

ORIGINAL ARTICLE

The cognitive-functional properties of English WH-dialogic constructions in discourse

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Abstract: Within the theoretical frameworks of cognitive linguistics and cognitive construction grammar, this paper takes the pair of a WH-question and one of its answers in contemporary spoken English as the research object and regards such pairs as WH-dialogic constructions. In this study we construct an Event-based Schema-Instance Cognitive Model (ESI model) to analyze the cognitive-functional properties of this category of dialogic constructions. The discursual expansion and textual cohesion in discourse achieved through the application of such dialogic constructions indicate that the usage of WH-dialogic constructions is one of the basic cognitive strategies for human beings to construe the objective world.

Keywords: WH-dialogic constructions; event; schema-instance principle; cognitive model

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1. Introduction

A discourse comprises a series of usage events (Langacker, 2008: 457). The online usage of a pair of English WH-question and one of its answers (short for WH-QA pair)¹ in conversation signifies a kind of usage events in discourse. Cognitively speaking, the focal information of a WH-QA pair as indicated by WH-words at the initial position of a WH-question is prototypically associated with the focal parts of other type of constructions in linguistic communication, thus the usage of WH-QA pairs and those of other constructions in discourse form networks of usage events. In the theoretical framework of cognitive linguistics and the construction grammar in particular, an English WH-QA pair, working as a communicative unit in discourse, is virtually a dialogue construction with the pairing of form and function, according to the definition of a construction by Goldberg (2006: 3). Grounded on the cognitive view of event and the schema-instance cognitive principle, this paper proposes the event-based schema-instance cognitive model (short for ESI model) to demonstrate the event schema and event instance relation between a WH-question and one of its answers, with

1. In this paper, WH-dialogues are selected from Corpus of Contemporary American English.

an effort to reveal that the online usage of a WH-QA pair is the driving force of discourse expansion and the basis of achieving textual cohesion in conversation. The ESI based cognitive-functional properties of WH-QA pairs in discourse indicate that the usage of WH-dialogic construction is a basic way for human beings to understand the objective world.

2. Previous studies on WH-QA pairs

The existing studies on English WH-QA pairs include the researching findings from the perspectives of historical linguistics, structural linguistics, formal linguistics, functional linguistics and cognitive linguistics. In general, the research objects of these existent researches are WH-words² initiating WH-questions, or WH-questions³, or a WH-question and one of its answers as a whole.

In specific, the chief concern of historical Linguists (e.g. Baugh, 1978) is the recording and description of the diachronic changes of WH-words heading English WH-questions, while structural linguists (e.g. Thomson and Martinet, 1986) focus on the syntagmatic and paradigmatic aspects of linguistic structures, emphasizing more the compositional meanings sourced from all the parts in a WH-question. For linguists interested in Transformational and Generative Grammar, they, claiming the view of syntactic autonomy, have made significant contributions to the study of the phenomena of WH-movement and its constraints on the structuring process of sentences (e.g. Chomsky, 1957, 1965, 2013). With regard to practitioners in the studies on Montague Grammar (e.g. Hamblin, 1973; Karttunen, 1977) and Head-Driven Phrase Structural Grammar (HPSG) (e.g. Ginzburg and Sag, 2000), they have investigated the strategies employed to formalize the semantic representations of a WH-question or the pair consisting of a WH-question and one of its answers, with the help of rule-based logic reasoning. What is more, the school of computational linguistics aims at designing efficient question-and-answer systems for the application of artificial intelligence (e.g. Lehnert, 1977), expecting to offer ideal computer programs to perfectly simulate human being's questioning-and-answering process in real, so as to ultimately achieve the goal of Turing Test. As for linguists assuming the functional approach to natural languages, they stress the relationship between theme and rheme in WH-questions, and discuss in detail the communicative function of WH-words in discourse (e.g. Halliday, 1994: 45–46.) In terms of the studies from the perspective of cognitive linguistics, the major findings are those contributed by Langacker (1991: 505–506; 2009: 235), who conducted an analysis of the core structure of WH-words and WH-questions within the framework of cognitive grammar, and those by Goldberg (2006: 177), who examined the restrictions on questioning by employing WH-question constructions.

To summarize the existing studies related to WH-QA pairs, most of these studies place more emphasis on the construction of theories with a lack of large corpus-based or empirical evidences. Most strikingly, the existing analyses of English WH-interrogative sentences are mainly grounded on the examples of Yes-No Questions, while cognitive approaches to a WH-QA pair as a whole are rarely seen, especially at the discourse level.

3. WH-QA talking pairs as dialogic constructions

2. In this paper, a WH-word is the question word at the head position of a WH-interrogative sentence.

3. A WH-questions is the one structured by a simple sentence with the syntactic pattern: WH-word + auxiliary+ remainder + ?. Cases that wh-questions are embedded in other sentences are excluded from this study.

