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Diagnosing focus

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Many tests have been used in eliciting focus constructions and determining what type of focus a certain linguistic strategy expresses. This paper provides an overview of the various diagnostics for focus, indicating how they show the size of the focused constituent and what semantic-pragmatic type of focus is expressed. These types range from simple pragmatic focus to semantically more complex focus, signalling exclusivity or exhaustivity either as an inherent semantic part of the focus, or merely an implicature. The discussion of these diagnostics brings to light how some diagnostics are flawed, and whether the linguistic strategy tested is actually a dedicated strategy for focus at all.

Keywords: focus, exhaustivity, elicitation, semantics/pragmatics interface

1. Introduction

A central and crucial point in linguistic research concentrating on information structure is the methodology for establishing which linguistic strategies a language employs to express focus and what sort of focus these strategies express. Before discussing a number of diagnostics to establish which linguistic strategies express which type of focus, this introduction indicates the approach and limits of the current paper, explains the definitions and parameters involved, and provides an outline of the rest of the paper.

1.1 Approach and restrictions of this overview

Ideally, the data on which any claim about information structure is based are contextualised, since a large part of what is new or given in a sentence, and what is contrasted or focused, depends on the preceding and following discourse context. The optimal approach is thus to combine insights from corpus data and semi-spontaneous data with elicited data (grammaticality and felicity judgements, production data, as well as speakers' comments). On the one hand, the corpus

data prevent a tunnel view, while on the other hand, the elicitation data provide more fine-grained and also negative evidence that is needed for testing specific hypotheses (cf. Matthewson 2004, 2013, Skopeteas 2012). While acknowledging that spontaneous data are indispensable, corpus research and data mining (e.g., for the expression of focus) has developed into a field on its own (see Dipper et al. 2007, especially Götze et al. 2007) and is too large to be discussed here as well.

In the current paper I will therefore concentrate on ‘tools’ that can be used in elicitation. This also means I take examples from spoken data rather than written, although some of the tests could be applied to written data, too. The overall aim of the paper is to provide a (non-exhaustive) overview of focus diagnostics for elicitation, that is, to discuss the diagnostics that have been used, in the literature on focus and in language descriptions, to claim that a certain linguistic strategy does or does not encode focus/exclusivity/exhaustivity, explaining how these tests work, illustrating them with examples, and pointing out some of the pitfalls that come with the diagnostics.

The scope of the paper is further restricted in a number of ways. What will not be discussed is the syntactic status of the focus strategies to be tested (e.g. whether there is altruistic movement of non-focal material, whether resumptives are clitics or not, etc.), even if these may prove to be useful clues to the interpretation of the strategy. What is also left to one side is the interesting discussion of whether focus is a unified phenomenon or category, for which I refer the reader to Matić and Wedgwood (2013) vs. Zimmermann and Onea (2011). A further issue is the possible influence of non-linguistic or paralinguistic features (e.g., eyebrow raising, Krahmer and Swerts 2007a, b), which will not be covered either. With respect to ‘types of focus’, I will not consider so-called second occurrence focus (Partee 1999, contributions in Kamp and Partee 2004, Selkirk 2008, Féry and Ishihara 2010, among others); complex, multiple or pairwise focus (‘who kissed whom?’, Krifka 1992); and the possible category of ‘emphasis’ (Frey 2010, Downing and Pompino-Marschall 2013). Furthermore, so-called ‘presentational focus’ or ‘sentence focus’ (Lambrecht 1994) is excluded from the current discussion, because I believe this to instantiate information structuring on a higher level than the sentence: it is a thetic (as opposed to categorical) sentence which as a whole presents one piece of information in the surrounding discourse, rather than focusing information *within* the sentence. See the discussion in Section 3 on ‘what happened?’ and Sasse (2006) for further information on theticity.

In these respects the current paper is more narrow in scope than the Questionnaire on Information Structure (QUIS), which is an important result of the project D2 of the Sonderforschungsbereich 632 at the Humboldt-University in Berlin and the University of Potsdam (Skopeteas et al. 2006). To my knowledge, this is the first concrete manual for the identification and description of information

structure in natural language, and it consists of different stimuli and suggestions for the elicitation of topic, focus andthetic sentences. Many of the diagnostics discussed here can also be found in, or used in conjunction with, the QUIS.

On the other hand, the current paper is somewhat wider in scope than the Questionnaire on Focus Semantics as developed by Renans et al. (2011) as part of the same project, since a broader range of tests is discussed here. It is highly recommended to use both these questionnaires in the study of focus, while taking into account the general remarks on the empirical investigation of information structure as indicated in both questionnaires and Skopeteas (2012).

Another limit of these focus diagnostics is its applicability in different field-work situations and languages. Although presumably all languages have some mechanism to express focus, it is not the case that all tests are equally applicable in all languages. Whether and how they can be applied depends on 1) the language (e.g. if a language has no negative indefinite ‘nobody’, this cannot be used in the indefinite test); 2) the native speaker consultants (some tests require some abstract, logical and/or creative thinking); and 3) test materials and availability of computer-run programmes (for stimuli and quantitative studies). As the QUIS and Questionnaire for Focus Semantics note, “All examples, texts, descriptions of the context, etc., should be culturally adapted. They should take into consideration the economic, social, and cultural conditions of the society in which the object language is spoken” (Renans et al. 2011:7–8). Some of these difficulties will be pointed out for specific tests.

1.2 Variation in focus

The diagnostics discussed in this paper essentially test for 2 parameters: the size of the focus, and the semantic-pragmatic type of focus. The *size* of the focus can comprise one or multiple arguments, adjuncts or verbs, and it can vary from just a nominal argument (e.g. ‘the [dragon]_F guarded the treasure’) to a whole verb phrase (e.g. ‘the hobbits [sat down for their second breakfast]_F’). This is the basis of, for example, Lambrecht’s (1994) distinction between Argument Focus, Predicate Focus and Sentence Focus. The examples used in this paper (and indeed in a large part of the literature) mostly illustrate focus on an argument or adjunct, so-called ‘term focus’, rather than focus on the predicate, verb, or truth value, so-called ‘predicate-centred focus’ (Güldemann 2009). Nevertheless, a subset of the diagnostics can certainly also be used for those cases. Although one diagnostic can test for both size and type at the same time, the majority of diagnostics refer to the type of focus and not necessarily the size. A very prominent exception are question-answer pairs (‘who guarded the treasure?’, ‘what did the hobbits do?’), which are frequently used to establish both the type and the size of the focus.

