

## ‘What and then a little robot brings it to you?’ The reactive *what-x* construction in spoken dialogue<sup>1</sup>

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In the process of compiling a new corpus of contemporary spoken British English, the *London–Lund Corpus 2*, we hit upon a construction used in the conversations recorded that had not previously been dealt with in the literature, namely the reactive *what-x* construction. Prompted by this discovery, we carried out a detailed analysis of its properties and constraints within the broad framework of Cognitive Linguistics, namely Construction Grammar, and found that the reactive *what-x* construction features the interrogative *what* directly followed by a phrasal or clausal complement *x*. Moreover, *what* forms one tone unit with the complement and never carries a nuclear pitch accent. The core meaning is to signal an immediate reaction to something said by another speaker in the preceding turn, and the dialogic functions include questions proper as well as expressions of disagreement. The two contributions of this study are: (i) to provide a definition of the reactive *what-x* construction and (ii) to propose a crucial theoretical extension of Construction Grammar involving a broadening of the concept of construction to cover not only the lexical–semantic pairing but also prosodic properties and the role of the construction in the interactive dialogic space in speech.

**Keywords:** *what*, dialogicity, spoken discourse, *London–Lund Corpus 2*, Construction Grammar

### 1 Introduction

Everyday conversation is the most basic use of language in all societies and cultures in the world (Chafe 1994; Clark 1996; Tomasello 1999, 2003; Du Bois & Giora 2014). It is dynamically co-constructed and demands a high degree of joint attention and coordination by the interlocutors. Being engaged in conversation entails a common conceptual ground and shared intentionality among the participants. It is therefore not surprising that spoken dialogue features expressions that support these socio-cognitive and dialogic characteristics. This study is concerned with one such construction,

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namely the REACTIVE *WHAT-X* CONSTRUCTION, and the data are from the *London–Lund Corpus 2* (LLC-2), a new corpus of spoken British English with recordings taken between 2014 and 2019. An example of the construction from the corpus is given in bold in (1).<sup>2</sup>

- (1) A: we've got like fifty students they have to put up their work so we might have to put some screens in <pause/> uhm  
 B: **what for film** <pause/> **or screens to** [separate the spaces]  
 A: [screens to] separate the spaces

The construction is produced by speaker B and contains the interrogative pronoun *what* and the phrasal complement *for film or screens to separate the spaces*. In contrast to standard uses of the interrogative pronoun *what* where the pronoun is an argument of the verb and typically followed by a finite verb form, *what* in (1) connects directly with the subsequent prepositional phrase. The construction expresses a prompt reaction to what A says in the preceding turn in order to counteract the hovering knowledge gap between the interlocutors.

To the best of our knowledge, the reactive *what-x* construction has not received any attention in the literature so far. The only exception is a mention in passing in Stenström (1984), who gives an example of the reactive *what-x* construction – although she does not refer to it as such – and treats it as a request for clarification (see section 2.1 below). She does not, however, define the construction on the basis of its distinct form–meaning and interactive functional characteristics in spoken dialogue. This is exactly what this study sets out to do. Couched in the broad framework of Cognitive Linguistics (Langacker 1999, 2009; Croft & Cruse 2004) with a focus on Constructions (Goldberg 1995, 2006), and with developments into prosody and dialogue (Du Bois 2007; Pöldvere *et al.* 2016), we address three research questions.

1. What are the form–meaning properties of the reactive *what-x* construction?
2. What dialogic functions does the construction have in spoken dialogue?
3. How common is the construction in a sample from LLC-2 relative to other *what*-constructions?

The corpus analysis reveals that the reactive *what-x* construction is regularly used and that the combination of the interrogative pronoun *what* with a phrasal or clausal complement *x* has become conventionalised as a unit in English conversation. Following Linell (2009a), we argue that it is not only the internal grammatical structure, the *what-x* element, which links the form of the construction to its meaning, but it is the combination of the *what-x* element and the sequential dialogic context in which it occurs that makes it a reactive *what-x* construction. Furthermore, a closer inspection of the use of the construction in interaction reveals that immediate reaction is the general meaning or use potential of the construction (Paradis 2008, 2011) and that speakers exploit it to achieve a variety of socio-communicative goals, ranging from

<sup>2</sup> See section 3.1 for an explanation of the transcription and markup conventions used in LLC-2.

asking questions to expressing disagreement. Besides identifying and defining the reactive *what-x* construction, this study also makes an important theoretical contribution to Construction Grammar by taking it to the level of interaction in spoken dialogue. It furthers our understanding of the nature of constructions and shows that dialogic information is evoked by the construction through its embedding in the interactive dialogic space in speech.

The article is organised as follows. [Section 2](#) presents the background to the study, including previous work on *what* and spoken Construction Grammar. [Section 3](#) introduces the sample from LLC-2 and describes the procedure of identifying the reactive *what-x* construction among all other *what*-constructions. [Section 4](#) is concerned with determining the frequency and distribution of the reactive *what-x* construction in the sample and its form–meaning characteristics. [Section 5](#) identifies the dialogic functions of the construction, and finally, [section 6](#) summarises the study.

## 2 Background

In this section, we will first outline the different uses of *what* in contemporary English, which are primarily based on data from spoken sources ([section 2.1](#)). Then, we take a look at the limited number of studies that have been conducted on spoken dialogue from a constructionist perspective ([section 2.2](#)).

### 2.1 Different uses of *what* in contemporary English

*What* has primarily two uses in English: the pronominal use and the determiner use. Despite the grammatical differences, both the pronoun *what* and the determiner *what* are used in direct questions as placeholders for what is unknown, as illustrated in (2) and (3) respectively.<sup>3</sup>

(2) **What**'s your address? (Quirk *et al.* 1985: 371)

(3) **What** nationality is she? (Quirk *et al.* 1985: 371)

Closely related to the interrogative determiner is the exclamative determiner, which like *what*-questions appears in initial position with respect to the rest of the utterance. The function of the exclamative determiner *what* is, however, not to seek information but to act as an emphatic and expressive element, as shown in (4). *What* also functions as a subordinate element. In (5), the pronoun *what* introduces a nominal relative clause.

(4) **What** a fine watch he received for his birthday! (Quirk *et al.* 1985: 803)

(5) I eat **what** I like. (Quirk *et al.* 1985: 1056)

Due to the bias of formal written language in textbooks and grammar books about the English language (Carter & McCarthy 2017), it is not surprising that descriptions of patterns of *what* in informal speech or writing are typically not included. However,

<sup>3</sup> Note that in most examples in the present section, and sections 3 and 4 below, only *what* is given in bold to facilitate the task of the reader.

thanks to the availability of spoken language corpora since the mid-twentieth century, grammar books such as Quirk *et al.* (1972, 1985) and Leech & Svartvik (2002) also include examples from authentic spoken material, which are accompanied by information about tone unit, pitch location and direction, etc. This development is crucial because prosody is part and parcel of linguistic units in speech and conveys important discourse-functional information about meaning in language (Bolinger 1989; Cruttenden 1997). Such grammar books reveal further uses of *what* that rarely feature in the written mode. For example, Leech & Svartvik (2002) discuss so-called response questions such as short questions, (6), echo questions, (7), and general requests for repetition, (8). In all cases, *what* typically carries a nuclear pitch accent, either falling in (6) or rising in (7) and (8) (marked by \ and / respectively; see section 3.3 below for an explanation of the symbols used).