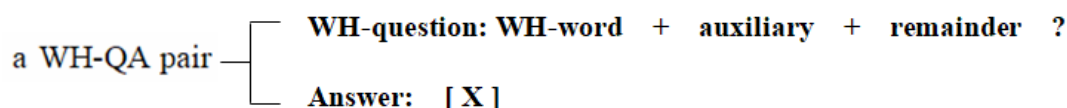
The dialogic process of questioning-answering is an indispensable component of the human linguistic communication system. Traditionally, the questioning-answering dialogues cover four basic categories, namely, dialogues consisting of WH-questions with their answers, dialogues indicated by YES-NO type of questioning-answering, dialogues structured by alternative questions with their answers, and dialogues formed of tag questions with their answers. For the research presented here, dialogues composed of WH-questions with their answers are the core concern, and they can be instantiated by example (1) of questioning-answering (short for QA 1).

QA1:

Mr-FALLON: ...**What's** your favorite color?

JENNY: **Purple.**

As is assumed by Cognitive Construction Grammar, a construction is the form-meaning pair (Goldberg, 1995: 4) or grammatical constructions are conventionalized pairings of form and function (Goldberg, 2006: 3). Constructions are fundamentally symbolic units, and the form of a construction is featured by phonological, morphological as well as syntactic properties, whereas the (conventional) meaning of a construction entails the semantic, pragmatic and discourse-functional properties (Croft, 2004: 257–258). As far as a WH-QA pair is concerned, it basically consists of a WH-question and an answer in form. Prototypically, such a pair functions as a strategy employed by human beings to explore the unknown information or verify the known information concerning the objective world in linguistic communication. Accordingly, a WH-QA pair in contemporary spoken English is characteristic of the pairing of form and function, indicating that a WH-dialogue consisting of a WH-question with an answer is a dialogic construction⁴, which is structured as the following:



In this dialogic pattern, the WH-word initiating the WH-question stands for the focal information of the question or the initial focus of the dialogue, while the rest of the pattern of the question suggests an event frame to construe the focal information, whereas the prototypical function of the answer is to offer the specific content [X] of the focal part (WH-word) of the WH-question.

4. ESI model for WH-dialogic constructions in discourse

To explore the cognitive-functional properties of WH-dialogic constructions in discourse, this paper proposes the Event-based schema-instance model (ESI), which is the theoretical integration of the cognitive view of event and the schema-instance cognitive principle.

4.1. The cognitive view of event

From the perspective of cognitive linguistics, events are the units based on which human beings

4. For this research, the questioner and the answerer in a WH-dialogue are not the same person, as shown by QA1 where the questioner is Mr-FALLON, while the answerer is JENNY.

understand the objective world (Zeng, 2015). The interpretation on an event is constructed on three dimensions, namely, the dimension of objective scene, the dimension of conceptualization, and the dimension of linguistic encoding (ibid). Fundamentally, the objective scene perceived by the speaker is an integral part of the objective reality, and serves as the basis of human being's understanding of abstract concepts as well as the relationship between objects in the real or fictive world. In line with the perspective of cognitive linguistic studies, the outcome of the speaker's conceptualization of the objective scene is essentially the event structure of the scene at the mental level. Different cognitive subjects (viz., speakers) have various ways to construe the same objective scene in accordance with the diversified needs or purposes of linguistic communication, thus highlighting different parts of the event structure of the objective scene. The structure of an event at the conceptual level is basically the abstraction of the structure of the real event or objective scene. With the aid of linguistic signs, the mentally represented event structures are mapped onto the linguistic structure in communication, which is actually the linguistic encoding of the event structure in the speaker's mind. To think in this way, the syntactic structures indirectly reveal the structures of the objective scene on account that cognitive process of the speaker's interpretation on the objective world is engaged. In terms of a WH-QA pair, the WH-question and one of its answers are both the linguistic encoding of event structures sourced from the conceptualization of objective scenes.

4.2. The schema-instance cognitive principle

Langacker (1987: 371) claims that a schema is an abstract characterization of a category and is shared by the central and peripheral members of a category. Both the central member and peripheral members are instances of an abstract schema. He made a clear distinction between the terms 'prototype' and 'schema'. The former is the typical member of the category, while the latter is the abstract generalization of the prototype member and the peripheral or extended members in a category. The extended members have more details of the schema than the prototype member does.

However, Taylor (1989:59) holds that the term 'prototype' can be understood as a schematic representation of the conceptual core of a category. A schema can have many examples, and generalizes the commonness of all of them. He claims that the relations between a schema and its instances and those between its instances are bidirectional instead of being unidirectional as suggested by Langacker. The schema-instance cognitive principle assumed by Taylor is illustrated in **Figure 1**.