The diagnostics that refer to the *type* of focus aim to establish the semantic-pragmatic interpretation of a certain linguistic strategy that is suspected to express focus. The point of departure for many of the diagnostics is thus that there is a certain linguistic strategy (e.g., a cleft construction, or a suffix) that is suspected to be associated with focus, where the diagnostic can help establish what sort of focus this strategy expresses. Note that I refer to all formal ways of encoding focus in a language as ‘strategies’, and I am not concerned with the syntactic status of such strategies. For example, the bi-clausal or monoclausal status of what is called a ‘cleft’ is not discussed, but rather whether the element focused in a cleft is interpreted exhaustively.

A by now widely accepted semantic definition of focus is that proposed by Rooth’s (1985, 1992, 1996) Alternative Semantics, which states that focus “indicates the presence of alternatives that are relevant for the interpretation of linguistic expressions” (Krifka 2007b:6). This triggering of an alternative set is a unified core function of focus, and the various types of focus can be seen as the outcomes of additional pragmatic and semantic factors (Zimmermann and Onea 2011). Rather than having a dichotomy between identificational vs. new information focus (É. Kiss 1998), or contrast vs. rheme (Vallduvi and Vilkuuna 1998), Bazalgette (2015) suggests a four-way distinction between types of focus, according to their semantic complexity: simple, implicational, presuppositional and truth-conditional. These are discussed here in turn.

The first subtype is simple focus, which only triggers a set of alternatives and does nothing else. This is seen for example in the English intonational strategy or the Spanish postverbal position (cf. Zubizarreta 1998). A sentence ‘We went to the POOL’ triggers alternative places where we could have gone (the pub, the forest, the museum, ...), but does not necessarily order these alternatives or exclude any of them as not true. The precise pragmatic interpretation of the focus can differ, however, as defined by the context in which they occur. This can trigger pragmatic subtypes such as the ‘completive’, ‘replacing’, ‘selecting’ etc. types of focus, which differ in their “communicative point” (Dik 1997).

The second type of focus Bazalgette describes triggers alternatives and in addition has an associated implicature of contrast, exclusivity or unexpectedness. This, however, can be cancelled and is not an inherent part of the meaning of the strategy, i.e. the additional effect is pragmatic. Examples of strategies that have an implicature are Italian focus fronting (see Section 6.4) and the Japanese marker *-ga*. Vermeulen (2012:196) notes that “the exhaustive reading appears to be an implicature rather than entailment, as it may be cancelled easily”. The it-cleft translation that she gives may thus not be the most appropriate translation in English.

Japanese (Vermeulen 2012: 196)

- (1) Taro-ga gakusee desu.
 Taro-NOM student COP
 'It's Taro who is a student.'

The third type of focus triggers alternatives and additionally is associated with a presupposition (e.g. of existence or exhaustivity). Bazalgette exemplifies this type with cleft constructions such as the English *it*-cleft, where the relative clause forms the presupposition and the focus identifies the referent for which the proposition is true. This is indeed identificational focus, but it is crucially not necessarily exhaustive, contra to what É. Kiss (1998) claims. Another example is the morphological focus marker *-e* in Colloquial Sinhala, which Slade (2011) argues introduces an existential presupposition (2).

Colloquial Sinhala (Slade 2011: 63, 64, adapted)

- (2) a. Mamə gaməʔə yann-a.
 1SG.NOM village-DAT go.PRES-NFOC
 'I go to the village.'
- b. Mamə gaməʔə(-y) yann-e.
 1SG.NOM village-DAT(-EMPH) go.PRES-FOC
 'It is to the village I go.'

The previous three types can all be characterised as *managing* the common ground between two participants in the discourse (Krifka 2007b). The fourth type concerns the *content* of the common ground (Krifka 2007b): in addition to triggering a set of alternatives there are operations on that set of alternatives, which can result in a scalar, exhaustive or exclusive reading, and which have a truth-conditional effect. Bazalgette gives the preverbal 'a' construction in Jamaican Creole as an example of truth-conditional focus, as in (3).

Jamaican Creole (Durrleman and Shlonsky 2012: 8, via Bazalgette 2015)

- (3) a. Mieri bai wan bami an wan bredrut.
 Mary buy one bammy and one breadfruit
 'Mary bought one bammy and one breadfruit.'
- b. A wan bami an wan bredrut Mieri bai.
 FOC one bammy and one breadfruit Mary buy
 'What Mary bought was (only) one bammy and one breadfruit.'

Within this fourth category it should be made clear that exhaustivity differs from exclusivity. Exclusive focus means that there is at least *some* other referent to which the predicate does not apply (see also Molnár 2002), which leaves open the option that in fact *all* alternatives are excluded. Exhaustive focus means exactly that: for *all* other referents the predicate does not hold — or, in Krifka's (2007b: 21) words,

it “indicates that the focus denotation is the only one that leads to a true proposition”. Both thus have truth-conditional effects.

In discussing the diagnostics brought together in this paper, I do not directly refer to these four types of Bazalgette’s, but I indicate and/or discuss whether the diagnostics test for exclusivity, exhaustivity, or a presupposition, how we can see whether a strategy is underspecified, and whether the interpretational effects are necessarily semantic or rather of a pragmatic nature.

1.3 Structure of the paper

The diagnostics are divided into 7 categories, partly according to the technique used and partly according to compatibility with semantic properties. Section 2 only contains one elicitation technique that can be used as an initial heuristic. The other diagnostics are more specific, referring to question-answer pairs (Section 3), the focus particles ‘only’, ‘also’ and ‘even’ (Section 4), implicatures associated with numerals, weak quantifiers, adverbs and counterfactuals (Section 5), exhaustive, non-exhaustive and mirative co-text and context (Section 6), correction via incorrect, incomplete and overcomplete statements or questions (Section 7), and nominals that do not allow for alternatives, such as universals, existentials and non-focusable elements (Section 8). Section 9 concludes that the focus diagnostics are a necessary but potentially not conclusive and certainly not exhaustive method to study focus, that some strategies that are used for focus are not inherently a focus strategy, and that the boundaries between semantics and pragmatics are not clear-cut in the area of focus, but that the right diagnostics may help us to uncover the finer-grained distinctions.