- (6) A: The old lady's buying a house.  
 B: **Wh\at** old lady? (Leech & Svartvik 2002: 134)
- (7) A: He's a dermatologist.  
 B: He's a **wh/at**? (Leech & Svartvik 2002: 135–6)
- (8) A: I'll make some coffee.  
 B: **Wh/at**? (Leech & Svartvik 2002: 136)

Quirk *et al.* (1985) give examples of *what* that, like (6)–(8) above, are accented but that function as expressions of surprise and incredulity rather than as questions. One such example is given in (9). In historical linguistics, these uses of *what* are generally referred to as pragmatic markers (e.g. Brinton 1996, 2008; Lutzky 2012). Example (10) presents another use of *what*, namely the parenthetical *what*, which always forms part of the preceding tone unit and is followed by a tone unit boundary (Dehé & Kavalova 2006). Prosody explains the fixation of the parenthetical *what* to clause-medial position typically in front of a cardinal number, and the function of the parenthetical is to frame the cardinal number as being 'too little/few' or 'too much/many' (Dehé & Kavalova 2006: 303). Furthermore, *what* can be used in split interrogatives to make a guess (Michaelis & Feng 2015). The split interrogative in (11) receives two nuclear pitch accents, the first one on *what* and the second one on *monk*.

- (9) A: I paid £1000 for that picture.  
 B: **Wh/at**? You must be mad. (Quirk *et al.* 1985: 836)
- (10) I've been dreaming of winning a gold medal for **what** 20 years now. (Dehé & Kavalova 2006: 289)
- (11) NEIL McCauley: [...] So if you're chasing me and you gotta move when I move, how do you expect to keep a family?  
 LT. VINCENT HANNA: That's an interesting point. **What are you, a monk?** (Michaelis & Feng 2015: 163)

As already stated in the introduction, this study presents another use of *what* primarily found in spoken registers, the reactive *what-x* construction. Despite having gone unnoticed in language research so far, an example of the reactive *what-x* construction,

although not labelled as such, is given in Stenström (1984). It is taken from the *London–Lund Corpus* (henceforth LLC-1) and presented here in (12).<sup>4</sup>

- (12) A: one wouldn't [ə:] have the nerve to take that one would one .  
 B: **what that nude** .  
 A: yeah  
 B: yes well it's sort of too . yes (Stenström 1984: 59)

In the example, speaker A asks B a question about B's choice of pictures, a question that B is unable to respond to. Instead, B produces his own question (in bold), constituted by the unaccented interrogative pronoun *what* and the noun phrase *that nude*. After A's confirmation (*yeah*), B answers the first question. According to Stenström (1984), B's question is a request for clarification that the speaker needs to make to be able to respond to A's original question. Stenström's (1984) analysis, however, does not include any explanation about the idiosyncratic formal properties of the construction, and the one example provided by her does not account for the range of interactive functions that the construction has in spoken dialogue.

## 2.2 Constructionist approaches to spoken dialogue

Spoken language in all its complexity and flexibility has been the preferred object of study in Conversation Analysis (CA) and interactional linguistic approaches to language (e.g. Sacks *et al.* 1974; Ochs *et al.* 1996; Couper-Kuhlen & Selting 2001; Heritage & Clayman 2010; Thompson *et al.* 2015). These frameworks have embraced the dynamic and situationally grounded nature of spoken interaction and sought to explain through detailed sequential analyses of the phenomena in question the recurring practices that members of a speech community carry out when they are engaged in conversation. By concentrating on what is observable in a language rather than what cognitive processes are linked to the storage and retrieval of the units that make up language, conversation analysts have, in the words of Fischer (2015: 580), resisted 'the use of cognitive concepts and explanations'. In contrast, cognitive principles and mechanisms form the basis of grammatical theories of language within the broad framework of Cognitive Linguistics including Frame Semantics and Construction Grammar (CxG; e.g. Langacker 1987; Fillmore *et al.* 1988; Goldberg 1995, 2006; Michaelis & Ruppenhofer 2001; Croft & Cruse 2004; Hilpert 2014; Boas & Ziem 2018). Still, there have been a number of laudable attempts to straddle the gap between CA and cognitively oriented grammatical models of language (e.g. Fried & Östman 2005; Deppermann 2006; Imo 2005, 2015; Linell 2009a; Wide 2009; Brône & Zima 2014; Fischer 2015). These studies have concluded that the two approaches can inform each other in important ways, but they have also pointed out that this is only possible if a deeper understanding of the relation between cognition and interaction is reached within the boundaries of the respective frameworks themselves. From the point of

<sup>4</sup> In the corpus, short pauses are marked by . and hesitations by [ə:].

CxG, this understanding concerns the nature of the units of a language, or the information expressed by constructions.

In the early days, the study of constructions was mainly concerned with elements of language that were not words *per se* but idiosyncractic or maximally schematic multi-word units (see Lakoff 1987 on *there*; Fillmore *et al.* 1988 on *let alone*; Goldberg 1995 on argument structure; Jackendoff 1997 on *time-away*). They attracted researchers' interest because they did not obey traditional phrase and clause structure rules. Later on, this conservative view was relaxed and a broader view of language description and explanation was embraced (e.g. Croft 2001; Goldberg 2006; Fillmore & Baker 2010; Fillmore *et al.* 2012) in which language is regarded as a collection of form–meaning pairings. These form–meaning pairings, or constructions, are conventionalised elements of some size in language that are organised in a network based on family resemblance (Goldberg 2006).<sup>5</sup> In fact, the uses of *what* described in section 2.1 above are best described as a network of *what*-constructions where *what* has become conventionally associated with a particular syntagmatic context and a corresponding constructional meaning (for a discussion of *wh*-question constructions, see Goldberg 2006).

