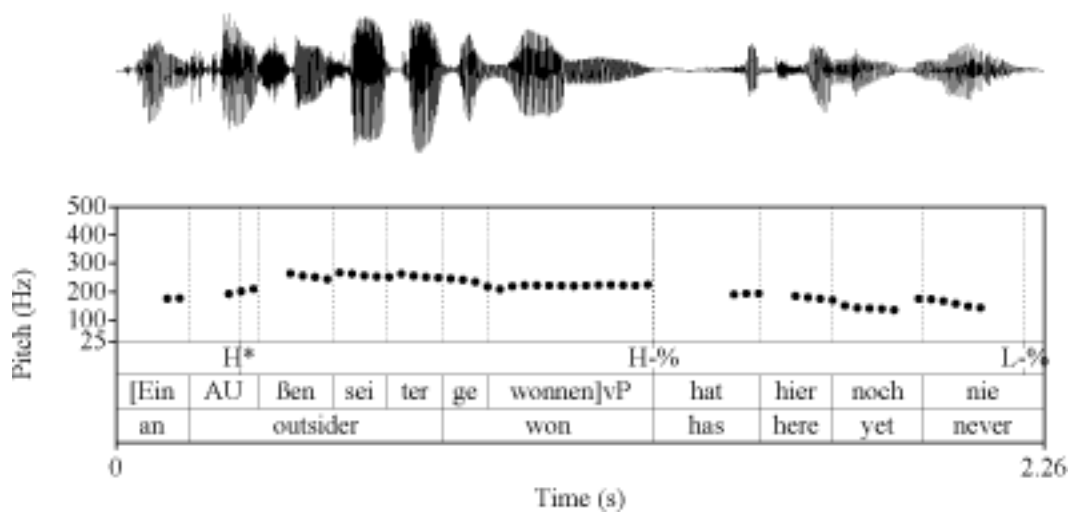


A fronted VP or vP I-topic also has pitch peaks on its DP(s) but crucially includes a high phrasal high tone at their right edge (H-% in G[erman]ToBI (see Pierrehumbert 1980, Beckman and Pierrehumbert 1986 for ToBI and Grice et al. 2005 for an account of GToBI)). This is shown for a VP I-topic in 32 and for a vP I-topic in 33.

(32)




(33)



We follow Féry (2007) in taking a fronted VP/vP that is an I-topic to be its own INTONATIONAL PHRASE (IP), giving the sentence the prosodic structure $[[\text{vP}]_{\text{IP}} \dots]_{\text{IP}}$. Hence, the right edge of fronted I-topics is notated with an IP boundary (%) whereas the right edge of fronted non-I-topic VPs, which are phonological phrases, is notated with a dash. As can be seen from the well-formedness of both 31b and 32, a fronted VP may or may not be an I-topic. However, fronted agentive vPs depend on the phrasal high tone. That is, there is no version of 33 (other

than an echo-question answer) without a high boundary tone at the right edge of the *vP*, as exemplified by the infelicitous (34).

- (34) 
 *[Ein AUßenseiter gewonnen] hat hier noch nie
 an outsider won has here yet never

While both I-topic VPs and *vPs* have the distinctive high boundary tone at their right edge, more detailed phonetic work is needed in order to determine whether their overall intonational structure is, in fact, identical.

As noted in Steube 2001, I-topicalization is known to enable movement of elements that normally do not scramble (e.g. non-specific indefinite DPs and separable prefixes), and I-topics are even allowed to scramble across clause boundaries. It is thus fitting that, in our case, I-topicalization allows fronting of agentive *vPs*, an operation that is ungrammatical given the ordinary post-fronting context and a non-bridge-contour intonation. As expected, given that it is indeed an instance of I(ntonation)-topicalization, fronting of agentive *vPs* is another case of the phonology having an impact on syntactic well-formedness.