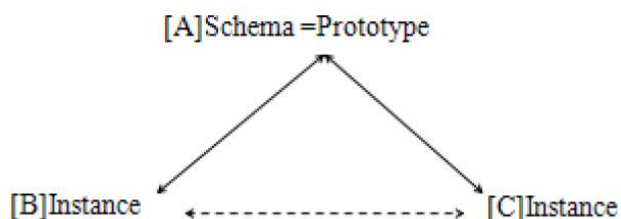


Figure 1. The schema-instance cognitive principle in the view of Taylor (2002: 125).

4.3. Event-based schema-instance model

The WH-word heading a WH-question is schematic in nature, thus resulting in the schematic property of the WH-question (Zeng, 2016). The prototypical relationship between a WH-question and one of its answers is essentially structured on the schema-instance cognitive principle (ibid). To

put it another way, a WH-question functions as a schema in on-going conversations and its answers are its instances, suggesting that a WH-question and its answers share a certain degree of parallelism in structure. According to Du Bois (2014), generally there is a certain degree of parallelism between talk-turns that share commonness in syntactic or conceptual structures, thus producing dialogic resonance between adjacent utterance pairs. Structural parallelisms in dialogue show that speakers derive schemas from priming utterances, re-instantiate those schemas in their own conversational turns and in doing so create an effect of resonance between the primer and its extension (Brône et al., 2014: 472).

Grounded on the cognitive view of event and the schema-instance relation between a WH-question and one of its answers, the ESI model for the WH-QA pairs in discourse can be illustrated by **Figure 2**.

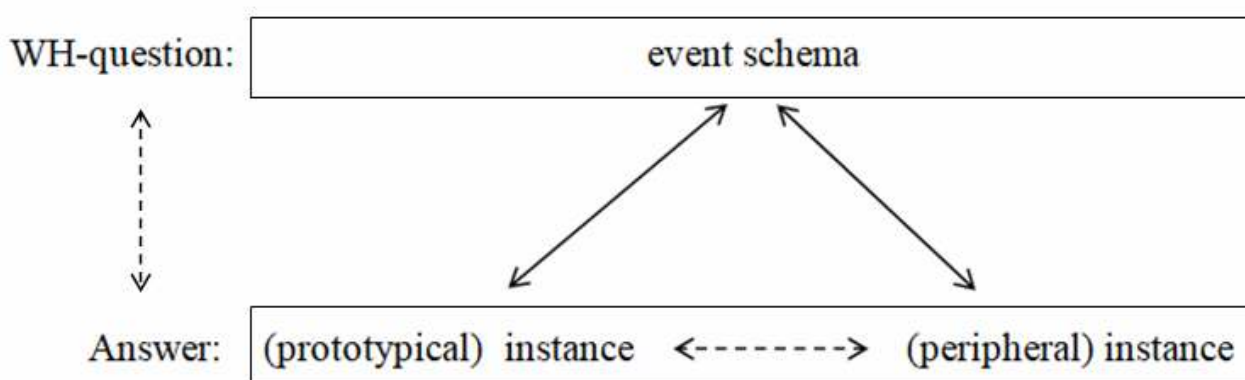


Figure 2. Event-based schema-instance model (ESI) for WH-QA pairs in discourse.

As can be seen from Figure 2, a WH-question is schematic because of the ‘non-fixedness’ feature of the WH-word, and the answer is an instance of the schema. A WH-question and an answer form a pair in discourse (represented by a vertical dotted line with bidirectional arrows). This figure also shows that there are two kinds of instances of the event schema, as shown by the two solid lines with bidirectional arrows. One is the prototypical instance denoting the prototypical answer to the question, while the peripheral instance indicates that the answer is not the ‘standard’ one but still associated with the schematic meaning of the WH-word, suggesting that there are different answers to the same WH-question in real conversations between interlocutors. The two types of instances interact with each other and form a prototype-extension relationship (represented by a dotted line with bidirectional arrows). Prototypically, the schematic structure of the question summarizes the commonness of the answers, while an answer specifies the schematic properties of the question in various ways. In addition, the vertical dotted line with two arrows in the figure signifies that speakers in the dialogue interact with each other to negotiate the specific meaning of the WH-word heading a question.

5. Discursial functions of WH-dialogic construction

Discourse is where structure, use, and acquisition come together; discourse is the use of language (Langacker, 2008: 457). When a WH-dialogue construction emerges in the constructional process of discourse, the current dialogic event, the physical environment of the dialogue, a previous adjacent

usage event and an anticipated adjacent usage event work together to form the Current Discourse Space (CDS) for the current dialogic event, as shown by **Figure 3**.