Although CxG takes as its starting point a relatively narrow conception of language dealing with clause structure, the broader context is not an alien concept in the framework. In fact, CxG developed out of the work by Charles J. Fillmore and colleagues on Frame Semantics (and later on FrameNet), where emphasis is put on the coexistence of the 'cognitive frame' and the 'interactional frame' and the way we 'conceptualize what is going on between the speaker and the hearer' (Fillmore 1982/2006: 381). This interactional information is represented in constructional knowledge as has been done in the representation from Croft & Cruse (2004) in figure 1. As can be seen in figure 1, the conventional meaning of a construction is all-inclusive and features properties related to semantics, pragmatics and discourse-function. For example, the *What's X doing Y?* construction (Kay & Fillmore 1999), famously featured in the joke *Waiter, what's this fly doing in my soup?*, has a special constructional meaning of surprise and displeasure that is not simply a case of conversational implicature derived from the literal interpretation (as in the waiter's reply: *Madam, I believe that's the backstroke*). Instead, the pragmatic interpretation of the construction as expressing disapproval is directly encoded in its meaning (cf. Michaelis & Feng 2015; Cappelle 2017).

There is a fast-growing body of research within CxG that is truly committed to extending the conception of construction into the realm of dialogicity and interaction. Some of it is incorporated under the umbrella of Dialogic Syntax (Du Bois 2014),

<sup>5</sup> This definition is slightly different from the definition of the notion of symbolic unit in Cognitive Linguistics where conventionalisation and frequency are not *per se* constraints. A symbolic unit in Cognitive Linguistics is the association between form and meaning (e.g. Langacker 1987; Cruse 2002; Paradis & Willners 2011; Paradis 2015; Michaelis 2017). Thus, all combinations of a form (spoken or written) with a meaning in a given context are constructions independently of whether they are uttered for the first time or whether they are frequent matches.

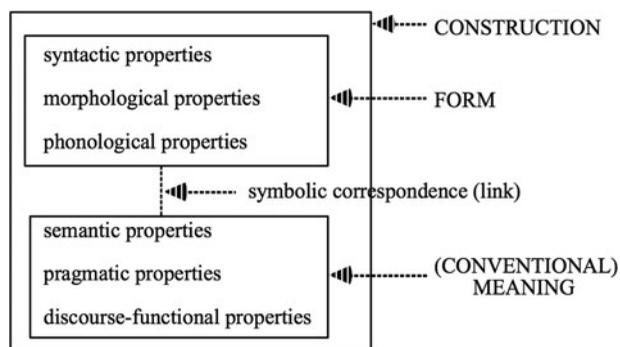


Figure 1. The form–meaning correspondence of a construction (Croft & Cruse 2004: 258)

which deals with the interplay between structural parallelism and dialogic engagement. Other studies are concerned with linguistic categories and specific expressions in them that are either under-researched or pose a challenge to purely grammatical models of language. For example, Imo (2005) describes the prosodic, syntactic and functional properties of the phrase *I mean* in spoken American and British English in order to explain the relationship between *I mean* and other, more schematic constructions such as discourse markers and complement-taking verb-constructions. Similarly, Fried & Östman (2005) carry out a close analysis of a number of pragmatic particles in the Swedish dialect Solv and contemporary spoken Czech. They show that each particle displays properties that constitute a network of expressions, which is characterised by overlapping formal and/or functional attributes and values on the one hand and by idiosyncrasies that distinguish them from each other on the other hand. In the network, each usage pattern is a construction that incorporates not only syntactic and semantic information but also prosodic, pragmatic and culture-specific aspects of communication. Fried & Östman (2005: 1776) conclude that ‘CxG is well equipped to address the complexities of spoken language, if one allows the notion of construction to be extended in a dialogical direction.’

The contributions in Deppermann & Günthner (2015) suggest that there is another key feature of spoken interaction that is central to the way grammatical constructions are conceptualised in language: the temporal unfolding of the interactional sequence. Linell (2009a: 97) takes a rather strong position and criticises CxG for suffering from ‘an interactional deficit’, ignoring the information that constructions encode with respect to sequential dependencies in discourse. He studies the Swedish reactive construction *x-och-x* (e.g. *flytta och flytta* ‘move and move’), which he considers to belong to the category of responsive constructions alongside, for example, concessive repairs (e.g. *I can switch off well not really switch off but you know relax*; Couper-Kuhlen & Thompson 2005: 262–3). The *x-och-x* construction arises when a speaker repeats a key word or expression, i.e. the *x* element, from the previous utterance to problematise the situated use of that word or expression. The construction projects a segment where the speaker aims to make clear that the *x* element contains a

number of different readings and that the reading used by the interlocutor may not have been the most appropriate one. According to Linell (2009a), the conditions that the construction sets up on the previous sequence, and the conditions that it sets up on the subsequent sequence, necessarily form part of the speakers' knowledge of its use in language. Linell (2009a) also makes an important distinction between the meaning potential (or 'functional potential') of a construction and its actualisations in natural language use (cf. Paradis 2011). The *x-och-x* construction, for example, 'has somewhat different semantic-pragmatic effects depending on the meaning potential of the lexical item (*x*) with which it interacts' (Linell 2009a: 105).

Elsewhere, Linell (2009b: 300–2) discusses the responsive and projective properties associated with *what*-constructions. He notes that, while *what*-pseudo-clefts (e.g. *what I want to do is travel*) have responsive properties, which explains why the construction only becomes relevant if something in the prior context requires further elaboration (see Günthner 2006 for German), interrogative *what*-constructions are primarily projective and make relevant certain kinds of responses, depending on the design of the question. As will be shown below, the reactive *what-x* construction shares important features with these constructions as it is closely tied to the sequential and dialogic organisation of speech.

### 3 Data and method

This section presents the methodology of the study. Section 3.1 introduces the corpus, LLC-2, and section 3.2 the sample from which all the utterances containing *what* were retrieved. The classification criteria of the *what*-constructions are established in section 3.3.

#### 3.1 London-Lund Corpus 2

The data for the present study come from a new corpus of spoken British English, LLC-2, collected between 2014 and 2019.<sup>6</sup> The corpus contains around 500,000 words of both dialogue and monologue. The speakers are educated adult speakers of British English. An important feature of LLC-2 is that the transcriptions in the corpus are timestamped and directly link the speaker turns in the transcriptions to the corresponding places in the sound files, allowing for prosodic analysis of the data. The transcription and markup conventions used in the corpus are as follows. Speaker IDs in front of every turn are marked with letters in alphabetical order. Square brackets represent overlaps, and in the case of multiple overlaps, they are numbered. Pauses, both long and short, are represented by <pause/> and unclear transcription by <unclear/>. Truncated words

<sup>6</sup> As the name suggests, LLC-2 also serves as a comparable corpus to the world's first spoken language corpus from the 1950s–80s, LLC-1 (Svartvik & Quirk 1980; Svartvik 1990). It should be noted that at the time of writing this article, LLC-2 had not yet been finalised, but the completed transcriptions provide a sufficiently large sample for this purpose. The corpus is expected to be released in its entirety in 2019 from the Lund University Humanities Lab's corpus server: [www.humlab.lu.se/en/facilities/corpus-server/](http://www.humlab.lu.se/en/facilities/corpus-server/)

are embedded within the <trunc> and </trunc> tags and anonymised names within the <anon> and </anon> tags. The tag <vocal/> describes different kinds of non-verbal vocalisations and the tag <event/> describes events. Filled pauses are spelt out as *uhm*.

