

# THE HELL with questions\*

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## Abstract

We discuss previous accounts of *wh-the-hell* questions, highlighting the challenges these accounts face and propose a novel analysis that has the potential to extend to *wh-the-hell* questions crosslinguistically.

## 1 The properties of *the hell* interrogatives

*The hell* questions have been argued to have syntactic and semantic properties that set them apart from canonical questions. In this section I introduce four properties that *the hell* have been claimed to have. The discussion in this paper will be limited to these properties.

First, *the hell* questions are **biased** and cannot be used in situations where an unbiased, neutral, information-seeking question is asked. In (1), since Zaira's question is meant to be a neutral information-seeking question, *the hell* is infelicitous.

- (1) Zeno is telling her friend Zaira that yesterday he went to a new restaurant. Zaira is sincerely interested in what kind of food they prepare.  
Zaira: #What the hell did you eat?

Intuitively and at a first approximation, a *the hell* question conveys that the speaker has a negative bias towards the answers to the question. For example, in (2), B's utterance conveys that they believe that they are not going to find people who trust XPharma anywhere (and that will volunteer for their medical trials).

- (2) A: XPharma needs volunteers for their new experimental drug.  
B: No way! Where the hell are they going to find people who trust them?

The negative bias, however, can coexist with the belief that there is a true answer to the question: in this case the question conveys speaker's ignorance and surprise. For example, in (3) the inspector knows that someone spoke to the reporters and the *the hell* question conveys that she is ignorant and utterly surprised that someone did.

- (3) The inspector has just found out that confidential police information leaked to the press.  
Inspector: Who the hell spoke to the reporters?

Second, *the hell* questions have been argued to be **aggressively non-D linked**, a property often viewed as connected to their incompatibility with the D-linked *wh* operator *which*, as shown in (4)

- (4) \*Which the hell spoke to the reporters?

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Third, *the hell* questions have a limited **embeddability**. They have been argued to be acceptable only under interrogative verbs like *wonder* ((5-a)), negative verbs like *refuse* ((5-b)), negative quantifiers like *nobody* ((5-c)), and factive verbs as long as they are negated ((5-d)-(5-e)).

- (5) a. I wonder who the hell spoke to the reporters.  
 b. Zeno refused to tell me who the hell spoke to the reporters.  
 c. Nobody knows who the hell spoke to the reporters.  
 d. # I know who the hell spoke to the reporters.  
 e. I don't know who the hell spoke to the reporters.

In the course of the article, we will see that, despite what is often assumed in the literature, not all these properties correctly characterize *the hell* questions. [11] has challenged the idea that *the hell* questions must be non-D-linked and also shown that the equivalent of *the hell* in Japanese can combine with the Japanese equivalent of *which*. [10] has shown that, while there are constraints on the embeddability of *the hell*, these constraints are different from what was previously believed.<sup>1</sup>

## 1.1 Two previous proposals

### 1.1.1 *The hell* as a domain widening operator.

[4] proposes that a *wh-the-hell* (i) is a dependent polarity item, that is an expression with the semantics of an indefinite contributing a variable that cannot undergo existential closure at the top of the sentence; (ii) forces a domain extension; (iii) triggers a presupposition of negative attitude. Here we present challenges to (i) and (ii). With respect to (i), DG argue that this property explain why *the hell* can only be embedded in “non-veridical” contexts (e.g. negative verbs like *refuse*, negative quantifiers like *nobody*, and negated factive verbs): however, [10] correctly noticed that whether *the hell* can be embedded depends not on the veridical or non-veridical nature of the predicate (as DG would have it) but on whether the speaker is ignorant about the answer to the question: as long as the speaker is ignorant about the answer to the question, a *the hell* question is fine, as shown in (6).<sup>2</sup>

- (6) a. He refused to tell me who the hell bought that book  
 b. #I refused to tell him who the hell bought that book.

As for (ii), D&G maintain that the domain of quantification of *the hell* questions is always extended to include both familiar and novel entities, and that this explains the non-D-linked requirement. However, *the hell wh* can be D-linked, *pace* [12]. In (7-a), a *the hell* question is perfectly felicitous even though the speaker is only considering the answers on the test ([11]).

- (7) a. *During a multiple choice test:*  
 What the hell is the right answer?

The conclusion, thus, is that, since crucial aspects of DG's proposal (the polarity of *the hell wh*, the non-D-linking requirement, the domain widening) are problematic, it is untenable.

<sup>1</sup>As I said at the beginning of this section, the discussion here is limited to the aforementioned properties. For reasons of space, we cannot discuss other properties of *the hell* such as the incompatibility with **in-situ questions** and **sluicing**, as well as the unavailability of pair-list readings in multiple *wh* questions with *the hell*.