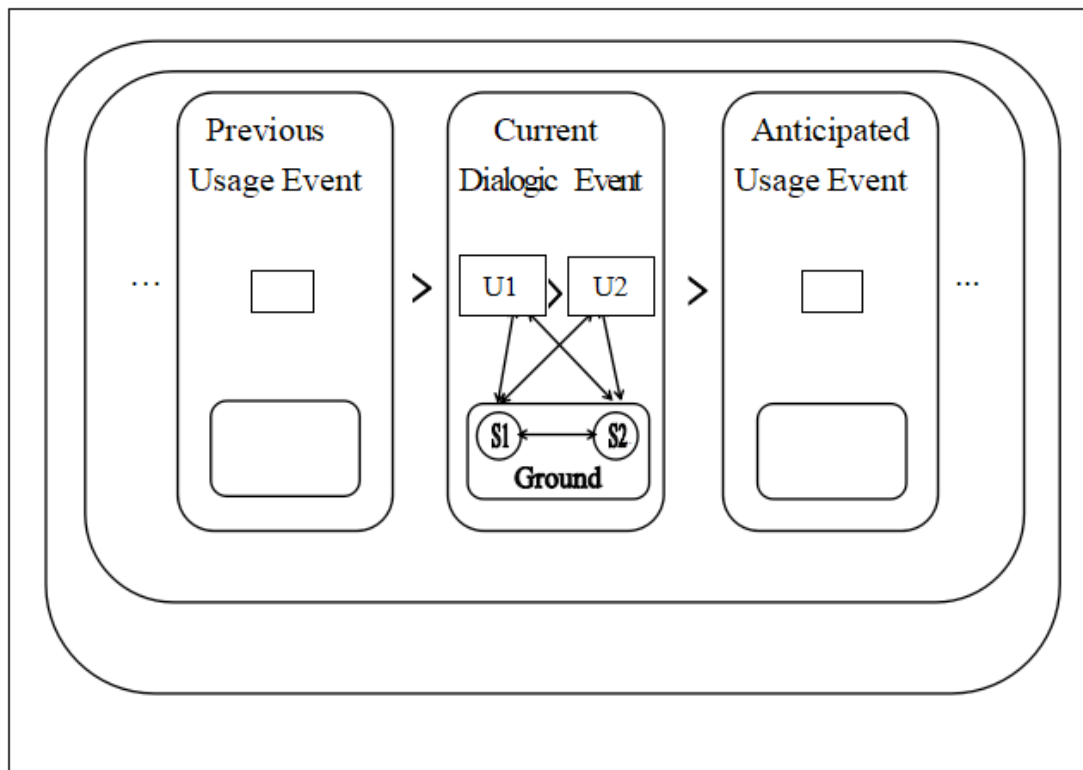


Figure 3. CDS for a WH-dialogic construction (adaptation to Figure 13.2 (Langacker, 2008: 466)).

U1 = Utterance1 U2 = Utterance2 S1 = Speaker1 S2 = Speaker2 CDS = Current Discourse Space

Figure 3 shows that a discourse is constructed in a linear way. In the local CDS for a WH-dialogic construction, a dialogic event embodies its synchronic and diachronic features. By synchronic features, we mean a WH-dialogue construction is characteristic of one-question-and-one answer mode of dialogue, in which the questioner and the answerer cooperate together to negotiate the meaning of the WH-words in given circumstances. The initiation of a WH-dialogue is based on the previous focus of the talk-turn in the same context. The diachronic features of a WH-dialogue construction indicate that in the on-going process of linguistic communication, there may be distinctions between a WH-dialogue construction and its adjacent constructions in terms of the focus of talk-turn, interlocutors, and the background of communication, etc. In the diachronic process of the construction of a discourse, there might be cases that a questioner initiates one question but with multiple answers.

Additionally, Figure 3 suggests that the information conveyed by WH-dialogue is a source of newly gained knowledge. Viewed from epistemic perspective, a WH-dialogue is structured based on a certain extent of known information possessed by a cognitive subject (viz. a speaker). With the progress of WH-dialogues, the unknown aspects concerning the objective world for a speaker become the known information that is occasionally or frequently verified and consolidated, and thus serve as the background information for newly-built dialogues. Therefore, the known information in WH-dialogues and the result of conversations driven by WH-dialogic constructions constitute part of the stable knowledge of human beings with regard to the objective world.

Most importantly, Figure 3 implies that in a local CDS, a WH-dialogic construction is a node of an event network. The use of WH-dialogic constructions is the driving force of the expansion of a discourse and at the meantime a discorsal cohesion in the linguistic communication is achieved.