### 3.2 *The sample*

The sample contains 50 texts and each text is approximately 5,000 words in size. The total sample size is 251,550 words. The texts are spontaneous and private face-to-face conversations from LLC-2. In the corpus, the face-to-face conversations are divided into conversations among equals and disparates. The interlocutors are equal if they are friends, peers in the workplace or related by descent or marriage (e.g. parent–child, husband–wife); they are disparates if they have hierarchically unequal positions in the workplace or the educational institution (e.g. employer–employee, supervisor–student). It should be noted that the interlocutor status is not the focus of this study and no conscious effort has been made to draw a balanced sample of the two conversational settings, primarily due to the limited number of completed transcriptions in the corpus. Nevertheless, such a distinction allows us to explore the possible effect of power and social status on the use of the reactive *what-x* construction, and a few remarks will be made when the results are discussed.

The sample was automatically searched to find all instances of the word *what* and a total of 1,661 of them were found. A considerable number of the examples, 95, were excluded for one or more of the following reasons.

- The search word could not be deciphered due to unclear transcription and poor quality of the recording.
- The search word was produced as a result of hesitation or repair; i.e. *what* was a false start. For example, in *what what are your deciding factors*, only the last instance of *what* was considered in the counts.
- The function of the search word was unclear due to the incompleteness of the utterance.

The remaining 1,566 examples were subjected to close analysis based on the transcriptions and the corresponding sound files. The following section presents the criteria for the analysis.

### 3.3 *Classification criteria*

The main objective of the analysis was to determine the frequency of the reactive *what-x* construction relative to all other *what*-constructions in the sample (see [section 5.4](#) below for a brief discussion of the network of *what*-constructions and the development of the reactive *what-x* construction in that network). This was done by first identifying the examples of *what* that fall under one of the *what*-constructions described in the literature so far. The examples that did not fit the classification were subjected to further analysis (discussed in [sections 4](#) and [5](#) below). In [section 2.1](#) above, we described the constructions in which *what* occurs in contemporary English. These constructions alongside representative examples from LLC-2 are presented in [table 1](#).

Table 1. *What-constructions in contemporary English as identified in major grammar books and research articles (see section 2.1 above). All examples are from LLC-2*

<i>What</i> -constructions	Examples
Interrogatives (e.g. pronoun)	<b>what</b> are you up to these days
Exclamatives	<b>what</b> a surprise
Subordinates	just don't do <b>what</b> I always end up doing with jobs
Response questions (e.g. short question)	they've already put tickets on sale – for <b>wh\at</b>
Pragmatic markers	<b>wh/at</b> # how's a standard en-suite single studio a hundred and thirty-eight
Parentheticals	so this window opened <b>what</b> # six eight inches
Split interrogatives	<b>what</b> does he cook # like exotic things

In the examples, all instances of *what*, if accented, have been marked for prosody following the British tradition of contour analysis where / indicates a rising pitch contour from a low accented syllable, \ a falling pitch contour from a high accented syllable and # a tone unit boundary (Cruttenden 1997).

In what follows, we will summarise the main properties associated with the form and meaning of each construction. Interrogatives, which include both pronouns and determiners, are placeholders for what is unknown. Also, *what* is an obligatory element, i.e. it cannot be removed (e.g. *\*are you up to these days*), and followed by a finite verb form. Exclamatives (determiners) are expressive and emphatic, and subordinates include, for example, nominal relative pronouns, which introduce relative clauses. So-called response questions feature three types of questions where *what* is typically accented: (i) short questions are elliptic and signal a request for more information; (ii) echo questions repeat part of the interlocutor's message and replace the rest with *what*; and (iii) general requests for repetition signal that the reiteration of the whole message is anticipated. Pragmatic markers and parentheticals are only loosely connected to the rest of the utterance or stand alone altogether. While the pragmatic marker *what* expresses surprise and incredulity and is always accented, the parenthetical *what* is clause-medial and never accented. Instead, it belongs to the same tone unit as the preceding sequence and is followed by a tone unit boundary. Finally, split interrogatives have a bipartite syntactic and prosodic structure and are used to make a guess.

Out of the 1,566 examples of *what* extracted from the sample, 1,521 were classified as one of the constructions in table 1. This left us with a set of constructions that did not fit the bill for the constructions described above; in other words, they resist the classification proposed in major English grammar books and research articles. These examples are what we have referred to as the reactive *what-x* construction. On the one hand, the construction shares many features with the other *what*-constructions, but at the same time, the holistic composition of the formal and functional properties associated with

the use of the construction is different from all the other uses described in the literature so far. Thus, the reactive *what-x* construction has its own defining properties, which need to be described with respect to its frequency, form–meaning and functional properties in authentic communication. This will be done in the subsequent sections.

#### 4 The reactive *what-x* construction in LLC-2

The analysis of the form and meaning of the reactive *what-x* construction is presented in this section. In [section 4.1](#), we determine the frequency and distribution of the construction in the data, and in [section 4.2](#), we describe the construction in more detail, particularly properties related to its internal structure, sequential organisation and meaning.

##### 4.1 Frequency

The reactive *what-x* construction occurs 45 times in the sample. Even though the number itself is relatively small, the construction makes up almost 3 per cent (45/1,566) of all the *what*-constructions in the data. By way of comparison, exclamative determiners feature only 15 times and split interrogatives only 8 times.<sup>7</sup> These findings relating to the number of occurrences show that the reactive *what-x* construction is in regular use in contemporary British English speech. At the same time, it deserves to be pointed out that the construction only appears in less than half of the texts in the sample, namely in 17.5<sup>8</sup> out of 50, which may be due to individuals favouring certain ways of expressing themselves (Barlow 2013) or the fact that constructional use in conversation is contagious across speakers in dialogue (Garrod & Pickering 2004). A closer look at the types of conversations in which the reactive *what-x* construction occurs reveals that the construction is mainly used in conversations among equals; only five examples were found from conversations among disparates. This suggests that the construction is regularly used among British English speakers who know each other well.

##### 4.2 Form and meaning

This section is concerned with defining the properties of the reactive *what-x* construction. We distinguish between three types of properties: internal, sequential and semantic. First, the internal structure of the reactive *what-x* construction is made up of the substantive interrogative pronoun *what* and a schematic complement *x*. However, this fact alone does not explain the distinct formal properties that characterise the internal structure of the construction or how the reactive *what-x* construction differs from the other *what*-constructions in English. We have identified three key features associated with the

<sup>7</sup> Note that, due to the focus of this study on the reactive *what-x* construction, the distribution of the other *what*-constructions in the sample will not be presented here (see Pöldvere & Paradis 2019).

