

Quexistentials and Focus*

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Abstract

Many languages have words which can be interpreted either as question words or as existentials. We call such words ‘quexistentials’. An example is the Dutch word *wat*, which can mean either *what* or *something*. Other languages that have quexistentials include Russian, Mandarin, Korean, Vietnamese, German, and Passamaquoddy. It has been observed in the literature that focus plays an important role in the interpretation of quexistentials. More specifically, it has been claimed that across languages, quexistentials are (i) always focused on their interrogative interpretation, and (ii) never focused on their existential interpretation (see [Haida 2007](#) pages 47, 51, 169, 182, and the many further references given there). We refer to this as the quexistential-focus biconditional: a quexistential is interpreted as a question word if and only if it is focused.

The contribution of the paper is twofold. On the one hand, we offer a possible explanation for one direction of the quexistential-focus biconditional, namely the fact that quexistentials are generally contrastively focused on their interrogative use. We argue that this should be seen as a particular instance of an even more general fact, namely that interrogative words (quexistential or not) are always contrastively focused. We propose to account for this fact by generalizing the common view on contrastive focus in a way that incorporates both an external and an internal notion of contrast.

The second contribution of the paper concerns the other direction of the quexistential-focus biconditional. We present evidence which, at least at face value, suggests that this part of the generalization is in fact not valid. That is, focus on a quexistential does not necessarily preclude an existential interpretation, at least not in all languages. Specifically, we will show that it is possible for Dutch *wat* to be interpreted existentially even when it is focused. However, we will attempt an explanation of this phenomenon.

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1 Introduction

Many languages have words that can be used either as question words or as existential indefinites (Ullmann, 1978; Haspelmath, 1997; Bhat, 2000; Haida, 2007, among many others). We call such words ‘quexistentials’ (question + existential). An example is the Dutch word *wat*, which can mean either *what* or *something*:¹

- (1) Wat heeft Miranda gegeten?
QUEx has Miranda eaten
‘What has Miranda eaten?’
- (2) Miranda heeft wat gegeten.
Miranda has QUEx eaten
‘Miranda has eaten something.’

It has been claimed in the literature (see for instance Haida 2007, pages 47, 51, 169, 182 and many references cited there) that the presence or absence of focus typically determines whether a quexistential is interpreted as a question word or as an existential indefinite. In particular, it has been claimed that in many languages, possibly universally, quexistentials are interpreted as question words if and only if they are focused. We will refer to this generalization as the *Quexistential-Focus biconditional* (QF biconditional for short). For instance, the Dutch quexistential *wat* can only be interpreted as a question word in (3), where it is focused, and can only be interpreted as an existential indefinite in (4), where it is not focused.

- (3) Wie heeft hem WAT gegeven?
who has him QUEx given
✓ ‘Who gave him what?’
✗ ‘Who gave him something?’
- (4) Wie heeft hem wat geGEven?
who has him QUEx given
✗ ‘Who gave him what?’
✓ ‘Who gave him something?’

The fact that quexistentials are always focused on their interrogative use should be seen as a particular instance of a more general fact, namely that interrogative words (quexistential or not) are always focused. We propose to account for this fact by generalizing the common view on contrastive focus in a way that incorporates both an external and an internal notion of contrast. On the other hand, we will see that the issue of the (non-)focusability of quexistentials on their existential use hides many complications.

The paper is organized as follows. Section 2 provides some general background on quexistentials, Section 3 lays out the basic empirical facts on how quexistentials interact with stress and focus, Section 4 explores in more depth how focus relates to the interrogative use of quexistentials, and to question words more generally, and Section 5 explores in more depth how focus relates to the existential use of quexistentials, and to existential indefinites more generally. In this section we also argue in favor of re-interpreting the Dutch facts so that they do not form a counterexample to the QF biconditional. Finally, Section 6 concludes.

¹In (2), we translate *wat* as *something*. We should note, however, that *wat*, unlike *something*, is under-specified for number. In particular, unlike *something*, it can be the argument of collective predicates.

2 Background on quexistentials

In English and many other languages interrogative words look different from existential indefinites:

- (5) a. What did he eat?
b. He ate something.

In other languages, existential indefinites are morphologically composed from interrogative words, as in Greek:²

- (6) a. Ti efages?
what ate.2SG
'What did you eat?'
b. Efages kati.
ate.2SG something
'You ate something'

The paradigm is completely productive in Greek, as illustrated in (3):

- (7) a. pios (who) ⇒ kapios (someone)
b. pote (when) ⇒ kapote (sometime)
c. pou (where) ⇒ kapou (somewhere)

What we call 'quexistentials' are words which can be used either as question words or as existential indefinites, without any additional overt morphology. We have already seen one example of a quexistential: the Dutch word *wat*. Another example is the Russian word *kto*, which can function as interrogative *who* or as existential *someone*:

- (8) Kto prišel?
QUEx came
'Who came?'
(9) Možet, kto prixodil.
maybe QUEx came
'Maybe someone came.'

The reader may wonder why we use the term 'quexistential' given that there already are a few related terms in use. For instance, [Kuroda \(1965\)](#) coined the term 'indeterminate pronouns' for certain lexical items in Japanese which, like quexistentials, participate in both interrogative and existential constructions. This term has been used in much subsequent work for similar items in other languages. We do not use this term, however, because there are morpho-syntactic differences between the interrogative and existential uses of indeterminate pronouns. Japanese indeterminate pronouns, for instance, are accompanied by the particle *ka* both on their existential and on their interrogative use. However, on the existential use the particle must appear locally on the indefinite noun-phrase, while on the interrogative use it must appear in clause-final position. Moreover, on the interrogative use, in matrix questions the particle is optional and can only appear in the presence of a politeness marker ([Miyagawa, 1987, 2017](#); [Uegaki, 2018](#)). On the other hand, on the existential use, the particle's presence is obligatory and not dependent on the presence of a politeness marker.

- (10) Dare-ka-ga hashitta.
indet-KA-NOM ran

²This is even true for English, though only in a few specific cases: *where-somewhere*, *how-somehow*.

- ‘Someone ran.’
- (11) Dare-ga ki-*(mas)-u ka?
 indet-NOM come-POLITE-PRS KA
 ‘Who will come?’

Such differences between the two uses set indeterminate pronouns in Japanese apart from the kind of lexical items that we call quexistentials. In the case of quexistentials there is no difference in spell-out between the existential and the interrogative use.

We do not use the term ‘wh-indefinite’ (Bruening, 2007, among many others) either because it is used to refer only to the existential use of items which also have an interrogative use (in this case the item is a quexistential) or to indefinites which are morphologically based on interrogative words with additional morphology (as in the Greek examples above).

Neither do we take over the term ‘ignorative’, coined by (Karcevski, 1941, page 70), which is meant to indicate that the speaker lacks knowledge of the referent when using a quexistential. Since there are languages in which quexistentials can also be used for referents known to the speaker, this term is not fully appropriate either.

Thus, we use the term ‘quexistentials’ to refer to lexical items that permit existential and interrogative uses without any differences in spell-out. We refer to the interrogative reading of a quexistential as the ‘qu of quex’ and to the existential reading as the ‘ex of quex’. The latter two terms are names for interpretations, while the term ‘quexistential’ is used for the lexical item itself. In glosses, we use QUEx, regardless of the meaning that the sentence ends up having.

As far as we have seen, all languages that have quexistentials also have dedicated question words and dedicated existential indefinites. Dutch, for example, has only one quexistential, *wat* (interrogative ‘what’/ existential ‘something’). It does not have a quexistential that can mean both ‘who’ and ‘someone’. Rather, it has a non-quexistential interrogative word *wie* meaning ‘who’ and a non-quexistential indefinite *iemand* meaning ‘someone’. German has many more quexistentials than Dutch but still has purely interrogative words and purely existential indefinites as well.

The main mystery about quexistentials is how one and the same word can yield an interrogative or an existential interpretation. Several answers to this question have been proposed in the literature. Some of these proposals treat quexistentials as variables (e.g., Cheng, 1994; Postma, 1994; Bruening, 2007), others as expressions generating Hamblin alternatives (e.g., Yanovich, 2005), and yet others as existential quantifiers with obligatory domain alternatives (Liao, 2011; Chierchia and Liao, 2015). On the first two approaches, the ex of quex arises when the variable or the alternative set generated by the quexistential is bound by an existential closure operator, and the qu of quex when it is bound by a question operator. On the third approach, the ex of quex arises when the domain alternatives generated by the quantifier are evaluated by an exhaustification operator, and the qu of quex arises when they are evaluated by a question operator. The pros and cons of these proposals are discussed in some detail in Hengeveld, Iatridou, and Roelofsen (2020). For the purposes of the present paper, however, it does not matter by which mechanisms the two readings of a quexistential arise. All that matters are the final products of these mechanisms, the two readings. It is the interaction of these two readings with focus that we are concerned with here.

In Hengeveld *et al.* (2020), the languages that have quexistentials are divided into three groups depending on the licensing conditions of the ex of quex³:

- **Polarity-sensitive languages.** In these languages the ex of quex is possible only in environments that can be roughly characterized as NPI-licensing environments. This group has been

³Cable (2010b) discusses quexistentials in his work on questions in Tlingit, though it is unclear where the Tlingit profile of the ex of quex falls typologically (also Cable, p.c.).

argued to include Mandarin (Huang, 1982; Cheng, 1994; Lin, 1998, 2004; Chierchia and Liao, 2015; Liu and Cui, 2019, among others), Russian (Yanovich, 2005) and Vietnamese (Tran and Bruening, 2009).

- **Undique languages** (from the Latin word meaning 'everywhere'). In these languages the ex of quex is licensed everywhere except in the fronted position where interrogative words move to if the language has overt wh-movement. This group includes Passamaquoddy (Bruening, 2007; Bruening and Tsai, 2009) and Korean (Yun, 2019).
- **Topological languages.** We will distinguish a third category here, for the moment assuming that Postma (1994) is correct that there are languages in which the ex of quex is licensed only inside the VP (but see footnote 38). This group would include Dutch and German, according to Postma (1994). However, we have argued in Hengeveld *et al.* 2020 that the Dutch facts are not consistent with Postma's generalization. We return to this point in the current paper as well.

Below we illustrate the distribution of the ex of quex in one language from each of these groups (Russian, Passamaquoddy, and Dutch).

2.1 The polarity group: Russian

Russian is in the polarity-group, which means that in this language the ex of quex is not possible in affirmative episodic sentences:

- (12) Vasja s'jel čto.
 Vasja ate QUEX
 ✗ 'Vasja ate something'

The ex of quex is possible in Russian in yes/no questions, provided that the quexistential is not fronted, because then it is interpreted as an interrogative word:

- (13) a. Prišel kto?
 came QUEX
 ✓ 'Did somebody come?'
 ✗ 'Who came?'
- b. Kto prišel?
 QUEX came
 ✓ 'Who came?'
 ✗ 'Did somebody come?'
- (14) a. Vasja s"el čto?
 Vasja ate QUEX
 ✓ 'Did Vasja eat something?'
 ✗ 'What did Vasja eat?'
- b. Čto Vasja s"el?
 QUEX Vasja ate
 ✓ 'What did Vasja eat?'
 ✗ 'Did Vasja eat something?'

The ex of quex is also possible in the antecedent of a conditional:

- (15) a. Esli (kto) pridet (kto), daj mne znat'.
 if (QUEX) comes (QUEX), give me know
 'If somebody comes, let me know.'
 b. Esli (kogo) uvidiš (kogo), daj mne znat'.
 If (QUEX) see (QUEX), give me know
 'If you see somebody, let me know.'

But not in the consequent (one would have to use a non-quex indefinite):

- (16) *Esli on ne pridet, ja ub'ju kogo.
 if he NEG comes I will.kill QUEX
 Intended: 'If he does not come, I will kill somebody.'

So in Russian, the ex of quex is polarity sensitive, just like it is in Mandarin according to [Huang \(1982\)](#), [Cheng \(1994\)](#), and [Lin \(1998\)](#), among others, and in Vietnamese according to [Tran and Bruening \(2009\)](#).⁴

2.2 The undique group: Passamaquoddy

Compared to Russian, Passamaquoddy has a much more unconstrained distribution of the ex of quex. [Bruening \(2007\)](#) cites the following sentences from the literature:

- (17) a. Kesq yaq pemacqim-a-htit otuhk-ol, on keq (')-nutom-oni-ya.
 while QUOT drag-DIR-3PCONJ deer-OBV then QUEX 3-hear-N-3P
 'While they were dragging the deer they heard something.'
 ([Newell, 1974](#), p.5)
 b. On yaka wesuwiy-apasi-htit, wot yaq wen pemi
 then then.FUT going.back-walk.away-3PCONJ this.AN QUOT QUEX IC.along
 sakhiya-t.
 come.into.view-3CONJ
 'Then, on their way back, something [animate] came into sight.'
 ([Newell, 1979](#), p.25)
 c. Keq (')-nomihtu-ni-ya etoli-macetutomuwi-k kci ponapsku-k tama al
 QUEX 3-see-N-3P IC.there-move-IICONJ big rock-LOC QUEX UNCERT
 tekkapimok.
 as.far.as.one.can.see

⁴Note that in Russian the modal *možet*, as illustrated in example (9), licenses NPI's. This can be shown with the following examples, containing the NPI *kto-nibud* 'somebody' (Mitya Privoznov, pers.comm.):

- (i) Možet kto-nibud' prixodil.
 maybe somebody came
 'Maybe somebody came.'
 (ii) *Kto-nibud' prixodil.
 somebody came
 'Somebody came.'

Note that this is not specific to Russian, and can be found in, for instance, Greek as well. As argued in e.g. [Zwarts \(1995\)](#) and [Giannakidou \(2002\)](#), licensing of NPIs is partly determined by the degree of veridicality of the licenser, and in some languages modals expressing possibility are sufficiently non-veridical to license NPI's.

‘They see something moving on a big rock [somewhere] near the horizon.’
(Mitchell, 1976, p.22)

As is obvious, none of the constructions in (17) would be possible in Russian, since the ex of quex does not appear in a polarity environment here, and the Russian ex of quex is polarity sensitive.

Our own fieldwork on Passamaquoddy adds the following cases, which would not be possible in Russian either:⁵

- (18) a. Piyel ‘kisotomon keq.
Piyel ate QUEX
‘Piyel ate something’
- b. Piyel nomiyal Roger-ol tama.
Piyel see Roger-OBV QUEX
‘Piyel sees Roger somewhere.’
- c. ‘Kisomal wen opanol.
ate QUEX bread
‘Somebody ate the bread.’⁶
- d. Wen nemihtaq keq?
QUEX saw QUEX
‘Who saw something?’
- e. Keq nemihtaq wen?
QUEX saw QUEX
‘What did someone see?’

These cases confirm the observations reported in Bruening (2007) with respect to the broad availability of the ex of quex.

Unsurprisingly, even though the Passamaquoddy quexistentials do not need negation (or any other downward entailing environment) to appear in the ex of quex reading, they are fine in such environments.

- (19) Piyel mate ‘kisotomuwon keq
Piyel not ate QUEX
‘Piyel did not eat anything’

According to our consultant, (19) can only have the translation shown and cannot be taken to mean ‘There is something that Piyel did not eat’. This is consistent with Bruening (2007) who has argued that the existential interpretation of the Passamaquoddy quexistential always takes narrow scope.

Thus, Passamaquoddy belongs to the unique group.

2.3 The topological group: Dutch

As mentioned in the introduction, Dutch has one quexistential, *wat*, which can mean either *what* or *something*.

- (20) a. Wat heb je gegeten?
QUEX have you eaten

⁵Many thanks to Roger Paul for the data and discussion of the data. Many thanks to Norvin Richards for all his help and support in the Passamaquoddy part of this project.

⁶Indefinite subjects prefer to appear postverbally in Passamaquoddy (Norvin Richards, p.c.).

‘What have you eaten?’

- b. Ik heb wat gegeten.
I have QUEX eaten
‘I have eaten something’

The ex of quex is clearly not polarity-sensitive in Dutch, as it can appear in positive past episodic sentences such as (20b).⁷

The go-to paper for quexistentials in Dutch (as well as German) is Postma (1994). Postma argues that Dutch and German quexistentials are variables at birth. When the syntactic conditions for question formation are met (e.g. movement to the left periphery), the variable is bound by an interrogative operator. When the quexistential stays inside the VP, the variable is bound by an existential closure operator, as proposed in Heim 1982 and Diesing 1992 for indefinites in general (not specifically for quexistentials).⁸ Specifically, Postma follows the proposal in Diesing 1992, whereby the syntactic domain of the existential closure operator is the VP. As a result, it is predicted that the ex of quex is possible only inside the VP. When an indefinite outside of the VP is needed, Postma predicts that only non-quexistential *iets* (‘something’) is possible.

Some of his data are the following.⁹ In (21b), we see that the ex of quex is not possible in subject position (not even of an unaccusative), and instead the non-quexistential *iets* has to be used.

- (21) a. Iets is gevallen.
something is fallen
‘Something has fallen.’
- b. Wat is gevallen
QUEX is fallen
✓ ‘What has fallen?’
✗ ‘Something has fallen.’