2. Heuristic: context conjuring

As the focus of a sentence is largely dependent on the context, one of the easiest diagnostics is to present speakers with a sentence containing the strategy to be tested and ask their intuitions about when it could felicitously or most naturally be used. This often gives a good indication of the information structure of the sentence, for example when speakers come up with a preceding question, or following contrasting clause. This can then be used as a point of departure for following diagnostics. An advantage of this test is that it does not lead consultants in a particular direction. An example is given in (4) where a contrastive and corrective interpretation appear from the situations provided by the consultants.

Luganda¹

(4) Muwála y' aa-súlá-mu.

1.girl 1.FOC 1SM-sleep-18.LOC

'A girl sleeps there.'

sit1: "there are two, a boy and a girl, which one sleeps there?" (contrast)

sit2: "you expect a man to be sleeping there" (unexpectedness, correction)

3. Questions

3.1 Wh questions

Wh questions and their answers are the most widespread and most widely accepted test for focus, and also a classical method of establishing the size of focus (Dik 1997, Rooth 1992, Krifka 2007a, Lambrecht 1994, Kasimir 2005, Roberts 1996, Beaver and Clark 2008, Reich 2002 and many others). A wh question always asks for new information, or, more formally, it introduces a variable in the proposition for which a lack of knowledge is signalled ('Who made pancakes?' introduces a set of possible answers of the form 'X made pancakes'). In terms of alternative semantics, "a focus constituent X expresses new-information if [the (ordinary) meaning of X] introduces an element of alternatives into the common ground, and if the alternatives to [the meaning of X] have not been explicitly introduced in the preceding discourse" (Zimmermann and Onea 2011: 1663). If focus is defined as the new information in a sentence, then it follows that A) wh phrases are inherently focused, and B) in the answer to a wh phrase, the phrase that replaces the wh element is in focus (in the sense of providing the information filling the gap in the knowledge). In Dik's (1997) terms, this is 'completive' focus, as it provides a value to the proposition left open in the corresponding wh question. In Lambrecht's (1994: 207) words, focus is "the element of information whereby the presupposition and the assertion differ from each other".

Q-A test (Kasimir 2005: 12)

If a question asks for some X (X being a syntactic category), in a direct answer to this question, the constituent which corresponds to X is focused.

The Question-Answer (Q-A) test is commonly used in diagnosing the size of the focus constituent. To illustrate, consider the question-answer pairs in (5). Although the answer is segmentally and prosodically the same, with a pitch accent on APPLE, the contextualising wh question indicates what part is in the scope

1. The data for Luganda were collected in August 2014 in collaboration with Saudah Namyalo.

of focus: only the modifier *apple*, the whole noun phrase *apple juice* (“Argument Focus”), or the verb phrase *drank apple juice* (“VP focus”, “Predicate Focus”). See Selkirk (1984, 1995) for a discussion of such focus ambiguity and an analysis in terms of focus projection.

- (5) a. (What kind of juice did Little Tiger drink?)²
 He drank [APPLE]_F juice.
 b. (What did Little Tiger drink?)
 He drank [APPLE juice]_F.
 c. (What did Little Tiger do?)
 He [drank APPLE juice]_F.

It is usually also possible to give a fragment answer to a wh question (Merchant 2004). For example, the most natural answer to a question ‘who ate the cookies?’ would be ‘Cookie Monster’, rather than repeating the whole sentence ‘Cookie Monster ate the cookies.’ Although the fragment answer represents the focus, it often does not shed light on the use of a linguistic strategy to encode focus, because many strategies need a full clause. Even if the longer answer may not be the most natural, speakers do have intuitions on the appropriateness in the context, and therefore these Q-A pairs can help in establishing what/where the focus of the sentence is.

The Q-A tests can be used in elicitation-by-translation, but also with the help of visual stimuli, as in the QUIS where participants are presented with pictures and then asked a wh question. Another very productive way of ‘harvesting’ spontaneous Q-A pairs is explored by Aria Adli, who devised a game where the participants are to unravel a detective story. As this naturally happens by means of questioning, his corpora for French, Spanish and Persian contain a wealth of material for information structure purposes (Adli 2011, 2015).

In order for a Q-A pair to work as a test for focus, it is necessary to assume Q-A congruence, that is, a congruent answer to a wh question must be among the set of alternatives that the question triggers (Reich 2002, 2012). However, some caution is needed, as people may tend to repeat the exact *formulation* of the question in the answer. For example, if the question is asked in a cleft strategy (‘who was it that stole the cookies?’), the congruency bias will result in a clefted answer (‘it was Cookie Monster who stole the cookies’), rather than an equally acceptable non-clefted sentence (‘Cookie Monster stole the cookies’). Linguists should be aware of this tendency when applying Q-A tests.

Another point of caution concerns the crosslinguistic applicability of these tests. Although Q-A pairs can be formed in any language for argument DPs (‘who?’,

2. Throughout the paper, capitals in examples are used to indicate sentence stress.

‘what?’), not all constituents can be targeted by a *wh* question in all languages. For example, only a minority of languages has interrogative verbs, as in (6). These are absent in English, i.e. we cannot ask ‘the man whatted?’, and the test can therefore not be used to determine narrow verb focus in English.

Yankunyjtatjara (Douglas 1959: 39, via Hagège 2008)

- (6) Wati yaal-tji-nu?
 man what-INTR-PERF
 ‘What did the man do?’

There are two further potentially problematic aspects in the interpretation of Q-A tests. The first is that question-answer pairs are generally taken to indicate the new information, and according to Rizzi (1997) this also means that it is incompatible with contrast (or: exclusion of alternatives). A contrastive answer is incompatible with an ordinary *wh* question, as in ‘What did you have for breakfast?’ #‘It was carrot cake that I had for breakfast’. However, Gryllia (2009: 31, 40) shows that people can easily accommodate alternatives into a question, which make a contrastive answer compatible with a seemingly out-of-the-blue question, as in ‘Who did you meet?’ ‘I met GEORGE, not Mary’. This is interpreted as a hidden alternative question, which solicits the new information while additionally asking for the set for which the proposition is *not* true. These hidden alternatives can be present in the discourse context, as a reviewer remarks: it may be that George and Mary are the only ones present in the current context, i.e. not all questions are asked with the same contextual load. Aboh (2007) points out that this is in fact grammaticalised in a number of languages, where *wh* words can be marked with a focus marker but do not need to be, as illustrated in the unmarked example in (7) and the marked one in (8).

