What is the syntax-pragmatics interface?

Martina Wiltschko

Abstract This paper addresses the issue as to how syntax interfaces with pragmatics. I follow the common view that at least some type of contextual information is systematically integrated into syntactic structure. I adopt a particular version of this approach, namely, the interactional spine hypothesis (Wiltschko 2021). Based on a detailed case-study of *huh*, I explore how contextual information is integrated into the structure. Specifically, I explore *huh* in its use as an other-initiated repair, as a sentence-final particle, and its use in self-talk. I show that the interactional spine hypothesis allows for a straightforward analysis of its distribution. As such the linguistic profile of *huh* supports the claim that at least some aspects of what is traditionally considered to belong to the pragmatic domain is regulated by the spine. However, I also show that there is not a single locus that could be identified as the syntax-pragmatics interface, neither in the syntactic structure, nor within the model of grammar. Rather contextual information is distributed across the syntactic structure and there still is the need for (post-syntactic) rules of inference. In other words, pragmatics is modular and hence there cannot be a dedicated syntax-pragmatics interface.

Keywords interactional spine · sentence-final particle · other-initiated repair · syntactization of speech acts · intonational tunes

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1 Introduction

Traditionally, linguistics has been divided into several subdisciplines including phonetics, phonology, morphology, and syntax where each sub-discipline was clearly demarcated by its object of study: *phonetics* as the study of sound at the physical level; *phonology* as the study of sound patterns; *morphology* as the study of how words are formed; and *syntax* as the study of how sentences are formed from words. *Meaning* in language was traditionally thought to be too obscure to be studied with any rigour. Thus, the study of meaning was restricted to etymological investigations of words, on the one

hand and philosophical considerations on the other.

Semantics in the modern sense came about through the incorporation of mathematical methods into linguistics, and specifically with Partee's (1975) insight that the formal language devised by Montague (1970) is compatible with the formal approach to syntax that defines the generative enterprise. Nevertheless, two claims that predate modern semantics are still considered core pillars of our understanding of meaning: Saussure's principle of arbitrariness, which pertains to the relation between form and meaning in words and Frege's principle of compositionality, which pertains to the relation between form and meaning in complex expressions.

(1) **Principle of arbitrariness**
The relation between sound and meaning (in words) is arbitrary.

(2) **Principle of compositionality**
The meaning of a complex expression is determined by the meaning its constituent parts and the way they are combined.

Similarly, *pragmatics*, the study of how meaning arises in use and through contextual knowledge, became a sub-discipline of linguistics rather late and mainly inspired by the work of Grice. The importance of context (also recognized by Frege[1]) was explicitly endorsed in the work of the late Wittgenstein and can be formulated as the principle of contextuality, as in (3).

(3) **Principle of contextuality**
Only in the context of a sentence has a word a meaning.

The importance of interpreting language in context has become an important domain of investigation. For example, it was essential in the development of speech act theory, which seeks to explore and explain how what we say can affect others (Austin 1962). Similarly, ever since Kaplan's (1999) seminal work on expressives (like *oops* and *ouch*) the kind of context-dependence involved has been subject to rigorous formal analysis (e.g., Potts 2007; Gutzmann 2013, 2015; McCready 2019).

[1]Pelletier (2001) shows that both principles in (1) and (3) have been frequently attributed to Frege though it is not clear that Frege actually formulated either of them.

While the field of linguistics is still structured in a way that reflects the classical division of sub-disciplines (e.g., in the way the curriculum in linguistic departments is designed or in the way major conferences are organized) the focus in the research of many linguists is less clearly demarcated and the study of the interfaces has become increasingly important (e.g., syntax-morphology, syntax-semantics, semantics-pragmatics, syntax-phonology, etc.).

This shift towards an interest in the interfaces across sub-disciplines correlates with the shift in linguistics towards a mentalistic approach towards language. That is, the classic sub-divisions reflect a descriptive focus on structural properties of language as a system that is to be studied in its own right. The generative enterprise, however, concerns itself with an investigation of what people know when they know a language. In other words, it concerns the cognitive capacities responsible for our language faculty. As such the language faculty is studied as a whole and the question naturally arises as to how knowledge of one particular aspect of language (e.g., sentence-formation) interacts with another aspect of language (sentence-interpretation). The goal of this enterprise then is to develop a model of the language faculty that not only accounts for the patterns observed in individual domains of language and in individual languages but that also accounts for the patterns that arise in the interaction across such domains and that are found universally. Thus, the ultimate goal is to develop a model that reflects the workings of the human mind.

My focus in this paper is on the syntax-pragmatics interface, i.e., the way contextual information interacts with the construction of sentences. The overarching question from a mentalistic modelling point of view concerns the question regarding the locus and nature of this particular interface. This question does not have a straightforward answer within current generative models. Consider why. Within mainstream minimalist approaches, the computational system (i.e., syntax) interfaces with two external systems: the conceptual-intentional (CI-)system, which is largely responsible for interpreting the meaning of an utterance (i.e., semantics) and the sensory-motor (SM-)system, which is largely responsible for interpreting the sound of an utterance (i.e., phonetics/phonology). Within this model, the question where contextual information that arises via language in use (i.e., pragmatics) is located might be answered as follows: outside the language faculty proper,

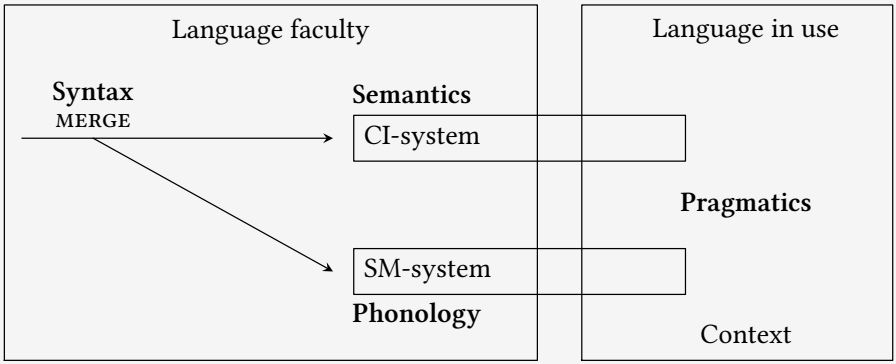


Figure 1 Where is pragmatics?

as illustrated in Figure 1.

On this view then there is no direct interface between syntax and pragmatics. Rather the interface would be mediated by the CI-system, which in turn interfaces with contextual information. This view of pragmatics is a direct consequence of the assumption that the linguistic system is mainly a system that regulates the relation between form and meaning as directly encoded in the linguistic ingredients that make up complex expressions. Chierchia (2004) describes this view as follows.

> here is a widespread view of the latter [interface of pragmatics with syntax and semantics; MW]. Grammar (which includes syntax and semantics) is a computational system that delivers, say, pairs of phonetic representations and interpreted logical forms. The output of the computational system is passed onto the conceptual/pragmatic system that employs it for concrete communication. The computational system of grammar and the conceptual/pragmatic system are separate units and work in a modular way: each unit is blind to the inner workings of the other. Things like agreement or c-command belong to grammar; things like relevance or conversational maxims belong to the conceptual/pragmatic system. (Chierchia 2004: 39)

However, Chierchia (2004: 39f.) continues to argue that, "this view is very plausible and has been quite successful in explaining things. Yet [...]

in certain important respects, it is actually wrong." More specifically, he proposes that at least some pragmatic meaning, namely scalar implicatures, are part of the computational system proper. In other words, he argues that they must be fully encoded in the linguistic system (Chierchia 2017). But if this is the case the model depicted in Figure 1 cannot be quite right: not all of what is traditionally viewed as being part of pragmatics lies in fact outside of grammar or even outside of syntax in the narrow sense.

