Quexistentials and focus*

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1 Introduction

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

  (1) a. <u>What</u> did he eat?
       b. He ate <u>something</u>.

- In many other languages, existential indefinites are morphologically composed from interrogative words. Here is an example from Greek:[1]

  (2) a. <u>Ti</u>   efages?
           what ate.2SG
           'What did you eat?'
       b. Efages <u>kati</u>.
           ate.2SG something
           'You ate something'

- We are interested here in cases where existentials and interrogative words are spelled out in exactly the same way. We refer to such words as **quexistentials** (question + existential).

- An example of a quexistential is the Russian word *kto*, which can mean 'who' or 'someone':

  (3) a. <u>Kto</u> prišel?
           QUEX came
           'Who came?'

       b. Možet, <u>kto</u>   prixodil.
           Maybe QUEX came
           'Maybe someone came.'

- Another example is the Dutch word *wat*, which can mean either 'what' or 'something'.

  (4) a. <u>Wat</u>   heb je gegeten?
           QUEX have you eaten
           'What have you eaten?'

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[1]Probably the most well-known case of such 'constructed' existential indefinites is Japanese (Kuroda, 1965, and many others since then).

      b.   Ik heb <u>wat</u>   gegeten.
            I   have QUEX eaten
            'I have eaten something'

- We refer to the interrogative reading of a quexistential as the **qu of quex** and to the existential reading as the **ex of quex**.

- These are terms 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 we will see, several unrelated languages have quexistentials, so the phenomenon permits the formulation of a number of broad-stroke cross-linguistic generalizations.

- In the literature, three factors have been argued to affect the distribution and interpretation of quexistentials across languages:

  - polarity   (e.g., in Mandarin, see Cheng 1994, Lin 1998 and many others)
  - syntactic structure   (e.g., in Dutch and German, see Postma 1994)
  - focus   (possibly universally, see e.g. Haida 2007)

- We are ultimately interested in all these factors, as well as possible interactions between them, but I will concentrate today on the role of **focus**.

- The following generalizations emerge from the literature:

  1. On their **interrogative** interpretation, quexistentials are **always focused**.
  2. On their **existential** interpretation, quexistentials are **never focused**.

- The first generalization is possibly a particular instance of a more general one, namely that:

  1'. Interrogative words, whether quexistential or not, are always focused.

- This generalization has been most explicitly argued for as a cross-linguistically stable pattern by Haida (2007, §7.2), though several other authors have defended it as well for particular languages. See for instance:

  - Ishihara (2003) on Japanese
  - Göksel and Kerslake (2005) on Turkish
  - AnderBois (2012) on Yucatec Maya

- We will suggest that this connection between interrogativity and focus may be accounted for by generalizing the common view on contrastive focus in a way that incorporates both **external** and **internal** notions of **contrast**.

- As for generalization 2. above, we do not know of anyone who has explicitly defended this as a cross-linguistically stable pattern. However, it has been claimed to hold for several specific languages, and it is predicted to hold cross-linguistically by several theories, including that of Haida 2007.

- We will argue, however, that the generalization is not completely accurate.

- In particular, we show that in Dutch, quexistentials can be focused on their existential interpretation in certain configurations.

- While we do of course hope to make some positive contributions to the empirical and theoretical understanding of quexistentials here, this talk is to a large extent intended as a critical survey of the existing literature, identifying some of the main open questions and paving the way for further work in this relatively under-explored domain.

2 Basic empirical observations

- Haida (2007) and others have noted that German quexistentials which appear in a position in which they can in principle be interpreted either existentially or interrogatively are disambiguated by means of intonation:

  - If the quexistential receives a prominent pitch accent it must be interpreted as a question word;
  - If it receives no prominent pitch accent it must be interpreted existentially.[2]

- The following examples from German illustrate this pattern.

  (5)   Wer   sieht WEN?
        QUEX sees QUEX
        ✓ 'Who sees who?'
        ✗ 'Who sees something?'

  (6)   Wer   SIEHT wen?
        QUEX sees   QUEX
        ✗ 'Who sees who?'
        ✓ 'Who sees something?'

- Haida (2007, §7.2) surveys a sizeable literature which shows that this pattern is found in many other languages as well. Among these is Russian:

  (7)   Vasja ČTO   s"el
        Vasja QUEX ate
        ✓ 'What did Vasja eat?'
        ✗ 'Did Vasja eat something?'

  (8)   Vasja čto   S"EL
        Vasja QUEX ate
        ✗ 'What did Vasja eat?'
        ✓ 'Did Vasja eat something?'

- In our own fieldwork we found that it also holds in Passamaquoddy:

  (9)   Wen   peciptaq   KEQ?
        QUEX C.brought QUEX
        ✓ 'Who brought what?'
        ✗ 'Who brought something?'

  (10)   Wen   peciptaq   keq?
         QUEX C.brought QUEX
         ✗ 'Who brought what?'
         ✓ 'Who brought something?'

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[2]We will use the terms 'prominent pitch accent' and 'stress' interchangeably. For now, we use these terms rather than the term 'focus' for reasons that will become clear soon.

- And in Dutch:

(11)   Wie heeft hem WAT   gegeven?
       who has   him QUEX given
       ✓ 'Who has given him what?'
       ✗ 'Who has given him something?'

(12)   Wie heeft hem wat   geGEven?
       who has   him QUEX given
       ✗ 'Who has given him what?'
       ✓ 'Who has given him something?'

- Obviously, we would like to understand why quexistentials across languages seem to have this particular property in common.

- One possibility that may come to mind is the following:

  – Perhaps, the prominent pitch accents in these examples are manifestation of **focus**,

  – and perhaps the semantics of focus excludes an existential interpretation.[3]

- This approach will be discussed in more detail below.

- At this point, however, we can already note that an account of this kind, on its own, would both under-predict and over-predict availability of the ex of quex.