Oromo (Yiman 1988: 370, quoted in Aboh 2007: 300)

- (7) a. Eeñnu ðuf-e?
 who come-3SG-PAST
 ‘Who came?’
 b. Túlluu (ðuf-e).
 Tulluu come-3SG-PAST
 ‘Tulluu (came).’
 (8) a. Túlluu-n hin-ðuf-n-e.
 Tulluu-NOM NEG-COME-NEG-PAST
 ‘Tulluu did not come.’
 b. Eeñnu-tu ðuf-e?
 who-FOC come-3SG-PAST
 ‘Who is it that came?’

- c. Fayyisaa-tu ḍuf-e.
 Fayyisaa-FOC come-3SG-PAST
 'It is Fayyisaa who came'

On a more general level, Matic' and Wedgwood (2013) express a warning that a particular kind of marking in a Q-A pair may not be related to focus at all. They illustrate this with the Quechua example in (9), where in the Q-A pair the suffix *-MI* seems to mark the focus, but in other sentences (10) it appears to be an evidenti-ality marker. Explicitly marking this kind of direct evidence has an emphasising effect. The relation between the marker and focus is therefore an indirect one, and we learn that the question-answer test does not necessarily reveal a focus marking strategy.

Quechua (Sanchez 2010: 31, via Matic' and Wedgwood 2013: 14)

- (9) a. Pi-n wasita ruwarqan?
 who-MI house built
 'Who built the house?'
 b. Wasita-qa Pidru-m ruwarqan.
 house-TOP Pedro-MI built
 'Pedro built the house.'

Quechua (Faller 2002: 18, via Matic' and Wedgwood 2013: 14)

- (10) Pilar-qa t'antata-n mikhurqan.
 Pilar-TOP bread-MI ate
 p = Pilar ate bread & speaker saw that p

A second problematic aspect concerns one specific question: 'what happened?'. As the question does not contain old information, and as the answer will naturally be a whole sentence, it is said that this Q-A pair forms a test for an 'all-focus' sentence, or 'presentational focus'. There are at least three ways in which the answer to 'what happened' can contain a topic expression and hence not be 'all focus'.³ The first is when there is a universal, unique, or always-available referent, such as 'the sun', 'the train' or 'the Queen' (Chafe 1976, Erteschik-Shir 2007), which can very easily be chosen as a topic. The second is when a situationally available referent is referred to, most obviously a speech participant. For example, in French a cleft can be used in athetic sentence, answering 'what happened' (11a), but this is only possible for non-speech act participants, as the inappropriateness of (11b) shows.

3. Erteschik-Shir (2007: 15) takes thetic sentences to be predicated of a covert 'stage topic' (the 'here and now'). That is, thetics do contain a topic referent, but not a topic expression.

French (Pascal Boyeldieu, p.c.)

- (11) Qu'est-ce qui se passe?
 'What happens?'
- a. C'est Pascal qui a peint la tour Eiffel.
 it is Pascal who has painted the tower Eiffel
- b. ??C'est moi qui ai peint la tour Eiffel.
 it is me who has painted the tower Eiffel

The third way in which an answer to a 'what happened' question can contain a topic is due to our tendency to accommodate information (presupposition accommodation, Lewis 1979). For the purposes of creating a coherent discourse, participants are willing to accept as common ground the existence and relevance of referents that might be coded as topics even if they were not in the common ground before (see the overviews in Stalnaker 2002 and von Stechow 2008). For example, at the beginning of a novel, the reader does not have any previous knowledge and the first sentence must therefore be 'all new'. Writers play with these expectations and sometimes seem to start a story 'in the middle', inviting us to accommodate the information that is presented as old. This is illustrated in (4), where the first line from a Dutch novel starts with a definite description 'the bike', triggering the existential presupposition of a bike and allowing it to be a topic.

Dutch (novel 'Koude lente', Lieneke Dijkzeul, 2007)

- (12) *Het fietsje lag in het gras bij de vijver, vlak bij de bank die ooit was geschilderd in de kleur groen die voorbehouden scheen te zijn aan parkbanken en Russische auto's ten tijde van het communistisch regime.*
'The small bike was in the grass near the pond, close to the bench that was once painted in the shade of green that appeared to be reserved for benches in the park and Russian cars at the time of the communist regime.'

In the same way, people can easily accommodate new entities in 'what happened' tests as well. When presented with a (QUIS) picture of a cat in a pool and asked 'what is going on?', we could describe the picture by saying 'there is a cat (who is) swimming', but it is equally acceptable to say 'the cat is swimming', even if the cat has not been previously presented. These topic-creating factors make it difficult to know whether the answer to a 'what happened' question is truly all-new/all-focus (i.e. topic-less).

3.2 Alternative questions

Apart from open wh questions, there are the so-called 'alternative questions' of the form 'does Ede want tea or coffee?' (Rooth 1996). This can also be part of tests involving stimuli, such as the QUIS picture of a woman cutting a melon being

accompanied by a question ‘is a man or a woman cutting the melon?’. This special type of question requires a selection from among a set of given alternatives. The answer can be said to display ‘selective focus’ (Dik 1997). A focus constituent X is used selectively if “it introduces an element of [the alternative set] into the common ground, and is chosen from a restricted subset of [the alternative set] the members of which have been explicitly mentioned in the preceding context” (Zimmermann and Onea 2011: 1663).

The fact that the alternatives are salient and one of the alternatives is selected, e.g., ‘I want tea’, excludes the other alternative, ‘not coffee’. A question remains whether this exclusion is necessarily present, having truth-conditional effects (semantics), or just an implicature (pragmatics). After all, choosing tea does not *necessarily* mean that one does not want coffee.