6. SOME LOOSE ENDS AND CONNECTIONS. The conclusion we have reached is that, loosely speaking, the more syntactically complex the fronted verbal constituent, the more factors are involved in getting the construction to be acceptable. A fronted lexical VP including an intransitive verb or a verb and its object(s) comes with virtually no restrictions (see examples 9-10 of our verb phrase fronting overview in section 2). Any fronting operation other than pure formal (V2-driven) movement in the sense of Frey 2006 requires the right discourse context, of course, but there are no restrictions on the specificity of the nominal(s) involved, and the fronting does not depend on the quantificational *hier noch nie*-context. A fronted lexical VP including a passive/unaccusative verb and its derived subject also does not depend on the *hier noch nie*-context, i.e. its content does not have to be quantified over but can be asserted (see examples 11-12 of our overview in section 2). However, and this is a loose end to tie up, the famous definiteness effect addressed by Kratzer (1984), Grewendorf (1989), Haider (1990, 2006), Wurmbrand (2001, 2004), and De Kuthy & Meurers (2003), does seem to hold in the case of a fronted passive/unaccusative VP. As shown in 36, at least names, which are DPs that necessarily

pick out a specific entity, lead to clear-cut ungrammaticality. Contrast this with our grammatical examples 6a and 7a, repeated here in 37.

- (36) a. *[Dr. Bollmann empfohlen] wurde ihr von diesem Arzt.
 Dr. Bollmann.NOM recommended was her.DAT by this doctor
 ‘Dr. Bollmann was recommended to her by this doctor.’
- b. *[Shir Khan entwichen] ist dem Wanderzirkus neulich.
 Shere Khan.NOM escaped has the.DAT traveling-circus the other day
 ‘Shere Khan escaped from the traveling circus the other day.’
- (37) a. [Ein gutes Medikament verschrieben] wurde ihr von diesem Arzt.
 a.NOM good drug prescribed was her.DAT by this doctor
 ‘A good drug was prescribed for her by that doctor.’
- b. [Ein Tiger entwichen] ist dem Wanderzirkus neulich.
 a.NOM tiger escaped has the.DAT traveling-circus the other day
 ‘A tiger escaped from the traveling circus the other day.’

It seems, then, that the subject of a fronted passive/unaccusative VP needs to be an indefinite DP, although there is no need for the *hier noch nie*-context. Lastly, when the fronted verbal constituent is an agentive *vP*, i.e. as complex as it can possibly be, both a nonspecific subject and the *hier noch nie*-context are needed, as well as the right intonation, namely the bridge contour that is typical of I-topics.

The ungrammaticality of 36a-b deserves some more discussion, including a clarification of the terminology and concepts we have been appealing to. We have noticed that the effect of being quantified over rather than asserted, i.e. of the *hier noch nie*-context, on a fronted agentive *vP* is that indefinite DPs get a nonspecific/generic interpretation. Even definite DPs, certainly SEMANTIC DEFINITES like *der President* ‘the president’ (see Löbner 1985), get a generic reading. Independently of our discussion of the *hier noch nie*-context, we have presented De Kuthy & Meurers’ (2003) finding that only a DP that is the focus exponent of its clause can be included in the fronted verbal constituent. In line with Webelhuth 1990, we have argued that this means that a verbal constituent must be fronted as a single information-structural unit. This, in turn, lines up

with what it means to trigger a thetic judgment in the sense of Brentano 1874, 1924, Kuroda 1972, and Ladusaw 1996, namely to require but one interpretation act (not two separate interpretation acts for subject and predicate, which is what defines a categorical judgment). Now, seeing that our implicit line of argumentation so far has been that the way to get a thetic judgment is to use the *hier noch nie*-context, what exactly is the connection between the *hier noch nie*-context and a thetic interpretation?