- It would **under-predict** because, as illustrated in (13) and discussed in more detail in Section 8, the ex of quex can in fact be contrastively focused in Dutch.[4]

(13)   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$^\uparrow$ WAT$^\downarrow$ ingeleverd maar NIET$^\uparrow$ VEEL$^\downarrow$.
            B: Well, she has   VF   QUEX submitted but   not   much
            B: 'Well, she did submit something but not much.'

- It would also **over-predict**, because it would lead us to expect that a quexistential on its existential reading should be able to receive nuclear stress by virtue of default prosody (rather than focal stress).

- This is not the case, at least not in Dutch and Russian.

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[3]The 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. So the position that quexistentials on their existential reading cannot be focused, is the position that they cannot be contrastively focused. From now on then, 'focus' will stand for 'contrastive focus'.

[4]Yun (2019) presents experimental data showing that in Korean, quexistentials can also receive a prominent pitch accent while still being interpreted existentially. Just like the Dutch data, this is surprising in light of the cross-linguistic tendency for quexistentials to be unaccented on their existential reading. However, it does not necessarily mean that the ex of quex in Korean can be contrastively focused. The participants in Yun's experiment may not have interpreted the pitch accents on the ex of quex as manifestations of contrastive focus. Interestingly, Yun's data show that pitch accents on the ex of quex (whether manifestations of focus or not) increase the quexistential's ability to take exceptional wide scope (i.e., to scope out of an *if*-clause, which is a scope island for non-existential quantifiers).

- In Dutch default prosody, nuclear stress in a sentence like (14) falls on the object:[5]

(14) Miranda heeft hem KWARK   gegeven.
      Miranda has   him cottage.cheese given
      'Miranda has given him cottage cheese.'

(15) #Miranda heeft hem kwark   geGEven.
       Miranda has   him cottage.cheese given
       Intended: 'Miranda has given him cottage cheese.'

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

(16) Miranda heeft hem wat   geGEven.
      Miranda has   him QUEX given
      'Miranda has given him something.'

(17) #Miranda heeft hem WAT   gegeven.
       Miranda has   him QUEX given
       Intended: 'Miranda has given him something.'

- Ruling out focus-induced stress on the quexistential will not suffice to rule out nuclear 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 nuclear stress, as shown by the contrast in (16)-(17).

- This is what we will do first.

3   The impossibility of nuclear stress on the ex of quex

- We propose that (17) is ruled out by general prosodic constraints, which prohibit nuclear stress falling on existential quantifiers across the board.

- Indeed, the non-quex Dutch existential *iets* shows the same behavior.

- It does not receive a nuclear pitch accent when it is in the position where such an accent is usually placed; instead the accent falls on the verb.

(18) Miranda heeft iets   geGEten.
      Miranda has   QUEX eaten
      'Miranda ate something.'

(19) #Miranda heeft IETS   gegeten.
       Miranda has   QUEX eaten
       Intended: 'Miranda ate something.'

- The fact that existential quantifiers generally resist a nuclear pitch accent is known, and also manifests itself in English.

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[5]We assume that default prosody is the prosody in broadest focus, as, for example, in an answer to the question 'What happened?'. In (14) 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 (15) 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 broad focus contexts.

- The examples in (20), adapted from Büring (2016, 146), shows that the existential quantifier does not receive nuclear stress when it appears in a position where nuclear stress is usually placed:

(20)   a.   I SMELL something.
       b. #I smell SOMEthing.
       c.   I smell DUMPlings.

- Why would this be?

- One line of reasoning is that the existential is a **functional item** and thereby incapable of receiving nuclear stress, which is reserved for lexical items (see Büring 2016 for discussion and references).

- A difficulty for this approach is that one would have to assume that *just* existential quantifiers are functional items, because other quantifiers (e.g., *everything*, or Dutch *alles*) have no problem receiving nuclear stress.[6]

- At least two alternative proposals exist:

  - Wagner (2006) argues that existential quantifiers are always unstressed because they always meet the requirements for **Givenness**, and Given items are generally deaccented.
  - Ahn (2015) 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 nuclear stress.

- Whatever the right account of this general phenomenon is, it is clear that the pattern involving quexistentials on their existential reading 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 nuclear stress.

- So we conclude that the contrast in (16)-(17) 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).

- We now turn to the interrogative use of quexistentials and its relation to stress and focus.

4 In situ interrogative words must be stressed

- We have argued that there is nothing special about the ex of quex in relation to nuclear stress in default prosody and that its behaviour is not to be distinguished from that of other existentials.

- Is the same true for the qu of quex?

- That is, does the qu of quex behave just like other interrogative items?

- In exploring this issue we will focus on Dutch.

- First, some quick notes 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.

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[6]See also Wagner 2006 for a critique of accounts based on the existential not being able to receive stress because it is a functional item.

- 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.
- So our simplest initial testing ground is the quexistential in object position of a wh-question, where the quexistential can in principle be interpreted as an interrogative or an existential, and where we have already seen that stress determines its interpretation:

(21)   Wie heeft hem wat   geGEven?
       who has   him QUEX given
       ✗   'Who gave him what?'
       ✓   'Who gave him something?'

(22)   Wie heeft hem WAT   gegeven?
       who has   him QUEX given
       ✓   'Who gave him what?'
       ✗   'Who gave him something?'

- Does the qu of quex behave similarly to non-quexistential interrogative words in this respect?

- The answer to this, at least for Dutch, is yes.

- Dutch non-quexistential interrogative *wie* ('who') also necessarily receives stress in this environment.

(23)   a.   Wie heeft hem aan WIE voorgesteld?
            who has   him to   who introduced
            'Who introduced him to whom?'

       b.   *Wie heeft hem aan wie VOORgesteld?
            who has   him to   who introduced
            Intended: 'Who introduced him to whom?'

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

(24)   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?'

- Therefore we have to ask the following question:
    - Does the qu of quex (and the non-quex interrogative) receive stress in (22) simply because it is in a position that receives nuclear stress, the way *Jan* does in (24)?
    - Or is there something special about it being an interrogative word?

- To determine this we have to look at slightly more complex examples.