<sup>2</sup>Since what is wrong with (6-b) is replated to the semantics of *the hell*, I replace the ‘\*’ in [10] with ‘#’.

### 1.1.2 The hell as a domain restrictor for the *wh*

[10] proposes that *the hell* restricts the domain of quantification of the *wh* operator. Following [9]’s work, Martin assumes that *wh* words have a focus value but not an ordinary value and that (as we are familiar with from the focus literature) the focus value is a set of alternatives. For example, the focus value of *what* is given in (8-a). The focus value of *the hell*, on the other hand, is the complement of the set of contextually salient entities (of the relevant type)  $C$ , i.e. the set of entities that are not contextually salient or “unfamiliar” ((8-b)). When the two combine, the result is the set of non-human entities that are not contextually salient ((8-c)).

- (8) a.  $\llbracket \text{what} \rrbracket^f = \{x_e : x \text{ is not human}\}$ , ordinary value  $\llbracket \text{what} \rrbracket^o$  undefined  
 b.  $\llbracket \text{the hell} \rrbracket^f = \overline{C}$   
 c.  $\llbracket \text{what the hell} \rrbracket^f = \llbracket \text{what} \rrbracket^f \cap \llbracket \text{the hell} \rrbracket^f = \{x_e : x \text{ is not human}\} \cap \overline{C}$

Martin’s proposal is interesting but, like DG’s proposal, it faces some challenges. The first problem is that Martin too builds the non-D-linked property in the semantics of *the hell* and, in light of examples like (7-a), this is problematic: in (7-a) the speaker is not asking which of the unfamiliar answers (other than the ones on the test) is the correct one. The same point can be made with *wh* questions followed by an alternative question where the alternatives are clearly and explicitly given by the alternative question.

- (9) *Dante is having a hard time deciding what to order at a restaurant even though there are only two options.*  
 Beatrice: Come on! What the hell do you want? Pizza or pasta?

A related problem is that the incompatibility between *the hell* and *which* is also built in the semantics of *the hell*. Martin assumes that the focus value of a *which NP* phrase is the set of salient  $N$ , as shown in (4). When *which* and *the hell* combine, the result is the empty set.

- (10) a.  $\llbracket \text{which} \rrbracket^f = \lambda P_{\langle e,t \rangle}. P \cap C$   
 b.  $\llbracket \text{which the hell} \rrbracket^f = \llbracket \text{which} \rrbracket^f \cap \llbracket \text{the hell} \rrbracket^f = C \cap \overline{C} = \emptyset$

From a cross-linguistic perspective, this is problematic since there are languages that, unlike English, allow *which*-like operators to combine with *the hell*-like expressions. Japanese is one such language ([11]). Italian is another: *quale*, ‘which’, is compatible with *diavolo*, ‘the hell’.

- (11) Dante is taking forever to make his order. Beatrice says:  
 Andiamo! Hanno solo sushi, pasta e pizza. Quale diavolo  
 Go-pres.1pl have-pres.3pl only sushi, pasta and pizza which devil  
 vuoi?  
 want-pres.2sg  
 Come on! They only have sushi, pasta and pizza. What (lit: which) the hell to  
 you want?

If applied to the crosslinguistic data, Martin’s proposal incorrectly predicts that languages with *which*-like operators and *the hell* like phrases should not be able to combine them.

Lastly, the notion of “unfamiliarity” employed by Martin to refer to the focus value of *the hell* is unclear. In (12), *the hell* is felicitous even though the book Jack is reading is contextually salient, familiar to both discourse participants, and known to be such by both participants.

- (12) *Jillian arrives at Jack’s house and sees Jack reading a book that she told him not to read.*

Jillian: What the hell are you reading? I told you not to read that book!

Jack: Yes, you did, but I was curious!

The general conclusion is, while everyone agrees that there is something special about the meaning of THE HELL questions, neither type of proposal discussed above captures it successfully.