Chierchia's conclusion falls squarely within other approaches according to which contextual information is not simply a matter of extra-linguistic knowledge but is in fact a core part of linguistic knowledge. That is to say that grammar (and syntax in particular) must have a systematic way to incorporate contextual meaning. We know this from the fact that deictic categories, such as tense and personal pronouns, for example, are at the center of grammatical knowledge. Moreover, there has been a long, albeit interrupted, tradition within generative grammar to take aspects of speech acts to be part of syntax. That is, Ross (1970) argued that core properties of Austin's speech act theory are directly encoded in syntax. While Ross' (1970) implementation of this was couched within the framework of generative semantics, which was rejected, his main insight has received a revival within current theorizing. For example, Speas & Tenny (2003) argue that the top-most layer of structure within the functional architecture of clauses consists of an articulated speech act phrase and a point-of-view phrase. Both encode concepts that are traditionally considered to be in the realm of pragmatics. Point-of-view depends on context, and the notion of speech act relates to what we *do* with words when we say things. Speas & Tenny's (2003) paper initiated an updated version of Ross' main insight in that it aimed to implement different speech act types within the functional architecture of clausal structure making use of familiar ingredients of grammar. In subsequent work, researchers have provided further evidence for this higher structure which encodes notions traditionally thought to be a matter of pragmatics (Munaro & Poletto 2002; Pak 2006; Davis 2011; Saito & Haraguchi 2012; Krifka 2013; Haegeman & Hill 2013; Haegeman 2014; Hill & Stavrou 2014; Lam 2014; Servidio 2014; Kido 2015; Corr 2016, 2022; Woods 2016; Zu 2018; Miyagawa 2022 a.o.). Crucially this evidence includes overt units of language which serve to encode these notions, such as sentence-final particles, which can be used to encode the epistemic states of the interlocutors and vocatives

which do not correspond to grammatical arguments but instead they name the addressee. These units of language have not traditionally been part of the empirical domain explored within grammatical analyses, including the generative enterprise. Historically, the reason for the absence of grammatical treatments of such units of language has to do with the assumption that the unit of grammatical analysis (and of syntax in particular) is the sentence. Spoken language phenomena are often rather informal and riddled with disfluencies and the like. Hence, they have not been considered to be part of grammar, which was intrinsically prescriptive, at least traditionally. Despite its focus on native speaker intuitions rather than prescriptive rules, generative grammar inherited this focus on the sentence; and ironically its focus on competence rather than performance reinforced the exclusion of purely spoken language phenomena: if an element is restricted to language in use, it is considered part of language performance and hence not within the realm of grammatical analysis. However, this runs counter the findings of conversation analysis, a framework that explicitly denies the primacy of the sentence as the unit of analysis, but instead takes conversational turns to play this role. Interestingly, one of the motivations to study the linguistic properties of conversations is the finding that there is an intricate systematicity in conversational turn-taking, so much so that it suggests a conversational competence that defines the human language faculty just as our competence for building sentences does.[2] This conclusion is further supported by the fact that units of language that serve to regulate conversational interaction are integrated into linguistic utterances systematically. The interactional dimension of grammar has long been investigated outside of the minimalist generative tradition (e.g., Ginzburg 2012, Kempson et al. 2001, Couper-Kuhlen & Selting 2001).[3]

Given this background on the relation between grammatical competence on the one hand and communicative (or pragmatic) competence on the other, it is all the more important to explore how and where pragmatics is integrated into our model of the language faculty. The goal of this paper is to do just that. I do this based on a case study of a unit of language

[2]Interestingly, even Chomsky (1980) proposed a pragmatic competence.

[3]See Wiltschko (2021) for detailed discussion of different frameworks and an attempt to bridge across them.

that is restricted to language in use, namely *huh*. The paper is organized as follows. I start by introducing three empirical facts concerning *huh* in Section 2. In Section 3, I proceed to introduce details of the theoretical framework that I shall use to analyse these facts in Section 4. In Section 5, I conclude with a proposal regarding the main question addressed in this paper: what is the syntax-pragmatics interface? Specifically, I shall conclude that pragmatic knowledge is distributed across various domains and that it is no coincidence that there is no dedicated location for this interface in our model of grammar.[4]

2 Three facts about *huh*

In this section, I introduce three empirical facts about *huh*, a unit of language restricted to language in conversational interaction.[5] These facts demonstrate that there is an intricate systematicity behind the use of *huh* which goes much beyond what would be expected of a matter that is not part of language competence. It has all the hallmarks of what one would expect of a phenomenon that is part of grammatical knowledge, albeit grammatical knowledge that is sensitive to the context of interaction. We observe universal patterns, multi-functionality, and speakers have clear well-formedness

[4]The modular nature of the syntax-pragmatics interface also implies that different types of contextual information will be integrated into the grammatical architecture in different ways. In this paper, I cannot do justice to all of these phenomena, but I restrict myself to a case-study of *huh*, a unit of language which has, to date, not received any attention within the generative tradition. Other contextually determined phenomena, such as discourse particles (German *ja, wohl*), expressives, and information-structure are well-studied. It goes without saying that a complete model of the syntax-pragmatics interface will have to consider these phenomena as well, but this goes beyond the scope of the present paper.

[5]An anonymous reviewer points out that the orthographic representation of this particle as *huh* is an oversimplification as this particle can be pronounced in various ways such that it may not even be a single dedicated form. While I agree that *huh* can be realized in different ways depending on various factors, which go beyond the scope of the present paper, I do not agree that this justifies the conclusion that we might not be dealing with a dedicated form. Evidence to this effect comes from the study on the cross-linguistic properties of *huh* (Dingemanse et al. 2013), which has identified it as a universal word. If *huh* were not in fact a dedicated form, this result would have hardly been obtainable. I here simply follow the orthographic convention in Dingemanse et al. (2013) acknowledging that certain (likely paralinguistic) phenomena can influence its pronunciation – as is the case for any other word.

judgements regarding its use.[6] I will introduce each of these properties in turn.

2.1 Universality: *huh* as other-initiated repair

One of the reasons that led to the postulation of a distinction between competence and performance, and to include only the former in the domain of grammatical investigation, is the fact that language in use is riddled with errors and problems due to limitations that lie outside of linguistic knowledge. This is certainly true. However, what conversation analysis was able to demonstrate is that the language system provides us with means to deal with these problems and to do so systematically. In other words, communicative competence includes systematic knowledge about how to deal with communicative problems, and this is true across languages in remarkably similar ways. One of the universal means to deal with such problems concerns repair strategies. That is, when there is a problem of understanding, interlocutors have ways to repair these problems, either by correcting themselves or by requesting correction from their interlocutor. The latter is known as *other-initiated repair* (henceforth OIR) and *huh* can be used in this way, as shown in (4).[7] [8]

[6] An anonymous reviewer questions the methodology of only using native speaker judgements to gather data that are restricted to spoken language. They suggest that, to get a full picture about the empirical landscape, one has to consult corpus data, as is standard practice in conversation analysis. For reasons of space, I cannot adequately discuss the methodological issues that arise when dealing with language in interaction (see Wiltschko 2021 for discussion). The data which the generalizations I report on here are based on have been collected in targeted elicitation tasks with several native speakers using conversation boards (see Wiltschko 2021). It is clear that speakers have clear intuitions about the use of particles like *huh*. In addition, I regularly explore corpora of spoken language (always in a qualitative manner) to informally test the hypothesis that I entertain. Moreover, as pointed out in Wiltschko (2021), corpus studies typically require the researchers to use their intuition regarding the function a given particle has in a given context. Thus, even corpus linguists rely on native speaker intuitions.