- Consider the following question:

(25)   Welke sponsoren hebben het museum [een schilderij van REMbrandt] gegeven?
       which sponsors   have   the museum [a   painting by Rembrandt] given
       'Which sponsors gave the museum a painting by Rembrandt?'

- 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 (25) is different:

  (26)   Welke sponsoren hebben het museum [WELK schilderij van Rembrandt] gegeven?
           which sponsors   have   the museum [which   painting   by   Rembrandt] given
           'Which sponsors gave the museum which painting by Rembrandt?'

- The in-situ wh-phrase *welk schilderij* ('which painting') in (26) must receive stress, unlike the indefinite *een schilderij* ('a painting') in the same position in (25).

- 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:

  (27)   Welke sponsoren hebben het museum [WAT   van Rembrandt] gegeven?
           which sponsors   have   the museum QUEX by Rembrandt given?
           'Which sponsors gave what by Rembrandt to the museum?'

  In the absence of stress on *wat*, only the existential reading is possible:

  (28)   Welke sponsoren hebben het museum [wat   van REMbrandt] gegeven?
           which sponsors   have   the museum QUEX by Rembrandt   given?
           'Which sponsors have given the museum something by Rembrandt?'

- To summarize so far:

  - We have seen that on their interrogative interpretation, non-fronted quexistentials must be stressed, just like non-quexistential interrogative words.
  - On their existential reading, on the other hand, quexistentials cannot receive nuclear stress, just like non-quexistential existentials.

- The next question is:

  - What could be the difference between indefinites like *een schilderij* and interrogative words like *welk schilderij* such that the latter, unlike the former, must always be stressed when it is in situ?

5   Interrogative words require contrastive focus marking

- Ishihara (2003) and others have argued that the prosody on Japanese interrogative words is the same as the prosody we see in cases of **contrastive focus**.

- Haida (2007) argues that this connection between interrogative words and contrastive focus is cross-linguistically stable.[7]

- Let us first verify that this holds in Dutch as well, and then turn to some languages in which focus manifests itself in different ways.

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[7]It should be noted 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, they do not necessarily carry the strongest accent in the clause. Other foci do generally carry the strongest accent in their domain (unless there are multiple foci; in that case only one of them carries the strongest accent). This is something that requires further investigation.

- Consider example (25) again, but now in a context in which *een schilderij* ('a painting') is contrasted with something else, namely *een ets* ('an etching') of Rembrandt.

  (29)   a.   Sommige sponsoren 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 welke sponsoren hebben het [een SCHILDERIJ van Rembrandt] gegeven?
      But   which sponsors have   it an painting   by Rembrandt given?
      'But which sponsors have given it a PAINTING by Rembrandt?'

- In this case, *een schilderij* must be stressed in order to mark contrastive focus.[8]

- The stress that marks constrastive focus in (29) is perceived to be very similar to the stress on the quexistential in (27).

- This similarity is also visible in the pitch contours displayed in Figures 1 and 2.[9]

- While more systematic empirical work is evidently required here, we take this to provide initial support for Haida's hypothesis for Dutch.

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[8] If (29a) and (29b) are uttered by the same speaker, then it is most natural for that speaker not only to stress *schilderij* ('painting') in (29b) but also *ets* ('etching') in (29a), presumably to signal 'forward-looking' contrastive focus. However, if (29a) and (29b) 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).

[9] In the latter, instead of ETS 'etching' we have used VAT 'barrel' 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.
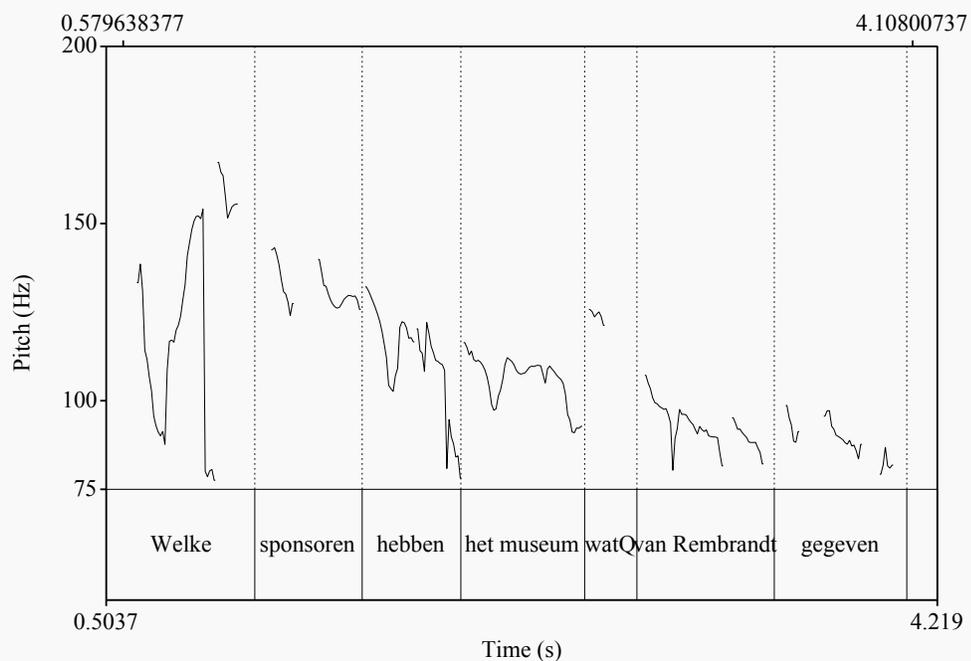
Figure 1: Pitch track of example (27) with a quexistential used interrogatively.
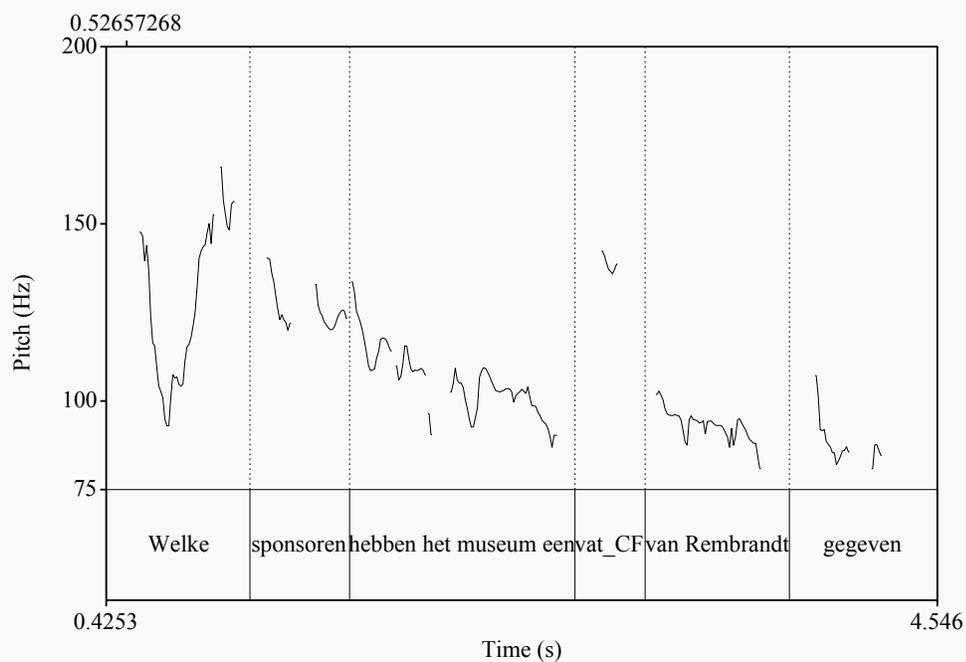