<sup>8</sup> The reason why the figure is given in decimals is because one text is a composite text of 2,500 words each.

internal structure of the reactive *what-x* construction: initial position of *what*, subsequent syntactically non-canonical phrasal or clausal complement and prosodic integration of *what* with the complement.

First, in the reactive *what-x* construction, *what* always precedes the complement that it specifies. Importantly, in the case of a clausal complement, *what* specifies the *whole* proposition rather than focusing on a single element in it. For example, in (13) speaker B produces the reactive *what-x* construction *what she would eat it* where *what* precedes and specifies the whole declarative clause *she would eat it*. By way of comparison, when the pronoun is moved to a clause-medial slot, as has been done in the made-up example in (14), it functions as a parenthetical and only focuses on a single element in the clause, in this case the main verb *eat*. Also, when *what* is moved to a clause-final slot, as in (15), we get the impression of an incomplete and prematurely terminated utterance rather than a fully fledged turn. The same is true when *what* follows a phrasal complement.

- (13) A: she was like oh it would have been gross to put it in my car and leave it there for a whole day and I was like yeah <vocal desc="laugh"/> it's gross to just pick it up anyway it's got its head coming off Jesus  
 B: ew **what** she would eat it  
 A: yeah
- (14) she would **what** eat it
- (15) \*she would eat it **what**

Second, *what* in the reactive *what-x* construction is always followed by a phrasal or clausal complement. The clausal complements found in the sample are either declarative or interrogative, and the phrasal complements are noun phrases, prepositional phrases, an adverb phrase and a non-finite verb phrase but never a finite verb phrase. In other words, the chunk that *what* combines with diverts from canonical syntagmatic combinations in English. The construction, then, has a special structural status; *what* is only loosely connected to the complement and can therefore be omitted. Examples (16) and (17) illustrate this point. The complement that *what* specifies in (16) is the interrogative clause *did you have a look in John Lewis or*, which already displays a structure typical of *yes-no* questions (AUX-S-V-X).<sup>9</sup> Thus, as evidenced in (17), the complement does not necessarily require *what* as part of its syntactic structure and can stand on its own if needed. It should be noted, however, that the utterances in (16) and (17) are by no means identical and that, although the removal of *what* may not have major structural consequences for the utterance, the pronoun is vital for conveying the constructional meaning associated *only* with the combination of *what* and the phrasal or clausal complement (see below).

<sup>9</sup> Note that the utterance-initial *is it* is a false start and not part of the reactive *what-x* construction.

- (16) A: I think they've got lots of toys and stuff so  
 B: is it **what** did you have a look in John Lewis or  
 A: mm I did have a look in John Lewis  
 (17) did you have a look in John Lewis or

Third, the reactive *what-x* construction always forms one tone unit. This means that, despite being outside the phrase or clause it modifies, *what* never forms its own tone unit nor does it carry a nuclear pitch accent. Instead, *what* is the pre-head of the entire tone unit which also includes the complement, and there is no pause between the elements. By way of comparison, the utterance in (18) is a reactive *what-x* construction, while the utterance in (19) is not.

- (18) A: I know that it's ridiculous to plan Christmas already although I did see <pause/>  
 Christmas food in Sainsbury's yesterday  
 B: **what** mince pies <pause/>  
 A: all sorts of stuff  
 (19) A: had it been me I would have found a heavy shovel and walloped at them  
 <pause/> get rid of them but I daren't tell [<anon>Eric</anon> that]  
 B: [**what**] a bird  
 A: yeah  
 C: a magpie  
 B: oh a magpie bird

Syntactically, the utterances are similar to one another; *what* occurs in an initial position and specifies a noun phrase, *mince pies* in (18) and *a bird* in (19). An instrumental prosodic analysis, however, reveals that the intonational contours of *what* are different in the two utterances. Figure 2 represents the pitch contour of the utterance in (18), drawn in the phonetics software Praat (Boersma 2001). As can be seen in figure 2, the utterance is an example of the reactive *what-x* construction; *what* is realised as an unaccented pre-head of the tone unit, and the nuclear pitch accent of the tone unit falls on *pies* and takes the shape of a rise–fall.

Figure 3 shows that the utterance in (19) is different from the reactive *what-x* construction.<sup>10</sup> In particular, *what* and the complement *a bird* do not form one but two separate tone units, both of which take the shape of a rise–fall pitch contour. The tone unit boundary between *what* and the complement is evidenced by the step-down in pitch on the subsequent element, namely the indefinite article *a*. The intonational pattern of the utterance in (19), then, suggests that it contains the pragmatic marker *what* since the pronoun is prosodically prominent and used to express surprise at A's statement, i.e. that he would hit a bird with a shovel. It should be noted that 13 out of all the 39 pragmatic markers in the sample display the prosodic marking as in figure 3

<sup>10</sup> Note that since the utterance was produced in overlap with the previous turn and in a noisy environment, the pitch contour in the figure may not be a completely truthful representation of the intonation of the original utterance.

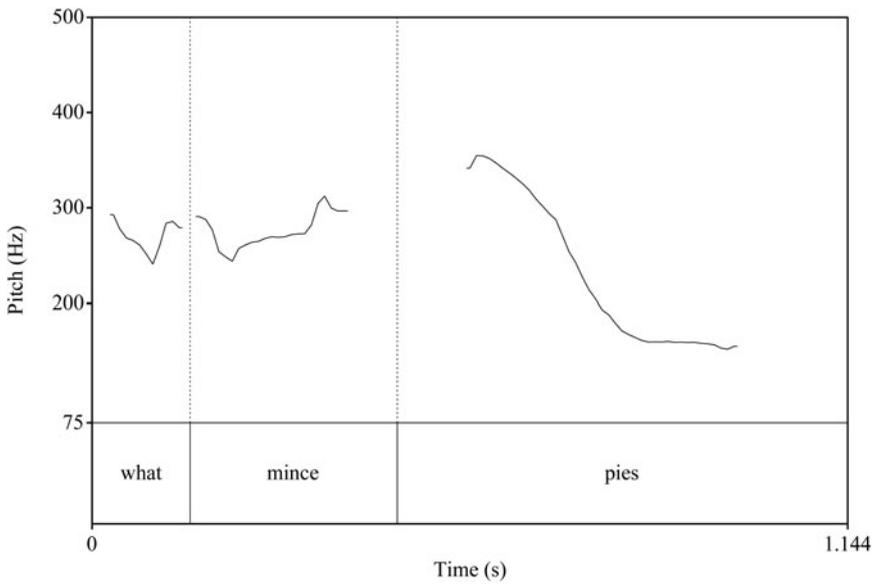


Figure 2. The pitch contour of the reactive *what-x* construction *what mince pies* in (18)