[7] There are several other ways in which repairs can be initiated, including full questions (*What did you say?*) and echo questions, which repeat the initiating move with a question word replacing the problematic phrase (*He bought what?*). See Kendrick (2015) for a recent overview.

[8] Following Wiltschko (2021), I use "I" for Initiator and "R" for Responder when presenting the data. This reflects that fact that in a conversation the standard terms "speaker" and "addressee" are not useful as these roles change in each move.

(4) I: It's not too bad
R: Huh? [hã/]
I: 'S not too bad
(adapted from Dingemanse et al. 2013: extract 1)

There are several interesting properties of *huh* used as OIR. First, it is remarkable that a simple particle such as *huh* can convey what appears to be a complex meaning relating to the course of the conversation.[9] More specifically, if we are to convey its meaning in propositional terms, the contribution of *huh* can be paraphrased as in (5).[10]

(5) ≈ There is a problem in the communication
≈ I don't understand
≈ Can you clarify?
≈ What?

The second striking fact is that OIRs are universal, and not just that. A syllable similar to English *huh* appears to be universally used in this way (Dingemanse et al. 2013). In other words, this is a unit of language whose form and function appears to be universal – at least it is used in a sample of 10 geographically and typologically unrelated languages (Cha'palaa, Dutch, Icelandic, Italian, Lao, Mandarin Chinese, Murriny Patha, Russian, Siwu, Spanish).[11] Furthermore, while most languages realize *huh* with rising intonation, there are languages that use falling intonation (Cha'palaa and Icelandic). But there is a strict correlation between the use of rising intonation in questions and on the OIR *huh*: it is precisely those languages that use falling intonation in questions which also use it on *huh* when used as an OIR.

[9]Other simplex particles that have similar properties and which have recently received some attention in the generative tradition are response particles (*yes, no*). For example, because of their sentence-like meaning, Krifka (2013, 2014) classifies them as *propositional anaphors.*

[10]I provide several paraphrases, which reflects the fact that these particles can never be fully rendered into propositional language. They are ineffable (a defining property of expressive language more generally; Potts 2007). All paraphrases provided should thus be treated as approximations (indicated by ≈).

[11]Though the precise form depends on the phonological constraints of the language such that, for example, languages which do not allow for word-initial /h/ will simply use the vowel.

The universality of the form-meaning relation is of course completely unexpected in light of the principle of arbitrariness introduced above: if the relation between sound and meaning was indeed arbitrary, we would not expect it to be found across even two unrelated languages, except perhaps by virtue of coincidence. *huh* with rising intonation seems to be used to express a universal function (OIR) and it does so with near identical forms. What is crucial for our purpose is that the function that it expresses falls within the realm of language in use: it regulates the flow of conversation and is used to repair problems of understanding that can arise for various reasons.

2.2 Multi-functionality: *huh* beyond its use as OIR

Next, we turn to the multi-functionality of *huh*. While its use as an OIR seems to be universal, it is also attested with other uses, however, preliminary data suggests that this is a source of language variation.

As discussed above, as an OIR *huh* is realized with rising intonation. However, English *huh* can also be realized with falling intonation, in which case it receives a different interpretation. This is illustrated based on the minimal pair in (6).

(6) I: You have to fly to Paris
R1: huh/
[≈ I don't understand. Can you clarify?]
R2: huh\
[≈ I didn't know that but I get it]

When used with rising intonation, as in R1, it expresses exactly the type of meaning we have introduced above: the responder signals that they do not fully understand the preceding turn and that they request repair. When used with falling intonation, as in R2, *huh* expresses that the initiating utterance expresses news but that the responder is able (and willing) to update their common ground with this new information.

The effect of intonation on the interpretation of *huh* indicates two things. First, there is at least some degree of compositionality involved such that changing one of the ingredients (e.g., intonation) will have an effect on the overall interpretation of *huh*. This is the hallmark of a complex expression. Moreover, the fact that the function of *huh* changes with intonation further

suggests that the meaning of *huh* identified in (5) cannot be a matter of a simple lexical entry for *huh*; if it were, this kind of change in function would be unexpected or would perhaps suggest multiple lexical entries. While this is of course a possibility, it would miss the systematic correlation with intonation. And that the relation between *huh* and intonation is systematic is independently motivated by the fact that cross-linguistically there is a correlation between question intonation and the intonation on *huh* used as an OIR.

The conclusion that the meaning of *huh* is perhaps more abstract than merely encoding something that can be paraphrased as in (5) is further supported by the fact that *huh* is, cross-linguistically, multi-functional in more than one way. For example, in English *huh* can also be used as a sentence-final particle, as shown in (7). The result of adding *huh* to a declarative clause is a biased question, which can be paraphrased as in (8).[12]

(7) You liked this movie, **huh**?

(8) ≈ I think you liked this movie, confirm that I'm right!

Intuitively, the meaning of *huh* in (7) is related to the meaning of *huh* as an OIR. And this intuition is confirmed by the fact that we observe similar uses of *huh* in unrelated languages. For example, the Urdu equivalent of *huh* is *hain* and it, too, can be used as OIR, as in (9), as well as a confirmational, as in (10).

(9) I: *Ap batayain daku kesi hen?*
you.SG.F tell.F robber how be.F
'Tell me how are you robber?'
R: hain? *Daku? kia matlab?*
what? robber? what mean
'**Hain?** Robber? what do you mean?'
(Sadaf Ansar Abbasi & Danish Farman, p.c.)

[12]The literature on biased questions is too extensive to do justice here (see for example Krifka 2015, Goodhue 2018, Kiss 2021).

(10) *lag raha hy humsheera tum kisi shair kay-sath larr rhi*
seem CONT PRS sister you some couplet with fight CONT
ho, hain*?*
PRS eh
'Sister, it seems like you are trying to balance/make a couplet, **hain**?'
(Sadaf Ansar Abbasi & Danish Farman, p.c.)

Given that the multi-functionality of *huh* is not restricted to English, I concur that the two uses must have a core meaning in common and that this should be reflected in the lexical entry of *huh*. Whatever the lexical entry of *huh* might be, it cannot be dedicated to being an OIR.

2.3 *Huh* in self talk

In this sub-section, I turn to the use of *huh* in self-talk, which in turn provides a novel window into the syntax-pragmatics interface, as I will show. As observed in Holmberg (2010), self-talk comes in two guises: *I*-centered self-talk, which is characterized by the use of *I* when referring to oneself, as in (11a), and *you*-centered self-talk, which is characterized by the use of *you*, as in (11b).

(11) Self-talk
a. I can't do it.
b. You can't do it.

What is crucial for our purpose is the fact that *huh* is restricted to *you*-centered self-talk, as shown in (12) (Ritter & Wiltschko 2021).

(12) Self-talk
a. *So I can't do it, **huh**?
b. So you can't do it, **huh**?

The contrast in the use of *huh* illustrated in (12) is somewhat surprising given that in both cases the speaker and the addressee are identical.[13] Thus,

[13] An anonymous reviewer points out that this is a typical behaviour in self-addressed questions, as discussed in Truckenbrodt (2006) and Zimmermann (2013), for example. However, the kind of self-talk discussed here differs from such self-directed questions. Specifically, self-directed questions can be uttered in the presence of others and crucially

it is not immediately obvious how the use of *huh* can be constraint. This is because, as we have seen above, *huh* is a unit of language that is used to regulate conversations: in its use as an OIR it serves to repair conversations when the interlocutor does not understand the preceding turn; in its use as a confirmational it serves to ask for confirmation from the interlocutor. Since in self-talk the interlocutors are one and the same person, it is not clear why *huh* can be used in the first place: why can one request confirmation from oneself? And second it is not clear why *huh* is sensitive to whether the speaker refers to themselves with *I* or with *you*. Since in both cases the interlocutor is identical to the speaker, regulating the common ground should have identical constraints.