Figure 2: Pitch track of a variant of example (27), in which the quexistential *wat* has been replaced by the contrastively focused existential indefinite *een vat* ('a barrel').

- 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, they are accompanied by a so-called **focus particle**.

- We will start with Hungarian (see also Haida, 2007, §7.2.2).

- First consider the following sentence, without focus.

  (30) 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 (30). 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):

  (31) 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:

  (32) 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 (32a) and (32b) 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 (33) show that question words and (other) contrastively focused constituents are marked in this language by means of the same focus particle (Aboh and Pfau 2011; Aboh p.c.):

  (33) a. Mɛ̀nù wɛ̀ wá?
            who FOC came
            'Who has come?'

        b. Màrí wɛ̀ 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 Haida's generalization, which we will call the contrastive focus requirement on interrogative words.[10]

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[10] Richards (2010, p.145) proposes a closely related generalization, namely that "every language tries to create a prosodic

(34) **Contrastive focus requirement on interrogative words** (Haida, 2007, p.192)
Interrogative words are generally marked using the same strategies that are also used to mark contrastive foci.

- We should note that in wh-movement languages, fronted interrogative words are not necessarily accented the way contrastive foci are.

- In fact, in many cases they can be left completely deaccented.

- We assume that in these languages, fronting of a wh-word to a designated position in the left periphery is in itself a way to express contrastive focus (cf., Truckenbrodt, 2013).[11]

- 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 words generally require contrastive focus marking, 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 word moves to the left periphery.

- This interrogative word, then, does not require prosodic marking of contrastive focus, while in-situ interrogative words do.

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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. In production, the qu of quex in Korean involves both a prominent pitch accent on the quexistential and the absence of prosodic boundaries between the quexistential and the corresponding interrogative complementizer. Yun shows, 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 a prominent pitch accent on the quexistential. Even when there is no prominent pitch accent, the absence of prosodic boundaries gives rise to a question interpretation in 66% of the cases tested, while in the presence of prosodic boundaries, a prominent pitch accent 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 and with Haida's contrastive focus requirement. Yun's experimental data on prosodic effects on the interpretation of quexistentials are, we believe, also compatible with both generalizations. For this, however, it is crucial that Haida's generalization only goes in one direction. Interrogative words need to be marked as contrastive foci. This in itself, however, does *not* imply that quexistentials, when contrastively focused, must be interpreted interrogatively. In many languages this does seem to be the case, but it is not forced by our contrastive focus requirement. Indeed, in Dutch, we have already seen and will later discuss in more detail that contrastive focus on a quexistential does not preclude an existential interpretation, and Yun's experiment reveals that prominent pitch accents on Korean quexistentials do not preclude an existential interpretation either. See also footnote 4.

[11]Haida (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. This is also true for Dutch, as exemplified in (i):

(i)   WELK schilderij van Rembrandt heb   je   vandaag gezien?
       Which painting by Rembrandt have you today   seen
       'Which painting by Rembrandt have you seen today?'

We must leave a detailed comparison of the two approaches for future work.

- If there is indeed a general requirement for interrogative words to be marked as contrastive foci, we would of course like to understand *why* this is the case. To this we turn next.

6   Existing approaches to capturing the contrastive focus requirement

- Existing approaches to capturing the contrastive focus requirement (either for particular languages or as a cross-linguistic pattern) can be divided into **syntactic** and **semantic** approaches.

Syntactic approaches

- The proposals of Haida (2007) and Truckenbrodt (2013) are syntactic in nature (as far as the contrast 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 and that this requires the presence of an F-feature on the interrogative phrase, which has the same prosodic reflexes as the F-feature on contrastive foci.

- Both Haida and Truckenbrodt assume that, while both interrogative phrases and contrastive foci must carry F-features, there are also differences between the two cases.

- 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).

- 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, leave a lot to be explained. In particular, they do not really clarify *why* interrogative words would generally have to be marked as contrastive foci.

Semantic approaches

- Semantic proposals include those of AnderBois (2012) and Möller Kalpak (2018). For concreteness we focus here on AnderBois' proposal, though our main concerns also apply to Möller Kalpak's proposal.

- AnderBois argues that in Yucatec Maya, wh-questions are formed using quexistentials marked as contrastive foci.[12]

- If these quexistentials are not marked as contrastive foci, they are interpreted as existentials.

- AnderBois proposes that quexistentials have both **informative content**, conveying 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).

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

- 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:

  (35)   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 for a quexistential to get an interrogative interpretation**.