## 2 A novel proposal

I will make standard assumptions about the semantics of questions (cf. [6]). A constituent question of the form  $wh_\alpha P$  denotes the set of propositions of the form  $x P$ , where  $x \in D_\alpha$ . Polar questions  $p?$  denote the set containing the sentence radical and its complement. This is shown in (13)

- (13) a.  $\llbracket wh_\alpha P? \rrbracket^C = \{p \in \wp(W) : p = P(x) | x \in C \subseteq D_\alpha\}$   
 b.  $\llbracket p? \rrbracket^C = \{p, \bar{p}\}$

For reasons of space, I will not discuss issues of compositionality here. In very general terms, I assume that *the hell* is a *wh* modifier that syntactically attaches to the *wh* operator: semantically, it takes the *wh* term and a property  $P$ , which compose *via* point-wise functional application. I take this computation to happen within the focus dimension (cf. [9]). (14) shows the contribution of *the hell*:<sup>3</sup> it doesn't change the denotation of the *hell*-less question (as shown in (i)); it carries a presupposition (shown in (ii)); and it introduces a conventional implicature (shown in (iii)).  $K$  is a discourse structure ([5]).  $BEL_{s,w}$  is the set of  $x$ 's beliefs in  $w$ .

$$(14) \quad \llbracket the\ hell\ Q_{wh} \rrbracket^{K,g,w} = \left\{ \begin{array}{l} (i) \llbracket Q_{wh} \rrbracket^{K,g,w} \\ (ii) \partial[\bigvee Q_{wh} \in T_K] \\ (iii) \forall p \in \llbracket Q_{wh} \rrbracket^{K,g,w} [\exists r \in BEL_{s,w} : p <_r \neg p] \end{array} \right\}$$

The presupposition in (ii) requires that the disjunction of the answers ( $\bigvee Q$ ) be on  $Table_K$  (where  $Table_K$  is in  $K$ ; cf. [5]).  $\bigvee Q$  is equivalent to the proposition that there is a true answer to the question ([1]). The conventional implicature in (iii) represents the core meaning of *the hell* questions: for all propositions  $p$  in the denotation of the *wh*-question, there is some proposition  $r$  that the speaker believes such that, relative to  $r$ ,  $p$  is less likely than  $\neg p$ ; in other words, for each answer  $p$ , the speaker has some reason  $r$  to doubt  $p$ .<sup>4</sup> Note that the speaker might have other beliefs which are neutral with respect to whether  $p$  or  $\bar{p}$  is true, or that might even make  $p$  more likely than  $\bar{p}$ .<sup>5</sup>

Summing up, the proposal is that *the hell* does not alter the denotation of the *the hell*-less question. It requires that the proposition that there is a true answer to the question be on the Table. Lastly, it conventionally implicates that the speaker has reasons to doubt all the

<sup>3</sup>I abstract away from the fact that *the hell* combines with *wh* first, and for convenience's sake I represent a *the hell* question as  $\llbracket the\ hell\ Q_{wh} \rrbracket$ .

<sup>4</sup>Saying that a belief  $r$  makes  $p$  more likely than  $\bar{p}$  means that  $r$  makes the speaker's credence in  $p$  greater than the speaker's credence in  $\bar{p}$ .

<sup>5</sup>The role that  $r$  plays in (iii) is similar to the role that a conversational background plays in a modal statement: a conversational background is a set of propositions with respect to which a necessity or possibility statement is evaluated, and the latter may have a different truth value when evaluated relative to different conversational background (for example, simplifying the discussion greatly, in a world where people are required to be nice but they are known not to be, the necessity statement *Zeno must be nice* is deontically true, but epistemically false).

answers. In other words, on the basis of some salient facts, the speaker has a negative bias towards all individual answers being considered.

### 3 Explaining away our desiderata

**No  $\exists$ -presupposition.** *Contra* [14], a *the hell* question does not carry the existential presupposition that an answer to the question is true:  $\bigvee Q$  is not required to be in the common ground but merely on the Table. This is good since in examples like (15), an existential presupposition would be too strong.

- (15) a. What the hell can they possibly do at this point?  
b. Who the hell is ever going to marry someone like that?

**D-linked *the hell* questions are not problematic.** *The hell* questions are just like any other question: if there are contextual restriction on the domain of the *wh*, the set of propositions in the denotation of the question will be similarly constrained. In the multiple choice example, repeated in (16), the answers being considered are the ones on the test: the conventional implicature is that for every proposition  $p$  of the form [ $x$  is the right answer], where  $x$  is one of the choices on the test, there is some proposition  $r$  that the speaker believes and relative to which,  $p$  is less likely than  $\bar{p}$ .

- (16) *During a multiple choice test:*  
What the hell is the right answer?

Note that this is compatible with the speaker believing that one of the answers on the test is the right answer. This creates doxastic tension but not a contradiction: on the one hand, the speaker has reasons to doubt each answer, but on the other hand she believes that one is true. Her body of beliefs is inadequate to arrive at the true answer, and the speaker realizes that. This analysis captures properties that seemed to be incompatible in other accounts: (i) the D-linked nature of the question; (ii) the belief that there is a true answer; (iii) the intuition that the speaker is clueless and that “no option is viable” ([13]).<sup>6</sup>

***The hell-type phrases are semantically compatible with D-linked *wh* operators.***

We saw above that our proposal does not involve any kind of domain widening or the selection of non-salient (unfamiliar) entities, therefore we predict no incompatibility between *which*-type operators and *the hell*-type phrases on the basis of their semantics. This correctly rules in the cross-linguistic data we discussed. As far as English is concerned, we tentatively conclude that what determines the incompatibility between *which* and *the hell* lies outside the semantics.