In what follows I argue that the use of *huh* is regulated, at least in part, by grammatical constraints. In turn this means that grammar regulates language in use, which has implications for the syntax-pragmatics interface as I will show. I start by introducing the framework I use to analyse the facts about *huh* just introduced.

3 The interactional spine hypothesis

As introduced in Section 1, the assumption that aspects of language in use are regulated by the syntactic spine has gained traction over the past few decades. It is commonly assumed that speech acts (an intrinsically pragmatic notion) have a syntactic representation. More precisely, this means that information about the interlocutors (speaker and addressee) is syntactically encoded. In this paper, I adopt the particular version of this proposal developed in Wiltschko (2021). What distinguishes Wiltschko's approach from others is that it integrates insights from conversation analysis and thus it is concerned with conversational competence, which includes regulating common ground and turn-taking. Specifically, Wiltschko (2021) argues that conversational interaction is constraint by grammatical regularities in the same way as the construction of propositional content is.[14] Formally this is implemented by

the 2nd person pronoun in this case refers to the bystander (Eckardt & Disselkamp 2019). This differs from self-talk where the 2nd person pronoun is used to "address" (and thus refer to) the speaker.

[14]The bipartition into propositional and interactional structure appears at first site reminiscent of the distinction between truth-conditional and use-conditional (or expressive) content. However, as discussed in Wiltschko (2021), meaning that can be distinguished from

assuming that syntactic structure (i.e., the logic of tree-geometry) extends to include the composition of units of language restricted to language in interaction. Thus, the idea falls squarely within approaches that seek to incorporate speech act theoretic notions into grammatical structure in that it not only regulates those aspects of language that pertain to the content conveyed in linguistic interaction but also those that pertain to what we *do* when we talk. The difference to other approaches is, however, that it takes into consideration more recent developments of speech act theory that go beyond Searle's and Austin's original insights.[15] The defining property of Wiltschko's (2021) *Interactional Spine Hypothesis* (ISH) is the postulation of two articulated layers of structure at the top of the spine. These structures are characterized by two functions: *responding*, which regulates turn-taking, and *grounding*, which regulates the construction of common ground. This is illustrated in Figure 2.

There are several core properties that define the interactional structure. First, each layer is relativized to the interlocutors albeit in different ways. The grounding layer comes in two guises: the lower one is speaker-oriented (Ground-Spkr) and serves to encode how the speaker relates to the propositional content (e.g., is it new or old information?); the higher grounding layer is addressee-oriented (Ground-Adr) and serves to encode the speaker's assumptions about how the addressee relates to the propositional content (e.g., do they already know it or is it news to them).[16] Finally, the high-

truth-conditional (propositional) content does not comprise a uniform class (Wilson 2016). For example, expressive content can be associated with diminutive affixes and hence can be part of words that appear inside the propositional structure. To the best of my knowledge, elements that regulate turn-taking are never realized as word-level affixes.

[15]For example, while classic work on speech act theory recognizes the importance of the addressee by introducing the notion of *perlocution*, in much of the work on speech acts, this notion is typically ignored (Marcu 2000). However, there is a whole body of work (known as *interactional linguistics*) that takes the basic insight of speech act theory further by recognizing that when we talk, we are not only doing things, but we are doing things together (Selting & Couper-Kuhlen 2000; Couper-Kuhlen & Selting 2001; Thompson & Couper-Kuhlen 2005). In the formal tradition, Ginzburg's (2012) interactional stance falls into this tradition. See Wiltschko (2021) for extensive discussion of this development.

[16]The necessity to distinguish between speaker- and addressee-orientation in the grounding of epistemic knowledge has been established in the realm of discourse particles of the German type (e.g. Lohnstein 2000, Zimmermann 2011) as well as intonational contours (Gunlogson 2003).

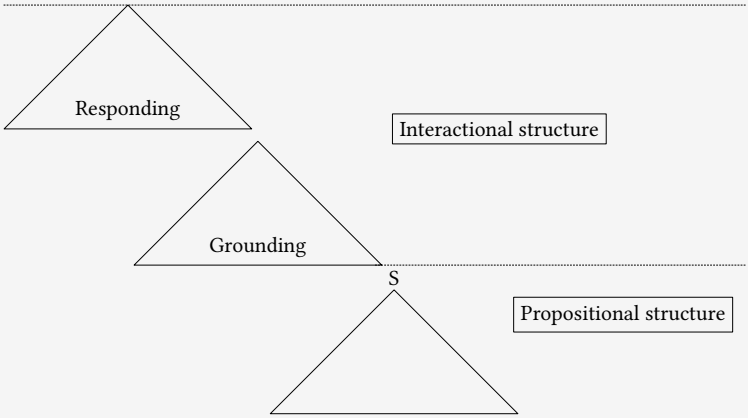
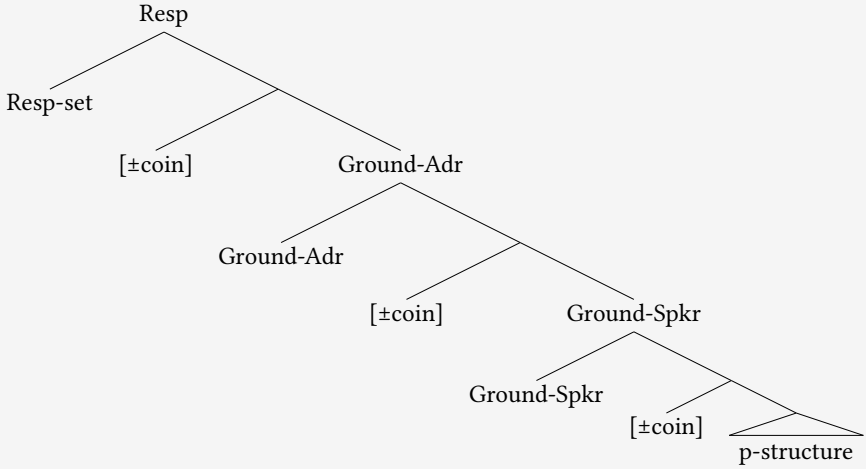


Figure 2 The interactional spine hypothesis

est layer is the response layer (Resp) and it serves to regulate turn-taking. While Resp, too, is relativized to the speaker or the addressee, the two do not typically co-occur in a single conversational move. Rather they define the move itself: an addressee-oriented response layer defines an initiation move in that it serves to encode whether or not a response is required from the interlocutor; in contrast, a speaker-oriented response layer defines a reaction move in that it serves to encode whether the utterance is itself a response.[17] Crucially, the layers in the interactional spine are defined by the same architecture as every other functional category on the spine: the head of a phrase is intrinsically associated with an unvalued coincidence feature that serves to order the two arguments it relates: an abstract argument in the specifier position and the complement it embeds. The abstract argument in the grounding layers correspond to the speaker's and the addressee's ground, respectively, and the abstract argument in the response layer corresponds to the speaker's or the addressee's response set. The coincidence feature is valued by means of units of language that associate with the head position. The full-fledged structure of the interactional spine is given in (13).

[17]The concepts encoded in the grounding and response layers capture many of the insights that are at the core of inquisitive semantics (Farkas & Bruce 2010; Roelofsen & Farkas 2015): the grounding layer can be viewed as encoding the commitment of the interlocutors, while the response layer is akin to the *table* in this work. Thus, the interactional spine could be viewed as the syntacticization of core assumptions within inquisitive semantics.