- This proposal is attractive in that it connects the role of contrastive focus in question formation to another property that has been associated with it independently, i.e., triggering an existential presupposition (although the idea that contrastive focus indeed has this effect is not uncontroversial).

- 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 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 placing contrastive focus on a quexistential causes it to get an interrogative interpretation.

- So the assumed **causal connection** between contrastive focus and interrogative interpretation is as follows:

  (36)   contrastive focus $\Longrightarrow$ 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.[13]

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[13]Moreover, even if we consider just quexistentials but do look beyond Yucatec Mayan, AnderBois' approach 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

7 Our proposal: inverting the causal connection

- We rather propose that the **causal connection** between contrastive focus and interrogative interpretation **points in the opposite direction**, namely as follows:

  (37)   interrogative interpretation $\implies$ contrastive focus

- That is, we do not think that contrastive focus marking is necessary to obtain an interrogative interpretation, but rather that phrases which, for reasons independent of contrastive marking, receive an interrogative interpretation, must always be marked as being contrastive.

- This in fact naturally follows, we propose, from only a slight generalization of existing theories of contrastive focus.

- To develop the idea, we first have to briefly review what we take to be the **common view** on contrastive focus.

- Consider a simple case that involves contrastive focus but has nothing to do with interrogativity.

  (38)   A: Mary invited Tom.
          B: No, she invited SAM$^{\downarrow}$.

- *Mary invited Sam* contrasts with *Mary invited Tom*, and this contrast is signalled by the focal stress on *Sam*.

- Many theories of contrastive focus (from Rooth 1992 to 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 (38), because the focus semantic value of B's response is:

  (39) $[\![\text{Mary invited SAM}_F]\!]^F = \left\{ \begin{array}{l} [\![\text{Mary invited Sam}]\!]^O, \\ [\![\text{Mary invited Kim}]\!]^O, \\ [\![\text{Mary invited Tom}]\!]^O, \\ \dots \end{array} \right\}$

- Let us make this a bit more precise and general.

- 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**.

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.

- – For instance, the alternatives may serve as input for focus-sensitive expressions like *only*.
  - – But another reason, most relevant for us here, is to signal contrast.

- Finally, it is generally assumed that speakers should:

  - – signal contrast by means of focus whenever they can, but
  - – should not 'over-focus', i.e., should not focus constituents without a reason.

- So much for a brief review of the common view on the use of focus to signal contrast. We summarize its three main tenets in (40).

---

(40) a. **Focus semantics**: Every 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 contrast**: Placing focus on a constituent can be done for several reasons. One of them is to signal a contrast between two expressions E and E'. This is done by placing focus on a sub-constituent of E in such a way that $[\![E]\!]^F$ contains $[\![E']\!]^O$.

   c. **Pragmatics of focus placement**: Whenever a contrast 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 phrases. Suppose A walks up to her colleague B and says the following:

  (41) a. I may want to attend the workshop that you are organizing next week.
     b. Who/WHO is presenting WHAT?

- Clearly, there is no sentence in the discourse that the question in (41b) could possibly be taken to contrast with.

- So we do not have an explanation for the optional contrastive accent on *who* and the obligatory contrastive accent on *what*.

- However, we will propose a **generalization** of the common view which does provide such an explanation.

- The crucial observation underlying this generalization is that it is implicitly assumed in (40b) that the contrasts that speakers signal by means of focus are always contrasts between **two different expressions**.

- In our example above, these two expressions are *Mary invited Tom* and *Mary invited 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 a question. For simplicity let's first look at a single wh-question.

  (42)   Who left?

- This question can be resolved in a number of ways:

  - by providing the information that Bill left,
  - by providing the information that Sam left,
  - etcetera.

- What is important, we propose, is that **these possible resolutions contrast with each other** in much the same way as *Mary invited Tom* and *Mary invited Sam* in the dialogue in (38).

- Let us make this more precise again. Semantic theories of questions usually assume that the ordinary semantic value of the question in (42) is a set of propositions:

(43) $\llbracket\text{Who left?}\rrbracket^O = \left\{ \begin{array}{l} \llbracket\text{Bill left}\rrbracket^O, \\ \llbracket\text{Sam left}\rrbracket^O, \\ \llbracket\text{Tom left}\rrbracket^O, \\ \ldots \end{array} \right\}$

- The idea is that these **alternative resolutions of the question contrast with each other**.

- This contrast can be signaled, we suggest, by placing contrastive focus on a subconstituent of the question in such a way that the focus semantic value of the question contains the contrasting propositions.

- This means placing **contrastive focus on *who***, assuming that the focus alternatives of *who* are Bill, Sam, Tom, etcetera.

- As discussed above, we assume that in English, like in 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 (42) 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-phrases prosodic marking of contrastive focus *is* required.

- What does it mean, then, for a speaker uttering a constituent E in a context C, to signal contrast by means of focus?

- As reviewed above, Rooth and others propose that this means for the speaker to place focus on sub-constituents of E in such a way that the focus semantic value of E includes the ordinary semantic value of some other constituent E' that has been used in context C.

- We propose something slightly more general.

- Namely, we propose that the speaker places focus on sub-constituents of E in such a way that the focus semantic value of E includes 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'.[14]

---

[14] For 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 common 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 proposition 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).

- Given this general notion of what it means to signal a contrast by means of focus, we can identify **two special cases**:

  (44) **Internal contrast**
  When β is an element of the ordinary semantic value of E itself, we say that the contrast at hand is internal.

  (45) **External contrast**
  When β is an element of the ordinary semantic value of some expression other than E, we say that the contrast at hand 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 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.[15]

- Let us return now to the common view on the use of focus to signal contrast, whose three main tenets were summarized in (40).

- 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 (40b) by (46).

  (46) **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 $[\![E]\!]^F$ includes two (non-identical) alternatives α and β such that α is an element of $[\![E]\!]^O$, 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 (40c), this generalized notion of contrast could form the basis of an explanation of the fact that interrogative words (whether quexistential or not) are generally 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 though movement, prosody, a focus particle, or a combination of these.