Furthermore, taking the adverb *snel* (‘quickly’) to be situated at the VP border, Postma notes that quexistential *wat* cannot appear to its left, while the non-quexistential indefinite *iets* can:

- (22) a. Jan heeft **snel** **iets** opgeschreven.
Jan has quickly something written.down
‘Jan has quickly written something down.’
- b. Jan heeft **snel** **wat** opgeschreven.
Jan has quickly QUEX written.down
‘Jan has quickly written something down.’
- c. Jan heeft **iets** **snel** opgeschreven.
Jan has something quickly written.down
‘There is something that Jan has quickly written down.’

⁷ *Wat* cannot appear adjacent to negation. The same holds for the non-quexistential indefinite *iets*. Presumably this is because of blocking by the negative indefinite *niets* (‘nothing’).

- (i) *Ik heb niet wat gegeten.
I have not QUEX eaten
✗ ‘I haven’t eaten anything.’

⁸This is similar to Cheng’s 1994 proposal for Mandarin.

⁹We have slightly adapted the English translations, to indicate when the existential receives a wide scope interpretation and when a narrow scope interpretation.

- d. *Jan heeft **wat** **snel** opgeschreven.
 Jan has QUEX quickly written.down
 ✗ ‘Jan has quickly written something down.’

In general, Postma argues that the ex of quex is not possible when the quexistential has moved out of the VP by scrambling or extraposition:¹⁰

- (23) It is difficult to get Teun’s attention. . .
- | | | |
|----|---|--------------------|
| a. | Hij zit steeds over iets/wat na te denken.
he sits constantly about something/QUEX after to think
‘He is constantly thinking about something’ | VP-internal |
| b. | Hij zit over iets/*wat steeds na te denken.
he sits about something/*QUEX constantly after to think
‘There is something that he is constantly thinking about’ | scrambled |
| c. | Hij zit steeds na te denken over iets/*wat.
he sits constantly after to think about something/*QUEX
‘He is constantly thinking about something’ | extraposed |

For Postma then, the lexical status of quexistentials in Dutch and German is that of a variable and by appealing to the VP-location of Diesing’s existential closure, he predicts a topology for the ex of quex in these languages: it is only possible inside the VP. For this reason we will refer, for now, to these two languages as the ‘topological’ group. Hengeveld *et al.* (2020) discuss the question of whether the topological and undique groups can be unified into one. Moreover, we return to Dutch in some detail later on in the paper.

2.4 The aim of the current paper

We have so far discussed two factors which affect the distribution of the existential reading of quexistentials in some languages but not in others: polarity sensitivity, and sensitivity to syntactic structure, in particular the VP boundary. There is, however, also a factor which has been argued to affect the interpretation of quexistentials in a very similar way across all languages. Namely, as mentioned in the introduction, it has been argued that quexistentials are interpreted as question words if and only if they are focused.¹¹ We refer to this generalization as the *Quexistential-Focus bi-conditional* (QF biconditional for short).

The central point of investigation in this paper is the QF biconditional. In other words, we will not investigate the lexical semantics of quexistentials, nor the syntactic/semantic source of their interrogative/existential duality. We remain neutral in this paper with respect to the various proposals that have been made in this regard (e.g., Postma, 1994; Cheng, 1994; Lin, 1998; Yanovich, 2005; Bruening, 2007; Tran and Bruening, 2009; Chierchia and Liao, 2015), and pursue an understanding of the QF biconditional which does not hinge on assumptions made in any of these competing proposals.

¹⁰In (23b) the existential only has a wide-scope interpretation.

¹¹The term ‘focus’ has been used in the literature to cover both ‘new information focus’ and ‘contrastive focus’. We will follow Kratzer and Selkirk (2018) and others in assuming that at least in the Germanic and Slavic languages, new information focus does not have distinctive phonological effects. Only contrastive focus does (and givenness). Items that are discourse new and not contrastively focused are subject to the default prosody of the language. From now on then, ‘focus’ will stand for ‘contrastive focus’. Note that by ‘new information focus’ Kratzer and Selkirk (2018) mean broad focus in the sense of Hanssen *et al.* (2008), who show that narrow focus as typical of an answer to a wh-question behaves in the same way as contrastive focus. This ties in nicely with the view of question words as intrinsically carrying contrastive focus that we will defend below.

Moreover, since the QF biconditional appears to cut across the polarity divide, we will remain neutral here as to what makes quexistentials polarity sensitive in some languages but not in others, and will attempt to understand the QF biconditional independently of that opposition.

3 The QF biconditional: basic observations

The QF biconditional, as explicitly stated, for instance, by [Haida \(2007, p.47, 51, 182\)](#) and adapted to our terminology, is as follows:

(24) **The QF biconditional**

Quexistentials are interpreted as question words if and only if they are focused. In short:
 qu of quex \Leftrightarrow focus on quex

[Haida \(2007\)](#) provides the following examples from German, a language from the topological group.

- (25) Wer sieht WEN?
 QUEX sees QUEX
 ✓ ‘Who sees who?’
 ✗ ‘Who sees someone?’

- (26) Wer SIEHT wen?
 QUEX sees QUEX
 ✗ ‘Who sees who?’
 ✓ ‘Who sees someone?’

Russian, a representative of the polarity group, exhibits the same pattern:

- (27) Vasja ČTO s”el
 Vasja QUEX ate
 ✓ ‘What did Vasja eat?’
 ✗ ‘Did Vasja eat something?’

- (28) Vasja čto S”EL
 Vasja QUEX ate
 ✗ ‘What did Vasja eat?’
 ✓ ‘Did Vasja eat something?’

And finally, in Passamaquoddy, a language in the undique group, the pattern obtains as well, though note that the Passamaquoddy stress system is quite different overall, see [LeSourd 1993](#)):

- (29) Wen peciptaq KEQ?
 QUEX C.brought QUEX
 ✓ ‘Who brought what?’
 ✗ ‘Who brought something?’

- (30) Wen peCIPTaq keq?
 QUEX C.brought QUEX
 ✗ ‘Who brought what?’
 ✓ ‘Who brought something?’

The QF-biconditional consists of two conditionals:

- (31) qu of quex \Rightarrow focus on quex

(32) focus on quex \Rightarrow qu of quex

Haida (2007, p.169) provides a long list of languages that support (31), with references to previous work providing more detail on each of these languages. We indeed accept it as a universal property of quexistentials. Obviously, it is of high importance to understand why quexistentials across languages, and across the three different groups that we have described, have this particular property in common.

We will see, however, that the universal status of (32) appears to be counterexemplified in Dutch, even if it seems to be supported by the above examples in German, Russian, and Passamaquoddy. As illustrated in (33) and discussed in more detail in Section 5, the ex of quex can in fact be contrastively focused sometimes, at least in Dutch.^{12 13}

- (33) a. A: Heeft Miranda haar huiswerk ingeleverd?
A: Has Miranda her homework submitted
A: ‘Has Miranda submitted her homework?’
- b. B: Nou, ze heeft WEL[↑] WAT[↓] ingeleverd maar NIET[↑] VEEL[↓].
Well, she has VF QUEX submitted but not much
‘Well, she did submit something but not much.’

Moreover, the QF biconditional leads us to expect that a quexistential on its existential reading should be able to receive stress by virtue of default prosody, as long as it does not receive focal stress. This, however, is not the case, at least not in Dutch, German or Russian. In Dutch default prosody, a sentence like (34) has stress on the object:¹⁴

(34) Miranda heeft KWARK gegeten.
Miranda has cottage.cheese eaten
‘Miranda has eaten cottage cheese.’

(35) #Miranda heeft kwark geGEten.
Miranda has cottage.cheese eaten
Intended: ‘Miranda has eaten cottage cheese.’

¹²Contrastive focus in Dutch is, like new focus, expressed by higher scaling of the pitch contour and lengthening of the onset of the stressed syllable. The falling movement after the stressed syllable is steeper with new and contrastive focus than it is with broad focus Hanssen *et al.* (2008).

¹³Yun (2019) presents experimental data arguing that in Korean, quexistentials can also receive prosodic prominence while still being interpreted existentially. The data presented in Park (2019) seem to confirm this view, as she shows that indeed the ex of quex in Korean can be contrastively focused. The main phonetic manifestations of focus, as noted by Jun (1993), are (i) a phrase boundary preceding the focused constituent, and (ii) dephrasing of post-focal material. Obviously, Korean needs to be studied in more detail before we can know for sure whether, and how, it is a potential counterexample to the generalization regarding contrastive focus and the qu of quex. Interestingly, Yun claims that her data show that prosodic prominence on the ex of quex increases the quexistential’s ability to take exceptional wide scope (specifically, to scope out of an *if*-clause, which is a scope island for non-existential quantifiers). This is not the case for Dutch. On the other hand, we are not entirely certain about the conclusion regarding wide scope in Korean: only one such environment was discussed in Yun (2019) and the experiment was conducted by asking the participants ”... to choose whether it was about a specific entity (i.e. a wide scope indefinite) or an arbitrary entity (i.e., a narrow scope indefinite)” p.639. We worry that this test may not suffice and hope to conduct a larger experiment in the future.

¹⁴We assume that default prosody is the prosody that obtains in out-of-the-blue contexts (see Büring, 2016, §1.2 for useful background discussion on the notion of default prosody). In (34) and many other examples below, we use the word *kwark* (‘cottage cheese’) as direct object because of its prosodic similarity to the quexistential *wat*. Note that (35) is marked with a # rather than a *. This is because the sentence is not ungrammatical, but its prosody is not the one we find in out-of-the-blue contexts.

But when the object is a quexistential on its existential use, stress falls on the verb rather than on the object:

- (36) Miranda heeft wat geGEten.
Miranda has him QUEx eaten
'Miranda has eaten something.'
- (37) *Miranda heeft WAT gegeten.
Miranda has QUEx eaten
Intended: 'Miranda has eaten something.'

Ruling out focus-induced stress on the quexistential will not suffice to rule out stress by virtue of default prosody. Whatever we would say about focus, then, we would need to say something in addition about the fact that the ex of quex cannot receive stress by virtue of default prosody in cases like (36). We will therefore discuss the relation between quexistentials and default stress separately from the relationship between quexistentials and focal stress.

Now that we have given some background on quexistentials and made some basic observations concerning their interaction with stress and focus, we will proceed as follows. First, in Section 4, we will further examine how the **interrogative** use of quexistentials relates to stress and focus. We will propose that quexistentials on their interrogative interpretation—and question words in general—are typically marked as contrastive foci because questions characteristically put forward a set of contrasting propositions (resolutions/answers). The existence of such contrasting propositions results in the use of focal stress. Making this idea more explicit and precise requires a generalization of the common view on contrastive focus, but one which we think is very natural.

Second, in Section 5, we will further examine how quexistentials on their **existential** use interact with stress and focus. In particular, we will consider some possible explanations for the fact that the ex of quex cannot receive stress by virtue of default prosody, and we will show in some detail that the ex of quex *can* receive focal stress in certain cases in Dutch, though not in other languages that we have considered. We also offer an account of this cross-linguistic difference.

4 Stress and focus on the qu of quex

4.1 In situ interrogative words must be stressed

In this section we will see that the qu of quex behaves just like other interrogative items. That is, once the quexistential has been set to its interrogative guise, it behaves just like non-quexistential interrogative words (as we said in Section 2, we do not think that the mechanisms by which the qu of quex or ex of quex are derived affect the current discussion). This holds for the post-movement position in the left periphery, but, much more interestingly, for in situ positions as well.

First a quick word about suitable testing environments: the interrogative use of a quexistential in a wh-movement language like Dutch is best explored by inspecting the second (or third) interrogative word in a multiple wh-question, and not the one that has moved to the left periphery. This is because in the in situ position the interrogative use of a quexistential can be compared to the existential use. Once *wat* has moved to the left periphery, it enters a territory where it is very hard for the ex of quex to survive, as we have seen in Section 2.3. So our simplest initial testing ground is the quexistential in object position of a multiple wh-question, where the quexistential can in principle be interpreted as an interrogative or an existential, and where we have already seen that absence of stress blocks the qu of quex:

- (38) Wie heeft hem wat geGEven?
 who has him QUEX given
 ✗ ‘Who gave him what?’
 ✓ ‘Who gave him something?’

Moreover, despite the fact that Dutch permits focal stress on the *ex* of *quex* when the alternatives are overtly mentioned, as we saw in example (33b), in their absence, stress on the *quexistential* blocks the *ex* of *quex*.

- (39) Wie heeft hem WAT gegeven?
 who has him QUEX given
 ✓ ‘Who gave him what?’
 ✗ ‘Who gave him something?’

The first question that needs to be asked is if the interrogative *quexistential* behaves similarly to non-*quexistential* interrogative words in this respect. The answer to this, at least for Dutch, is yes. Dutch non-*quexistential* interrogative words like *wie* (‘who’) also necessarily receive stress in this environment.

- (40) a. Wie heeft hem aan WIE voorgesteld?
 who has him to who introduced
 ‘Who introduced him to who?’
 b. *Wie heeft hem aan wie VOORgesteld?
 who has him to who introduced
 Intended: ‘Who introduced him to who?’

The same is also true, however, for referring (non-interrogative) object DPs.

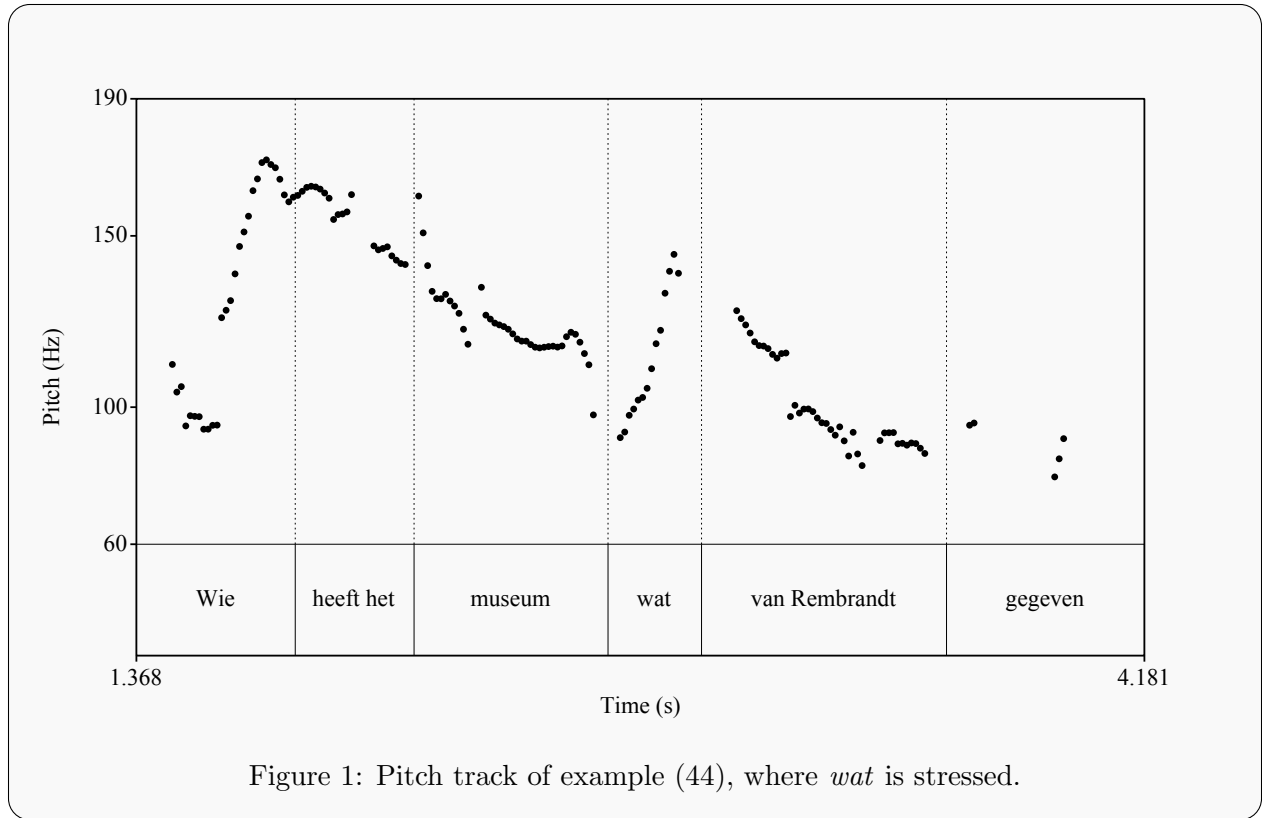
- (41) a. Wie heeft hem aan JAN voorgesteld?
 who has him to JAN introduced
 ‘Who introduced him to Jan?’
 b. #Wie heeft hem aan Jan VOORgesteld?
 who has him to Jan introduced
 Intended: ‘Who introduced him to Jan?’

The next question, therefore, is whether the *qu* of *quex* (and the non-*quex* interrogative) receives stress in (39) simply because it is in a position that receives stress in default prosody, the way *Jan* does in (41), or whether there is something special about it being an interrogative word. To determine this we have to look at slightly more complex examples.¹⁵

Consider the following question:

- (42) Wie heeft het museum [een schilderij van REMbrandt] gegeven?
 who has the museum [a painting by Rembrandt] given
 ‘Who has given the museum a painting by Rembrandt?’