(13) Interactional structure



According to the ISH, there are aspects of language traditionally considered to be part of pragmatics, which are regulated by grammar, or more narrowly by syntax: the systematic integration of contextual information on the one hand and particular conversational functions on the other. As for the integration of contextual information, this is implemented via the assumption of abstract arguments whose content is contextually determined (e.g., the response set and the interlocutor's grounds). Note that this is not an assumption that is restricted to the interactional spine. It has long been assumed that the propositional spine, too, includes abstract arguments that incorporate contextual information. For example, the functional category tense is, in matrix clauses, deictic, and hence needs to relate the content of the utterance (in this case events) to the utterance situation (in this case utterance time). Crucially, according to some proposals, utterance time is introduced into syntactic structure as an abstract argument which is ordered relative to the reference time in its complement (AspP) via the coincidence feature in the head that introduces it (Demirdache & Uribe-Etxebarria 1997).

As for the integration of conversational functions, the ISH encompasses two such functions that belong to language in use: the construction of common ground and the regulation of conversational turn-taking. Note that while common ground itself is not directly encoded in this model, its individual components, speaker ground and addressee ground as perceived by the speaker, are. Common ground itself will have to be inferred as the

common denominator between speaker and addressee ground (Farkas & Bruce 2010). Hence, despite the fact that contextual aspects of language are directly encoded on the syntactic spine, this does not mean that there is no room for inferencing based on what is encoded. In other words, not all of pragmatic knowledge is part of grammar. The ISH thus introduces a particular view on the syntax-pragmatics interface (see Section 5 for further discussion).

In sum, the ISH provides an explicit way to do justice to the principle of compositionality on the one hand and to the principle of contextuality on the other. As for the principle of compositionality, like traditional approaches to syntactic (and semantic) composition, the ISH allows for composition via units of language whose form-meaning relation is arbitrary. These units of language are associated with the spine, which in turn adds meaning to them. Hence the ISH provides an explicit way to understand the second part of the principle of compositionality, which recognizes that the way the individual parts of a complex expression combine influences the interpretation of the whole. And finally, the ISH allows for a systematic way to understand the principle of contextuality as it systematically models the contribution to meaning that goes beyond the individual units of language. Crucially contextual information which is always necessary for reference is contributed by the spine. In this way, the ISH departs from standard minimalist assumptions according to which structure is created by merge and nothing can be added that is not already present in the elements that are being merged (the inclusiveness condition, Chomsky 1995, 2000). It also departs from typical semantic analyses according to which the kinds of meaning components associated with the spine (and thus contextual information) would be written into individual lexical entries.

In what follows, I show how the ISH allows us to analyse the properties of *huh* introduced in Section 2.

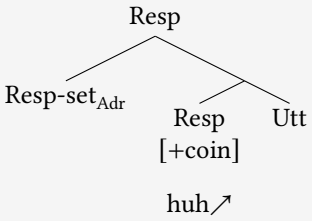
4 Analysing *huh* on the interactional spine

The challenge that *huh* presents us with is that it appears to encode rich contextual information regulating language in use and furthermore that it has several functions, which are not straightforwardly reducible to a single lexical entry. In this section, I show how these properties of *huh* can be analysed using the ISH. I start with *huh* in its use as an OIR.

4.1 *huh* as other-initiated repair: iconicity, intonation, and the meaning of the spine

When used as an OIR, *huh* requests clarification from the interlocutor because something went wrong: there is a lack of understanding which threatens the success of the conversation. I propose that in this use, *huh* merely serves to host an intonational tune. Recall that the particular tune it hosts is precisely the tune that otherwise serves as question intonation: in most of the languages explored in Dingemanse et al. (2013), including English, this is rising intonation, but some languages use falling intonation for this purpose. Moreover, following Wiltschko & Heim (2016) and Heim & Wiltschko (2020), I assume that rising intonation associates with the head of RespP, where it positively values the coincidence feature.[18] Specifically, in this case, the Resp-set is indexed to the addressee. Thus, rising intonation encodes that the speaker places the utterance into the addressee's response set; in other words, they request a response. Given that intonation cannot be realized without segmental content, it cannot be pronounced on its own. I suggest that *huh* (and its cross-linguistic equivalents) does just that: it serves as a dummy minimal syllable to host intonation. This analysis is illustrated in (14).

(14)



The analysis captures the properties of *huh* when used as an OIR as follows. First, consider the interpretation that arises. By requesting a response from the addressee, the speaker indicates that in order to proceed with the current

[18]The assumption that intonation associates with grammatical structure is not new (cf. Trinh & Crnič 2011; Truckenbrodt 2013). However, what is new is the assumption that intonation is not itself associated with a meaning, but instead receives this meaning via the spine (see the discussion below). An anonymous reviewer points out that assuming that prosodic features can mark grammatical meaning is also supported by the fact that some tone languages do this. The question regarding the relation between intonational tunes and tonal meaning is an interesting one, which requires further investigation.

conversation, some information is needed from the addressee. Given that *huh* as an OIR is typically used in isolation, this means that no prompt is provided that would encode a potential target of response (unlike when used as a confirmational which provides content to which the addressee is meant to respond). Thus, the sole meaning conveyed via rising intonation in this context is a request for response. I argue that this is precisely what makes for a minimal OIR, like *huh*. Moreover, given that the interactional spine is, by hypothesis, universal, the meaning that comes with it is, too. It is for this reason that *huh* appears to be a universal word. It is not that *huh* encodes a relation between form and meaning (like typical arbitrary Saussurian signs do). Rather *huh* serves as a host for an intonational contour which in turn directly associates with Resp. There is no lexical mediation between form and meaning; rather by associating a simple sound (rising intonation) with the syntactic spine, the universal meaning of the spine emerges.

There is however one aspect of this analysis, which appears to involve some kind of arbitrariness, and which therefore might invite some variation. Specifically, how does the rising intonation serve to value the coincidence feature positively? Everything else being equal, this appears to be arbitrary. However, everything else is not equal. Specifically, Bolinger (1998: 45) argues that intonation is similar to other paralinguistic features in that it: "is highly iconic and must be studied in relation to the entire gestural setting, especially facial expression, and expressive body language. A higher pitch is typically associated with higher positions of the eyebrows, shoulders and often hands and arms."

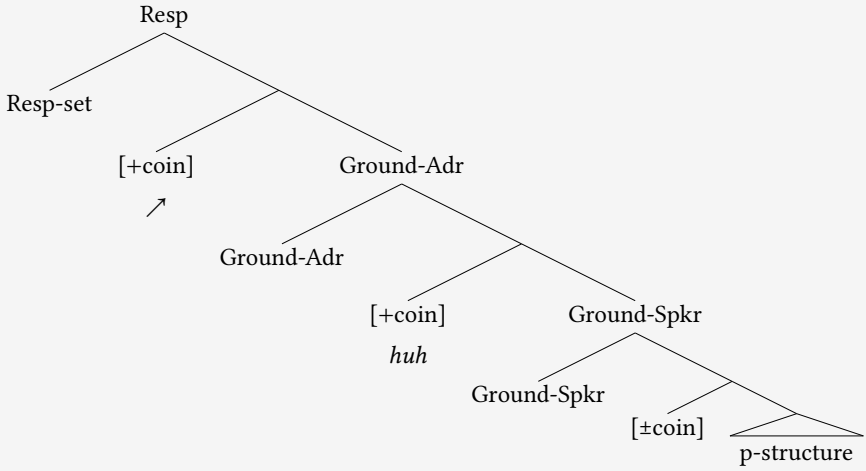
Note moreover that a state of confusion, a lack of understanding, and/or epistemic ignorance is often accompanied by a particular type of body language: rising eyebrows and lifted shoulders. Hence, I argue that rising intonation, mirrors the rising body language associated with ignorance and that it is this iconicity which is responsible for positively valuing the coincidence feature in Resp. In sum, the meaning of the OIR comes about as a combination of iconicity (embodied ignorance) and the meaning provided by the spine (requesting a response). It is for this reason that *huh* as an OIR appears to be a universal word.