- To sum up so far:

  - The fact that the ex of quex cannot receive nuclear stress can be reduced to the fact that existential quantifiers never do.

---

[15]Recall from footnote 7 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 might speculate that in these languages, reduced prosodic focus effects signal internal contrast while non-reduced prosodic effects signal external contrast. This, however, is just a speculation at this point. Further investigation is needed.

– The fact that an in-situ qu of quex always requires focal stress is a particular instance of a general requirement on the placement of contrastive focus on interrogative words, and we have sketched a possible way to account for this general requirement (though implementing the idea in a more rigorous and precise way is not trivial).

– Neither of these properties seems to be specific to quexistentials, then:

* existential quantifiers (whether quex or not) cannot receive nuclear stress, and

* interrogative words (whether quex or not) must receive contrastive focus marking.

• One remaining question is the following:

– Is it possible for a quexistential under its existential reading to receive **contrastive stress**, rather than nuclear stress due to default prosody?

– We already briefly anticipated in Section 2 that this is indeed possible in Dutch.

– Now we will explore this more systematically.

8 Contrastive stress on the ex of quex

• We should start with a point about verum focus in Dutch. There is a strong preference to express verum focus (VF) using the particle *wel* with a strong falling pitch accent:[16]

(47) a. A: Miranda is niet weggegaan.
A: Miranda is not left
A: 'Miranda didn't leave.'

b. B: Ze   is WEL$^{\downarrow}$ weggegaan.
B: She is VF   left
B: 'She DID leave.'
(not: Ze IS weggegaan)

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

(48) a. A: Miranda is niet weggegaan toch?
A: Miranda is not left   right
A: 'Miranda didn't leave, did she?'

b. B: Ze is WEL$^{\downarrow}$ weggegaan.
B: Ze is VF   left
B: 'She DID leave.'
(much dispreferred: Ze IS weggegaan)

• When the question is neutral, stressed *wel* is not felicitous, unstressed *wel* is possible but only as part of a more elaborate answer involving a contrast of its own.

(49) a. A: Is Miranda weggegaan?
A: Is Miranda left
A: 'Did Miranda leave?'

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[16]For more background on the use of *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 prejacent of *wel* responds to, with the corrective use of *wel* having the strongest prominence of all its uses.

b. B: *Ze is WEL$^\downarrow$ weggegaan.
B: She is VF   left
B: 'She DID leave.'

c. C: Ze is (wel) WEGgegaan$^\uparrow$ maar NIET$^\uparrow$ op TIJD$^\downarrow$.
C: She is (VF) gone   but   not   in time
C: 'She did leave, but not in time.'

- With this background in mind, let's turn to contrastive stress 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:

(50) a. A: Miranda heeft niks   ingeleverd.
A: Miranda has   nothing submitted
A: 'Miranda didn't submit anything'

b. B: Ze heeft WEL$^\downarrow$ wat/iets   ingeleverd.
B: She has   VF   QUEX /something submitted
B: 'She DID submit something.'

c. C: *Ze heeft (wel) WAT$^\downarrow$ / IETS$^\downarrow$ ingeleverd.
C: She has   (VF) QUEX   / something submitted
Intended: 'She DID submit something.'

- However, the quexistential can be contrastively focused if it contrasts 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 receives the falling pitch accent characteristic of contrastive focus:

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

a. A: Miranda heeft niks   ingeleverd.
A: Miranda has   nothing submitted
A: 'Miranda didn't submit anything.'

b. B: Nou, ze heeft WEL$^\uparrow$ WAT$^\downarrow$ ingeleverd maar het was NIET$^\uparrow$ VEEL$^\downarrow$.
B: Well, she has   VF   QUEX submitted but   it   was not   much
B: 'Well, she did submit something but not much.'

c. C: Nou, ze heeft WEL$^\uparrow$ WAT$^\downarrow$ ingeleverd maar het was NIET$^\uparrow$ wat we
C: Well, she has   VF   QUEX submitted but   it   was not   what we
verWACHT$^\downarrow$ hadden.
expected   had
C: 'Well, she did submit something but it was not what we had expected.'

- In (51b) and (51c), the non-quexistential *iets* ('something') can also appear, with the same prosody as the quexistential *wat*.

- Alternatively, the (qu)existential can also be marked as contrastive topic, with a falling focus accent on *ingeleverd* ('submitted').[17]

> (52) **A case where the ex of quex is marked as contrastive topic**
>
> a. A: Miranda heeft niks   ingeleverd.
>   A: Miranda has   nothing submitted
>   A: 'Miranda didn't submit anything.'
>
> b. B: Nou, ze heeft wel WAT$^\uparrow$ INgeleverd$^\downarrow$ maar het was NIET$^\uparrow$ VEEL$^\downarrow$.
>   B: Well, she has VF QUEX submitted but it was not   much
>   B: 'Well, she did submit something but not much.'
>
> c. C: Nou, ze heeft wel   WAT$^\uparrow$ INgeleverd$^\downarrow$ maar het was NIET$^\uparrow$ wat we
>   C: Well, she has WEL QUEX submitted but it was not   what we
>   verWACHT$^\downarrow$ hadden.
>   expected   had
>   C: 'Well, she did submit something but it was not what we had expected.'

- Again, in (52b) and (52c), the non-quexistential *iets* can appear with the same prosody as the quexistential *wat*.

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 (qu)existential, if it is not contrasted with any stronger or more specific alternative in the response, it must be left unstressed.

> (53) a. A: Heeft Miranda gegeten vandaag?
>   A: Has   Miranda eaten   today
>   A: 'Has Miranda eaten today?'
>
> b. C: Ja, ze heeft (wel) wat/iets   gegeten.
>   C: Yes, she has   (VF) QUEX /something eaten
>   C: 'Yes, whe did eat something.'
>
> c. B: *Ja, ze   heeft WEL$^\downarrow$ wat/iets   gegeten.
>   B: Yes, whe has   VF   QUEX /something eaten
>   B: Intended: 'She DID eat something.'