**Requirement of speaker’s ignorance explained.** This proposal accounts for Martin’s observation that speaker’s ignorance is necessary to license *the hell*, as shown by (17).

- (17) a. #I refused to tell him who the hell bought that book.  
b. He refused to tell me who the hell bought that book.

<sup>6</sup>Let’s consider briefly cases where there are only two alternatives in the focus value of the question: for example, our math test scenario where there are only two possible choices for each question. The speaker believes that one of the two answers (call them  $\alpha$  and  $\beta$ ) is correct (i.e. that there is a true answer to the question). The speaker may judge  $\alpha <_r \bar{\alpha}$  with respect to some belief  $r$ , and she may judge  $\beta <_{r'} \bar{\beta}$  with respect to some belief  $r'$ . If she also believes that there is a true answer to the question (a belief about tests in general, that one of the answers is the correct one), then she will be in what we called a state of doxastic tension, or a state of “unexpected ignorance”, where her beliefs about the subject are at odds with some other belief she holds, and are therefore inadequate to find the true answer.

(17-a) is pragmatically infelicitous because there is a clash between the implication that the speaker knows who bought that book (their identity), and the conventional implicature of *the hell* that, the speaker has some reason to doubt each proposition of the form [ $x$  bought that book].<sup>7</sup>

**Domain widening is an illusion.** Domain widening is not part of the semantics (as we saw clearly with the D-linked cases), but at best a pragmatic inference that the domain of the question might not be adequate to provide a (positive) true answer.

## 4 Conclusion and open issues

While most of the examples of *the hell* questions we considered in the paper are biased questions, a *the hell* question can also be rhetorical: in (18) for example, the speaker is signalling to the addressee that nobody is ever going to marry Olivia, and that for the speaker the issue is closed, despite A's explicit assertion to the contrary.

- (18) A: Someone will marry Olivia.  
B: Who the hell will/would ever do that? That's nuts!

Following [7] and [8], I take rhetorical questions to be questions signalling not that the answer is in the common ground (*contra* [3], [2], a.o.), but that the speaker takes the issue raised by the question to be *closed*: this requirement can be satisfied in contexts where there is indeed doxastic *harmony* between speaker and addressee (and the issue is in the common ground), but also in contexts where there is doxastic *discord* between speaker and addressee but the speaker takes the issue to be closed, resolved in the discourse. Previous literature has only focussed on *harmony* cases (that is cases where the answer to the question is taken to be part of the common ground), thus missing the fact that a speaker can ask a rhetorical question even in the face of the fact that speaker and addressee explicitly disagree about the question.<sup>8</sup> Understood in the way just described, the analysis proposed here extends to *the hell* rhetorical questions as well.

We leave to another occasion, a more thorough presentation of our proposal and how it accounts for properties of *the hell* other than the ones discussed above (e.g. incompatibility with sluicing, in-situ, and pair-list reading). We also leave to the future a discussion of the connection between *the hell* questions (in English and other languages) and *hell-less* questions marked by a similar intonation as *the hell* questions and having seemingly the same meaning. Last we note a connection to be explored in the future between the semantics proposed here for *the hell* and the semantics proposed by [7] and [8] for the *mano a tulipano* (MAT) gesture in Italian.

<sup>7</sup>Note that this is different from the test example, where the speaker merely knows that *some* answer is correct. While the conventional implicature is the same, in (17-a), not only does the speaker convey that she knows that someone bought that book, but that she knows the *identity* of the person  $x$  who bought that book, and at the same time she implicates that she has reason to doubt that  $x$  bought that book. (17-a) is infelicitous for the same reason why *#I know that Olivia bought that book but I have some reason to doubt that she did* is. Indeed, that a mere existential commitment is compatible with having reason to doubt each alternative is corroborated by the felicity of *I know that one of these two people bought that book but for each of them, I have some reason to doubt that they did*.

<sup>8</sup>Rhetorical questions of this kind are often characterized by a cluster of different markers, e.g. a non-neutral intonation, the use of NPI *ever*, the conjunction *and* at the beginning of the question (as in B's question: A: *Someone will help me*; B: *And who the hell will (ever) do that?*).

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