Again, fragment answers can be given, which may or may not illustrate the particular focus strategy. Yoruba illustrates how a fragment answer can contain the focus particle *ni* in the answer to an alternative question (13).

Yoruba (Bisang and Sonaiya 2000: 189)

- (13) a. èwà lófẹ jẹ tàbí irẹ sì?
 bean FOC:2SG want eat or rice
 ‘Do you want to eat beans or rice?’
 b. èwà ni.
 bean FOC

Furthermore, questions that have the same form can also have a simple yes/no interpretation, rather than being alternatives. Wells (2006) distinguishes two different intonation patterns in English, where one is clearly an alternative question whereas the other does not in fact offer alternatives but is a simple yes/no question. To illustrate, the alternative question has a rise and then a fall: ‘Do you want coffee/ or tea?’ (i.e. one or the other), whereas the yes/no question has a rise at the end: ‘Do you want coffee/, or tea/?’ (i.e. do you want anything to drink). This second non-alternative question can felicitously be answered by ‘Thanks, mineral water, please’.⁴

3.3 Mention some

Instances of non-exhaustive focus are found in answers to so-called mention-some questions, where the context of the question does not require, or even allow for an explicit listing of all the true alternatives. An exhaustive focus strategy is thus predicted to be infelicitous here, both in question itself, and in the answer to

4. Thanks to Jutta Hartmann for bringing this to my attention.

a mention-some question. This incompatibility is illustrated in the English cleft questions in (14). Note the difference with the cleft construction in French in this context (15), which is not exhaustive.⁵

- (14) a. ??Where is it that I can buy a newspaper in this city?
 b. ??Where are the places that I can buy a newspaper in this city?
 c. ??Which numbers are the ones that are odd? (Cable 2008)

French

- (15) C'est où que je peux m'acheter un journal dans cette ville?
 'Where can I buy a newspaper in this city?'

The more strongly a focus strategy is associated with an exhaustive interpretation, whether by conventional implicature or in the semantics, the less appropriate it will be as an answer to a 'mention some' question.

3.4 Negative response

If a question can felicitously be answered by 'none', 'nothing', 'nobody' (i.e. the answer can felicitously be the empty set), then it can be deduced that the question did not contain an existence presupposition, which means that the strategy used in the question is not presuppositional. Neidle (2002) shows this effect for American Sign Language, where the question word 'what' triggers an existence presupposition when it is in the right periphery (16a), but not when it is in situ (16b).

ASL (Neidle 2002, via Abner 2011)

- (16) a. Q : IX₂ BUY YESTERDAY WHAT
 A : # NONE
 b. Q : IX₂ BUY WHAT YESTERDAY
 A : NONE

This shows that the word order with the right-peripheral wh word is associated with an existence presupposition (you bought something) that asks for a referent to be identified (the thing that was bought), resulting in an identificational focus (which may or may not be exhaustive). Even if a language lacks a word for 'nobody', other strategies for negation work equally well for this diagnostic, for example as found in Luganda, where the in-situ question in (17) can felicitously be answered by the equivalent of 'nobody', but the ex-situ cannot (18).

5. Thanks to an anonymous reviewer for pointing this out.

4. Focus particles

The term ‘focus particles’ has been used to refer to two categories of particles. On the one hand, there are languages which have a dedicated particle marking the focus of the sentence, as illustrated for example for Gungbe (20). These particles are a focus marking strategy, rather than a diagnostic for a type of focus.

- Gungbe (Aboh 2004: 8)
 (20) àkwékwè wè Kòfí xò
 banana FOC Kofi buy
 ‘Kofi bought BANANA(S).’

On the other hand, there are focus particles or focus-sensitive operators that associate with the focus of the sentence. These are particles like ‘even’, ‘also’, and ‘only’. They require a focus constituent in their scope, which may influence the truth-conditional values (König 1991, Krifka 2006, Rooth 1985, 1992, Beaver and Clark 2008, among many others). Thus, both sentences ‘I eat pancakes’ and ‘I eat only pancakes’ convey the information that there is an eating event involving pancakes in which I partake, but they vary in the conditions under which they remain true: in a situation where I also ate something else, the sentence including the particle ‘only’ would not be true whereas the other would be.

While in some languages these different particles behave the same in their occurrence with focus strategies (e.g. the interaction with stress), in other languages there are important differences between the particles. The first part of the Questionnaire on Focus Semantics (Renans et al. 2011) provides a range of tests to deduce the exact meaning of various focus sensitive particles, e.g. the differences between exclusive ‘only’, ‘merely’ and ‘exclusively’, and tests to determine the nature of the effect on the meaning. These are encouraged to be used in addition to the diagnostic particles discussed here, which are exhaustive ‘only’, additive ‘also’ and scalar ‘even’. In the current paper these particles are only discussed in their use as NP modifiers (i.e. their adjectival use), while their association with the focus of the sentence is not discussed (see Beaver and Clark 2008 for a clear exposition of quasi, free and conventional association with focus).

4.1 Exhaustive ‘only’

The adnominal particle ‘only’ asserts that the predicate is exhaustively true for the referent of the focused element, excluding possible alternatives (see Rooth 1985, 1992, 1996, Krifka 2006, Beaver and Clark 2008 among many others). When a focus strategy can be felicitously used with ‘only’, this shows that it is compatible with an exhaustive reading. This diagnostic shows that in Makuwa the so-called

conjoint verb form is compatible with ‘only’ (in fact, this verb form is required for ‘only’), which forms one half of the argument that it encodes exclusive focus (Van der Wal 2011) — the other half of the argument concerns ‘even’ (see below).

Makhuwa (van der Wal 2009: 236)

- (21) a. CJ O-lomw-é ehopa paáhi.
 1SM-fish-PERF.CJ 10.fish only
 ‘He caught only fish.’
 b. DJ *Oo-lówá ehópá paáhi.
 1SM.PERF.DJ-fish 10.fish only
 int. ‘He caught only fish.’