¹⁵One might wonder at this point whether the stress on *WIE* in (40a) and the stress on *JAN* in (41a) have the same phonetic properties. That is, does the stress on *WIE* in (40a) have exactly the same phonetic profile as nuclear stress under default prosody? We have not undertaken a phonetic study to determine this, but it will soon become clear in the main text that this question reduces to the question whether stress under contrastive focus (which is what *WIE* gets in (40a)) is phonetically distinguishable from nuclear stress under default prosody (which is what *JAN* gets in (41a)). As there is considerable leeway in the accent possibilities for both, the question in turn reduces to whether the limits in the two cases are significantly different. We leave this question open here.



Here we see that nuclear stress falls on the object (as predicted by theories of nuclear stress) and on the rightmost constituent inside the object (also as predicted). But the contour in the multiple wh-question version of (42) is different: the in-situ wh-phrase *welk schilderij* ('which painting') in (43) must receive stress, unlike the indefinite *een schilderij* ('a painting') in (42):

- (43) Wie heeft het museum [WELK schilderij van Rembrandt] gegeven?
 who has the museum [which painting by Rembrandt] given
 'Who has given the museum which painting by Rembrandt?'

Quexistentials behave similarly in this respect: if we replace *welk schilderij* by *wat* and we still want to express a multiple wh-question, *wat* needs to be stressed (see Figure 1)¹⁶:

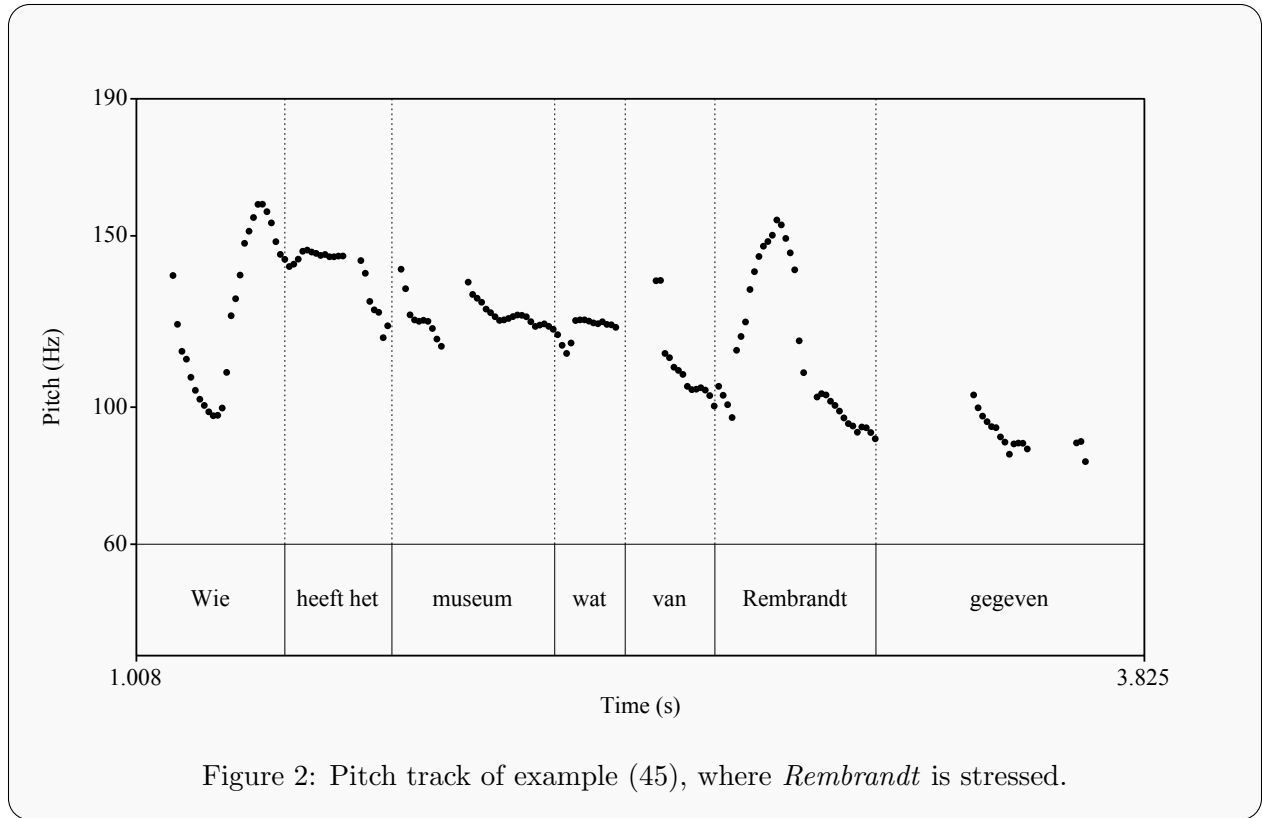
- (44) Wie heeft het museum [WAT van Rembrandt] gegeven?
 who has the museum QUEx by Rembrandt given?
 'Who has given the museum what by Rembrandt?'

If stress is placed on *Rembrandt* instead of *wat* (see Figure 2), only the existential reading is possible:

- (45) Wie heeft het museum [wat van REMbrandt] gegeven?
 who has the museum QUEx by Rembrandt given?
 'Who has given the museum something by Rembrandt?'

To sum up so far, in situ quexistentials on the qu of quex reading and non-quexistential interrogative

¹⁶The pitch tracks come from one of the authors, who is a male native speaker of Dutch. They were collected and analyzed using the Praat software package.



words behave alike: they both need to be stressed, even if they are not in a position which attracts stress due to the rules of nuclear stress placement. The next question is: what could be the difference between indefinites like *een schilderij* (‘a painting’) and interrogative words like *welk schilderij* (‘which painting’) such that the latter, unlike the former, must be stressed when in situ?

4.2 Interrogative words require contrastive focus marking

According to [Haida \(2007\)](#) and the body of earlier work he surveys, the answer to the question why interrogative words in languages like Dutch, German and English are always stressed when in situ is that such words must generally be marked as contrastive foci.¹⁷ Before we address the question of why interrogative words would be marked as contrastive foci, let us first consider whether this hypothesis is compatible with the prosodic patterns we find in Dutch, and then turn to some languages in which focus is not (only) expressed prosodically, but (also) by means of movement or a specific focus particle.

Consider example (42) again, but now in a context in which *een schilderij* (‘a painting’) is contrasted with something else, namely *een ets* (‘an etching’) by Rembrandt.

¹⁷We should note that according to [Truckenbrodt \(2013\)](#), the prosodic effects of focus on in-situ interrogative words in German and English are ‘reduced’ in a particular way. In short, while in-situ interrogative words must always be accented, subsequent words are not necessarily completely deaccented. Other foci do generally require deaccenting of subsequent given material. For Japanese, [Ishihara \(2003\)](#) and others have argued that the prosody accompanying interrogative words is completely parallel to the prosody in cases of contrastive focus. [Truckenbrodt \(2013\)](#) suggests that this difference between German and English on the one hand and Japanese on the other is due to the fact that the former are wh-movement languages while the latter is a wh-in-situ language. We will briefly return to this in footnote 33, but must leave a more careful investigation for future work.

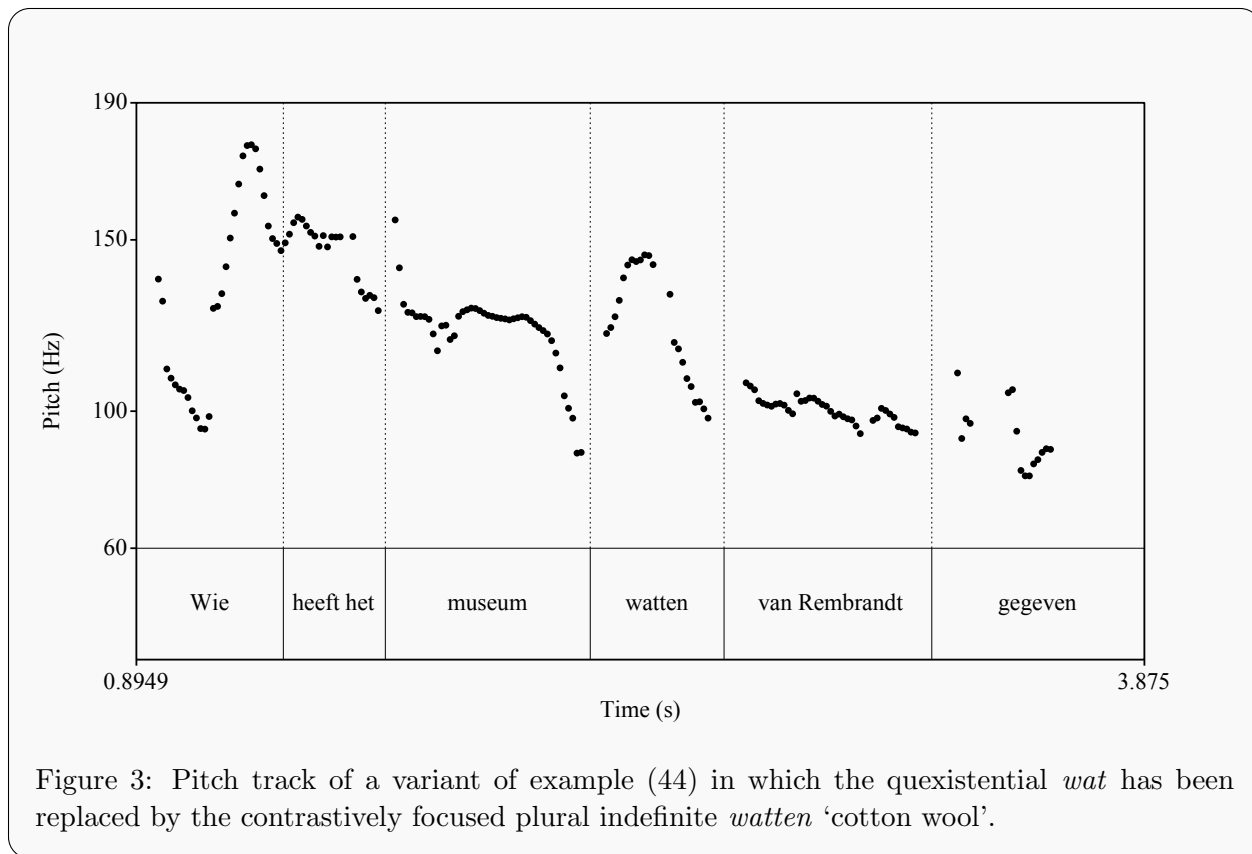


Figure 3: Pitch track of a variant of example (44) in which the quexistential *wat* has been replaced by the contrastively focused plural indefinite *watten* ‘cotton wool’.

- (46) a. Sommige sponsors hebben het museum [een ETS van Rembrandt] gegeven.
 Some sponsors have the museum an etching by Rembrandt given
 ‘Some sponsors have given the museum an ETCHING by Rembrandt.’
- b. Maar wie heeft het museum [een SCHILDERIJ van Rembrandt] gegeven?
 But who has the museum a painting by Rembrandt given?
 ‘But who has given the museum a PAINTING by Rembrandt?’

In this case, *een schilderij* must be stressed in order to mark contrastive focus.¹⁸ The stress that marks contrastive focus in (46) is perceived to be very similar to the stress on the quexistential in (44). This similarity is also visible in the pitch contours displayed in Figures 1 and 3.¹⁹ While more systematic empirical work is evidently required here, we take this to provide initial support for the hypothesis that question words (whether quexistential or not) require contrastive focus in Dutch.

Now let us consider two languages where contrastive focus is not (only) marked prosodically. In Hungarian, contrastive foci are placed in a designated focus position. In Gungbe, on the other hand, they are accompanied by a focus particle. We will start with Hungarian, discussed for instance in

¹⁸If (46a) and (46b) are uttered by the same speaker, then it is most natural for that speaker to stress not only *schilderij* (‘painting’) in (46b) but also *ets* (‘etching’) in (46a), presumably to signal ‘forward-looking’ contrastive focus. However, if (46a) and (46b) are uttered by different speakers, then it is most natural for *ets* not to be stressed (unless it contrasts with something else in the preceding discourse).

¹⁹In the latter, instead of *een schilderij* ‘a painting’ we have used *watten* ‘cotton wool’ as the contrastive element so as to make it phonologically similar to *wat*—the fact that the resulting question does not make much pragmatic sense is irrelevant for the purpose of comparing the pronunciation of the two cases. We are grateful to Paul Boersma for helpful suggestions in constructing these examples.

Kiss (1992) and Haida (2007, §7.2.2). First consider the following sentence, without focus.

- (47) Marcsi meg-hív-ta Péter-t.
 Marcsi PART-call-PAST.3SG Peter-ACC
 ‘Marcsi invited Peter.’

Contrastive focus on the object requires deviance from the baseline order in (47). The object must move to a preverbal position, and the verb itself moves in front of its particle (*invite* is a particle-verb in Hungarian):

- (48) Marcsi Bálint-ot hív-ta meg, nem Péter-t.
 Marcsi Balint-ACC call-ACC PART not Peter-ACC
 ‘Marci invited Balint, not Peter.’

The same two relevant order effects obtain in the corresponding question:

- (49) a. Marcsi ki-t hív-ott meg?
 Marcsi who-ACC call-PAST.3SG PART
 ‘Who did Marcsi invite?’
 b. Ki-t hív-ott meg Marcsi?
 who-ACC call-PAST.3SG PART Marcsi
 ‘Who did Marcsi invite?’

While (49a) and (49b) differ in the position of the subject, they share the necessity for a preverbal object, and verb-particle order.

Turning now to Gungbe, the examples in (50) show that question words and (other) contrastively focused constituents are marked by means of the same focus particle (Aboh and Pfau 2011):

- (50) a. Mènù wè wá?
 who FOC came
 ‘Who has come?’
 b. Màrí wè yró Márcù é mà nyín Pítà.
 Mary FOC call Marc it NEG COP Peter
 ‘MARY called Marc, not Peter.’

What is important for us is that, even though the strategy to mark contrastive focus differs across Dutch, Hungarian, and Gungbe, in each case interrogative words are marked in the same way as contrastive foci. This supports what we will call the ‘contrastive focus requirement on interrogative words’.²⁰

²⁰Richards (2010, p.145) proposes a closely related generalization, namely that “every language tries to create a prosodic structure for wh-questions in which the wh-phrase and the corresponding complementizer are separated by as few prosodic boundaries as possible”. Note that this generalization is independent of the contrastive focus requirement, although if both hold, then their effects will sometimes be difficult to tease apart in languages where contrastive foci are marked prosodically. Yun (2019) emphasizes the importance of Richards’ generalization for the interpretation of quexistentials in Korean. She argues that the qu of quex in Korean involves both a prosodic prominence on the quexistential and the absence of prosodic boundaries between the quexistential and the corresponding interrogative complementizer. Yun also claims, however, that in interpretation, the absence of prosodic boundaries between the quexistential and the interrogative complementizer is a much more important factor in ensuring a question interpretation than the presence of prosodic prominence on the quexistential. Yun argues that her experiments are to be interpreted as showing that when there is no prosodic prominence, the absence of prosodic boundaries gives rise to a question interpretation in 66% of the cases tested, while in the presence of prosodic boundaries, prosodic prominence only gives rise to a question interpretation in 10% of the cases.

The production of Korean quexistentials is clearly in line both with Richards’ prosodic-boundary-generalization

(51) **Contrastive focus requirement on interrogative words**

Interrogative words are generally marked using the same strategies that are also used to mark contrastive foci.

Above we have shown that languages may use syntactic (Hungarian), morphological (Gungbe), and prosodic means (Dutch and Korean) to mark contrastive foci. And where languages use prosodic means, these may be divergent across languages again, as shown above for Dutch (see footnote 12) and Korean (see footnote 13). The important point is, however, that we predict that, whatever the strategy used to mark contrastive focus, interrogative words will be marked the same. We should furthermore note that in *wh*-movement languages fronted interrogative phrases are not necessarily accented the way contrastive foci are. In fact, in many cases they can be left completely deaccented. We assume, following Truckenbrodt (2013), that in these languages, fronting of a *wh*-word to a designated position in the left periphery is in itself a way to mark contrast.²¹ This is in line with the observation that in many languages, contrastive foci can or even have to appear in exactly this position in the left periphery (see, e.g., Rizzi 1997, Aboh 2016).

We thus assume that in *wh*-movement languages like Dutch and English, interrogative phrases generally require marking of contrastive focus, but that there are two ways of doing so, movement and prosody. Independently, there is a requirement in these languages that in *wh*-questions, exactly one interrogative phrase moves to the left periphery. This interrogative phrase, then, does not require prosodic contrastive focus marking, while *in-situ* interrogative phrases do.

and with the contrastive focus requirement. Yun's experimental data on prosodic effects on the interpretation of *qu*existentials are, we believe, also compatible with both generalizations. For this, however, it is crucial that the contrastive focus requirement only goes in one direction. Interrogative words need to be marked as contrastive foci. But this in itself does *not* imply that *qu*existentials, when contrastively focused, must be interpreted interrogatively. In many languages this does seem to be the case, but it is not forced by the contrastive focus requirement. We have already seen that in Dutch, contrastive focus on a *qu*existential does not preclude an existential interpretation if the right conditions are met, and Yun's experiment reveals that prosodic prominence on Korean *qu*existentials does not preclude an existential interpretation either. See also footnote 13.