Let us compare the definition of THETIC with the effect of the *hier noch nie*-context. A thetic judgment is a single act of confirming or denying the existence of an eventuality of a certain type, which happens whenever the subject does not trigger an interpretation act separate from the predicate. The *hier noch nie*-context, on the other hand, causes the content of the fronted verbal constituent to be quantified over rather than asserted, which, in the case of a fronted agentive *vP*, forces the subject included in this constituent to take on a generic reading. When this reading is not possible, as, for example, in the case of a name, the sentence will be unacceptable. This is confirmed by the poor mean score (4.15 on a scale of 1 to 5, 5 being the worst) of proposition type “fronted, specific” in the past participle *vP* study reported on in section 4. Thus, one of the ways that a subject-containing fronted verbal constituent can be thetic, i.e. trigger only a single interpretation act, is for the subject to be nonspecific, not picking out a particular entity, for example, to be generic, and the *hier noch nie*-context ensures this. An indefinite subject in this context will not be interpreted existentially but generic (see 24a-b in section 3.4).

When it comes to fronted passive/unaccusative VPs, including the ungrammatical examples in 36 and their grammatical counterparts in 37, we are faced with a conundrum. Both *ein Medikament* ‘a medical drug’ and *ein Tiger* ‘a tiger’ in 37 refer to a specific entity despite being DPs with an indefinite D. These passive/unaccusative VPs are therefore frontable despite including a specific subject. Being derived subjects, i.e. underlying objects, however, their interpretation as specific does not seem to hinder speakers/hearers from getting a thetic judgment.

De Kuthy & Meurers’ (2003) analysis, based purely on information structure, makes the right prediction here, at least with respect to 37a-b, and 36b. Since *ein Medikament* and *ein Tiger* can function as focus exponents in the non-fronting versions of the respective sentences (see 38a-

b),²⁴ they are correctly predicted to be acceptable when part of the fronted verbal constituent. The name *Shir Khan*, on the other hand, is not good as focus exponent and is therefore correctly predicted to be unacceptable as part of the fronted VP.

(38) Was ist passiert? ('What happened?')

- a. Ihr wurde von diesem Arzt ein gutes MEDIKAMENT verschrieben.
 her.DAT was by this doctor a.NOM good medication prescribed
 'A good MEDICATION was prescribed to her by this doctor.'
- b. Dem Wanderzirkus ist neulich ein TIGER/#SHIR KHAN entwichen.
 the.DAT traveling-circus has the other day a.NOM tiger/Shere Khan escaped
 'A TIGER/SHERE KHAN escaped from the traveling circus the other day.'

There is a problem with the ungrammaticality of 36a. Since the name *Dr. Bollmann* is unacceptable as part of the fronted verbal constituent, it should also not be good as focus exponent. This is the wrong prediction, as shown in 39.

(39) Was ist passiert? ('What happened?')

- Ihr wurde von diesem Arzt Dr. BOLLMANN empfohlen.
 her.DAT was by this doctor Dr. Bollmann.NOM recommended
 'Dr. BOLLMANN was recommended to her by this doctor.'

In this sentence, with three definite DPs, a pronoun, a demonstrative nominal, and a name, the name *Dr. Bollmann* does seem to be able to project neutral focus onto the whole clause.

Wurmbrand's (2001, 2004) analysis, based on definite DPs moving to the next higher layer of structure, and TPs not being frontable, can also account for our problematic examples, but only if "definite" literally stands for having a definite D or being a name. If it stands for specific or referential (as suggested in Wurmbrand's footnote 2), our 37a-b should be ruled out because when picking out a specific entity, DPs are claimed to have to move out of the VP. In the case of

²⁴ The most neutral argument order in passive and unaccusative sentences is dative-argument > nominative-argument (subject) because the subject is generated inside VP as the verb's internal argument and would actually have to move into a scrambled position to precede the dative argument. So, the order in these examples is the basic word order.

a passive/unaccusative structure, which lacks an agentive vP layer, the next available landing site would be the edge of TP, but TPs are not frontable.