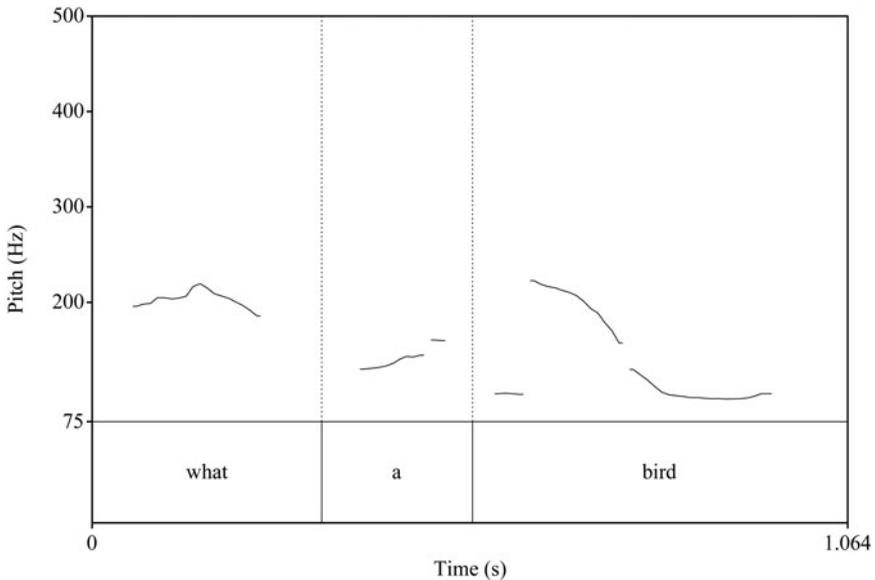


Figure 3. The pitch contour of the utterance *what a bird* with the pragmatic marker *what* in (19)

(see section 5.4 below for a brief discussion of the relationship between the pragmatic marker *what* and the reactive *what-x* construction).

The formal dimension of the reactive *what-x* construction is symbolically linked to a specific constructional meaning, and the meaning or function of the construction is to

negotiate or call into question what is being talked about. More specifically, the construction is targeted at something said in the *immediate, prior* discourse, which suggests that the preceding turn plays a central role in the emergence and interpretation of the reactive *what-x* construction. Similar to other responsive constructions such as the ones discussed in section 2.2 above, the reactive *what-x* construction displays explicit responsive properties as opposed to non-responsive constructions that may only do so implicitly or with respect to other aspects of the context (Linell 2009b: 296). In this way, the construction shares important dialogic features with *what-pseudo-clefts* (see section 2.2) but also with the pragmatic marker *what*, which is used to express surprise and incredulity at what has been said or done before. Consequently, the reactive *what-x* construction never occurs in the first position of a conversational episode but always as a response to something said by another speaker in the immediately preceding turn. Example (20) illustrates this point.<sup>11</sup> In the example, speaker C produces the reactive *what-x* construction *what the National Express* as a reaction to A's description of her journey home. From the description, C is unable to successfully infer the exact referent of *it* (*and it gets me there in the same time*), or has reservations about the accuracy of her inference. In order for the conversation to continue, the speaker needs to immediately close the knowledge gap between the interlocutors, and she does so by naming the most contextually relevant and viable referent in the complement position.

- (20) A: I'm not gonna be going back that often and also the bus <sup>1</sup>[is] eight pounds  
 <pause/> and it gets me there in the same time <pause/> <sup>2</sup>[but then in the bus]  
 B: <sup>1</sup>[no]  
 C: <sup>2</sup>[**what the National Express**]  
 A: mhm <pause/>  
 C: I don't know how much it costs me to get home

The example in (20) also points to the fact that the response in the subsequent turn is important because it resolves the ambiguity that inhibits the mutual understanding of the topic under discussion. In other words, the construction is a request and projects a specific response, i.e. a confirmation of what is requested in the complement. Indeed, many reactive *what-x* constructions in the sample display the sequential properties witnessed in (20) where A confirms the proposal with the agreement marker *mhm* and the conversation resumes its natural course. As mentioned in section 2.2 above, this pattern is typical of interrogative *what*-constructions, which anticipate and expect a certain kind of response from the interlocutor. At the same time, there is some variation in the way in which the reactive *what-x* construction is responded to in spoken dialogue, which suggests that the presence and nature of the subsequent turn is rather more influenced by what is going on in the local interaction than strictly associated with the

<sup>11</sup> From here on, the whole reactive *what-x* construction, rather than *what* alone, is given in bold to emphasise its holistic interpretation.

Form	Internal	# <i>what</i> X <sub>phrase or clause</sub> #
	External	Obligatory preceding turn by another speaker, subsequent turn is more flexible
Meaning		Reacts to something in the preceding turn, negotiates and calls it into question, conveys immediacy and urgency, occurs in (informal) spoken dialogue

Figure 4. Constructional representation of the reactive *what-x* construction

formal and sequential properties of the construction itself (see section 5 below for more details).

The constructional representation of the reactive *what-x* construction in terms of form and meaning can be visualised as in figure 4. The formal dimension is divided into two parts: internal and external structure. The former specifies that the reactive *what-x* construction comprises the initial interrogative pronoun *what* and the subsequent phrasal or clausal complement *x*, which together form one tone unit (indicated by #). The latter specifies that the construction presupposes the presence of a preceding turn by another speaker, while the presence and nature of the subsequent turn is more flexible. Together the internal and external properties contribute to the meaning dimension of the construction, which is to react immediately to the preceding turn in order to negotiate or call into question something said. This means that the register that the reactive *what-x* construction is restricted to is (informal) spoken dialogue, where it has become a conventionalised unit with distinct grammatical, sequential and semantic characteristics.

A closer look at the discourse contexts in which the reactive *what-x* construction occurs, however, suggests that reaction constitutes only the meaning potential of the construction and that the representation in figure 4 does not adequately or with enough detail account for the full range of its uses in spoken dialogue. These uses are discussed in the next section.

## 5 Dialogic functions of the reactive *what-x* construction

This section is concerned with the dialogic polyfunctionality of the reactive *what-x* construction in spoken dialogue. We identify three functions: requests for verification, requests for information and adversative requests. In the following sections, each function is discussed in turn followed by an account of the theoretical implications that the findings of this study have for CxG.

### 5.1 Requests for verification

The most frequent dialogic function of the reactive *what-x* construction is *requests for verification*. They occur 28 times out of 45 in the sample. Requests for verification are

made when speakers need to verify a specific referent in the preceding turn, as illustrated in (21). The example comes from a work meeting between two arts journalists, A and B, who talk about B's upcoming business trip to Moscow but have just slightly digressed from the topic. The request *what to Russia* is produced by speaker B as a reaction to A's prior question *have you ever been out there before*. Uncertain about the referent of *there*, possibly due to the earlier digression, B makes the request to verify it.