²¹Haida (2007) offers a different account. Namely, he assumes that the prosodic requirement on contrastively focused constituents is that they receive the strongest pitch accent within their domain, and suggests that this requirement is trivially satisfied even in the absence of a prominent pitch accent if a *wh*-word moves to the left periphery, because in that case the *wh*-word comes to form a focus domain on its own. In support of this proposal, Haida (2007, §7.2.6) points out that in German, even interrogative words that have moved to the left periphery sometimes require a prominent pitch accent, namely if they are part of a larger phrase which has been fronted as a whole, which means that they do not form a focus domain on their own. Haida uses the following contrast to illustrate this:

- (i) a. WAS aus Gold mag er
 QUEX out-of gold likes he
 'What does he like that is made out of gold?'
- b. Was aus GOLD mag er
 QUEX out-of gold likes he
 'He likes something that is made out of gold.'

It is not clear what predictions this account would make for a multiple question involving three *wh*-constituents ('Who gave what to who?') since the last two *wh*-constituents may end up being in the same domain. We leave a detailed comparison of Haida's approach and Truckenbrodt's approach for future work.

A reviewer rightly points out that in cases like (ii), the two *wh*-phrases must receive a prominent pitch accent, even though both are fronted in their respective clauses.

- (ii) Mary knows WHAT to read, but not WHEN.

We assume that in such cases there is an *external* contrast across the two clauses, in addition to an *internal* contrast inside each clause (see Section 4.4). The external contrast concerns the sortal restrictions of the two *wh*-phrases. To account for the obligatory prosodic emphasis in such cases we have to assume that the signalling of external contrast always requires prosodic focus marking, even if the focused element moves to the left periphery.

If there is indeed a general requirement for interrogative phrases to be marked as contrastive foci, we would of course like to understand *why* this is the case. To this we turn next.²² In section 4.3 we discuss existing accounts that aim to understand the relation between interrogatives and contrastive focus. In case the reader wants to skip directly to our proposal, that starts in section 4.4.

4.3 Existing accounts of the contrastive focus requirement

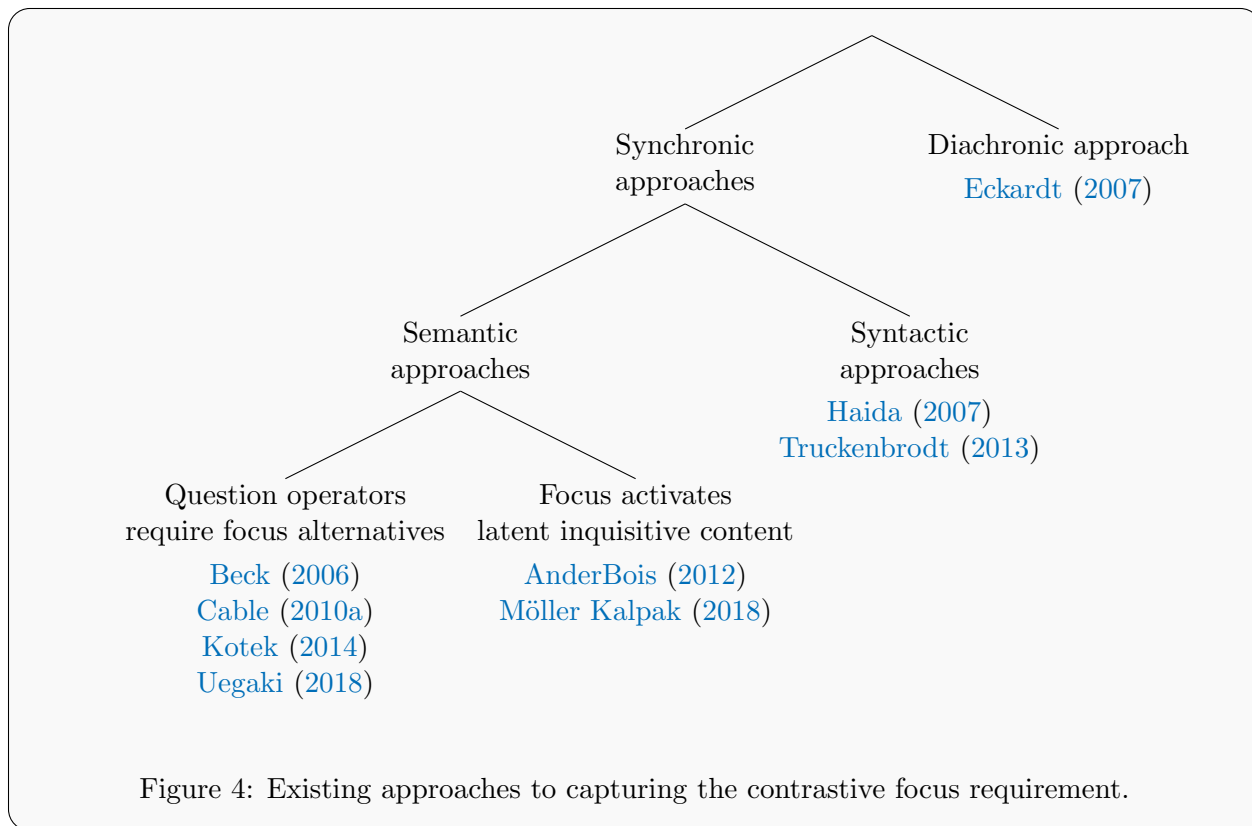
There are several existing accounts of the contrastive focus requirement (either as a language-particular constraint or as a cross-linguistic pattern). Most of these are *synchronic* accounts; one is *diachronic*. The synchronic accounts can be divided into *syntactic* and *semantic* ones, and among the semantic ones a further distinction can be made between two major approaches: one that is based on the assumption that questions involve a question operator in the left periphery which operates on focus alternatives generated by the associated wh-elements (and crashes if those wh-elements do not generate focus alternatives), and one based on the assumption that focus ‘activates’ the latent inquisitive content of wh-elements. A schematic overview of the various accounts is given in Figure 4. We will discuss each in turn, starting with the syntactic ones.

4.3.1 Syntactic approaches

The proposals of Haida (2007) and Truckenbrodt (2013) are syntactic in nature as far as the contrastive focus requirement on interrogative phrases is concerned. Essentially, they assume that interrogative phrases must enter into an Agreement relation with a question operator in the left periphery. Moreover, this Agreement relation requires the presence of an F-feature on the interrogative phrase, which has the same prosodic reflexes as the F-feature on contrastive foci. We should say at the outset that neither account provides an explanation as to why the F-feature should be necessary to mediate this Agreement relationship (other than the fact that we know that focus is present on wh-words).

While both Haida and Truckenbrodt assume that interrogative phrases and contrastive foci must carry an F-feature with the same prosodic reflexes, there are also differences between the two accounts. In particular, for Haida, the F-feature on an interrogative phrase must be accompanied by a wh-feature, otherwise Agreement with the question operator is not possible. This prevents non-wh contrastive foci from being interpreted as standing in an Agreement relationship with a question operator. In other words, in Haida’s account, the F-feature, while necessary, is not sufficient to establish Agreement between the question operator and the wh-word; a wh-feature must be present as well.

²²We can’t but remark on the following curious absence of circumstances. Haspelmath (1997) shows that in many languages an indefinite is constructed on the basis of an interrogative word by the addition of extra morphology. Such is the case of Modern Greek, for example, as seen in (7). Moreover, Haspelmath claims that the reverse is not observed. That is, there is no language where the interrogative is constructed from the indefinite with the addition of some extra morphology. As far as we know, no counterexample to this claim has been put forth. So now, imagine that there is a language, which, like Gungbe, marks focus with a particle, but unlike Gungbe, has quexistentials. Then, if focus on the quexistential is necessary for the qu of quex, we would expect the reverse-Haspelmath pattern: for the ex of quex we would have the plain quexistential, but for the qu of quex we would have the quexistential plus some added morpheme (the focus particle). No such language seems to have been found, as we said above. This could be coincidental of course, in that no language with quexistentials happens to have overt focus particles of this sort. But of course one is always wary of coincidences. Moreover, we should point out that the generalization of the need for focus for the qu of quex can itself also be described as standing in tension with Haspelmath’s generalization: while in the domain of overt morphology, the indefinite generally has ‘more’ than the interrogative, when it comes to quexistentials, the qu of quex has ‘more’ (i.e. focus) than the ex of quex.



Truckenbrodt does not assume *wh*-features in addition to *F*-features. However, on his account, the *F*-feature on interrogative phrases has a completely different syntactic and semantic status as the *F*-feature on contrastive foci. What they share is just their prosody.

These proposals, while capturing the empirical generalization, do not explain *why* interrogative words would have to be marked as contrastive foci.

Moreover, an empirical issue for the account of Haida (2007) is that it predicts focus on *wh*-words to be both *necessary* and *sufficient* to yield an interrogative interpretation. As already briefly mentioned in Section 3 and discussed in much more detail in Section 5 below, this prediction is at first sight not always borne out. For instance, in example (33), repeated below, we see that focus on Dutch *wat*, which might be a *wh*-item on Haida’s assumptions, is not always sufficient to force an interrogative interpretation.

- (33) a. A: Heeft Miranda haar huiswerk ingeleverd?
Has Miranda her homework submitted
‘Has Miranda submitted her homework?’
- b. B: Nou, ze heeft WEL[↑] WAT[↓] ingeleverd maar NIET[↑] VEEL[↓].
Well, she has VF QUEX submitted but not much
‘Well, she did submit something but not much.’

4.3.2 The diachronic approach

Eckardt (2007) provides a diachronic account of the focus requirement on question words. Specifically, she proposes that question words are etymologically rooted in focused deictic elements. This

proposal is motivated as follows (Eckardt, 2007, p.220):

“Let us assume for a moment that we are speakers of a language which possesses deictic elements (*this*, *HE*) and a way to form polar questions, but no *wh*-pronouns. What could be reasonable ways to ask constituent questions? We could resort to polar questions with a focus like those in (52).”

- (52) a. Do you want THIS?
b. Is the key HERE?

Suppose that the deictic *this* in (52a) refers in a given context to some object *a*. Then the question in (52a) asks whether or not the addressee wants *a*. At the same time, however, by virtue of the focus on *this*, a range of alternative polar questions are evoked as well: whether the addressee wants *b*, whether she wants *c*, whether she wants *d*, etcetera. Eckardt (2007, p.220) suggests that there are two possible reasons for a speaker to evoke this range of alternative polar questions: “She might indicate that she intends to cover the alternative questions until she receives at least one positive answer. Or she might indicate that she intends to cover the whole set of alternatives, asking for exhaustive information.” Thus, the overall communicative effects of the focused polar questions in (52) are very similar to those of the corresponding *wh*-questions in (53).

- (53) a. What do you want?
b. Where is the key?

Eckardt proposes that it is plausible to expect that speakers of the restricted language, without *wh*-questions, will over time re-analyze the pragmatic effects of polar questions with focused deictic elements to be part of the *conventional*, semantic content of such constructions. The focused deictic element would then form the basis for the corresponding question word.²³

If this is how question words come into existence, Eckardt proposes, it is to be expected that they retain, at least to some extent, the formal features that realize focus in the language at hand (prosody, a focus particle, or movement to a dedicated focus position). She refers to this as ‘lexical focus’ and distinguishes it from *bona fide* focus. The lexical focus on question words reflects their diachronic roots, but does not contribute anything to their synchronic semantic interpretation. In particular, question words with lexical focus do not generate focus alternatives, unlike items with *bona fide* focus.

Finally, Eckardt (p.222-223) proposes that question words, as interpreted in her framework, may receive the interpretation of an existential indefinite through a simple shift in semantic type.²⁴ She discusses the fact that the existential interpretation of question words generally requires the *absence* of any formal features realizing focus. She notes, however, that this is not predicted on her account: the shift in semantic type from question words to existential indefinites is not connected in any way on the proposed account to a loss of lexical focus.

Let us now comment on the various aspects of Eckardt’s proposal. First, while Eckardt provides interesting motivation for the idea that question words are etymologically rooted in focused deictic elements, if this were the *only* way for question words to come into existence, one would expect to see a stronger typological affinity between question words and deictic elements. On the other hand,

²³This approach predicts a typological affinity between question words and deictic elements. Eckardt (p.221) suggests that some evidence supporting this prediction can be found in sign languages.

²⁴We do not discuss the details of this semantic type shift here, since they are not immediately relevant for our purposes and would require an exposition of the particular type-theoretic framework that Eckardt introduces. While interesting in its own right, this would take us too far afield here.

if the route that Eckardt describes is *just one* way for question words to come into existence, among other ways, we would expect to see a considerable number of languages in which question words are not necessarily focused. But there is no evidence at present that such languages exist.

Second, if question words are formed on the basis of focused deictic elements, it is plausible that they would initially retain the formal features that realize focus. However, one would expect that these formal features would in many cases *erode* over time. Certainly, in languages where focus is realized prosodically, it would be natural for the prosodic features that question words would initially inherit from their deictic ancestors to disappear in later stages of grammaticalization. However, if this is indeed a natural possibility, the theory does not lead us to expect that question words be focused across so many languages today. Rather, it would predict that question words only involve lexical focus in languages which have resisted erosion.

Finally, as noted by Eckardt herself and already mentioned above, a limitation of the account is that it does not explain why question words with lexical focus would lose their lexical focus property when used as indefinites.

4.3.3 First semantic approach: Question operators require focus alternatives

We now turn to a possible semantic account of the focus requirement on question words, based on the work of Beck (2006).²⁵ We should note at the outset that Beck herself did not present her proposal as an account of the focus requirement on question words, but rather as an account of so-called *focus intervention* effects in questions. However, when viewed from a slightly different angle, the proposal may be seen as providing an account of the focus requirement on question words as well—and this interpretation of the proposal is of course the one that is most relevant here.

We will first briefly present the original motivation for Beck’s proposal, and the core assumptions of the account. Then, we will clarify how it could be viewed as providing an account of the focus requirement on question words. Finally, we will critically discuss the proposal, both as an account of intervention effects and as an account of the focus requirement of question words (with the caveat, again, that Beck herself never claimed to provide an account of the latter).

Let us first illustrate what focus intervention effects in questions are. Consider the examples in (54) and (55) from Beck (1996) (we use German examples here because demonstrating focus intervention effects in English requires more complex constructions; see Pesetsky 2000, Beck 2006 and Kotek 2019 for discussion).

- (54) Wen hat Karl wo getroffen?
 whom has Karl where met
 ‘Who did Karl meet where?’
- (55) *Wen hat nur Karl wo getroffen?
 whom has only Karl where met
Intended: ‘Who did only Karl meet where?’

While (54) is interpreted as a multiple wh-question, inserting the focus-sensitive operator *only* in (55) makes this interpretation unavailable. Such intervention effects have been observed to arise in many typologically unrelated languages (Kim, 2002; Beck, 2006, a.o.). According to Beck (2006), this is because a wh-word generates focus alternatives, and these alternatives must be visible to the interrogative complementizer (more specifically, the complementizer turns these focus alternatives into alternatives in the ordinary semantic value of the question, representing its inquisitive content).

²⁵See also Cable (2010a), Kotek (2014) and Uegaki (2018) for further elaborations of Beck’s theory of the semantics of questions.

Focus-sensitive operators like *only* ‘consume’ any focus alternatives that are generated within its scope, and make these focus alternatives invisible for operators outside of its scope. Thus, in a configuration like (55), *only* makes the focus alternatives generated by *wo* (‘where’) invisible for the interrogative complementizer. Beck proposes that this gives rise to uninterpretability.²⁶

On Beck’s account of intervention effects, then, for a lexical item to function as a question word, it *must* generate focus alternatives. After all, if an interrogative complementizer receives no focus alternatives as input, it will never output a set of alternatives in the ordinary semantic value of the sentence representing the inquisitive content of a wh-question. Thus, the proposal provides a rationale for why it is that question words need to be focused.

We will discuss two issues for Beck’s proposal (see Eckardt 2007, Mayr 2014 and Li and Law 2016 for further critical discussion of the approach). The first issue concerns the original motivation for the proposal based on intervention effects. For the approach to deliver an account of focus intervention effects in questions it is crucial that focus sensitive operators like *only* are assumed to be **unselective**, i.e., that they operate on *all* focus alternatives that are generated within their scope. However, as discussed by Beck (2006, §5.2) herself, the validity of this assumption is a controversial matter. Consider example (56), adapted from Krifka (1991).

- (56) a. John only introduced SUE to his mother.
 b. He also only introduced SUE to his FATHER.

In (57b), *only* associates with the focus alternatives generated by SUE, while *also* associates with the focus alternatives generated by FATHER. Krifka (1991) and Wold (1996), among others, have concluded from such observations that focus sensitive operators can be *selective*, i.e., they do not necessarily associate with all focus alternatives generated within their scope. If this conclusion is valid, Beck’s account of focus intervention effects in questions cannot be right.