The new analysis presented here, based on subject-containing verbal constituents in fronted position needing to form a single information-structural unit by triggering athetic judgment, offers the following account for the problematic data in 36 and 37. While incompatible with a strong subject in the sense of Milsark 1974, athetic judgment is triggered as long as the subject is not “presupposed” (Ladusaw 1994: 3), meaning not in need of the speaker/hearer’s attention before the rest of the sentence. That is, although the subjects in the passive/unaccusative examples in 37 are indeed specific because they pick out particular entities, their existence is not presupposed. The existence of the medication in 37a and the tiger in 37b is asserted as a by-product of the affirmation of the respective eventuality they are involved in, i.e. the medication being prescribed and the tiger escaping. This is precisely how Ladusaw describes Brentano’s (1874, 1924) and Kuroda’s (1972) view of the existential commitment of athetic judgment. Consider the Japanese sentence pair in 40.

- (40) a. *neko-ga asoko de nemutte-iru* (Thetic)
 cat-NOM there at sleeping-is
 ‘The/a cat is sleeping there.’
- b. *neko-wa asoko de nemutte-iru* (Categorical)
 cat-TOP there at sleeping-is
 ‘The cat is sleeping there.’

Commenting on 40a, thethetic version of the sentence, Ladusaw (1994: 7) explains:

only the existence of the eventuality is affirmed, but commitment to that description will indirectly, obliquely ... commit the judger to the existence of the cat. But the cat has a much fuzzier existence in thethetic judgment than it does in the categorical version, where it is presented and affirmed directly, first of all, before moving on to the predication. In this way, Brentano’s view of thethetic mode of judgment nicely represents the effects of unselective existential closure over the description, giving priority to one object, while obliquely entailing the existence of subparts of the complex object.

Thus, our ultimate account of the facts presented in this paper is that a subject-containing verbal constituent is acceptable in fronted position when it triggers athetic judgment, which in turn allows it to form a single information-structural unit, specifically, an I-topic. A subject originating inside the lexical VP triggers athetic judgment when part of the fronted VP as long as its existence is not presupposed (that is, as long as it is not an entity picked out by, for example, a name). A subject originating outside the lexical VP, i.e. an agentive subject introduced in Spec vP, normally triggers a categorical judgment and therefore makes the sentence unacceptable, but it triggers athetic judgment when the content of the fronted material is quantified over rather than asserted, as is the case in the *hier noch nie*-context. We thereby shed new light on and provide a new explanation for the definiteness effect.

In line with Wurmbrand 2004, this paper also brings up an argument against Abel's (2003) claim that complements of phase heads (e.g. VPs) cannot move. We have shown that, while fronting of agentive vP phases is marginally acceptable under very special circumstances, fronting of VPs, i.e. verbal constituents not including the external argument, is much more readily acceptable. Thus, the prediction should be that VPs are more movable than vPs, not vice versa.

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Appendix 1

Stimulus-norming study: Judgments on plausibility, conventionality, and specificity

- used to chose stimuli for the past-participle vP and and ACI vP studies
- participants: 26 native speakers of German, mostly living in the US and “Spielgruppler” from a German playgroup in Narberth, PA
- materials: 24 non-fronting sentences, describing situations involving an agentive subject and a transitive predicate, with 4 variants each;

- (1)
- | | | |
|----|----------------------------|--|
| a. | Katzen jagen Mäuse. | (plausible, conventional, nonspecific) |
| | cats chase mice | |
| b. | Unsere Katzen jagen Mäuse. | (plausible, specific) |
| | our cats chase mice | |
| c. | Raubkatzen jagen Mäuse. | (plausible, unconventional, nonspecific) |
| | prey-cats chase mice | |
| d. | Hühner jagen Mäuse. | (implausible, unconventional, nonspecific) |
| | chicken chase mice | |
- (2)
- | | | |
|----|--|--|
| a. | Boxer schlagen ihre Gegner k.o. | |
| | boxers beat their opponents knocked-out ('knock out their opponents.') | |
| b. | Die Klitschko Brüder schlagen ihre Gegner k.o. | |
| | the Klitschko brothers beat their opponents knocked-out | |
| c. | Eishockeyspieler schlagen ihre Gegner k.o. | |
| | ice hockey players beat their opponents knocked-out | |
| b. | Friedensprediger schlagen ihre Gegner k.o. | |
| | pacifists beat their opponents knocked-out | |

key conditions were conventional vs. unconventional and specific vs. nonspecific, but conventionality was also compared to plausibility (to see if something that is unconventional could still be plausible)