- However, just like in responses to negative assertions and questions, the quexistential can be contrastively focused if it contrasts 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 is marked as a contrastive focus by means of a falling pitch accent:

---

[17] The responses in (51b) and (51c) are also fine with contrastive focus on *wel* and without any accent on the quexistential (again the non-quexistential *iets* behaves exactly the same in this type of response as the quexistential *wat*).

(i)   B: Miranda heeft WEL$^\downarrow$ wat ingeleverd but het was NIET$^\uparrow$ VEEL$^\downarrow$.
       C: Miranda heeft WEL$^\downarrow$ wat ingeleverd but het was NIET$^\uparrow$ wat we verWACHT$^\downarrow$ hadden.

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

    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$^\uparrow$ WAT$^\downarrow$ ingeleverd maar het was NIET$^\uparrow$ VEEL$^\downarrow$.
           B: Well, she has   VF   QUEX submitted but   it   was not   much
           B: 'Well, she did submit something but not much.'

- Alternatively, the (qu)existential can be marked as contrastive topic, with a falling focus accent on *ingeleverd* ('submitted').

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

    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$^\uparrow$ INgeleverd$^\downarrow$ maar het was NIET$^\uparrow$ VEEL$^\downarrow$.
           B: Well, she has VF QUEX submitted but it   was not   much
           B: 'Well, she did submit something but not much.'

- Again, in (54b) and (55b), the non-quexistential *iets* can appear with the same prosody as the quexistential *wat*.

- So quexistentials in Dutch can receive both falling and rising pitch accents, depending on whether they are marked as contrastive foci or contrastive topics, just like non-quexistential indefinites.

- Finally, we note that contrastive focus on (qu)existentials is also possible in **two more environments**.

- First, in the context of sluicing:

(56)   Hij heeft WEL$^\uparrow$ WAT$^\downarrow$ / IETS$^\downarrow$ ingeleverd maar ik weet NIET$^\uparrow$ hoeVEEL$^\downarrow$.
            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, as the associate of scalar NPI *ook maar*, which compares its argument to amount alternatives and requires that its argument is the endpoint on some amount scale.

- 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:

(57)   *Maria heeft ook maar WAT / IETS   verkeerd gedaan.
            Maria has   ook maar 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:

(58)   a.   Heb ik ooit ook maar WAT   verkeerd gedaan?
              Have I ever also but   QUEX wrong   done
              'Have I ever done even ONE thing wrong?'   **yes/no question**

    b.   Als je   ook maar WAT verkeerd doet, moet je   het overdoen.
        If   you also but   QUEX wrong   do,   must you it   do.again
        'If you do just ONE thing wrong,
        you have to do the whole thing again.'   **antecedent of conditional**

    c.   Iedere leerling die ook maar WAT verkeerd doet moet het overdoen.
        Every student who also but   QUEX wrong   does must it   do.again
        'Every student who does even ONE thing wrong,
        has to do the whole thing again.'   **restrictor of universal**

- Summing up what we have seen in Dutch:

  – The interrogative use of the quexistential behaves as non-quexistential interrogatives do (always contrastively focused),

  – The existential use of the quexistential behaves like non-quexistential existentials (never receiving nuclear stress, but possibly contrastive stress).

- So the Dutch reality is both simpler and more complex than just "qu if stressed, ex if not stressed".

9   A case where qu and ex have similar prosody

- Indeed, given the above discussion, one may expect that it should be possible to set up a case where the **qu of quex and the ex of quex have similar prosody**.

- Namely, when the ex of quex is contrastively focused it should have 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 considering the following cases:

(59)   WIE$^\downarrow$ heeft WAT$^\downarrow$ ingeleverd bij WELke$^\downarrow$ docent?
      Who   has   QUEX submitted at which   lecturer
      'Who has submitted what to which lecturer?'

(60)   WIE$^\downarrow$ heeft WAT$^\downarrow$ ingeleverd maar NIET$^\uparrow$ ALLES$^\downarrow$?
      Who   has   QUEX submitted but   not   everything
      'Who has submitted something but not everything?'

- The pitch contours for these sentences are displayed in Figures 3 and 4, respectively. Note in particular that the contour on the quexistential is very similar in both cases.

- The Dutch quexistential then, while it has complex properties, behaves consistently with its two uses when it comes to stress and focus.

- We should point out here, however, that w.r.t. the possibility to place contrastive stress on the ex of quex, Russian, Passamaquoddy, and even German quexistentials behave differently from Dutch.

- That is, even contrastive uses of the ex of quex in these languages never seem to involve stress on the quexistential.

(61)   Sie hat was/*WAS abgegeben, aber nicht viel.
      She has QUEX   submitted, but   not   much
      Intended: 'She did submit something but not much.'   **German**
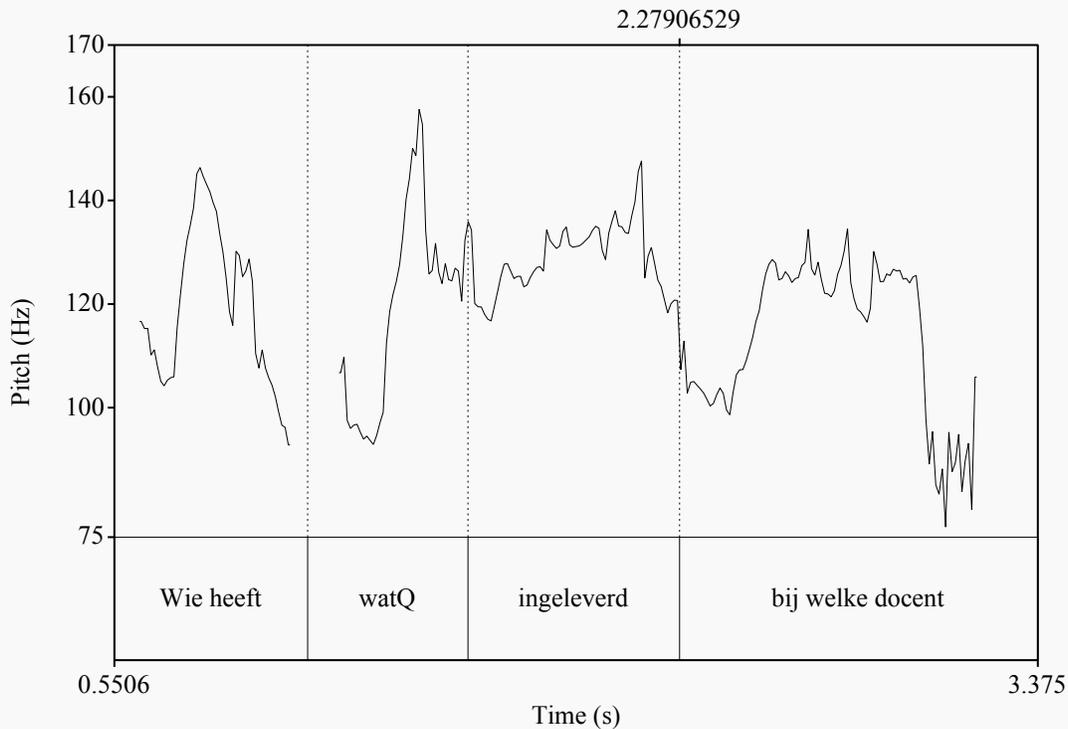
Figure 3: Pitch track of (59).