- (21) A: they've been working <pause/> and supporting <pause/> curator shows in Venice <pause/> both with uhm the you know the Venice biennale plus the architectural [biennale] they've been doing that for quite a while <pause/> and it just means that it then has a permanent home  
 B: [mm]  
 B: yeah that's handy <pause/> and they know what they're working towards  
 A: yeah <pause/> have you ever been out there before <pause/> sorry <event desc="refers to food"/> <vocal desc="laugh"/> <pause/>  
 B: **what to Russia**  
 A: mm  
 B: no <pause/> have you

As shown in (21), requests for verification indicate a breach and a possible imbalance in the common ground between the interlocutors. Common ground is defined as 'the sum of [two people's] mutual, common, or joint knowledge, beliefs, and suppositions' (Clark 1996: 93). Clark (1996: 97) also notes that speakers often have 'conflicting information' about what is in their common ground. Requests for verification emerge when one of the speakers makes this asymmetry of knowledge explicitly known. Based on contextual, perceptual and/or socio-cultural cues, however, the speaker is able to make an assumption about the identity of the problematic referent, which is then inserted into the complement position of the request.

As mentioned in section 4.2 above, the constraints that the reactive *what-x* construction sets up on the subsequent sequence depends on dialogic function. The data show that requests for verification require swift confirmation in the subsequent turn. This means that common ground and contextual relevance are particularly important for requests for verification and for re-establishing sufficiently good mutual understanding between the interlocutors. In (21), for example, speaker A immediately verifies the request made by B with the agreement marker *mm*, hence enabling B to provide a response to the interlocutor's original question.

The request for verification in (21) above is only mildly attitudinal. The attitude is that of impatience and urgency since the imbalanced common ground between the interlocutors hinders successful continuation of the conversation. However, there are instances of requests for verification in the data where the speaker takes a more explicit stance, as in (22).

- (22) A: it was good <pause/>  
 B: is it appealing  
 A: almost <sup>1</sup>[yeah]

- B: <sup>1</sup>[**what**] you find that appealing <sup>2</sup>[<vocal desc="laugh"/>]  
 A: <sup>2</sup>[I thought] that I did yeah  
 B: <vocal desc="laugh"/>

In the example, speaker B's request for verification (*what you find that appealing*) seeks not only to clarify but also to convey surprise and disbelief that A finds something appealing. The attitude is enhanced by laughter and a rising pitch contour at the end of the tone unit.

### 5.2 Requests for information

Another dialogic function of the reactive *what-x* construction is *requests for information*. With 15 occurrences, they are less frequent in the sample than requests for verification, and they also differ from the latter in important ways. Particularly, speakers make requests for information to elicit new information from the addressee. Such requests correspond roughly to Stenström's (1984) eliciting questions that open either initial or non-initial superordinate exchanges. Requests for information form part of non-initial exchanges in that they do not completely change the topic of the discussion as initial exchanges do but rather shift its orientation within the boundaries established in the prior context. An example of a request for information is given in (23).

- (23) A: do you have to do that every time you go to <sup>1</sup>[lectures]  
 B: <sup>1</sup>[UCL] <sup>2</sup>[yeah]  
 C: <sup>2</sup>[yeah] <pause/> so that's four sixty every day at least <pause/>  
 B: yeah  
 C: and then if you go out <sup>3</sup>[in the evening]  
 A: <sup>3</sup>[**what do you have a lecture**] every day <pause/>  
 B: well except for Wednesdays  
 A: okay <pause/> <sup>4</sup>[but]  
 B: <sup>4</sup>[but] even then most of the time I go in <pause/> or I go and meet up with someone to discuss something

In (23), the speakers discuss London transportation prices. The request for information (*what do you have a lecture every day*) is produced by speaker A, who does not use it to react to a specific element in the prior discourse as was the case with requests for verification but to shift the focus of the conversation from the high cost of public transportation in London to B's lecture schedule at university. We argue that *what* in (23) serves as a cue to this topic shift and helps the speaker signal to the addressee that what follows is at the same time a contextually relevant and a novel contribution to the conversation. The removal of *what* from the utterance would result in the loss of this communicative function. The topic shift is further confirmed by B's subsequent explanation of why she needs to go to the university every day. Generally, requests for information are less likely to project a confirmation, because the conceptual gap between the interlocutors is greater and hence more challenging for the speaker to fill.

Similar to requests for verification, there are requests for information in the sample that make explicit reference to the speaker's attitude, as shown in (24).

- (24) A: and we managed to add in Judith <sup>1</sup>[<unclear/>]  
 B: <sup>1</sup>[yeah thank] God you added in Judith she'd been so upset <pause/>  
 C: **what with her photograph not being** <sup>2</sup>[credited]  
 B: <sup>2</sup>[well no] <pause/> no no no no no it's because I the picture was me stood in front of <pause/> these two paintings because they're life-size but she's a lot smaller than <pause/> <unclear/> came here so the picture didn't look right

Example (24) is taken from a meeting about an upcoming art exhibition. The preceding turn to the request is speaker B's expression of relief that A and C added in the work of Judith who would have been very upset if this had not been the case. The request for information produced by C, *what with her photograph not being credited*, is at the same time an inquiry about Judith's reason for being upset and an ironic implication about her vanity. The ironic reading of the construction is reinforced by the falling intonational contour at the end of the tone unit. Thus, C adds a novel perspective to the conversation in a way that makes his negative attitude explicitly known. The controversial nature of the assumption is confirmed by the quick and strong reaction by B (*well no no no no no no*) and a lengthy explanation of what she meant.

### 5.3 Adversative requests

The last dialogic function of the reactive *what-x* construction is *adversative requests*. Adversative requests are fundamentally different from requests proper in that they are not used as questions. Instead, adversative requests convey opposition and contrast with the view expressed by the previous speaker in a seemingly contentious and even hostile manner, which means that they are used to take a stance and explicitly express the speaker's attitude.

There are only two examples of adversative requests in the sample. The scarcity of such requests in the data does not allow us to provide a complete picture of their usage constraints, but the discourse environment in which the two examples occur is clear enough to reveal the most important properties of their function and how they differ from the other requests. The examples are given in (25) and (26): *what there was a* <trunc>*de*</trunc> in (25) and *what you liked all of it* in (26). In (25), the last word of the clause, presumably *deer*, is truncated. The incompleteness of the clause is not due to interruption by another speaker but the speaker's own impatience to defend her position further.