4 presentation lists using balanced Latin square design; each participant saw only one list

- procedure: Lime Survey (www.limesurvey.org); participants were asked to answer 3 questions about each sentence on their list, using a scale from 1-5:
 - (i) How plausible is the described situation? (1: least, 5: most plausible)
 - (ii) How conventional is the described situation? (1: least, 5: most conventional)
 - (iii) How specific is the subject of the sentence? (1: least, 5: most specific)

- results:

overall, participants judged the nonspecific condition as less specific, the implausible condition as less plausible, and the unconventional condition as less conventional

trend for plausibility and conventionality to influence each other, but there was still a reliable difference between the conditions

overall, specificity was judged as expected, although some indefinite plurals were judged as surprisingly specific

Appendix 2

Past Participle vP Study

- participants: 30 native speakers of German, interviewed in Hannover, Germany
- materials: 12 sentences with transitive vPs, again using the content of the non-fronting sentences from Survey 1 of Experiment 1, with 6 variants each:
 - (3)
 - a. Katzen Mäuse gejagt haben hier schon oft. (fronted, nonspecific, conventional)
cats mice chased have here already often
 - b. Unsere Katzen Mäuse gejagt haben hier schon oft. (fronted, specific)
our cats mice chased have here already often
 - c. Raubkatzen Mäuse gejagt haben hier schon oft. (fronted, nonspec., unconventional)
prey-cats mice chased have here already often
 - d. Katzen haben hier schon oft Mäuse gejagt. (nonfronted, nonspec., conventional)
cats have here already often mice chased
 - e. Unsere Katzen haben hier schon oft Mäuse gejagt. (nonfronted, specific)
our cats have here already often mice chased
 - f. Raubkatzen haben hier schon oft Mäuse gejagt. (nonfronted, nonspec., unconv.)
prey-cats have here already often mice chased
 - (4)
 - a. Boxer ihre Gegner k.o. geschlagen haben hier schon oft.
boxer their opponents knocked-out have here already often
 - b. Die Klitschko Brüder ihre Gegner k.o. geschlagen haben hier schon oft.
the Klitschko brothers their opponents knocked-out have here already often
 - c. Eishockeyspieler ihre Gegner k.o. geschlagen haben hier schon oft.
ice-hockey-players their opponents knocked-out have here already often
 - d. Boxer haben hier schon oft ihre Gegner k.o. geschlagen.
boxer have here already often their opponents knocked-out
 - e. Die Klitschko Brüder haben hier schon oft ihre Gegner k.o. geschlagen.
the Klitschko brothers have here already often their opponents knocked-out
 - f. Eishockeyspieler haben hier schon oft ihre Gegner k.o. geschlagen.
ice-hockey-players have here already often their opponents knocked-out
- 2X3 design, crossing fronting type (fronted vs. nonfronted) with proposition type (conventional-nonspecific vs. conventional-specific vs. unconventional-nonspecific)
- 6 presentation lists using balanced Latin square design; 12 target sentences and 44 fillers with various degrees of grammaticality; pseudorandom presentation order; each participant saw only one list
- procedure: participants were interviewed one-on-one, were read the sentences, and were asked to give grammaticality judgments, using a scale from 1-5 (see section 4)
- results:
 - nonfronted sentences were consistently evaluated with a score of 1 or 2, i.e. as immediately acceptable or acceptable in appropriate context, so they were disregarded for the analysis
 - score means:
 - fronting, nonspecific, conventional (F, NS, C): 3.25; SD: 1.144
 - fronting, nonspecific, unconventional (F, NS, UC): 3.68; SD: 1.081
 - fronting, specific, conventional (F, S, C): 4.15; SD: 0.86
 - RMSE=1.036; F=11.33; P < 0.0001
 - comparison between proposition types:
 - difference between F, S, C and F, NS, UC: 0.467; 95% CI: 0.0935, 0.8399
 - difference between F, S, C and F, NS, C: 0.9; 95% CI: 0.5268, 1.2732
 - difference between F, NS, NC and F, NS, C: 0.433; 95% CI: 0.0601, 0.8065