4.2 *Huh* beyond its use as OIR: The meaning of *huh* on the spine

In this section I turn to an analysis of the various functions of *huh* and I will show that the ISH allows for a straightforward analysis. First consider the use of *huh* as a confirmational, i.e., when it is used to request confirmation for the content of the host utterance, as in (7) repeated from above.

(7) You liked this movie, huh?

(15) *huh* as a confirmational



As a confirmational, *huh* has a different distribution than as an OIR: it is used as a sentence final particle. This contrasts with its use as an OIR, where it is typically used in isolation. According to Wiltschko (2021), *huh* as a sentence-final particle associates with the addressee-oriented grounding layer while the rising intonation it carries is associated with Resp, as in (15).

This analysis captures several properties of *huh* as a confirmational. First, *huh* is not only used to confirm the truth of p but it also expresses a particular bias towards the epistemic state of the addressee. Specifically, the speaker believes that the propositional content is part of the addressee's ground (i.e., Gunlogson's 2003 commitment set). This is implemented by the assumption that *huh* positively values Ground-Adr. A second distinctive property of *huh* as a confirmational has to do with the fact that the speaker themself has no epistemic bias towards the propositional content (in other words they

don't know).[19] This is implemented by leaving the coincidence feature in Ground-Spkr unvalued.[20] Note that this is precisely the reason why the use of *huh* makes it possible to utter a statement about a subjective judgement held by the addressee, as in (7). As is well-known, a bare declarative would be infelicitous as, under normal circumstances, a speaker cannot tell someone else what they like. This is a matter of subjective judgement.

(16) #You liked this movie.

In sum, the contribution of *huh* (7) is best paraphrased as in (17).

(17) ≈ I don't have a basis to commit to p. I believe that you believe p. Confirm that this is the case.

Evidence that this analysis is indeed on the right track comes from the following considerations. First, in contexts where the speaker is committed to the truth of the propositional content, i.e., when they clearly know, the use of *huh* is infelicitous, as shown through the minimal pair in (18). In (18a), the speaker may have only indirect evidence that their addressee has a dog and hence the use of *huh* is well-formed. In contrast, if the speaker is the owner of the dog, they are likely to have direct evidence for this state of affairs. Hence, the use of *huh* is ruled out, as in (18b). (Note that the only context which would allow for the use of *huh* in this sentence is if the speaker really

[19] As pointed out by an anonymous reviewer, these use-conditions seem identical to those described for rising declaratives in Gunlogson (2003). This is not surprising, given the proposal introduced above that *huh* mainly serves as a host for rising intonation. A detailed empirical and analytical comparison between rising declaratives and *huh* suffixed declaratives is still outstanding. Preliminary evidence suggests that the use-conditions are slightly different: for rising declaratives to be felicitous, the proposition has to be completely new (and thus somewhat surprising) to the speaker; for *huh* declaratives the speaker may have had some evidence prior to the time of the conversation, for example via hear-say (on the relevance of the timing of belief see Heim & Wiltschko 2022).

[20] Absence of valuation in the interactional spine does not lead to ill-formedness. This differs from what we observe in propositional structure. Here all features must be valued for well-formedness. Wiltschko (2021) argues that this difference has to do with the type of meaning derived: for propositional language the resulting meaning is about assigning a truth value and hence absence of valuation is fatal; for interactional language absence of valuation simply leads to expression of ignorance, which is not fatal to a successful conversation.

doesn't know if they have a new dog, e.g., in the case of amnesia).

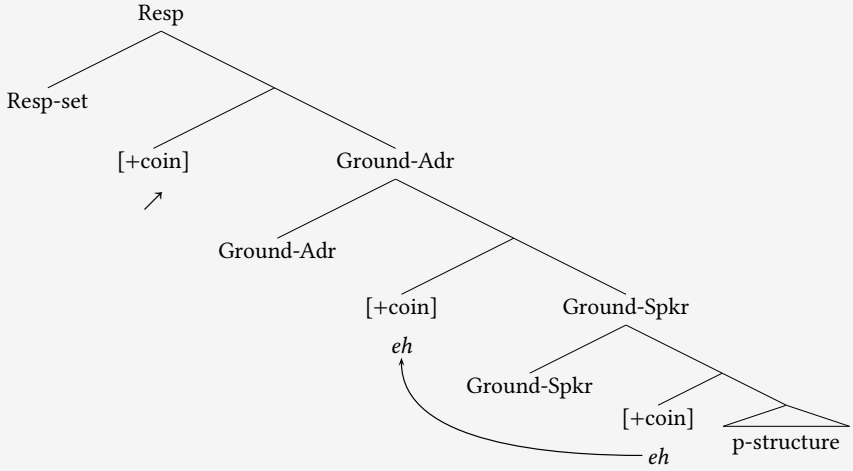
(18) a. You have a new dog, **huh**?
b. I have a new dog, *__huh__?

Crucially, not all sentence-final particles behave in this way. According to Wiltschko (2021), the sentence final particle *eh*, a hallmark of Canadian English, is compatible with a speaker's commitment to the propositional content (cf. Wiltschko & Heim 2016). Hence it can be used even if the speaker clearly knows that the proposition is true. Its contribution in this case is to request confirmation from the addressee that they also know p. This is shown in (19).

(19) a. You have a new dog, **eh**?
b. I have a new dog, **eh**?

Thus, *eh* is analysed as positively valuing both Ground-Spkr and Ground-Adr, while its rising intonation associates with Resp, as was the case with *huh*. This is illustrated in (20).

(20) *eh?* as a confirmational



Finally, consider the use of *huh* in isolation but with falling intonation as in (21) repeated from (6) above. This is an instance of *huh* which appears to have yet another function: the speaker expresses that propositional content

is novel, but that they have no reason to contest it, as in the paraphrase given.

(21) I: You have to fly to Paris
R: huh\
[≈ I didn't know that but I get it]

I propose that this use of *huh* be analyzed as follows. First, the absence of rising intonation indicates that the speaker does not request a response from the addressee. I assume that falling intonation is in fact absence of a (meaningful) intonational tune. That is, while it is impossible to utter anything without intonation, it is also the case that pitch declines automatically with the decrease in subglottal air pressure (Cohen & Collier 1982). Thus, falling intonation is the unmarked default case and I assume that it is not associated with RespP. This is consistent with the fact, that unlike in its use as an OIR, when used with falling intonation, *huh* does not request a response from the interlocutor and hence no response is needed. In this way rising *huh* and falling *huh* differ, as shown in (22) and (23). When *huh* is realized with rising intonation it functions as an OIR and hence the interlocutor needs to respond, as in (22); when *huh* is realized with falling intonation, no such response is required, though of course the interlocutor may react, as in (23).

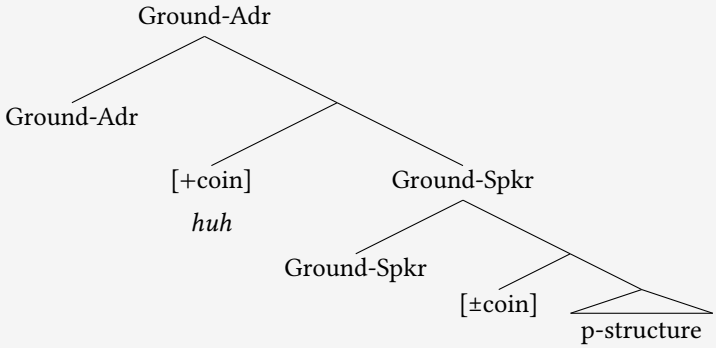
(22) I: You have to fly to Paris
R: huh/
I1: *[silence]
I2: You have to fly to Paris. I thought you knew.