5.1. Discorsal expansion driven by WH-dialogic constructions

In discourse, the utterance before the initiation of a WH-dialogue is an integral part of the background to construe the focal information whose position is marked by the WH-words heading WH-questions. For communicative purposes, a questioner is supposed to enquire about the specific information conveyed by previous utterances, and through this enquiry, a WH-interrogative speech event is triggered. A WH-dialogue construction, as a whole unit in the view of ESI cognitive model, functions to clarify, add new information to or shift the topics that are emerged before the questioning-and-answering speech acts. In this way, the applications of WH-dialogues expand the size of an on-going discourse. The dynamic process of discourse expansion driven by WH-Dialogues can be instantiated by the local discourse where QA2 is located.

QA2	{	1 SCHLESINGER: ... What are you going to do now?
	{	2 Ms-LEVINE: Go upstairs.
Non-wh- QA	{	3 SCHLESINGER: Back to your room?
	{	4 Ms-LEVINE: Back to my room.
Elliptical QA	{	5 SCHLESINGER: And?
	{	6 Ms-LEVINE: Sit and wait and read and back in the loop again.

The discourse containing QA2 reveals that SCHLESINGER and MS-LEVINE cooperate with each other to start a WH-dialogue with a direct answer. Based on QA2, SCHLESINGER and MS-LEVINE continue their talks by constructing a non-WH-dialogue and an elliptical one. SCHLESINGER as the questioner pushes forward this conversation, explicitly expanding the size of this local discourse, and in the meantime with the basis of QA2, SCHLESINGER obtains more information about what Ms-LEVINE is going to do, testifying that the usage of WH-dialogue construction is the driving force of discorsal expansion.

5.2. Discorsal cohesion grounded on WH-dialogic constructions

In real conversations, the pervious usage event, the current dialogic event and the anticipated usage event as shown in Figure 3 work together to form a local discourse via grammatical means. To take the pronouns ‘that’ and ‘it’ as examples, they are commonly used in a discourse that is structured by WH-dialogues and other utterances, to ensure that speakers develop a discourse centering on the same or similar topic within shared contexts, thus enabling the talk-turns in the discourse to connect with each other in a cohesive manner. The role of a WH-dialogic construction to establish a cohesive discourse can be exemplified by the series of talk-turns where QA 3 is present.

1 (End-VT) MAGGIE-RODRIGUEZ: As you saw, Hannah Krieger was one of *the students attacked at Wright Middle School* and she and her mom Susan join us this morning from Calabasas, California. Good morning, guys. Thanks for taking the time this morning.

2 SUSAN-KRIEGER: Good morning.

3 HANNAH-KRIEGER: Good morning.

4 MAGGIE-RODRIGUEZ: Hanna, let me start with you. Are you okay? How are you doing?

5 HANNAH-KRIEGER: I'm fine. *It* was just sort of scary for -- to happen to me.

6 MAGGIE-RODRIGUEZ: I can imagine.

QA3 { **What** were you thinking when – when *the kids* started to kick *you*?

7 HANNAH-KRIEGER: *I* was just thinking that *it* could have gotten worse and I could have gotten severely hurt. And *I* was just sort of scared.

8 MAGGIE-RODRIGUEZ: How bad did *it* get? How many *kids* are we talking about? And -- and what exactly were *they* doing?

9 HANNAH-KRIEGER: Well, to the point where there were *so many kids* at -- for every ginger that's at my school or redhead -- redhead, it was...

In this local discourse, MAGGIE-RODRIGUEZ, SUSAN-KRIEGER and HANNAH-KRIEGER are interlocutors, among whom MAGGIE-RODRIGUEZ and HANNAH-KRIEGER are the major participants in the communication. QA3 is used in this three-person conversation.

To begin with, in MAGGIE-RODRIGUEZ's series of talk-turns, the objective event 'the students attacked at Wright Middle School' is conceptualized, the participants in this event are highlighted and specified step by step: The students → one of the students → Hannah Krieger, followed by the participant in this conversation, *her mom (Susan)*. Essentially, the conceptualized objective event and one of its participants (HANNAH-KRIEGER) serve as the framework information or background to interpret the WH-word '*what*' in QA3. In the process of answering the WH-question in QA3, HANNAH-KRIEGER uses '*it*' to refer to the objective event 'the students attacked at Wright Middle School', and the first person '*I*' is employed to indicate that HANNAH-KRIEGER is in the window of attention for all interlocutors in the dialogue, suggesting the subjective understanding of the objective event from the speaker herself. Then, MAGGIE-RODRIGUEZ constructs three consecutive WH-questions to focus on the details of the objective event 'the students attacked at Wright Middle School', in which the pronoun '*it*', the noun '*children*' and the pronoun '*they*' are applied here to create the cohesive internal link with the initiative utterance of this local discourse. In the ninth talk-turn, HANNAH-KRIEGER once again triggers an association of her utterance with the objective scene by using '*so many kids*' designating the participants of this ATTACKING event. In this local discourse, the use of WH-dialogic constructions is to specify the different aspects of the same objective event. MAGGIE-RODRIGUEZ, SUSAN-KRIEGER and HANNAH-KRIEGER cooperate with each other and construct a discourse with cohesion that is founded on the consistent focal information of the QA3 with other utterances.