The difficulty here is whether the exclusive reading of the DP could be brought about by the use of a certain strategy by itself (e.g. the conjoint verb form), or whether the exhaustive interpretation is solely due to the presence of the particle (‘only’). In other words, do we interpret ‘fish’ as exhaustive because of ‘only’ or (also) because of the conjoint verb form?⁶ Horn (1981) uses an additional test arguing that English it-clefts do not have exhaustivity as part of their inherent meaning. If the it-cleft would specify truth-conditional or exhaustivity, he reasons, the felicity of (22b) would be expected, on a par with (22a). Wedgwood (2007) and É. Kiss (2010) apply the same test for the Hungarian pre-verbal focus position.

- (22) a. I know that Marcel had a pizza, but I just discovered that it was only a
 pizza that he had.
 b. #I know that Marcel had a pizza, but I just discovered that it was a pizza
 that he had.

Considering this in the light of Bazalgette’s (2015) four types of pragmatic-semantic focus, this test shows for English that the cleft construction has a more complex focus than the in-situ strategy (type 1), but a less complex one than a focus with ‘only’ (type 4). That is, the exhaustive interpretation of the it-cleft can be due to a conversational implicature (Horn 1981) or a presupposition (Wedgwood et al. 2006), but exhaustivity is not a central part of the truth-conditional semantics of the English cleft, whereas it by definition is for ‘only’ (see also Drenhaus et al. 2011 for an experimental approach). Indeed, as for many other diagnostics, here too it is the case that being *compatible* with an exhaustive interpretation does not form conclusive evidence that the strategy *encodes* exhaustive focus.

6. A more general research question is: why would an element that is lexically specified as exhaustive by the use of a particle in addition have to be marked as such by a focus strategy?

4.2 Additive ‘also’ and scalar ‘even’

The additive particle ‘also’ indicates that more instantiations of the action/state described in the predicate have occurred for different referents, therefore making the referent it modifies non-exhaustive. Similarly, the scalar additive particle ‘even’ also presupposes that more instantiations of the action/state described in the predicate have occurred and in addition expresses that the object modified by ‘even’ is the least likely in the set of contextually relevant alternatives to make the predicate true (see Gast and van der Auwera 2011 for an overview and discussion of scalar additive operators). For example, a sentence ‘even Espen ate a vegetarian dish’ is taken to mean that there is a relevant set of other people who ate vegetarian, and that in this set of alternatives, Espen is the least likely to eat vegetarian, thereby including all the members of the set. Therefore, none of the alternatives are excluded, and a DP modified by ‘even’ is predicted to be infelicitous if a focus strategy is inherently exclusive.

Brunetti (2004) shows for Italian that a focused DP in a preverbal position is compatible with both ‘even’ and ‘also’, which indicates that this strategy is not inherently exclusive (see Skopeteas and Verhoeven 2015 for Yucatec Maya).

Italian (Brunetti 2004: 68)

- (23) a. Anche UN CAPPELLO gli ha comprato Maria.
 also a hat to.him.CL has bought Maria
 ‘It is also a hat that Maria bought him.’
- b. Persino UN CAPPELLO gli ha comprato Maria.
 even a hat to.him.CL has bought Maria
 ‘It was even a hat that Maria bought him.’

On the contrary, the particle ‘even’ provides the other half of the argument that the Makhuwa conjoint verb form encodes exclusive focus: the conjoint form is ungrammatical when the DP following the verb is modified by ‘even’ (see Horvath 2010 for the same pattern in Hungarian). It is therefore not only *compatible* with an exclusive focus (as shown above for ‘only’), but is in this diagnostic also shown to be *necessarily* excluding.

Makhuwa (van der Wal 2009: 236)

- (24) a. CJ* Ki-n-thotol-alé hatá Láúra.
 1SG.SM-1OM-visit-PERF.CJ even I.Laura
 int. ‘I visited even Laura.’
- b. DJ Ko-ń-thótólá hatá Láúra.
 1SG.SM.PERF.DJ-1OM-visit even I.Laura
 ‘I visited even Laura.’

5. Implicatures

The diagnostics in this section clearly show how focus straddles the boundary between semantics and pragmatics. In testing for exhaustivity we can make use of the ‘lower boundary’ reading associated with numerals and weak quantifiers, as well as counterfactual implicatures. The lower boundary readings diagnose a focus strategy as exhaustive when the ‘minimum amount’ reading is no longer available, whereas the counterfactuals diagnose the size of the focus and detect an exclusive reading. If the implied exclusion of alternatives is not cancellable, then there is a one-to-one, possibly syntactivised, “obligatory implicature”, that is, a relationship between a particular focus strategy and the exhaustive interpretation. See also the covert exhaustivity operator in work by Groenendijk & Stokhof (1984), Van Rooij & Schulz (2004), and Chierchia (2004).

5.1 Numerals

The semantics of numerals has been taken to have an underspecified interpretation either as the exact amount, or as a lower boundary ‘at least this amount’ (Horn 1972, Levinson 2000). However, in (exhaustive) focus, numerals lose their upward entailing quality and refer only to the exact quantity (van Kuppevelt 1996, Van Rooij 2002, Van Rooij & Schulz 2004). É. Kiss (2010, based on Szabolcsi 1981) shows this interpretation for the preverbal focus position in Hungarian. When ‘one million’ follows the verb as in (25a), or is topicalised as in (25b), we get the lower-bound reading, but in the directly preverbal focus position (25c), the meaning narrows down to only the value given in the focused constituent, that is, exactly one million.

Hungarian (É. Kiss 2010:21)

- (25) a. János meg keres egy milliót havonta.
 John PRT earns one million.ACC monthly
 ‘John earns a/one million a month.’
 → (one million or more)
- b. Egy milliót meg keres János havonta.
 ‘A/one million, John earns (it) a month.’
 → (one million or more)
- c. János EGY MILLIÓT keres meg havonta.
 ‘It is one million that John earns a month.’
 → (exactly one million)

We can understand this narrowing effect as follows. Focus triggers alternatives, which for numerals means that the alternatives on the scale become more

prominent. This invites the inference that these alternatives are not true (according to the Gricean maxim of Quantity ‘be as informative as you can’). If the effect is pragmatic, this inference should still be cancellable (‘in fact, he earns more’). If it is not cancellable, and the given value on the scale is the only alternative that is true, this means that the focus strategy used is inherently exhaustive.