(23) I: You have to fly to Paris
R: huh\
I1: [silence]
I2: It'll be cool, no?

Now, if the segmental content of *huh* when used as an OIR is indeed only present to provide a host for the intonation, and if falling intonation is not meant to be meaningful, then it follows that in this case *huh* must have a life of its own. It cannot merely be used as a host for intonation if there is no intonation to begin with. I propose that in this context its analysis is in fact similar to when it is used as a confirmational. Specifically, I propose

that it associates with Ground-Adr while Ground-Spkr remains unvalued. No RespP projects and the propositional content is silent; it is interpreted as referring to the preceding propositional content to which it reacts. This is illustrated in (24).

(24) *huh* as a marker of surprise



This analysis captures the paraphrase for this use of *huh* given in (21) as follows. Leaving Ground-Spkr unvalued indicates that the propositional content is not in the speaker's ground, but at the same time that there is no information to the contrary. That is, it is NOT asserted that the propositional content is NOT in the speaker's ground. It simply remains unvalued. The assumption that Ground-Adr is positively valued reflects the fact that the speaker acknowledges that the propositional content is in the addressee's ground. Following assumptions about the normal course of a conversation (i.e., we believe that the interlocutors will say things that are true) this suggests then that the speaker is not about to contest their interlocutor's claims. And finally, the absence of a request for response makes it clear, albeit indirectly, that the speaker accepts their interlocutor's statement. Otherwise, further response would be requested.

There is however a context, in which this use of *huh* is well-formed but which does not include an interlocutor, as in (25).

(25) Context: I'm watching the news. They are presenting a new invention that promises to reverse climate change, which appears to actually work.

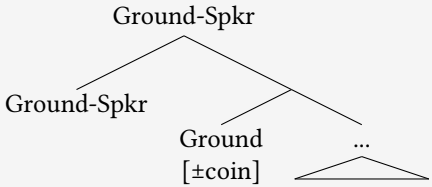
I: *huh!*

Since there is no addressee, the question arises as to why one would use a form which is dedicated to talking about the addressee's epistemic state. I submit that in (25) the speaker engages in a form of *you*-centered self-talk. As we have seen the use of *huh* is felicitous in self-talk, and in what follows I turn to an analysis of *huh* in the context of self-talk.

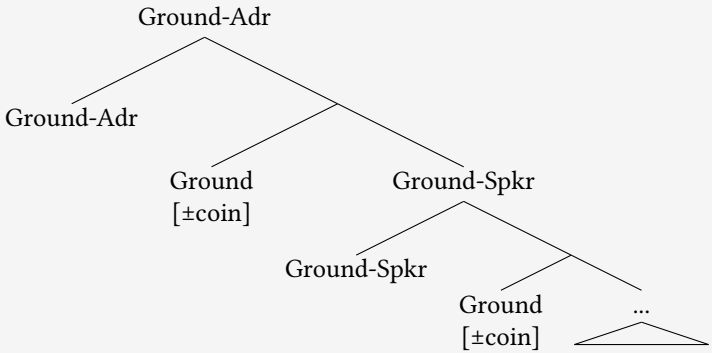
4.3 *Huh* in self talk: the significance of grammatical knowledge

As we have seen in Section 2.3, *huh* is felicitous in *you*-centered self-talk but not in *I*-centered self-talk. According to Ritter & Wiltschko (2021), the two types of self-talk differ in the interactional structure involved and this is what accounts for the observed restrictions on the use of *huh*. Specifically, they argue that *I*-centered self-talk is a way of thinking out loud, while *you*-centered self-talk is like having a conversation with oneself, i.e., the speaker treats themself as the addressee. The ISH provides a straightforward way to account for this distinction: *I*-centered self-talk is characterized by the absence of Ground-Adr, while in *you*-centered self-talk Ground-Adr is present. This is illustrated in (26).

(26) a. *I*-centered self-talk



b. *you*-centered self-talk



The fact that *huh* as a confirmational is restricted to *you*-centered self-talk follows straightforwardly. Since *I*-centered self-talk lacks Ground-Adr, and since *huh* as a confirmational is associated with Ground-Adr, it follows that *I*-centered self-talk is incompatible with *huh*. Ritter & Wiltschko (2021) provide independent evidence for the proposal in (26). Specifically, there are two other phenomena that require the (syntactic) presence of the addressee role: imperatives (cf. Zanuttini 2008) and vocatives (Hill & Stavrou 2014). Crucially, neither of these are possible in *I*-centered self-talk but are perfectly well-formed in *you*-centered self-talk, as illustrated in (27) and (28).

(27) Self-talk

a. *Stop putting me down!
b. Stop putting yourself down!

(28) Self-talk (by Martina)

a. *Martina, I can do it.
b. Martina, you can do it.

This confirms that there is a correlation between the possibility for using *huh* and the presence of an addressee-oriented syntactic position (Ground-Adr according to the ISH). The intriguing thing about these restrictions on self-talk is that they show that it really makes a difference that grammar provides this addressee-oriented projection. It does not matter if – in the real world – the speaker is identical to the addressee. That is, grammar does not care and treats the addressee as an inaccessible mind with whom the speaker wishes to synchronize their mind. This is further established by the fact (observed in Holmberg 2010) that *you*-centered self-talk, like a regular conversation with another person, does not allow for bare declarative assertions of something that requires a subjective judgment. This is shown by the contrast in (29).

(29) Self-talk

a. I can't believe my luck.
b. *You can't believe your luck.

The properties of self-talk provide novel, and rather striking, evidence for the assumption that there is a layer of grammatical structure dedicated

to encoding the epistemic state of the interlocutor. Real-world knowledge about the context cannot override the constraints that are intrinsic to the grammatical roles introduced, even if they are pragmatic roles like speaker and addressee.

In sum, I argue that the properties of *huh* in all its functions follow from the assumption that it associates with the spine where it derives its various meaning components and where it combines with intonation.

A skeptical reader may wonder whether it really is necessary to assume that *huh* is integrated into syntactic structure or whether it might not be better treated with a semantic-pragmatic presupposition analysis. While I do not deny that it might be possible to develop such an analysis, I am not aware that such an analysis of *huh* currently exists. It seems, however, based on the facts I have discussed here, that such an analysis cannot rely on a single lexical entry – the meaning patterns simply are too varied. The analysis I have developed here derives these complex patterns via assumptions that have independently been introduced (Wiltschko 2021) and which also derive cross-linguistic patterns of confirmationals and response markers. It remains to be seen whether a presupposition-based analysis can achieve the same generality.

5 What is the syntax-pragmatics interface?

In this paper, I set out to explore the question regarding the nature of the syntax-pragmatics interface. While much recent work within the generative tradition explores topics that are considered to be at the syntax-pragmatics interface, the question as to what this interface might look like is hardly addressed. To be clear, as we have seen, much work is dedicated to the syntacticization of discourse phenomena including speech acts. However, the question as to how and where the content that comes with this structure is interpreted remains to be answered (but see Trotzke 2015). That is, even if we take for granted that syntactic structure contains context-sensitive (i.e., pragmatic) content, we still need to address the question as to where and how this content is interpreted. Within standard generative modelling there is no obvious locus for this interface. This is unlike what is the case for the interface between syntax and phonology or syntax and semantics: both have a dedicated locus in grammatical modelling (PF and LF, respectively).