=> F, S, C (fronted vP with specific subject) is significantly worse than either of the other two proposition types (fronted vP with nonspecific subject, regardless of conventionality). In addition, F, NS, UC (fronted vP with nonspecific subject and unconventional content) is significantly worse than F, NS, C (fronted vP with unspecific subject and conventional content).

ACI vP Study

- participants: 30 native speakers of German, again mostly “Spielgruppler” from the German play group in Narberth, PA
- materials: 18 sentences with transitive (agentive vP) ACI-constructions, using the content of the non-fronting sentences from Survey 1, with 6 variants each:
 - (5)
 - a. Katzen Mäuse jagen sieht man hier oft. (fronted, nonspecific, conventional)
cats.ACC mice.ACC chase sees one.NOM here often
 - b. Unsere Katzen Mäuse jagen sieht man hier oft. (fronted, specific)
our.ACC cats mice.ACC chase sees one.NOM here often
 - c. Raubkatzen Mäuse jagen sieht man hier oft. (fronted, nonspec., unconventional)
prey-cats.ACC mice.ACC chase sees one.NOM here often
 - d. Man sieht hier oft Katzen Mäuse jagen. (nonfronted, nonspec., conventional)
man.NOM sees here often cats.ACC mice.ACC chase
 - e. Man sieht hier oft unsere Katzen Mäuse jagen. (nonfronted, specific)
one.NOM sees here often our.ACC cats mice.ACC chase
 - f. Man sieht hier oft Raubkatzen Mäuse jagen. (nonfronted, nonspec., unconventional)
one.NOM sees here often prey-cats.ACC mice.ACC chase
 - (6)
 - a. Boxer ihre Gegner k.o. schalgen sieht man hier oft.
 - b. Die Klitschko Brüder ihre Gegner k.o. schlagen sieht man hier oft.
 - c. Eishockeyspieler ihre Gegner k.o. schlagen sieht man hier oft.
 - d. Man sieht hier oft Boxer ihre Gegner k.o. schlagen.
 - e. Man sieht hier oft die Klitschko Brüder ihre Gegner k.o. schlagen.
 - f. Man sieht hier oft Eishockeyspieler ihre Gegner k.o. schlagen.
- 2X3 design, crossing fronting type (fronted vs. nonfronted) with proposition type (conventional-nonspecific vs. conventional-specific vs. unconventional-nonspecific)
- 6 presentation lists using balanced Latin square design; 18 target sentences and 44 fillers with various degrees of grammaticality; pseudorandom presentation order; each participant saw only one list

Appendix 3

Combined analysis of past participle vP and ACI vP studies

A linear effects model with a random effect of *subject* was run with fixed factors *vP type*, *fronting*, and *sentence type*, where *vP type* was evaluated across subjects and *fronting* and *sentence type* were evaluated within subjects.

	Numerator df	Denominator df	F	Significance
Intercept	1	58.813	1030.766	<.001
vP type	1	58.813	16.818	<.001
Fronting	1	829.744	1362.392	<.001
Sentence type	2	829.744	22.523	<.001
vP type*fronting	1	829.744	195.950	<.001
vP type*S type	2	829.744	.317	.729
Fronting*S type	2	829.744	11.815	<.001
vP type*fronting*S type	2	829.744	2.183	.113