However, there is no full consensus yet as to whether the conclusion is indeed valid. Beck (2006, §5.2) surveys further literature on this topic and also presents a small empirical study. The results of this study are mixed. Whether unselective association is possible seems to depend both on the specific focus sensitive operators involved and on the language/dialect under consideration (Beck tested in English and German, and found variation between the two languages as well as variation within each language among different speakers/dialects). Of course, it may be that focus intervention effects in questions arise exactly with those focus sensitive operators and for those speakers that do not allow for selective association with focus alternatives. This, however, remains to be investigated. For now, it is an open issue whether focus intervention effects in questions correlate with the impossibility of selective association.²⁷

²⁶While Beck’s account of focus intervention effects in questions has been very influential, various alternative accounts have been proposed as well. For instance, some have argued that a semantic anomaly (a type mismatch or a logical contradiction) arises when a wh-word appears in the scope of a focus-sensitive operator like *only* or *even* (Haida, 2007; Eckardt, 2007), and yet others have proposed that wh-words generate alternatives in the ordinary semantic value of a sentence (rather than focus alternatives) and that a clash arises when these interact with focus alternatives in the compositional interpretation of a question (Li and Law, 2016; Kotek, 2017).

²⁷A possible additional issue for Beck’s theory of intervention effects in questions concerns the assumption that focus sensitive operators like *only* always ‘reset’ the focus semantic value, making the focus alternatives that they operate on invisible outside of their scope. Schwarzschild (1993) and Büring (2016, §10.5.4) have argued that this assumption is not valid. Consider the following example, adapted from Büring (2016).

- (i) a. John once only drank CIDER for a whole week.
 b. He also once only drank WINE for a whole week.

In (ib), both *also* and *only* seem to associate with the focus alternatives generated by *WINE*. This would be impossible if *only* would make the alternatives that it operates on invisible for *also*. This is problematic for Beck’s account of

The second issue for Beck’s proposal that we will discuss pertains both to the underlying motivation based on intervention effects and to the explanation of the focus requirement on question words. The crucial observation is that focused non-wh-words cannot be interpreted as question words. For instance, (57a) can only be interpreted as a polar question, not as a wh-question, and (57b) can only be interpreted as a single wh-question, not as a multiple wh-question.

- (57) a. Did BILL vote for you? \neq Who voted for you?
 b. Who did BILL vote for? \neq Who voted for whom?

This means that generating focus alternatives is *not sufficient* for an item to be interpreted as a question word. As a consequence, it has to be assumed under Beck’s approach that the interrogative operator, let’s call it *Q*, is a *selective* focus sensitive operator: it can only associate with focus alternatives generated by wh-words, not with focus alternatives generated by non-wh-words. This weakens the motivation for the proposal based on intervention effects. After all, the account needs to assume that *Q* is selective, while other focus sensitive operators such as *only* are not. Apart from the fact that the empirical validity of the latter assumption is controversial (as discussed above), the presumed difference between *Q* and other focus sensitive operators would have to be explained.

At the same time, the fact that *Q* can only associate with alternatives generated by wh-words also undermines the explanation of the focus requirement on question words. On the proposed account *Q* is looking for focus alternatives, so question words need to provide such alternatives. This entails their focus requirement. However, since ‘wh-related focus alternatives’ have to be separated from other focus alternatives (so as to avoid that all focused items could be interpreted as question words) there is nothing really substantial about the fact that ‘wh-related focus alternatives’ are treated as a kind of focus alternatives. The account may just as well assume, for instance, that wh-words are variables (unrelated to focus) and that *Q* generates alternatives in the ordinary semantic value of the question corresponding to the possible values of the associated wh-variables. This account would derive the same semantic values for questions as Beck’s original account, except it would not entail a focus requirement on question words. This means that the original account does not really provide an explanation for the focus requirement either.

4.3.4 Second semantic approach: Focus activates latent inquisitive content

The proposals of [AnderBois \(2012\)](#) and [Möller Kalpak \(2018\)](#) are also semantic in nature, but differ substantially from that of [Beck \(2006\)](#). For concreteness we focus here on [AnderBois’](#) proposal, though our main concerns also apply to that of [Möller Kalpak](#).

AnderBois argues that in Yucatec Maya, wh-questions are formed using quexistentials marked as contrastive foci.²⁸ If these quexistentials are not marked as contrastive foci, they are interpreted as existentials. AnderBois proposes that quexistentials have both informative content, conveying

focus intervention effects, because the account crucially assumes that when *only* appears in a question it makes all the focus alternatives that are generated within its scope invisible for the interrogative complementizer. Under this view, one would expect to see similar intervention effects in examples such as (ib).

A possible response to this criticism, however, would be that *also* in (ib) in fact does not necessarily associate with focus alternatives generated by *WINE*. Another possibility might be that, besides the narrow focus on *WINE* there is also broad focus on the entire VP, *only drank WINE for a whole week*. The additive presupposition that *also* generates would then not be that there is something else, besides wine, that John once drank for a whole week, but rather that there is some other weird/extreme thing, besides only drinking wine for a whole week, that John once did. The satisfaction of this presupposition is ensured by (ia).

²⁸It is not clear to us whether Yucatec Maya has quexistentials in the strict sense in which we have defined the term, since the relevant elements seem to always be accompanied by some additional morphology on their existential reading. However this may be, AnderBois’ proposal is very relevant here, since we are interested in the contrast requirement on interrogative phrases in general (quexistential or not).

that there is some individual with a certain property, and inquisitive content, namely the issue of which individual it is that has the given property (cf., Groenendijk and Roelofsen, 2009). He proposes, however, that the inquisitive content is in some sense latent: the issue is only raised if the informative content of the sentence is trivial in the context of utterance. For instance:

- (58) Yan máax t-u yuk'-aj le sa'-o'
exists QUEX Pfv-A.3 drink-Status Def atole-Distal
'QUEX drank the atole'

Informative content: 'Someone drank the atole.'

Latent inquisitive content: 'Who was it?'

Against this background, AnderBois proposes that when contrastive focus is placed on the quexistential, it contributes an existential presupposition, i.e., the presupposition that some individual has the given property, which renders the informative content of the sentence contextually trivial. This, in turn, 'activates' the latent inquisitive content of the sentence, which results in an interrogative interpretation.

So on AnderBois' proposal, a semantic reflex of contrastive focus which has been independently argued for in other work (see, e.g., Geurts and van der Sandt 2004), namely an existential presupposition, makes it possible, and is in fact necessary, for a quexistential to get an interrogative interpretation in Yucatec Mayan.

However, when applied to other languages this type of account encounters a number of challenges. One question that the account leaves unanswered is why non-quexistential interrogative phrases generally require contrastive focus marking just as much as quexistential interrogative phrases. Since non-quexistential interrogative phrases are always interrogative, i.e., do not allow for a plain existential interpretation, it would be natural to assume that their inquisitive content is not 'latent' but surfaces automatically. Why, then, do such phrases still need contrastive focus marking, as we saw they do?

Let us make this point in somewhat more general terms. One of the fundamental ideas behind AnderBois' account is that contrastive focus is necessary in order for quexistentials to receive an interrogative interpretation. So the assumed causal connection between contrastive focus and interrogative interpretation is as follows:

- (59) contrastive focus \implies interrogative interpretation

Our point is that, if this is indeed the causal connection, it is unclear why purely interrogative (non-quexistential) phrases require contrastive focus marking as well.²⁹

²⁹Moreover, even if we consider just quexistentials, AnderBois' account encounters a difficult challenge when we consider multiple wh-questions with in-situ quexistentials in languages like Dutch. For instance:

- (i) Wie heeft hem wat/WAT gegeven?
Who has him QUEX given
Who gave him something/WHAT?

The problem that such cases present for AnderBois' account is the following. A central assumption of the account is that the inquisitive content of a wh-word is 'activated' if and only if the informative content of the sentence in which it appears is trivial in the context of utterance. Now, the inquisitive content of *wie* in (i) is always activated, no matter whether the quexistential *wat* is focused or not. So, apparently, the informative content of the sentence is always trivial, in any context of utterance. But then, the inquisitive content of the quexistential should also always be activated, no matter what its prosody is like. This, however, is not the case. The quexistential is only interpreted as a question word when stressed.

4.4 Our proposal: inverting the causal connection

We propose that the causal connection between contrastive focus and interrogative interpretation is as follows (that is, the opposite direction from (56)):

(60) interrogative interpretation \implies contrastive focus

In other words, contrastive focus does not automatically and necessarily yield an interrogative interpretation. It is rather the other way around: phrases which receive an interrogative interpretation must generally be marked as contrastive foci. This in fact naturally follows, we propose, from only a slight generalization of existing theories of contrastive focus.

To develop this idea, we first have to briefly review what we take to be a common view on contrastive focus. To do so, let us consider a simple case that involves contrastive focus but has nothing to do with interrogativity.

(61) A: Tom married Kim.
B: No, Tom married SAM.

B's response, *Tom married Sam*, contrasts with A's initial statement, *Tom married Kim*, and this contrast is signalled by the focal stress on *Sam*. Many theories of contrastive focus (from [Rooth 1992](#) to [Büring 2016](#) and [Kratzer and Selkirk 2018](#)) essentially hold that in order to mark some constituent E as contrasting with another constituent E' , a speaker places focus on sub-constituents of E in such a way that the focus semantic value of E has the ordinary semantic value of E' as one of its elements. This is exactly what happens in (61), because the focus semantic value of B's response is:

$$(62) \quad \llbracket \text{Tom married SAM}_F \rrbracket^F = \left\{ \begin{array}{l} \llbracket \text{Tom married Sam} \rrbracket^O, \\ \llbracket \text{Tom married Kim} \rrbracket^O, \\ \llbracket \text{Tom married Lyn} \rrbracket^O, \\ \dots \end{array} \right\}$$

and this set contains the ordinary semantic value of A's initial statement.

Let us make this a bit more general and precise. The basic effect of marking a constituent E with contrastive focus is to evoke a set of alternatives to the ordinary semantic value of E . These alternatives, together with the ordinary semantic value itself, make up the focus semantic value of E . Marking a constituent with contrastive focus and thereby evoking alternatives may be done for a number of reasons. For instance, the alternatives may serve as input for focus-sensitive operators like *only*. But another reason to evoke focus alternatives, most relevant for us here, is to signal the presence of contrasting alternatives in the discourse. It is assumed that speakers should signal the presence of contrasting alternatives in the discourse by means of focus whenever they can, while on the other hand they should never 'over-focus', i.e., they should not focus constituents without any purpose ([Schwarzschild, 1999](#), among others).

We summarize the three main tenets of the common view on the use of focus to signal the presence of contrasting alternatives in (63).

- (63) a. **Focus semantics:** Every focused expression has both an ordinary semantic value and a focus semantic value. The focus semantic value of a sentence is a set whose elements are called focus alternatives.
- b. **Using focus to signal the presence of contrasting alternatives in the discourse:** Placing focus on a constituent can be done for several reasons. One of them is to signal that an expression E contrasts with another expression E' in the discourse.

This is done by placing focus on a sub-constituent of E in such a way that $\llbracket E \rrbracket^F$ contains $\llbracket E' \rrbracket^O$.

- c. **Pragmatics of focus placement:** Whenever the presence of a contrasting expression in the discourse can be signalled by means of focus, this should be done. On the other hand, over-focusing should be avoided, i.e., constituents should not be focused without a reason.

Note that this view as such does not account for the contrastive focus requirement on interrogative words. Suppose A walks up to her colleague B and says the following:

- (64) a. I may want to attend the workshop that you are organizing next week.
 b. WHO will be presenting WHAT?

Clearly, there is no sentence in the discourse that the question in (64b) could possibly be taken to contrast with. So at first blush, there seems to be no reason for the (optional) contrastive accent on *who* and the (obligatory) contrastive accent on *what*.³⁰

However, we will propose a generalization of the common view which provides an explanation for these facts. The crucial observation underlying this generalization is that it is implicitly assumed in (63b) that the type of contrast that speakers signal by means of focus is always a contrast between two different expressions. In our example above, these two expressions are *Tom married Kim* and *Tom married Sam*. The ordinary semantic value of each of these expressions is usually taken to be a proposition. So the contrast is taken to involve two propositions. Focus is placed on a subconstituent of the second sentence, *Sam*, such that the focus semantic value of this sentence contains both of the contrasting propositions.

Now consider the question in (65).

- (65) Who did Tom marry?

This question can be resolved in a number of ways: by providing the information that Tom married Kim, that he married Sam, that he married Lyn, etcetera. We propose that it is natural to think of these possible resolutions as contrasting with each other in much the same way as *Tom married Kim* and *Tom married Sam* contrast with each other in the dialogue in (61).

In order to make this more precise let us assume, in line with theories of questions based on Hamblin (1973), Karttunen (1977) or Groenendijk and Stokhof (1984), as well as more recent theories based on inquisitive semantics (Ciardelli *et al.*, 2018), that the ordinary semantic value of a question is (or at least determines) a set of propositions, each corresponding to a minimal piece of information resolving the question. For (65), this set of propositions is given in (66). Note that it contains exactly the same propositions as the focus semantic value of *Tom married SAM*, which was given in (62):

$$(66) \quad \llbracket \text{Who did Tom marry?} \rrbracket^O = \left\{ \begin{array}{l} \llbracket \text{Tom married Kim} \rrbracket^O, \\ \llbracket \text{Tom married Sam} \rrbracket^O, \\ \llbracket \text{Tom married Lyn} \rrbracket^O, \\ \dots \end{array} \right\}$$

The idea is that these propositions, i.e., these alternative resolutions of the question, contrast with

³⁰We noted in Section 4.2 that in English, wh-phrases that have moved to the left periphery are often not stressed. This is true in particular for single wh-questions like *Who will be presenting the results?*. However, in multiple wh-questions like (64b), it seems most natural for the wh-word in the left periphery to be stressed, just like the in-situ wh-word. Truckenbrodt 2013 notices this fact, but also states there there still seems to be optionality and that the exact data are unclear. Like him, we will leave a further exploration of this issue for future work.

each other, and that this contrast must be signaled by contrastively focusing a subconstituent of the question in such a way that the focus semantic value of the question contains the contrasting propositions. This means contrastively focusing *who* (under the assumption that the focus alternatives of *who* are Kim, Sam, Lyn, etcetera). For, if *who* is focused, the focus semantic value of the question becomes the following:³¹

$$(67) \quad \llbracket \text{Who}_F \text{ did Tom marry?} \rrbracket^F = \left\{ \begin{array}{l} \llbracket \text{Tom married Kim} \rrbracket^O, \\ \llbracket \text{Tom married Sam} \rrbracket^O, \\ \llbracket \text{Tom married Lyn} \rrbracket^O, \\ \dots \end{array} \right\}$$

Note that, indeed, as a result of focusing *who*, the contrasting propositions in the ordinary semantic value of the question, given in (66), are all elements of the focus semantic value of the question in (67). So focusing *who* successfully signals the presence of contrasting propositions.

As discussed above, we assume that in languages like English and Dutch contrastive focus on wh-words manifests itself either as movement to a designated position in the left periphery, or prosodically, or both. So in (65), prosodic marking of focus is not necessary because the wh-word has moved to the left periphery, but in the case of in-situ wh-words prosodic marking of contrastive focus is necessary.

What does it mean, then, for a speaker uttering an expression E in a context C , to signal contrast by means of focus? As reviewed above, Rooth and others proposed that this means for the speaker to place focus on a sub-expression of E in such a way that the focus semantic value of E includes the ordinary semantic value of some other expression E' that has been used in context C .

We propose something slightly more general. Namely, that in order to signal a contrast, a speaker places focus on a sub-constituent of E in such a way that the focus semantic value of E includes at least two (non-identical) alternatives α and β such that α is an element of the ordinary semantic value of E , and β is an element of the ordinary semantic value of some expression used in C , which may be either E itself or some other expression E' .³² Given this general notion of what it means to signal a contrast by means of focus, we can identify two special cases:

(68) **Internal contrast**

When β is an element of the ordinary semantic value of E itself, we say that the signalled contrast is internal.

(69) **External contrast**

When β is an element of the ordinary semantic value of some expression other than E , we say that the signalled contrast is external.

External contrast is exactly the same as the standard Roothian notion of contrast. On the other hand, internal contrast is the one that is relevant for questions. The fact that both are subcases of a

³¹We assume here that the ordinary semantic value of an expression is not an element of the focus semantic value of that expression. However, our account of the focus requirement on question words does not hinge on this assumption.