(62) 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**

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

- The difference between Dutch and German is especially striking, because these two languages otherwise have a lot in common.

- In German, it is possible to use stress to signal the contrast in (61), but only if it is placed either on the auxiliary *hat* ('has') or on a non-quexistential existential *etwas* ('something'):

(64) 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.'

- We must leave an analysis of this curious cross-linguistic difference for future work. Hopefully, it can ultimately be understood as a consequence of more general prosodic differences between the languages concerned.
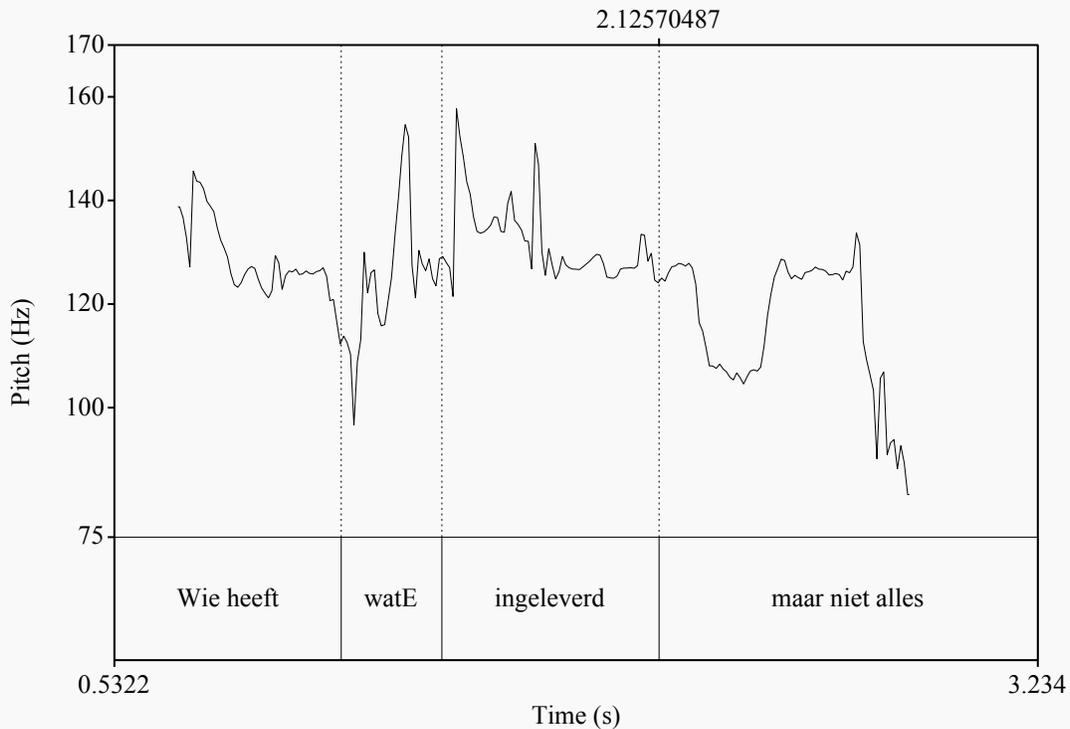
2.12570487

| Wie heeft | watE | ingeleverd | maar niet alles |

Figure 4: Pitch track of (60).

10 Summary and directions for future work

- We explored the conditions under which quexistentials can or must be stressed and/or focused.

- Previous literature (in particular Haida, 2007) suggests that quexistentials are always focused on their interrogative use, and never on their existential use.

- The first part of this generalization seems compatible with available data but we argued that the second one is not: quexistentials *can* be focused on their existential use, at least in Dutch.[18]

- The first part of the generalization should be seen as a particular instance of a more general fact, namely that interrogative words (quexistential or not) generally have to be marked as contrastive foci.

- We suggested that an explanation of this general requirement may be obtained if we extend the common view on contrastive focus in a way that incorporates both an external and an internal notion of contrast.

- There are several important **directions for future work**:

  - The suggested theory of contrastive focus needs to be worked out in full detail.
  - We need to further investigate **cross-linguistic differences** w.r.t. the possibility to place contrastive stress on the ex of quex.

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[18] And perhaps also in Korean, although we did not explore this in detail yet. See footnotes 4 and 10.

- We need to better understand the **'reduced' prosodic focus effects** on in-situ interrogative words in languages like German and English (Truckenbrodt 2013, see footnotes 7 and 15).
  - ∗ Is this something common to all wh-movement languages?
  - ∗ Could this perhaps be a case in which internal and external contrast is marked in different (though still very similar) ways?
- At the outset, we noted that focus is but one of the factors that play a role in the interpretation of quexistentials across languages. Other factors that have been discussed are **polarity** and **syntactic structure**. A comprehensive theory of quexistentials should capture the influence of all these factors, as well as their interaction.

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