6. Cognitive properties of WH-dialogic constructions in discourse

In the view of ESI model, the typical relationship of event schema and event instance relation between a WH-question and one of its answer in linguistic communication reveals WH-dialogic constructions are featured by several salient cognitive properties as specified in the following.

(1) Generalization of the events

In accordance with the cognitive view of events, WH-questions are fundamentally the linguistic encoding of the event structures that are the conceptualization of the objective scenes in the objective world. Thought in this pattern, answers to WH-questions are therefore the linguistic constructions for more specified event structures. By placing different WH-words at the beginning of WH-questions, a speaker is able to use a set of WH-dialogic constructions to generalize a variety of aspects of an event or scene in the objective world, for instance, *where*, *when*, or *who* indicating the place, the time, and the participant(s) of the event. Even for the same WH-question, there could be diversified answers that instantiate the same WH-word with different degrees of specificity, generalizing the detailed properties of one single aspect of an event. The process of generalizing the objective world by WH-dialogue constructions is associated with the cognitive process of cognitive subjects (speakers) in categorizing the objective world in possible ways.

(2) Schematization of event structures

A WH-question in a WH-dialogue represents a set of answers. Because of the uncertainty of the content of the WH-word, the question structure in a WH-dialogue is schematic. The schematic properties of WH-dialogic constructions are therefore derived from the schematic templates suggested by WH-questions. The dialogicality of an answer in WH-dialogue is to designate the specific meaning of WH-words heading WH-questions. In practical dialogues, there are different degrees of semantic details in the process of exemplification of WH-words. The type-level or specific-level instantiations of WH-words reflect the different degrees of schematization of answers to WH-questions. In real linguistic communication, the grammatical structures of WH-dialogues can be applied repeatedly to form a fixed WH-QA pair that might be suitable to construe different events by different cognitive subjects from different perspectives, which embody the productivity of an established model of a WH-dialogic construction. A case in point is that the grammatical pattern of *What do you think of X? I think X is Y, and Why is Y? It is because Z...* has been conventionalized to certain extent and used to drive the discussions on topics in local discourse.

(3) Locality of conventional usage

Brône et al. (2014: 458) propose a dialogic construction grammar approach to natural languages, with a focus on *ad hoc constructions* in linguistic communication, pointing out that constructions in dialogue are conventionalized within the local community whose members are those speakers who temporarily participate in the dialogue (see also Zeng, 2016, 2018a, 2018b). In real conversations, a WH-QA pair exists momentarily. The end of a WH-dialogue signifies the temporary demise of the usage of a WH-QA dialogue, and the interlocutors might start a new dialogue according to the communicative purpose. During the instantaneous duration of a WH-dialogue, in order to instantly convey information and quickly understand each other's intentions, the speakers will use some language resources, including words, sentence patterns and intonation, to serve the current

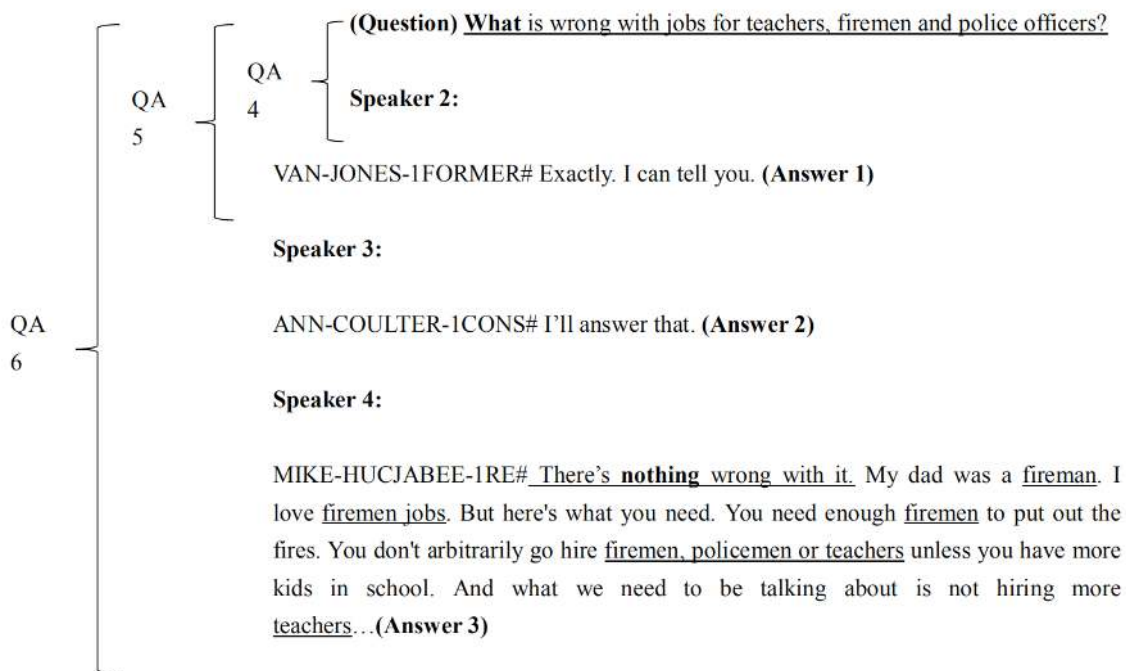
communication. The locally conventional use of WH-dialogue constructions also denotes the fluid focus of WH-dialogues.