5.2 Weak quantifiers

Similarly, the indefinite quantifiers ‘some’ and ‘few’ “are upward entailing, i.e. they imply that the denoted quantity reaches at least a minimum from a scale of potential quantities.” (Skopeteas and Fanselow 2010: 1387). Skopeteas and Fanselow (2010) illustrate the normal upward entailing reading with the Georgian examples in (26).

- Georgian (Skopeteas and Fanselow 2010: 1387)
- (26) čven ramdenime lar-i še-v-a-grov-e-t...
 1PL.ERG some/a.few(NOM) lari.NOM PR-S.1-gain-AOR-PL
 ‘We gained some/a few Lari...’
 (... , so we can buy the present.)
 # (... , so we cannot buy the present.)

As with the numerals, when these indefinite quantifiers are in exclusive or exhaustive focus, the alternative quantities “that are contextually relevant, e.g., the expected, the usual, or the necessary amount of Lari” (p. 1387) are excluded. This is visible in the continuing sentence (can/cannot buy the present), as shown in (27): when ‘some Lari’ has sentence stress, the only felicitous continuation is the negative (some Lari is not enough to buy the present), suggesting that the minimal-amount reading is no longer available.

- Georgian (Skopeteas and Fanselow 2010: 1387)
- (27) čven RAMDENIME lar-i še-v-a-grov-e-t...
 1PL.ERG some/a.few(NOM) lari.NOM PR-S.1-gain-AOR-PL
 ‘We gained some/a few Lari...’
 # (... , so we can buy the present.)
 (... , so we cannot buy the present.)

5.3 Counterfactuals

Some adverbs and predicates trigger a counterfactual implicature, such as because-clauses, emotive factives, and adverbs like ‘suprising’ or ‘fortunately’ (Dretske 1972). By reference to this counterfactual implicature, a focus strategy can indirectly be shown to exclude at least the alternative given in the counterfactual. For

example, the adverb ‘fortunately’ in (28a) triggers the counterfactual ‘if he had spilled red wine, that would have been less fortunate’, and in (28b) the emotive factive ‘be happy’ triggers the counterfactual ‘if Bob/Jane/someone else had introduced me, I would have been less happy’. Since this is not the case, the possible world with the implied alternative is ruled out, and hence the focus strategy can be said to be compatible with an exclusive reading.

- (28) a. Fortunately, Bill spilled WHITE wine on the carpet.
 (Krifka & Musan 2012: 14)
- b. I am happy that YOU introduced me.

Rooth (1999) reviews Dretske’s (1972) contrastive intonation in counterfactuals and suggests that the semantic effects are due to ‘association with presupposition’ in counterfactuals: the ‘if’ clause introduces a presupposition that some kind of wine was spilled, possibly out of a restricted set of alternatives (e.g. red/white wine). This presupposition and the associated alternative referents are responsible for the implied exclusive reading (only white, not red), rather than the focus strategy itself. It is thus via the semantics of the counterfactual that first a presupposition and then an exclusive reading can be derived.

This diagnostic also indicates the size of the focus. Adding ‘That is the problem’ after a sentence will again create counterfactual implicatures, and these can be used to see which constituents are in the scope of focus. Kasimir (2005:7) gives the examples in (29) to illustrate this.

- (29) a. SHE stole the bicycle. That is the problem.
 → if someone else had stolen the bicycle, that wouldn’t necessarily be a problem = focus on the subject ‘she’
- b. She stole the BicycLe. That is the problem.
 → If she had stolen something else, that wouldn’t necessarily be a problem = focus on the object ‘bicycle’
- If she had done something else, that wouldn’t necessarily be a problem = focus on the verb phrase ‘stole the bicycle’

A potential difficulty for this diagnostic is that it requires abstract reasoning with possible worlds, which can be challenging for non-linguist consultants. This can in part be overcome by explicitly stating the counterfactual clauses, and by adjusting examples to local real-life situations and having speakers speculate about other scenarios, which means that consultants are usually able to explain what exactly is surprising or problematic.

6. Explicit context and co-text

The largest inventory of focus tests is found in placing a linguistic strategy before, after or between other text. This I refer to as ‘co-text’, since it involves the linguistic preceding and following text, and not the broader *context*. The tests all rely on the speaker’s judgement of contextual and co-textual felicity. Many of these tests are used by É. Kiss (1998) to argue for the exhaustive reading of the preverbal position in Hungarian and the it-cleft in English.

6.1 Exclusive/exhaustive co-text

Adding ‘... and not Y’ explicitly excludes at least one alternative (Chafe 1976) and can thus show that a focus strategy is compatible with an exclusive reading.⁷ For example, in Gâbunke this test reveals that the focussing suffix on the verb indicates verb focus.

Gâbunke Fula (Labatut 1986 via Robert 2010:237)

- (30) Cukalel ngel ayn-u puccu ngu,
 child the tend-PERF1.VB.FOC horse the
 ngel lootaani ngu.
 he wash.PERF.NEG the
 ‘The child *tended* the horse, he did not wash it.’

The test has also been used to distinguish the scope of focus in situations of potential ambiguity, for example with focus projection (see (5) above), where the stressed element is in a lower constituent, but the scope of focus can extend beyond it. This is illustrated in (31), where the co-text reveals that the focus extends to DP1.

- (31) They only investigated [_{DP1} the question whether you know [_{DP2} the woman who chaired [_{DP3} the ZONING board.]]]
 a. *not the SCHOOL board.
 b. *not the woman who chaired the SCHOOL board.
 c. √not the question of whether you know the woman who chaired the SCHOOL board. (Drubig 1994)

7. Note that adding such a contrast can be instrumental in creating the required set of alternatives, whereby “nonindividuals, too, can be individualized” (É. Kiss 1998:262). This is what Szabolcsi (1983) and É. Kiss (1998) argue to be the case in (i): a non-referential adjective can normally not be focussed in an (exclusive) it-cleft, but becomes more acceptable when contrasted.

(i) a. ? It’s not sick that she was, but tired.
 b. * It’s sick that she was. (É. Kiss 1998:262, adapted)

As with previous diagnostics, this only shows that it is *compatible* with this exclusive reading, not that the strategy *encodes* it. The same holds for adding a phrase ‘... and nothing else’, which excludes all alternatives and is therefore exhaustive.