³²For this to make sense not just in case E and E' are interrogatives but also when they are declaratives, we have to assume that both declaratives and interrogatives express sets of propositions. This assumption is made both in Hamblin semantics (Hamblin, 1973) and in inquisitive semantics (Ciardelli et al., 2018). In Hamblin semantics, declarative sentences express singleton sets of propositions; in inquisitive semantics they express sets of propositions with a single maximal element. For instance, in Hamblin semantics $\llbracket \text{Bill left} \rrbracket^O$ is a set containing a single proposition, namely the proposition that Bill left, $\{\{w \mid \text{Bill left in } w\}\}$. In inquisitive semantics, $\llbracket \text{Bill left} \rrbracket^O$ is the set of all propositions entailing that Bill left, $\{p \mid \forall w \in p : \text{Bill left in } w\}$. Our proposal can be implemented naturally in either of these frameworks. For comparison of the two we refer to Ciardelli et al. (2017); Ciardelli and Roelofsen (2017); Ciardelli et al. (2018).

single more general notion makes it natural for languages to mark them in the same way, although it is also imaginable that certain languages make a distinction in how they mark internal and external contrasts.³³

Let us return now to the common view on contrastive focus, whose three main tenets were summarized in (63). What we propose is to leave the first and the third tenet untouched, but to slightly adapt the second one in view of our more general notion of contrast. That is, we propose to replace (63b) by (70).

- (70) **Using focus to signal contrast (generalized):** Placing focus on a constituent can be done for several reasons. One of them is to signal a contrast. This is done by placing focus on a sub-constituent of an expression E in such a way that $\llbracket E \rrbracket^F$ includes at least two (non-identical) alternatives α and β such that α is an element of $\llbracket E \rrbracket^O$, and β is an element of the ordinary semantic value of some expression used in the context, which may be either E itself or some other expression E' .

Together with the pragmatics of focus placement in (63c), this generalized notion of contrast accounts for the fact that interrogative words (whether quexistential or not) generally must be focused. On this account, the focus on interrogative words signals an internal contrast. Depending on the way(s) in which focus is generally expressed in a given language, the focus on interrogative words may manifest itself through movement, prosody, a focus particle, or a combination of these.

Let us sum up what has been established so far on how the qu of quex interacts with stress and focus. First, we have shown that an in-situ qu of quex in a language like Dutch always requires focal stress. Second, following Haida (2007) and others, we have suggested that this fact is a particular instance of a much more general pattern, namely that interrogative words (whether quexistential or not) always require contrastive focus marking. We argued that existing accounts of this generalization are not fully satisfactory, and we offered an alternative account.

We should (re)emphasize that while our proposal predicts a tight connection between contrastive focus and wh-questions, we do not run the risk of being confronted with questions like ‘why isn’t it the case that focus on any pronoun/noun yields a question?’. The reason is that we do not take contrastive focus to be an ingredient in the construction of inquisitiveness. In this paper we say nothing about the source of the latter. What we do say is that once inquisitiveness enters the picture, contrastive focus follows it (in the case of wh-questions; polar questions are a different matter and remain to be explored from this perspective, possibly in relation to the expression of verum focus).

We now turn from the qu of quex to the ex of quex.

5 Stress and focus on the ex of quex

We have seen that a quexistential in the qu of quex interpretation behaves just like any non-quexistential interrogative word when it comes to stress and focus. In this section we will ask a related question for the ex of quex: to what extent does the ex of quex behave like non-quexistential indefinites when it comes to stress and focus?

We already argued in Section 3 that an account of how the ex of quex relates to focus will not be sufficient on its own to capture the relation between the ex of quex and stress in general.

³³Recall from footnote 17 that according to Truckenbrodt (2013) the prosodic effects of focus on in-situ interrogative words in German and English are ‘reduced’ in a particular way. We speculate that in these languages, reduced prosodic focus effects signal internal contrast while non-reduced prosodic effects signal external contrast. This, however, is a mere speculation at this point. Further investigation is needed.

This is because we would expect that in an out-of-the-blue context, without focus on any particular constituent, the ex of quex should receive stress when it is in a position that normally receives stress in default prosody. But this is not the case, as we already illustrated with Dutch examples (36) and (37), repeated in (71) and (72), respectively.

- (71) Miranda heeft wat geGEten.
 Miranda has him QUEX eaten
 'Miranda has eaten something.'
- (72) *Miranda heeft WAT gegeten.
 Miranda has QUEX eaten
 Intended: 'Miranda has eaten something.'

This means that we are faced with two tasks: to understand the relation between the ex of quex and stress in default prosody, and separately from that, to understand the relation between the ex of quex and focus. We will start with the first question, namely the relation between the ex of quex and default prosody and we will see that the ex of quex behaves like non-quexistential indefinites.

5.1 The impossibility of stress on the ex of quex in default prosody

In this section we discuss the ex of quex as it relates to stress in default prosody. In the following sections we will look at focus. We propose that (72) is ruled out by general prosodic constraints, which prohibit stress in default prosody falling on existential quantifiers across the board. Indeed, the Dutch non-quex existential *iets* (something) shows the same behavior. It does not receive a pitch accent in default prosody even when it is in the position where that accent is usually placed; instead the accent shifts to the verb.³⁴

- (73) Miranda heeft iets geGEten.
 Miranda has QUEX eaten
 'Miranda ate something.'
- (74) #Miranda heeft IETS gegeten.
 Miranda has QUEX eaten
 Intended: 'Miranda ate something.'

The fact that existential quantifiers resist a pitch accent in default prosody is known. It also manifests itself in English. The examples in (75), adapted from Buring (2016, 146), show that the existential quantifier does not receive stress in default prosody even when it appears in a position where such stress is usually placed, as seen in (75c):

- (75) a. I SMELL something.
 b. #I smell SOMething.
 c. I smell DUMPlings.

Why would this be? One proposed line of reasoning is that the existential is a functional item and thereby incapable of receiving stress in default prosody, which is reserved for lexical items (see Buring 2016 for discussion and references). One difficulty for this hypothesis is that one would have to assume that *just* existential quantifiers are functional items, because other quantifiers (e.g., English *everything*, or Dutch *alles*) have no problem receiving stress in default prosody (see also

³⁴We use # to mark examples whose stress pattern diverges from default prosody, see also footnote 14.

Wagner 2006 for a critique of accounts based on the existential not being able to receive stress because it is a functional item).

At least two alternative proposals exist. Wagner (2006) argues that existential quantifiers are always deaccented because they trivially meet the requirements for Givenness, and Given items are generally deaccented. Ahn (2015), on the other hand, provides an account which relies on the assumption that the syntax of existentials like *something* differs from DPs like *dumplings* in a way that is relevant for the mechanism that assigns stress in default prosody.

Whatever the right account of this general phenomenon is, it is clear that the pattern involving quexistentials on their existential use should be seen as a particular instance of it. There is no reason to believe that there is something special about the inability of quexistentials on their existential use to receive stress in default prosody. The contrast in (71)-(72) is due to something that is not specific to quexistentials, but rather common to all existential quantifiers (their inherent Givenness status if Wagner 2006 is right, or their syntactic status if Ahn 2015 is right).

The next question is whether it is possible for the ex of quex to receive stress due to contrastive focus rather than default prosody. We address this question in the next two subsections.

5.2 Contrastive focus on the ex of quex

The QF biconditional as stated by Haida and others appears to stand on firm empirical ground. Haida shows that the part of the biconditional which precludes focus on the ex of quex holds for German, and we have found that in addition, it holds for Russian.

When it comes to the ex of quex not being able to receive nuclear stress in default prosody, the facts in German and Russian are the same as in Dutch: like other existential indefinites, the ex of quex resists it.

As for contrastive focus, the ex of quex in German and Russian also abide by the QF-biconditional, namely the ex of quex never receives stress due to contrastive focus:³⁵

- | | | |
|------|---|----------------|
| (76) | Sie hat was/*WAS abgegeben, aber nicht viel.
She has QUEX submitted, but not much
'She did submit something but not much.' | German |
| (77) | Možet, on ?čto/*ČTO pročital, no ne očen' mnogo
Maybe he QUEX read but not very much
'Maybe he read something but not very much.' | Russian |

In German, it is possible to use stress to signal the contrast in (76), but only if it is placed either on the auxiliary *hat* ('has') or on a non-quexistential existential quantifier *etwas* ('something'):

³⁵Superficially, the same pattern holds for Passamaquoddy:

- | | |
|-----|---|
| (i) | 'Kisuwikhomon keq/*KEQ, ma tehpu wikhikon.
he.wrote.it QUEX not only book
'He wrote something, but not a book.' |
|-----|---|

However, the case of Passamaquoddy should not be treated on a par with German or Russian in this discussion. The reason is that while Passamaquoddy does have non-quexistential indefinites, for the meanings 'someone' and 'something' it only has quexistentials, no non-quexistential indefinites. As a result, it is not possible to compare the ex of quex to a non-quexistential indefinite. So in a way, this example shows that no indefinite can be stressed in Passamaquoddy, not just the ex of quex. So we leave Passamaquoddy out of this discussion for now, or at least until we have learned more about the expression of contrastive focus in this language (as mentioned earlier, the Passamaquoddy stress system is quite different overall from that of languages like English and Dutch, see LeSourd 1993).

- (78) a. Sie HAT was abgegeben, aber nicht viel.
 She has QUEx submitted, but not much
 ‘She did submit something but not much.’
- b. Sie hat ETwas abgegeben, aber nicht viel.
 She has something submitted, but not much
 ‘She did submit something but not much.’

Russian behaves the same way as German: while the ex of quex cannot be contrastively focused, the language has a series of other indefinites that can.

So far then, the relation between quexistentials and focus does appear to be a biconditional. We have proposed an explanation for why the qu of quex requires focus (and in this we showed that the qu of quex behaves like other interrogative words). We have shown that on the ex of quex, the quexistential resists stress associated with default prosody (and in this we showed that the ex of quex behaves like other existentials). Finally, in this section, we showed that in German and Russian, the ex of quex cannot receive contrastive focus either (in this, the German and Russian quexistentials are different from other indefinites in the language). It would seem then, that this is the last part of the QF-biconditional that needs an explanation.

However, it may be the case that the conclusion that the ex of quex cannot be contrastively focused is too hasty, and that the ”QF biconditional” is not a biconditional at all, but a one-way entailment. In other words, before we try to explain a phenomenon as universal, or at least as being of significant crosslinguistic stability, we need to make sure it is indeed that. In the next section, we show that Dutch provides a potential counterexample to this part of the QF biconditional. We will thus find ourselves faced with two logical possibilities: Either we decide that the relation between the ex of quex and contrastive focus is not captured by the QF biconditional (in which case we will need to investigate the difference between German and Russian on the one hand and Dutch on the other), or we will try to see if we can find grounds for removing Dutch as a counterexample. We attempt this in the section after the next one.

5.3 Focal stress on the ex of quex in Dutch

In this section we will give several examples involving focal stress on the ex of quex in Dutch. Since all these examples will involve verum focus, we should start with a general point about verum focus in Dutch. In corrective statements such as (79b) verum focus is expressed using the particle *wel* with a strong falling pitch accent (we will use ↓ and ↑ to indicate falling and rising pitch accents, respectively).³⁶

- (79) a. A: Miranda is niet weggegaan.
 Miranda is not left
 ‘Miranda didn’t leave.’
- b. B: Ze is WEL↓ weggegaan.
 She is VF left
 ‘She DID leave.’

Note that this is different from English, which expresses verum focus by means of an accented auxiliary verb, as in ‘She DID leave’, ‘She HAS left’, ‘She IS studying’. This is impossible in Dutch.

³⁶The term ‘verum focus’ goes back to Höhle (1992). For more background on the use of Dutch *wel* we refer to Hogeweg (2009). She analyzes *wel* as a double negation, after Sassen (1985). She also argues that the strength of the pitch accent on *wel* is a function of the degree of explicitness of the negation in the sentence that the preadjacent of *wel* responds to, with the corrective use of *wel* having the strongest prominence of all its uses.

The same pattern occurs in response to a question that is biased towards a negative answer:

- (80) a. A: Miranda is niet weggegaan toch?
Miranda is not left right
'Miranda didn't leave, did she?'
- b. B: Ze is WEL[↓] weggegaan.
Ze is VF left
'She DID leave.'

When the question is neutral, stressed *wel* is not felicitous. Unstressed *wel* is possible but only as part of a more elaborate answer which itself involves a contrast.

- (81) a. A: Is Miranda weggegaan?
Is Miranda left
'Did Miranda leave?'
- b. B: *Ze is WEL[↓] weggegaan.
She is VF left
'She DID leave.'
- c. C: Ze is (wel) WEGgegaan[↑] maar NIET[↑] op TIJD[↓].
She is (VF) gone but not in time
'She did leave, but not in time.'

With this background in mind, let us turn to contrastive focus on the ex of quex.

Reponses to negative assertions and negatively biased questions. In response to a negative assertion or a negatively biased question, stressed *wel* appears again. The stress on *wel* here is the falling pitch accent of contrastive focus. Moreover, the quexistential again behaves the same as a non-quex existential in that neither can be focused:

- (82) a. A: Miranda heeft niks ingeleverd.
Miranda has nothing submitted
'Miranda has not submitted anything.'

- b. B: Ze heeft WEL[↓] wat/iets ingeleverd.
 She has VF QUEX /something submitted
 ‘She DID submit something.’
- c. C: *Ze heeft (wel) WAT[↓] / IETS[↓] ingeleverd.
 She has (VF) QUEX / something submitted
 Intended: ‘She DID submit something.’

However, both the quexistential and the non-quexistential indefinite can be contrastively focused if they contrast with a subsequent denial of a stronger or more specific alternative. In this case, *wel* and *niet* are marked as contrastive topics by means of rising pitch accents, while the contrastively focused quexistential or non-quexistential indefinite receive the falling pitch accent characteristic of contrastive focus.³⁷

(83) **A case where the ex of quex is marked as contrastive focus**

- a. A: Miranda heeft niks ingeleverd.
 Miranda has nothing submitted
 ‘Miranda didn’t submit anything.’
- b. B: Nou, ze heeft WEL[↑] WAT[↓] / IETS[↓] ingeleverd maar NIET[↑] VEEL[↓].
 Well, she has VF QUEX / something submitted but not much
 ‘Well, she did submit something but not much.’
- c. C: Nou, ze heeft WEL[↑] WAT[↓] / IETS[↓] ingeleverd maar het was NIET[↑] wat
 Well, she has VF QUEX / something submitted but it was not what
 we verWACHT[↓] hadden.
 we expected had
 ‘Well, she did submit something but it was not what we had expected.’

In addition, both the quexistential and non-quexistential indefinite can be marked as contrastive topic, with a falling focus accent on *ingeleverd* (‘submitted’).

(84) **A case where the ex of quex is marked as contrastive topic**

- a. A: Miranda heeft niks ingeleverd.
 Miranda has nothing submitted
 ‘Miranda didn’t submit anything.’
- b. B: Nou, ze heeft wel WAT[↑] /IETS[↑] INgeleverd[↓] maar het was NIET[↑] VEEL[↓].
 Well, she has VF QUEX /something submitted but it was not much
 ‘Well, she did submit something but not much.’
- c. C: Nou, ze heeft wel WAT[↑] /IETS[↑] INgeleverd[↓] maar het was NIET[↑] wat
 Well, she has WEL QUEX /something submitted but it was not what
 we verWACHT[↓] hadden.
 we expected had
 ‘Well, she did submit something but it was not what we had expected.’

Again, in (84b) and (84c), the non-quexistential *iets* can appear with the same prosody as the quexistential *wat*.

³⁷For discussion of the mapping of contrastive topic and focus, respectively, to rising and falling pitch accents, see [Büring \(2016\)](#) and further references given there.

Reponses to neutral questions. In a response to a neutral question, unstressed *wel* can optionally be used, but it cannot be marked as contrastive focus. As for the quexistential and the non-quexistential indefinite, if they are not contrasted with any stronger or more specific alternative in the response, they must be left unstressed.

- (85) a. A: Heeft Miranda gegeten vandaag?
 Has Miranda eaten today
 'Has Miranda eaten today?'
- b. C: Ja, ze heeft (wel) wat /iets gegeten.
 Yes, she has (VF) QUEX /something eaten
 'Yes, she did eat something.'
- c. C: *Ja, ze heeft WEL[↓] wat /iets gegeten.
 Yes, she has VF QUEX /something eaten
 Intended: 'She DID eat something.'

However, just like in responses to negative assertions and questions, they both can be contrastively focused if they contrast with a subsequent stronger or more specific alternative. In this case, *wel* and *niet* are marked as contrastive topics by means of rising pitch accents, while the quexistential or non-quexistential indefinite is marked as a contrastive focus by means of a falling pitch accent:

- (86) **A case where the ex of quex is marked as contrastive focus**
- a. A: Heeft Miranda haar huiswerk ingeleverd?
 Has Miranda her homework submitted
 'Has Miranda submitted her homework?'
- b. B: Nou, ze heeft WEL[↑] WAT[↓] /IETS[↓] ingeleverd maar het was NIET[↑] VEEL[↓].
 Well, she has VF QUEX /something submitted but it was not much
 'Well, she did submit something but not much.'

Alternatively, both the quexistential and the non-quexistential indefinite can be marked as contrastive topic, with a falling focus accent on *ingeleverd* ('submitted').

- (87) **A case where the ex of quex is marked as contrastive topic**
- a. A: Heeft Miranda haar huiswerk ingeleverd?
 Has Miranda her homework submitted
 'Has Miranda submitted her homework?'
- b. B: Nou, ze heeft wel WAT[↑] /IETS[↑] INgeleverd[↓] maar het was NIET[↑] VEEL[↓].
 Well, she has VF QUEX /something submitted but it was not much
 'Well, she did submit something but not much.'