- (25) A: <anon>Jess</anon> I wouldn't have taken as someone who ate road kill but she was going to pick up a deer the other day uhm  
 B: are you sure that wasn't a story <pause/>  
 A: **what there was a** <trunc>**de**</trunc> we saw the deer that got knocked <sup>1</sup>[over] but she was like oh it would have been gross to <sup>2</sup>[put it in the back of]  
 B: <sup>1</sup>[did you]

- B: <sup>2</sup>[it was small] <pause/>  
 A: it was reasonably big  
 (26) A: well as long as it's not mathcore again  
 B: I like mathcore  
 A: it was terrible <sup>1</sup>[<vocal desc="laugh"/>]  
 B: <sup>1</sup>[it wasn't terrible] **what** <sup>2</sup>[**you liked all of it**]  
 A: <sup>2</sup>[the first three] no I didn't the first three were terrible  
 B: the first one

The primary function of adversative requests is to signal disagreement with the claim made by the previous speaker. In (25), speaker B questions the legitimacy of A's story, which prompts the expression of a strong counterargument by A that her friend did indeed intend to pick up road kill. The counterargument is characterised by an increased speech rate compared to her previous turn and high pitch, contributing to the adversative nature of the utterance. The interpretation is also supported by the speaker's eagerness to provide further evidence for her claim in a prolonged turn. The same interpretation is evoked in (26) where speaker B calls into question A's negative assessment of mathcore bands. The disagreement is first expressed by the opposite assessment made by A (*it was terrible* → *it wasn't terrible*) followed by the adversative request. The construction receives a nuclear rise–fall accent on *all of it* and is delivered in a clearly confrontational manner. In contrast to the example in (25), the counterargument in (26) is immediately followed by turn exchange, i.e. the interlocutor's further disagreement (*no I didn't*). Hence, the limited number of examples does not allow us to properly account for the nature of the subsequent turn in adversative requests.

#### 5.4 Implications for CxG

The socio-cognitive and communicative properties associated with the three dialogic functions discussed in the previous sections – requests for verification, requests for information and adversative requests – provide a sufficiently comprehensive description of the use of the reactive *what-x* construction in spoken dialogue. On the one hand, the properties shared by the functions allow us to make generalisations about the construction as a whole, but on the other hand, all three functions display properties that uniquely distinguish them from each other. For example, inquiry is a unifying feature of the two types of requests, for verification and information. However, the requests differ from each other in terms of speaker intent and discourse orientation; while requests for verification seek confirmation on something said in the prior discourse, requests for information elicit new information and signal topic transition. Finally, both requests proper and adversative requests express speaker stance, but there is variation in the extent to which this stance is foregrounded and made salient by the speaker. It should be noted that the properties associated with each function are the result of an observation of a limited number of occurrences. However, while exceptions may exist, all of the properties discussed above have been found to be

Form	Internal	# <i>what</i> X <sub>phrase or clause</sub> #
	External	Obligatory preceding turn by another speaker, subsequent turn is more flexible
Meaning	Meaning potential	Reacts to something in the preceding turn, negotiates and calls it into question, conveys immediacy and urgency
	Dialogic functions	Request for verification Request for information Adversative request
	Register	(Informal) spoken dialogue

Figure 5. Comprehensive constructional representation of the reactive *what-x* construction

central to the characterisation of the reactive *what-x* construction and its realisations in authentic communication.

We argue that the dialogic information associated with the use of the reactive *what-x* construction in specific discourse contexts is clearly conventionalised and in recurrent use in contemporary English. This contextual information builds on the meaning potential of the construction, i.e. to react to and negotiate something said in the prior discourse. Without accounting for this dialogic embedding, the many ways in which the reactive *what-x* construction is used in spoken dialogue would not be identifiable. Thus, an extended representation, which accounts for the interplay between the meaning potential and the dialogic functions of the construction, is presented in [figure 5](#). Moreover, in the revised figure, register is given its own separate label to highlight the constraints and possibilities that the broader social context places on constructional knowledge. What the figure aims to make clear is that the knowledge associated with any construction, and particularly a construction specific to spoken registers, goes well beyond form–meaning pairings in the strict sense and into the realm of dialogicity and interaction (cf. Fried & Östman 2005; Linell 2009a; Wide 2009; Fischer 2015). It is only by accounting for all these dimensions and domains of instantiation that we reach a comprehensive understanding of language and the constructions that constitute it.

The discussion above raises many important questions about constructional change and particularly the mechanisms that led to the emergence of the reactive *what-x* construction and the subsequent expansion of the schema to include the three dialogic functions. These questions go beyond the scope of this study but are addressed in detail in Pöldvere & Paradis (2019). For example, Pöldvere & Paradis (2019) propose that the reactive *what-x* construction developed from interrogative *what*-constructions, but that its development was supported by the non-interrogative, responsive schema. Besides inheriting the responsive properties with which the construction is so strongly associated, the reactive *what-x* construction also retained its interrogative function. This

development seems to be identical to that of response questions as described above. The entrenchment of the constructional schema in spoken dialogue has led to the increased productivity of the construction and the development of new dialogic functions. This process necessarily involved subjectification in the sense of Traugott (1989, 2010) and Traugott & Dasher (2005) as the construction became increasingly grounded in the speaker's perspective and attitude and moved closer in meaning to the pragmatic marker *what*. Indeed, Pöldvere & Paradis (2019) entertain the idea that the reactive *what-x* construction may be one of the source constructions of the pragmatic marker.

## 6 Conclusion

The focus of this study has been the reactive *what-x* construction in English conversation. We have carried out an investigation of the construction in a sample from LLC-2 in order to determine its frequency and distribution in the data and to describe the form–meaning and interactive functional properties that characterise and constrain its use in spoken dialogue.

This study is the first one to identify and define the reactive *what-x* construction, constituted by the interrogative pronoun *what* and a phrasal or clausal complement *x* within the boundaries of one and the same tone unit. Our analysis of a sample from a new corpus of spoken British English, LLC-2, revealed that the construction makes up a fair proportion of the data relative to other *what*-constructions. One possible reason for the lack of research on the construction is its novelty of use. Further research in historical linguistics is needed to explore the extent to which the construction is a new phenomenon in English as well as its developmental path in the broader network of *what*-constructions (Pöldvere & Paradis 2019).

The study also makes an important theoretical contribution to CxG through the inclusion of discursive, dialogic and prosodic information in constructional representation. We showed that the formal dimension of the reactive *what-x* construction incorporates information not only about its internal syntactic structure but also the sequential and prosodic contexts in which it is used in spoken dialogue. For example, the construction never occurs in the first position of a conversational episode but always as a reaction to an immediately preceding turn by another speaker. We also showed that reaction constitutes the general meaning potential of the reactive *what-x* construction and that the systematic exploitation of the potential in spoken dialogue leaves us with three conventionalised dialogic functions: requests for verification, requests for information and adversative requests. Of course, a larger sample size may reveal more functions of the construction, but this question is left for future research. In sum, by combining insights from both the broad cognitive constructionist model of language, CxG, and interactional perspectives, we hope to have demonstrated the advantages of accounting for the full range of formal and functional properties that characterise the use of a construction in spoken dialogue and the much more comprehensive view that one obtains by doing so.

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