7. The dynamic process of constructing meaning in discourse

The dialogic process is in essence the dynamic negotiation between interlocutors in terms of the meaning of utterances. Negotiation on meaning in a local discourse refers to the fact that speakers need to make joint cognitive efforts or need to have multiple dialogues to achieve partial or full consensus on the dialogic focus. The negotiation of meaning in discourse is embodied in the interaction between subjects (speakers) and object(s) (events or object scenes) in the dialogue, which might be involved with two speakers or multiple interlocutors. The consequence of the negotiation can be the case that speakers reach consensus on dialogic focus and understand each other; or that the views from the interlocutors are contrary and speakers need to start new talk-turns of conversation; or that the respondent refuses to comment on the speaker's words, thus ending the dialogue; or that the respondent introduces new topics into the communication or shifts the focus of the current dialogue. For a discourse where WH-dialogic constructions are located, participants of the conversations interact to negotiate the specific meaning of WH-words, which are naturally focuses of WH-dialogues. The dynamic process of constructing the meaning of WH-words in WH-dialogues can be exemplified by the local discourse in which QA 4, QA5, and QA6 are produced.

Speaker 1:

GEORGE-STEPHANOPOU# (Off-camera) Wait a second. Hold on one second. I'll ask the governor about this.



As a matter a fact, this local discourse contains a WH-question and three different types of answers, thus consisting of 3 WH-QA pairs, namely, QA4, QA5, and QA6. The process of

specifying the meaning of *'what'* in the WH-question is embodied in these three WH-dialogues, where GEORGE-STEPHANOPOU is the initiator of the dialogue, while the other speakers are the respondents (VAN-JONES-1FORMER, ANN-COULTER-1CONS, MIKE-HUCKABEE-1RE), whose utterances are correspondent to Answer 1, Answer 2, and Answer 3 respectively.

To start with, GEORGE-STEPHANOPOU, as the first speaker (Speaker 1), raises the WH-question with the focal information linguistically encoded as *'what'*. Simultaneously, the semantic property of this question is defined by the known information of the event, namely, *'with jobs for teachers, firemen and police officers'*.

However, Speaker 2 (VAN-JONES-1FORMER) shifts the focus *'what'* of the WH-dialogue towards the cognitive ability of the respondent by uttering *'I can tell you'* in the interactive process with Speaker 1, hence Speaker 1 does not get the desired information on *'what'* through QA4, in which Speaker 1 and Speaker 2 do not reach an agreement in the negotiation concerning the meaning of the focal information of the WH- dialogue.

Following QA4, Speaker 3 starts a dialogue (QA5) with Speaker 1 on the dialogic focus *'what'*. Speaker 3 also does not provide any specific instance of the schematic focus of the WH-question, but turns the dialogic focus *'what'* into the attitude of the answerer (ANN-COULTER-1CONS) by saying *'I will answer that'*, demonstrating that Speaker 1 and Speaker 3 failed to reach consensus on the meaning of *'what'* in the negotiation process.

After QA5, Speaker 4 launches a dialogue (QA6) with Speaker 1, with an effort to instantiate the exact meaning of the focus of the WH-question. Even though Speaker 4 does not offer any specific instance of the schematic meaning WH-word, answer 3 signifies that Speaker 4 directly answers the WH-question but with zero instance, exhibiting schema-instance relation in this WH-QA pair.

It can be seen from the utterances by Speaker 1 and Speaker 4 that there are paralleled structures producing dialogic resonance in the meaning negotiation on *'what'*, as suggested by **Figure 4**.

Schematic event frame		X		is	wrong	with	Y	
Frame resonance	(Speaker 1) Question	What		is	wrong	with	jobs
	(Speaker 4) Answer 3	nothing	There	's				
	↓				wrong	with	it	.
Type of resonance		Focal resonance						

Figure 4. The dialogic resonance in QA6.

(↓: the direction of constructing discourse)

It is observed from Figure 4 that there is a schematic event structure shared by the utterances by Speaker 1 and Speaker 4, which is **'X IS WRONG WITH Y'**, producing both frame resonance and

focal resonance based on parallelism in the dialogue (teachers: teachers; firemen: firemen; police officer: policemen; etc. shown by the bold black words).