So the ex of quex in Dutch can receive either a falling or a rising contrastive pitch accent, depending on whether it is marked as a contrastive focus or a contrastive topic. It behaves just like the non-quexistential indefinite in this respect. In other words, Dutch does not conform to both parts of the QF-biconditional: it is possible to manipulate the environment in such a way that focus and the ex of quex are compatible.

Two additional environments. Contrastive focus on the ex of quex in Dutch seems possible in two further environments as well. First, in the context of sluicing, where it again behaves exactly as a non-quexistential indefinite does:

- (88) Hij heeft WEL[↑] WAT[↓] / IETS[↓] ingeleverd maar ik weet NIET[↑] hoeVEEL[↓].
 He has wel QUEX / something submitted but I know not how.much
 ‘He did submit something but I don’t know how much’.

And second, the ex of quex can be stressed, presumably due to contrastive focus, when it appears as the associate of scalar NPI *ook maar* (literally ‘also but’, roughly equalling *even* in English), which compares its argument to amount alternatives and requires that its argument is the endpoint on some amount scale, similar to English *even*. Of course, focused *wat* can only appear with *ook maar* in environments where the latter is licensed. As an NPI, it is not licensed in plain positive environments:

- (89) *Maria heeft ook maar WAT / IETS verkeerd gedaan.
 Maria has also but QUEX / something wrong done
 Intended: ‘Maria has done something wrong.’

But when *ook maar* is licensed, the ex of quex reading of *wat* is compatible with focus:

- (90) a. Heb ik ooit ook maar WAT / IETS verkeerd gedaan?
 Have I ever also but QUEX / something wrong done
 ‘Have I ever done even the slightest thing wrong?’ **yes/no question**
- b. Als je ook maar WAT / IETS verkeerd doet, moet je alles overdoen.
 If you also but QUEX / something wrong do, must you everything redo
 ‘If you do even the slightest thing wrong,
 you have to redo everything.’ **antecedent of a conditional**
- c. Iedere leerling die ook maar WAT / IETS verkeerd doet moet alles
 Every student who also but QUEX / something wrong does must everything
 overdoen.
 redo
 ‘Every student who does even the slightest thing wrong, has to redo everything’
restrictor of a universal

In short, we saw again that the ex of quex can be made compatible with focus in Dutch, and as such again behaves just like the non-quexistential indefinite.

A case where qu and ex of quex have similar prosody. The above discussion leads one to expect that it should be possible to set up a case where the qu of quex and the ex of quex have similar prosody. Specifically, when the ex of quex is contrastively focused it should exhibit the same intonational contour as an in-situ qu of quex, which is always contrastively focused. This expectation is indeed borne out, as can be seen by comparing the sentences in (91) and (92). The pitch contours for these sentences are displayed in Figures 5 and 6, respectively. Note that these contours are very similar.

- (91) WIE[↓] heeft WAT[↓] ingeleverd bij WELke[↓] docent?
 Who has QUEX submitted at which lecturer
 ‘Who has submitted what to which lecturer?’
- (92) WIE[↓] heeft WAT[↓] ingeleverd maar NIET[↑] ALLES[↓]?
 Who has QUEX submitted but not everything
 ‘Who has submitted something but not everything?’

In Dutch, then, the behaviour of the *qu* of *quex* w.r.t. stress and focus is just like that of other question words (always contrastively focused), and the behaviour of the *ex* of *quex* is just like that of other existentials (never stressed due to default prosody, but possibly stressed due to contrastive focus or topic marking).

So the Dutch reality is not captured by the QF biconditional “*qu* if focused, *ex* if not focused”. We are now then confronted with the choice of treating the relation between *quexistentials* and contrastive focus to not be as universal as the QF biconditional would have us believe (and therefore start an exploration of its parametrization), or we look deeper into Dutch to see if we can find grounds to explain it away as a counterexample and thereby maintain a stronger belief in the potential universality of the QF biconditional. We make an attempt at the latter in the next section.³⁸

5.4 A possible re-analysis of Dutch

In this section we will attempt to find a difference between Dutch on the one hand and Russian, and in particular the closely related German on the other, so that we can explain Dutch away as a

³⁸We should point out here that contrastive focus and contrastive topic on the *ex* of *quex* shows that Postma (1994), according to which the *ex* of *quex* is not possible outside of the VP, does not derive the right facts. First, (i) and (ii) show that when the *ex* of *quex* is contrastively focused it can appear to the left of the VP-edge adverb ‘*snel*’:

- (i) Hij heeft WEL[↑] WAT[↓] snel opgeschreven, maar NIET[↑] ALLES[↓].
He has VF QUEX quickly written.down, but not everything
‘He did quickly write down something, but not everything.’
- (ii) Hij heeft WEL[↑] WAT[↓] snel opgeschreven, maar NIET[↑] waar we om GEVRAAGD[↓] hadden.
He has VF QUEX quickly written.down, but not what we for asked had
‘He did quickly write up something, but not what we had asked for.’

Similarly, the *ex* of *quex* is also possible outside of the VP when it is a contrastive topic, which is exemplified by the following examples, in which the *quexistential* appears in subject position (iiib) and in first position of a V2 sentence (ivb):

- (iii) a. VEEL[↑] van wat ik op het bord geschreven had was weg...
much of what I on the board written had was gone...
‘Much of what I had written on the board had gone...’
b. ...maar WAT[↑] stond er nog wel.
...but QUEX stood there still VF
‘...but SOMETHING was still there.’
- (iv) a. De nieuwe strategie van het bedrijf heeft de hoge verwachtingen niet echt waargemaakt,
The new strategy of the company has the high expectations not really made-true
‘The new strategy of the company did not really fulfil the high expectations,’
b. ...maar WAT[↑] heeft het wel opgeleverd.
...but QUEX has it wel delivered
‘...but SOMETHING it did deliver’

For more details, we refer to Hengeveld *et al.* (2020).

Several of these observations hold for German as well. However, as mentioned by a reviewer and confirmed by our informants, there is a further context in this language in which *quexistentials* are allowed outside of the VP, namely embedded clauses. The following is an example:

- (v) ... weil was passiert ist.
... because QUEX happened is
‘... because something happened.’

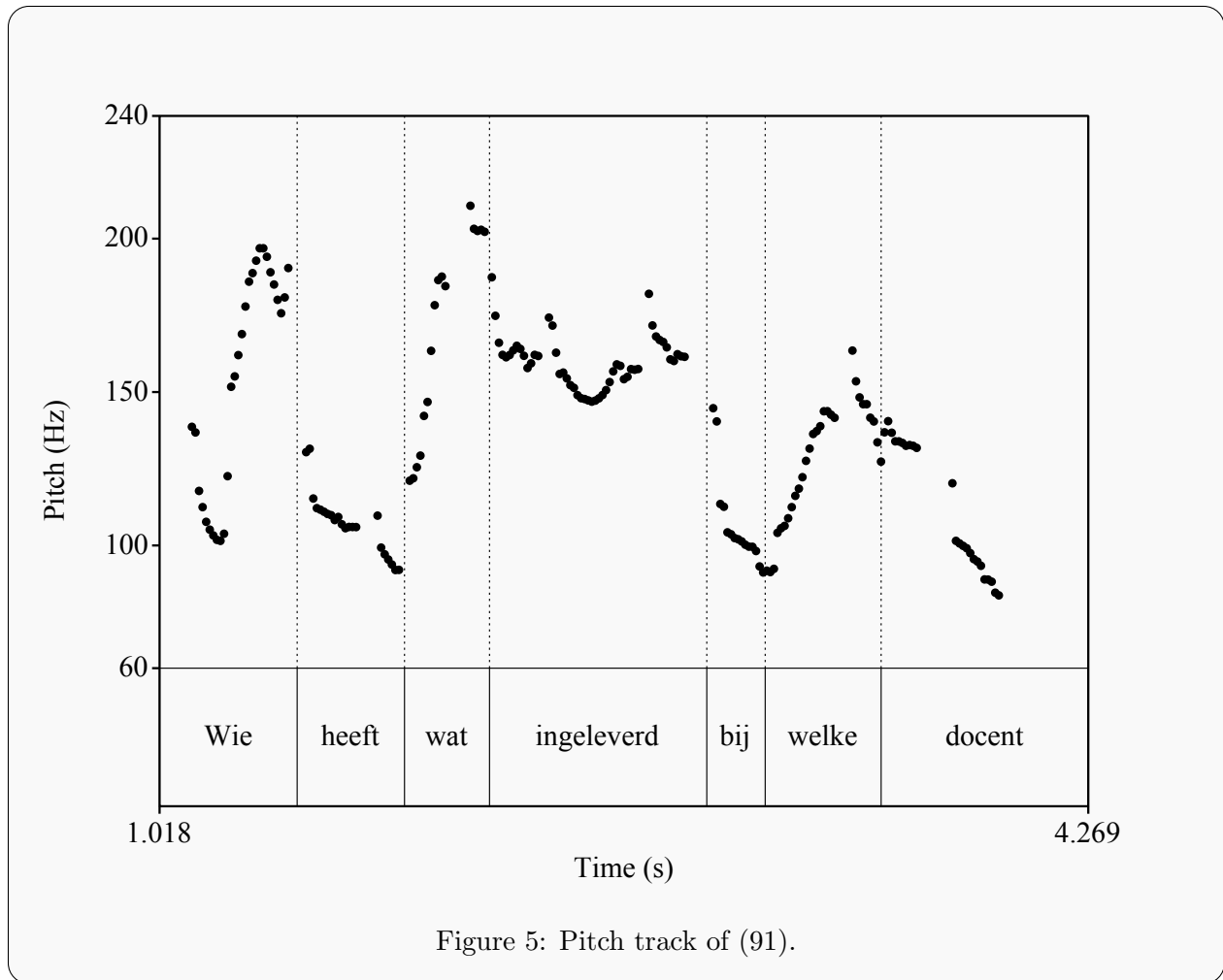


Figure 5: Pitch track of (91).

counterexample to the QF biconditional. If an orthogonal (to the QF biconditional) difference can be found that is responsible for the Dutch pattern discussed earlier, then we do not have to give up faith in the crosslinguistic stability of the biconditional and try to explain it. We will be explicit with the details, so that future research might find any gaps in our argumentation.

So what difference(s) between Dutch and German/Russian are there that may cause the different behavioral patterns when the ex of quex is contrastively focused?^{39,40}

³⁹One might think that a difference between Dutch and German that plays a role here is that the two languages express verum focus in different ways: Dutch necessarily uses the particle *wel*, German uses stress on the finite verb or the complementizer (Höhle, 1992). According to a reviewer, however, there are varieties of German that do use a verum focus particle and it is still extremely difficult to stress the quexistential in the presence of this particle, unlike in Dutch. In preliminary fieldwork, we have found that for some informants the quexistential *was* ‘what/something’ can be stressed in such constructions. This is illustrated in the following example:

- (i) Sie hat schon WAS gegeben, aber nicht viel.
 she has VF QUEX given but not much
 ‘She has given something, but not much.’

It seems that for some of these speakers the use of *was* as a determiner is marginally possible too. Further empirical work on this issue, however, is left for future work.

⁴⁰Yun (2019) describes Korean quexistentials as permitting focus under their existential reading, just like Dutch.

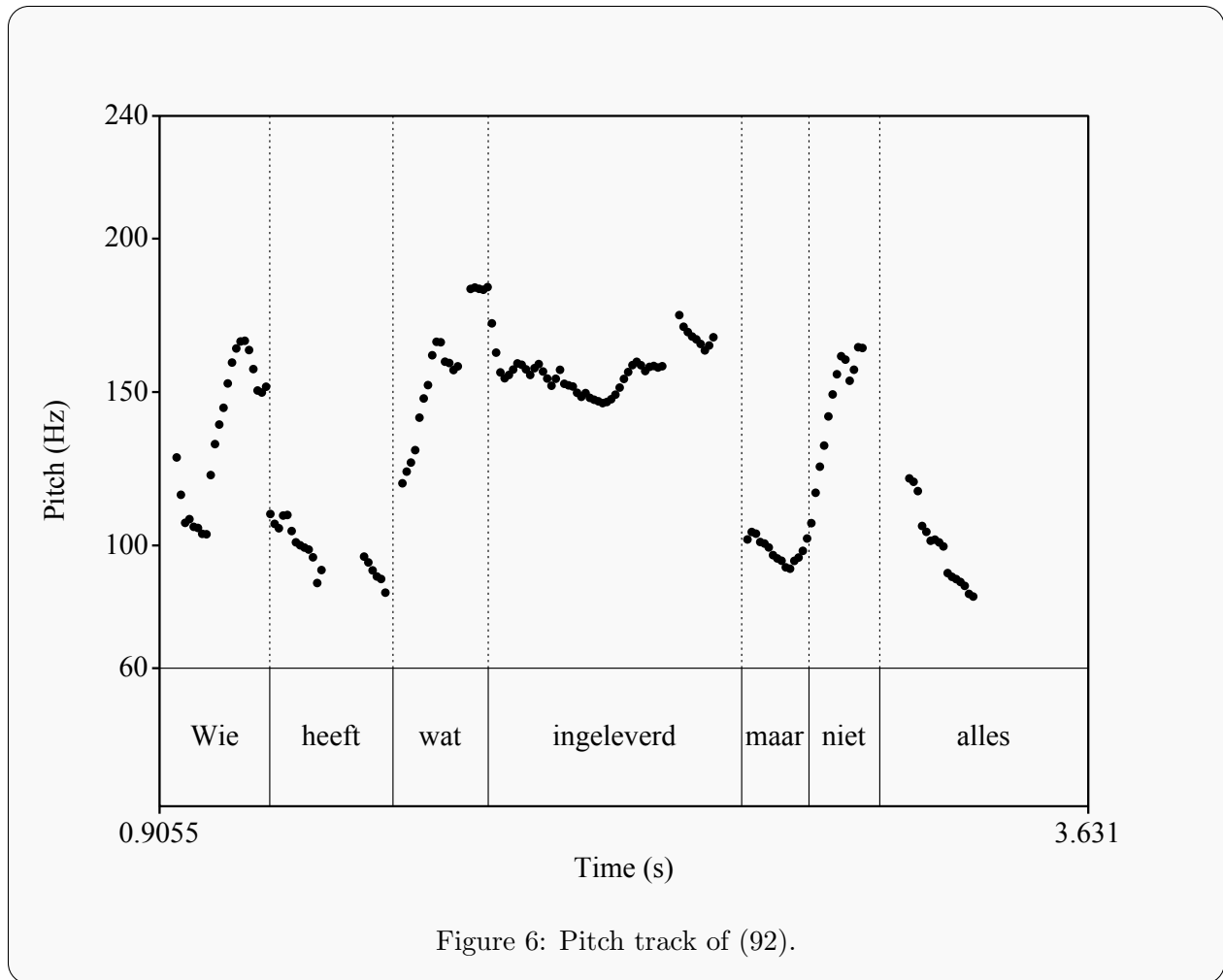


Figure 6: Pitch track of (92).

One difference between Dutch and German is that Dutch *wat*, unlike German *was*, can function as a determiner, as in (93), with a plural count noun and in (94) with a mass noun. It cannot function as a determiner on a single count noun.⁴¹

- (93) Hij heeft wat bloemen geplukt.
 He has QUEx flowers picked
 ‘He has picked some flowers.’
- (94) Hij heeft wat water gedronken.
 He has QUEx water drunk
 ‘He has drunk some water.’
- (95) *Hij heeft wat broodje gegeten.
 He has QUEx bread eaten
 ‘He has eaten some bread roll.’

We leave a detailed discussion of Korean for another occasion.

⁴¹That a quantifier would take plural count nouns and mass nouns as arguments but not singular count nouns is not a coincidence according to Chierchia (1998). He argues that plural count nouns and mass nouns are closed under sum formation and so form a natural class that a quantifier can select for. On the other hand, singular count nouns and mass nouns do not share a property to the exclusion of plural count nouns that a quantifier can select for

The German quexistential *was* cannot function as a determiner, as seen in (96) and (97).

- (96) *Er hat was Blumen gepflückt.
He has QUEx flowers picked
Intended: ‘He has picked some flowers’
- (97) *Er hat was Wasser getrunken.
He has QUEx water drunk
Intended: ‘He has drunk some water.’

Could this be part of the reason why the Dutch *ex* of *quex* permits focal stress while the German one does not (for example, contrast with other determiners would be more straightforward (“some but not much”)? If the question is put in these terms, the answer cannot be affirmative because this distinction does not cut along the correct crosslinguistic lines: Russian quexistential *kakoj* can be used as determiner, but still cannot receive focal stress on its existential reading.

However, maybe it is possible to press this point further: What if Dutch *wat* as a determiner is not a quexistential at all, while when Russian *kakoj* is a determiner, it is still a quexistential? Then we would be looking at the following situation: when *wat* accepts contrastive focus it is always and only a non-quexistential determiner and as such, its relationship to focus is irrelevant to the QF biconditional, whose domain is only quexistentials.