The proposal I have pursued here is a particular version of syntacticizing

speech acts, namely one that centers around interaction. The empirical domain I used to support this hypothesis was the use of *huh* – a unit of language that is used exclusively in conversational contexts and which derives much of its interpretation from its context of use. I have demonstrated that grammar (i.e., syntactic structure) is involved in regulating the form, function, and distribution of this apparently simple form. I have shown that much of the properties of *huh* fall out straightforwardly from the interactional spine hypothesis, according to which certain well-defined aspects of language in interaction are regulated by the same system that regulates the construction of propositional thought. That this is indeed the case is supported by the fact that interactional language (like *huh*) does have all the hallmarks of grammatical knowledge (Wiltschko 2021, 2022). That is, one of the core properties of grammar is that it mediates the relation between form and meaning. This is seen based on the fact that individual units of language are multi-functional in ways that suggest that grammar adds meaning to them. *huh* is not an exception and I proposed an analysis according to which the multi-functionality of *huh* is mediated by syntactic structure (namely the interactional spine). In addition, we have also seen evidence that even seemingly simplex forms have to be computed for their interpretation: they consist of at least the lexical form and their intonation. Thus, there has to be a system in place that combines the two, and arguably this is the computational system that is responsible for all forms of composition.[21]

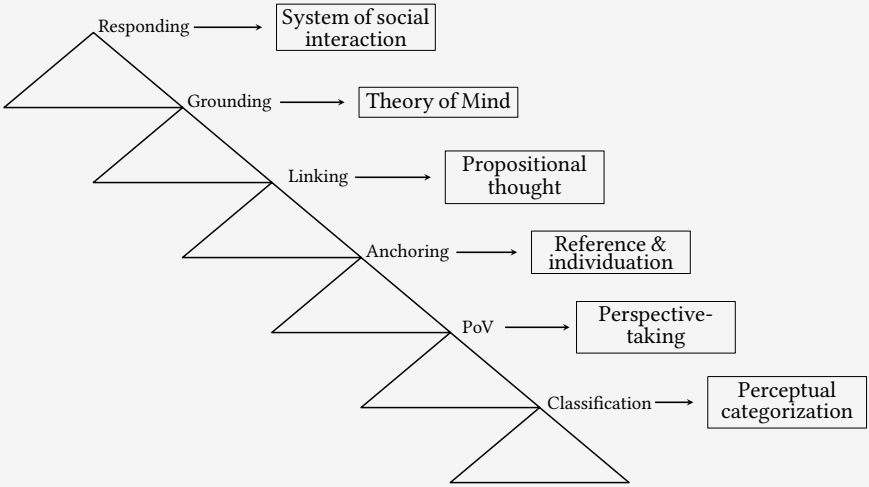
In sum, we now have a partial answer to the question regarding the syntax-pragmatics interface: syntax regulates some aspects of knowledge that is traditionally viewed as belonging to the realm of pragmatics in the sense of contextual knowledge. According to the particular version of this proposal, which I have adopted here, it is the abstract arguments on the spine which allow for contextual knowledge to be systematically integrated into syntactic computation. Moreover, on this view, there are layers of the spine that are dedicated to regulating linguistic conversation (grounding and responding). Given these assumptions, we can conclude that there is

[21]Wiltschko (2021, 2022) provides two other pieces of evidence that grammar regulates interactional language: it is structure-dependent and displays familiar patterns of contrast and paradigmaticity.

not really a dedicated syntax-pragmatics interface. Rather what is taken to be pragmatic information is distributed across various domains: each layer of structure incorporates a particular type of contextual information. In this way, this proposal is in the spirit of the insight that defines *distributed morphology*, according to which morphological knowledge does not interface with syntactic knowledge in one dedicated place ("the syntax-morphology interface") rather, it is distributed across the model. I suggest that the same is true for pragmatic knowledge: it is distributed across the model and there is not one dedicated "syntax-pragmatics interface".

Thus, the spine provides a nuanced way of viewing the so-called interface between syntactic computation and a general conceptual-intentional system. That is, the interactional spine hypothesis, which is in turn an extension of the universal spine hypothesis (Wiltschko 2014), has it that each layer of structure comes with a specific function which provides meaning to the units of language that associate with. This view makes it possible to assume that each of these layers does in fact "interface" with a particular cognitive domain, including domains that relate to interpreting language in use. I sketch a tentative proposal to this effect in (30) where each layer relates to a particular cognitive capacity that goes beyond language. The interactional spine has a responding layer which interfaces with the system of social interaction and the two grounding layers interface with what is known as *Theory of Mind*. As for propositional structure, Wiltschko (2014) proposes four layers, each with a dedicated function. At the bottom we find Classification, which serves to classify events and individuals (e.g., telicity or the mass/count distinction, for example). It arguably interfaces with perceptual categorization. Next comes a Point-of-View layer, which is responsible for introducing a point of view (as for example in the form of aspect). Arguably it interfaces with our ability to take perspective. Next comes the Anchoring layer, which is responsible to connect the event or individual to the utterance situation (as for example in the form of tense or definiteness). Arguably it interfaces with our ability for reference and individuation. And finally, the linking layer serves to connect the constructed reference to the larger discourse context. Arguably it interfaces with propositional thought.

(30) The spine with its interfaces



Whether this view on grammar and its relation to context on the one hand and other cognitive domains on the other is on the right track is an empirical question and defines a research program. In addition to testing further whether it is able to model particular patterns of natural language in connection to cognitive abilities in typically developed adults, one would also want to test this hypothesis based on other populations. Specifically, one will have to explore whether this hypothesis can model data from language acquisition as well as from language profiles in neuro-diverse populations.

Before we conclude, there is still an important point to make. The view on the syntax-pragmatics interface I have just sketched does not imply that all of pragmatic knowledge, or all of language in interaction for that matter is regulated by the spine. There still is room for pragmatic knowledge outside of syntax. While the spine regulates the distribution and interpretation of units of language that pertain to linguistic interaction (such as OIRs and confirmationals) it does not determine when they are actually used. For example, while the interactional spine allows for different moves to be overtly marked as either initiating (via rising intonation) or reacting (via a dedicated response marker), this is not always necessary. The logic for move-typing is not only constraint by the interactional spine, but is also constrained by assumptions about the normal course of a conversation. Discourse markers are obligatory only when conversations depart from the

normal course (Heritage 2015). To see this, consider the contrast illustrated in (31) based on the distribution of *well*. According to Wiltschko (2021), *well* is used to mark an utterance as a response (by positively valuing Resp in a reaction move). Of course, not every reaction has to be marked as a response. For example, under normal circumstances, a question is answered and the fact that answering is a reacting move need not be typed. It follows from our assumptions about the normal course of a conversation. Thus, in (31), *yes*, cannot be preceded by *well*. However, if the reaction is not an expected response (i.e., a polar response particle in response to a yes/no question) then the reaction may be marked with *well*. That is, since the type of response departs from assumptions about the normal course of a conversation, the reaction can be marked as such and *well* is well-formed.

(31) I: Did you go to Paris?
R1: *Well, yes
R2 Well, I was sick.

In conclusion, the purpose of this paper was to explore the nature of the syntax-pragmatics interface. Using *huh* as a case-study, I concluded that we cannot perceive of the syntax-pragmatics interface as a unified phenomenon. This is perhaps unsurprising given the model of grammar standardly assumed within generative grammar: there simply is no dedicated place for such an interface. Rather I have shown that there is evidence that what is typically considered pragmatic knowledge (i.e., contextual information) is systematically distributed across the spine. Aspects of pragmatics are in fact part of syntax, while others come about through our general capacity for inferencing. This conclusion echoes a recent proposal in Mao & He (2021) according to which pragmatic competence is modular.

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