In the dialogic process, the questioner principally evaluates the quality of the answer by examining whether there is a match between the utterance focuses. For QA6, Speaker 4 still keeps consistent focus with Speaker 1 by answering referring to the zero-instance of the WH-word. The usage of QA3, QA4-QA6 implies that WH-dialogic constructions function to expand a cohesive discourse, in which the focal information of the dialogue is constructed dynamically, suggesting the interactional process of negotiation regarding the specific meaning of the dialogic focus.

8. Conclusion

In line with the view of cognitive construction grammar (Goldberg, 1995, 2006), a WH-QA pair in a local discourse is virtually a WH-dialogic construction that is the paring of form with meaning or function. According to the ESI model, a WH-question and one of its answers prototypically embody the relation between an event schema and an event instance. In real conversations, WH-dialogic constructions function to expand the size of a local discourse, whose textual cohesion can be achieved via the logically connected focal information of WH-dialogues and other utterances. Grounded on the ESI model, the utterance meaning in a local discourse embracing WH-dialogic constructions is dynamically constructed. The function of WH-QA pairs in discourse reveals such salient cognitive properties of this type of dialogic constructions as the generalization and abstraction of objective scenes, the schematization and productivity of event structures, and the locality and conventionality of paired linguistic expressions.

Conflict of interest

No conflict of interest was reported by the author.

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References

- Baugh AC and Cable T (1978) *A history of the English Language* (3rd ed.). London, Boston and Henley: Routledge & Kegan Paul Ltd.
- Brône G and Zima E (2014) Towards a dialogic construction grammar. *Cognitive Linguistics* 25(3): 457–495.
- Chomsky N (1957) *Syntactic Structures*. The Hague: Mouton.
- Chomsky N (1965) *Aspects of the Theory of Syntax*. Cambridge, MA: MIT Press.
- Chomsky N (2013) Problems of projection. *Lingua* (130): 33–49.
- Croft W and Cruse DA (2004) *Cognitive Linguistics*. Oxford: CUP, pp.257–258.
- Davies M (2008-) *The Corpus of Contemporary American English: 450 million words, 1990-present*. Available at: <http://corpus.byu.edu/coca/>.
- Du Bois JW (2014) Towards a dialogic syntax. *Cognitive Linguistics* 25(3): 359–410.

- Ginzburg J and Sag I (2000) *Interrogative Investigations: The Form, Meaning and Use of English Interrogatives*. CSLI Publications, pp.185.
- Goldberg AE (1995) *Constructions: A Construction Grammar Approach to Argument Structure*. Chicago and London: The University of Chicago Press, pp.4.
- Goldberg AE (2006) *Constructions at Work: The Nature of Generalization in Language*. Oxford: OUP, pp.3,177.
- Hamblin CL (1973) Questions in Montague English. *Foundations of Language* 10(1): 41–43.
- Halliday MAK (1994) *An Introduction to Functional Grammar*. London: Edward Arnold, pp.45–46.
- Langacker RW (1987) *Foundations of Cognitive Grammar vol. I: Theoretical Prerequisites*. Stanford, California: Stanford University Press, pp.371.
- Langacker RW (1991) *Foundations of Cognitive Grammar vol. II: Descriptive Application*. Stanford, California: Stanford University Press, pp.505–506.
- Langacker RW (2008) *Cognitive Grammar: A Basic Introduction*. Oxford: OUP, pp.457,466.
- Langacker RW (2009) *Investigations in Cognitive Gramma*. Mouton de Gruyter, pp.235.
- Lehnert W (1997) Human and computational question answering. *Cognitive Science* (1): 37–73.
- Taylor J (1989) *Linguistic Categorization—Prototypes in Linguistic Theory*. Oxford: OUP, pp.59.
- Taylor J (2002) *Cognitive Grammar*. Oxford: OUP, pp.125.
- Thomson AJ and Martinet AV (1986) *A Practical English Grammar*. Oxford: OUP, pp.71–74.
- Zeng G (2015) A cognitive approach to the event structures of grammatical constructions. *Journal of Xi'an International Studies University* (1): 38–42.
- Zeng G (2016) A cognitive approach to the event structures of WH-dialogic constructions. *Southern African Linguistics and Applied Language Studies* (4): 311–324.
- Zeng G (2018a) Book review: The Routledge Handbook of Language and Dialogue. *Discourse Studies* (6): 813–815.
- Zeng G (2018b) The dialogic turn in cognitive linguistics studies: From minimalism, maximalism to dialogicalism. *Cogent Education* (Taylor & Francis) (5): 1537907. <https://doi.org/10.1080/2331186X.2018.1537907>.