The first reason to suspect that *wat* as a determiner is not a quexistential is that sentences like (98) and (99) are ungrammatical. In other words, determiner *wat* cannot function as an interrogative word, the way one would expect of a quexistential.

- (98) *Wat bloemen heeft hij geplukt?
QUEx flowers has he picked
Intended: ‘What/which flowers did he pick?’
- (99) *Wat water heeft hij gedronken?
QUEx water has he drunk
Intended: ‘What/which water did he drink?’

If the determiner *wat* were a quexistential, one would expect (98) and (99) to be grammatical as questions.

Similarly, consider the following examples:

- (100) Wie heeft wat bloemen geplukt?
Who has QUEx flowers picked
‘Who picked some flowers?’
- (101) Wie heeft wat water gedronken?
Who has QUEx water drunk
‘Who drank some water?’

These sentences lack a multiple question interpretation, unlike their counterparts with independent *wat*, given below:

- (102) Wie heeft wat geplukt?
Who has QUEx picked
‘Who picked something/what?’

- (103) Wie heeft wat gedronken?
 Who has QUEx drunk
 ‘Who drank something/what?’

This is further evidence that when *wat* is a determiner it is not a quexistential.

Moreover, we observe that determiner *wat* with an overt restrictor can appear unproblematically in the contrastive environments that we have already seen:

With a mass noun

- (104) a. Heeft hij brood gekocht voor de lunch?
 Has he bread bought for the lunch
 ‘Has he bought bread for the lunch’
 b. Nou, hij heeft wel WAT brood gekocht, maar niet genoeg voor iedereen.
 Well, he has VF QUEx bread bought, but not enough for everyone
 ‘Well, he did buy SOME bread, but not enough for everyone.’
- (105) a. Heeft hij brood gekocht voor de lunch?
 Has he bread bought for the lunch
 ‘Has he bought bread for the lunch’
 b. Nou, hij heeft wel WAT brood gekocht, maar niet dat lekkere brood waar ik om gevraagd had.
 Well, he has VF QUEx bread bought, but not that tasty bread where I for asked had.
 ‘Well, he did buy SOME bread, but not that tasty bread that I had asked for.’

With a plural count noun

- (106) a. Heeft hij bramenstruiken geplant in de moestuin?
 Has he blackberry-bushes planted in the kitchen-garden
 ‘Has he planted blackberry bushes in the kitchen garden?’
 b. Nou, hij heeft wel WAT bramenstruiken geplant, maar niet veel.
 Well, he has VF QUEx blackberry-bushes planted, but not many.
 ‘Well, he did plant SOME blackberry bushes, but not many.’
- (107) a. Heeft hij bramenstruiken geplant in de moestuin?
 Has he blackberry-bushes planted in the kitchen-garden
 ‘Has he planted blackberry bushes in the kitchen garden?’
 b. Nou, hij heeft wel WAT bramenstruiken geplant, maar niet die met die lekkere grote bramen.
 Well, he has VF QUEx blackberry-bushes planted, but not that with those tasty big blackberries.
 ‘Well, he did plant SOME blackberry bushes, but not those with the big tasty blackberries.’

The above are cases in which *wat* is stressed and clearly functions as a determiner. What then if *wat*, when it carries focal stress but has no overt nominal restrictor, is still a determiner but with a null noun as restrictor (or null NP; we will not distinguish these here)? (For arguments in favor of the existence of null nouns, see among others, Postal (1969), Panagiotidis (2003), Corver and van Koppen (2011). For a possible account of why such nouns are null, see Kayne (2005).)⁴²

⁴²One might wonder whether examples like (33b), where we presumably see the determiner *wat* without an overt

If this hypothesis is correct, i.e., if every occurrence of focused *wat* is indeed an occurrence of it as a non-quexistential determiner, then Dutch would not constitute a counterexample to the cross-linguistic generalization that the ex of quex is incompatible with focal stress: any stressed occurrence of *wat* would be an instance of the non-quexistential determiner. But how safe is this conclusion?

restrictor, are instances of NP ellipsis, instead of a determiner followed by a null noun. There are, however, at least two arguments against NP ellipsis. When *wat* is a determiner, it can go with a human NP:

- (i) Ik heb wat studenten gezien.
 I have QUEX students seen
 'I have seen some students.'

This is not possible with bare *wat*. (ii) cannot mean that I saw some person(s). Only an inanimate interpretation is possible:

- (ii) Ik heb wat gezien.
 I have QUEX seen
 'I have seen something.'

Note that (iii) is fully grammatical:

- (iii) Ik heb wel WAT studenten gezien maar niet VEEL.
 I have VF QUEX students seen but not many
 'I have seen some students but not many'

while when the NP *studenten* 'students' is missing the sentence is odd:

- (iv) #Ik heb wel WAT gezien maar niet VEEL studenten.
 I have VF QUEX seen but not many students
 'I did see something but not many students.'

Example (iv) is as odd as the English translation: *wat* can only refer to something inanimate, which means that no ellipsis of *studenten* has taken place.

So if (va) was the result of NP ellipsis from (vb), as indicated, then we would expect (iv) to be as good as (iii) with NP ellipsis.

- (v) a. *Ik heb wel WAT gelezen maar niet alle kranten.
 I have VF QUEX read but not all newspapers
 'I have read something but not all newspapers.'
 b. Ik heb wel WAT ⟨kranten⟩ gelezen maar niet alle kranten.
 I have VF QUEX newspapers read but not all newspapers
 'I have read some newspapers but not all newspapers.'

Another reason to exclude the NP ellipsis in (vb) as the source of (va) is that its meaning is not 'I have read some but not all newspapers', which it should have been if ellipsis was involved. It is 'I have read something but not all newspapers'.

So when the determiner *wat* does not have an overt restrictor, we are not dealing with NP ellipsis, but with a null noun. The null noun could in principle just stand for 'thing(s)' (count) or 'stuff' (mass). Alternatively, it could get its content from the context:

- (vi) a. Heeft hij eten gekocht voor de lunch?
 Has he food bought for the lunch
 'Has he bought food for lunch?'
 b. Nou, hij heeft wel WAT gekocht, maar niet genoeg voor iedereen.
 Well, he has VF QUEX bought, but not enough for everyone
 'Well, he did buy SOME things/food, but not enough for everyone.'

This type of anaphora would not be required, though, even in the presence of an explicit possible antecedent. In (vii), the interpretation of the null noun could revert to something vague like 'stuff' or 'things', since interpreting it as 'books' would lead to a contradiction:

One could counter the claim that *wat* as a determiner is not a quexistential by arguing that there are in fact cases in which *wat* receives an interrogative interpretation in determiner position, specifically in the somewhat famous *wat voor* construction. Such cases are illustrated in (108) and (109):

- (108) Wat voor bloemen heeft hij geplukt?
 What for flowers has he picked
 ‘What kind of flowers did he pick?’
- (109) Wat voor water heeft hij gedronken?
 What for water has he drunk
 ‘What kind of water did he drink?’

The rationale would be as follows: According to Heck (2009) and Huhmarniemi (2012), among others, when an interrogative XP moves to the left periphery of a clause (for example, the specifier of the CP), there is also XP-internal wh-movement to the left periphery of that XP:

- (110) [_{XP} wh_m ... t_m ...]_k ... t_k ...]

Moreover, following Bennis (1995), *voor* in the *wat voor* construction is an interrogative complementizer. Putting everything together, one could conclude that *wat voor bloemen* (‘what kind of flowers’) and *wat voor water* (‘what kind of water’) in (109) and (110) are the qu of quex equivalent of the ex of quex in (93) and (94), with the element *voor* appearing for orthogonal reasons:

- (111) [[_{XP} wh_m voor ... t_m ...]_k ... t_k ...]

One piece of evidence for this is that *wat voor bloemen* and *wat voor water* cannot be used as existential expressions:

- (112) *Hij heeft wat voor bloemen geplukt.
 He has what for flowers picked
 Intended: ‘He picked some flowers.’

-
- (vii) a. Heeft hij de boeken langsgebracht?
 Has he the books brought
 ‘Did he bring the books?’
 b. Nee, hij heeft wel WAT langsgebracht maar geen boeken.
 No, he has VF QUEX brought but no books.
 ‘No, he did bring SOME things/stuff, but no books.’

Interestingly, contrastive focus on the possessor *mijn* (‘my’) in (viii) strengthens the possibility that the alleged null noun stands for ‘books’ (as opposed to no contrastive focus in the second clause, which forces the reading in which the null noun refers to ‘things’).

- (viii) a. Heeft hij jouw boeken langsgebracht?
 Has he your books brought
 ‘Did he bring your books?’
 b. Nee, hij heeft wel WAT langsgebracht maar niet MIJN boeken.
 No, he has VF QUEX brought, but not my books.
 ‘No, he did bring SOME books, but not MY books.’

This can be explained by the fact that, if the alleged null noun were to be interpreted as ‘things/stuff’, then the contrastive focus on *mijn* (‘my’) would not be licensed—focus would instead fall on the entire DP *mijn boeken* (‘my books’), with stress on *boeken*.

- (113) *Hij heeft wat voor water gedronken.
 He has what for water drunk
 Intended: ‘He drank some water.’

The *voor* item appears only in questions, arguably for orthogonal reasons, as we said.

If this rationale is correct, then we are not forced to the conclusion that when it is a determiner, *wat* is a pure existential rather than a quexistential: the determiner *wat* is indeed a quexistential, since it permits both an ex of quex as well as qu of quex readings (albeit the latter with an added interrogative *voor* which must appear for language-specific purposes). This would mean that Dutch IS indeed a counterexample to the QF biconditional, since under this scenario, it does have a quexistential which can be contrastively focused without becoming an interrogative.

To pronounce a verdict on the debate at this point, we have to ask whether the above rebuttal (which aims to establish that determiner *wat* is a quexistential after all) is unassailable.

The answer is no—there are in fact a few weak points: there is an important semantic difference between the ex of quex and the *wat voor* construction that does not reduce to the difference between the ex of quex and the qu of quex reading. Namely, the only available readings of (108) and (109) are about *kinds* of flowers and *kinds* of bread:

- (114) What kind of flowers did he pick?
 (115) What kind of water did he drink?

These questions do not ask the addressee to identify specific entities, unlike the following:

- (116) Which flowers did he pick?
 (117) Which water did he drink?

However, the ex of quex in general is not restricted to kind-readings. So it would be difficult to maintain that *wat voor bloemen* and *wat voor water* are the qu of quex equivalent of the ex of quex *wat bloemen* and *wat water*. Moreover, the qu of quex reading of the Russian quexistential *kakoj* when used as a determiner is not restricted to kind-readings. That is, the kind-reading is not a necessary consequence of interpreting a quexistential determiner interrogatively. Finally, the German *was für* construction behaves the same way as the Dutch *wat voor* construction with respect to the points just mentioned. So the *wat voor* / *was für* construction does not rely on the possibility of *wat* / *was* being a determiner, which it is in Dutch, but not in German.

So the previous hypothesis still stands: it is quite possible that Dutch *wat*, qua determiner, is not a quexistential. And, as we said, this conclusion brings out the possibility that when *wat* receives focal stress, it always does so as a non-quexistential determiner. This would mean that Dutch is not a counterexample to the cross-linguistic generalization that the ex of quex is incompatible with focal stress. The QF biconditional would still stand.

Under this scenario, Russian would show the regular pattern, as the determiner use of its quexistential does not force a kind-reading and has the expected qu of quex reading. The non-focusability of its quexistential determiners would then be par for the course. So are we ready to declare that Dutch is not a counterexample to the QF biconditional, since focused *wat* is a focused non-quexistential determiner, and the biconditional holds sway only over quexistentials?

We would indeed like to adopt this hypothesis as the one that has the most support: Dutch is not a counterexample to the QF biconditional since focus on determiner *wat* is not focus on a quexistential.

Of course, challenges remain. We have shown that the conclusion that focused *wat* is not a quexistential but a non-quexistential determiner is fully compatible with the data. But we have

not shown that focused *wat* is NEVER a quexistential DP. Such a negative existential statement is very hard to prove, possibly like most negative existential statements.

Another remaining question pertains to the interaction of the non-quex determiner *wat* with Postma’s 1994 observation that an ex of quex reading is possible in Dutch only in certain syntactic environments, specifically, only inside the VP. We showed that focused *wat* is fine outside the VP, contra Postma’s generalization (see footnote 38). However, if we are right that determiner *wat* is not a quexistential, one might expect that this determiner can appear outside the VP even without focus.

But this is not what we find. Unfocused determiner *wat* is not possible in subject position, for example:

- (118) **Wat* studenten zijn gekomen.
 QUEX students are come
 ‘Some students have come.’

But inside the VP, it is fine, as we have already seen:

- (119) *Ik* heb *wat* studenten gezien.
 I have QUEX students seen
 ‘I have seen some students.’

One could thus raise the question of whether the inability to appear outside the VP might not be an argument in favor of the quexistential status of determiner *wat*, contra to our earlier conclusion. The answer is ‘no’. And it is ‘no’ *especially* if Postma is correct that the restriction to the VP is an indication that *wat* needs to be bound by Existential Closure, as in the work of Heim (1982) and Diesing (1992). Heim and Diesing argue that certain determiners lack quantificational force of their own, and obtain such by an existential quantifier that is inserted as a last resort operation on a syntactically defined domain, which, according to Diesing is the VP.⁴³ In other words, being subject to existential closure is not a characteristic of quexistentials but of certain determiners that lack quantificational force of their own and are introduced in a sentence as variables. After all, the original proposals, like Heim’s and Diesing’s, were about non-quexistential determiners. In other words, if indeed determiner *wat* is introduced as a variable in the sentence and requires default Existential Closure, this does not mean that it is therefore a quexistential. Under the relevant assumptions, it would only mean that it lacks its own quantificational force.

Having said this, we are not asserting that Dutch *wat*, whether as quexistential or a non-quex determiner, is, in fact, subject to existential closure. We remain at best agnostic about that in the current context. In Hengeveld *et al.* (2020), we argue that even for the ex of quex, Postma’s proposal for existential closure meets with difficulties, because *wat* cannot be caught by other quantificational elements in the sentence, the way indefinites can in Heim’s and Diesing’s work:

- (120) Norwegians are usually/rarely blond ⇔ Most/few Norwegians are blond

On the other hand, Dutch *wat*, with or without a nominal restriction cannot be bound by adverbs of quantification:

⁴³For Heim, it was the IP but that is because she was not assuming VP-internal subjects. Semantically, both Heim and Diesing define the domain of existential closure as the nuclear scope of an operator.

- (121) a. *Jammer genoeg maakt wat mij vaak bang.
 unfortunately enough makes QUEX me often afraid
 ‘Unfortunately something often makes me afraid.’
 (intended: ‘Many things make me afraid.’)
- b. *Gelukkig maakt wat mij zelden bang.
 fortunately makes QUEX me seldomly afraid
 ‘Fortunately something seldomly makes me afraid.’
 (intended: ‘Few things make me afraid.’)

These sentences are fine on the intended meaning with bare plural *dingen* (‘things’).

So in this paper, we do not take a position on the relationship of Existential Closure to Dutch *wat*. What we wanted to point out is that the fact that determiner *wat* is not acceptable in subject position, does not mean that it should be considered a quexistential.

Note that when *wat* is preceded by certain degree modifiers, it is acceptable in subject position:

- (122) Heel wat / nogal wat / tamelijk wat studenten zijn gekomen.
 many QUEX / quite QUEX / fairly QUEX students are come
 ‘Many/quite a few/a fair number of students have come.’

It is possible that these form complex determiners. We leave them for future research.

6 Conclusion

In this paper we explored the conditions under which quexistentials can or must be focused, depending on their interrogative or existential interpretation. We did not address the issue of how these two readings come about, nor what the nature of a quexistential has to be in order to be able to yield these two interpretations in different environments.

Previous literature has suggested that quexistentials are always focused on their interrogative use, and never on their existential use. We argued that the first part of this generalization is correct and proposed that the obligatory focus of the *qu* of *quex* is a particular instance of a more general fact, namely that interrogative words (quexistential or not) are always contrastively focused. We proposed an account of this more general fact, based on the idea that focus is used to signal not only external but also internal contrasts.

The second part of the generalization, which holds that the *ex* of *quex* is incompatible with focus, took us to Dutch, which appeared to violate it. We identified a number of environments where Dutch *wat* can receive focal stress without turning into an interrogative item. This could have meant that the second part of the QF generalization does not hold (i.e. it would not be a biconditional) but we proposed an analysis under which Dutch is not a counterexample after all. In short, while we have explained only one part of the QF biconditional and did not explain the part that relates to the incompatibility of the *ex* of *quex* with focus, we removed one possible counterexample to it, leaving the biconditional open for explanatory accounts.

A natural next step in this investigation would be to look for and examine other languages where the *ex* of *quex* is compatible with prosodic prominence. We already noted that Korean appears to permit focus on the *ex* of *quex* (see fn. 13 and fn. 20) and therefore, should be closely examined soon to determine whether it is indeed a counterexample, unlike Dutch. Further cross-linguistic investigation of the relation between quexistentials, prosodic prominence, and focus will doubtlessly play an important role in the investigation of the phenomenon of quexistentials at large.

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