6.2 Non-exhaustive co-text

Adding ‘primarily’, ‘least of all’, or ‘for the most part’ to a focused element entails that there are viable alternatives. If these adverbials can be added felicitously, this shows that the strategy is not exhaustive. Wedgwood et al. (2006) use this test to show that the Hungarian preverbal focus position is not inherently exhaustive: since the preverbal focus strategy is compatible with these upward entailing and non-exhaustive adverbs (32), it cannot inherently be specified as exhaustive.

Hungarian (Wedgwood et al. 2006)

- (32) A Zöld Párt 1980-as megalakulása a legkevésbé
 the Green Party 1980-in formation-POSS.3SG the least
 [ökológiai problémákhoz] volt köthető
 ecological problems-to was connectable
 — annak ellenére, hogy az atomerőművek s a
 that.DAT notwithstanding that the atomic.power.plants and the
 nukleáris átmeneti tárolók [...] ellen alakult polgári
 nuclear transitory stores against formed civil
 kezdeményezésekből [...] szerveződött párttá.
 initiatives-from was.organised party.into
 ‘The formation of the Green Party in 1980 had least to do [with ecological
 problems], notwithstanding that it became a party out of civil initiatives
 against nuclear power plants and nuclear intermediate storage sites.’

Abels and Muriungi (2008) construct a clearly non-exhaustive context to test three linguistic strategies in Kĩitharaka, two of which are incompatible with this context, thus showing that these two have exhaustivity as part of their meaning.

Kĩitharaka (Abels and Muriungi 2008: 708)

- (33) Context: Some people come to the village and circumcise all the young boys there. One of the boys that they circumcise is Ntugi (but of course he is not the only one). Later, I want to convey the message that some people circumcised Ntugi among other boys.
- a. I-ba-tan-ir-e Ntugi kwa ngerekano.
 FOC-2SM-circumcise-PERF-FV I.Ntugi for example
 ‘They circumcised Ntugi for example.’

- b. *Ba-tan-ir-e Ntugi kwa ngerekano.
 2SM-circumcise-PERF-FV I.Ntugi for example
 ‘They circumcised Ntugi for example.’
- c. *I-Ntugi ba-tan-ir-e kwa ngerekano.
 FOC-I.Ntugi 2SM-circumcise-PERF-FV for example
 * ‘It is Ntugi they circumcised for example.’

Adding ‘among other things/people’ or ‘and also Y’ also makes the focused referent necessarily non-exhaustive. If a focus strategy can felicitously be followed by this explicit continuation, this means that the strategy is not inherently exhaustive. Torregrossa (2012) applies this test to Italian and finds that there is no difference between the preverbal and postverbal focus. That is, the non-exhaustive continuation in (34c) is felicitous after both the postverbal focus in (34a) and the preverbal focus in (34b).

Italian (Torregrossa 2012: 164, 165)

- (34) a. Ha invitato Marco.
 He invited Marco.
- b. MARCO ha invitato.
 It was MARCO that he invited.
- c. ... e forse ha invitato anche Davide. ...
 and, perhaps, he also invited Davide.

For Chinese, Paul & Whitman (2008) show that the *shi...de* construction (35b) cannot be felicitously continued with a mentioning of further referents, which suggests that this construction has exhaustive meaning.

Mandarin Chinese (Pan 2012)

- (35) a. Shi nǎ-bu dianying, kan-guo de ren bu-shao?
 be which-CL movie see-EXP de person not-few?
 ‘Which movie is it that the people who saw (it) are many?’
- b. #Shi Hali Bote, kan-guo de ren bushao...
 ‘It is Harry Potter that the people who saw (it) are many...
 ...shi Zhihuan Wang, kan-guo de ren ye bushao
 ...it is also The Lord of the Rings that the people who saw (it) are many.’

However, Skopeteas & Verhoeven (2015) comment that the likeliness of the predicate being true of a referent can play a role in the acceptability of this continuation. In Yucatec Maya, the preverbal position seems to be associated with exhaustive focus, as illustrated in (36).

- Yucatec Maya (Skopeteas and Verhoeven 2015: 36)
- (36) ... bu'l k=u hàant-ik Deysi.
 bean IPFV=A.3 eat:TRR-INCMPL(B.3.SG) Deysi
 '...Deysi is eating *beans*.'
 (native speaker: 'this time, she eats only beans.')

Skopeteas and Verhoeven then present a context with beans, corn, and potatoes as alternatives for a turkey to eat, where turkeys are normally expected to eat corn. In this situation, when 'beans' is in focus, it is possible that it may have eaten corn too (as it is likely to do so).⁸

- Yucatec Maya (Skopeteas and Verhoeven 2015: 36)
- (26) Bu'l k=u hàant-ik le úlum=o'.
 bean IPFV=A.3 eat:TRR-INCMPL(B.3.SG) DEF turkey=D2
 'The turkey is eating *beans*.' (native speaker: 'it may have eaten corn too.')

This reinforces the point that information structure is heavily dependent on the context, and also shows the effect of (un)expectedness (see Section 6.4). This is to be taken into account in specific fieldwork situations, since what is expected or unexpected is culture-dependent.

6.3 Contrast in juxtaposition

The co-text can also indicate a contrast. Notice that this is a syntagmatic use of 'contrast', indicating a contrast in the explicit environment of a sentence, and not a paradigmatic contrast with the triggered alternatives for the focused constituent (cf. Molnár 2002). This can be done by juxtaposing two sentences with the same format (Dik's 1997 parallel focus), as in 'Birgit wrote an article and Michelle wrote a novel', which explicitly contrasts Birgit with Michelle and 'article' with 'novel'. Zimmermann and Onea (2011: 1651–1670) state in more precise terms that a "focus constituent X is used contrastively if [the referent] is juxtaposed to one or more elements of A that are denoted by constituents Y, Z, ... in the preceding discourse, where Y, Z, ... are of the same syntactic category and denote into the same semantic word field as X". The difficulty of this test lies in its compatibility with both topic and focus: in the definition of topic as 'what the sentence is about', Birgit and Michelle are the topic of their respective clauses; nevertheless, they are contrasted in the co-text.

This forms part of the motivation for some researchers to take 'contrast' as a notion separate from focus, as in some languages linguistic strategies or rules can be shown to apply to contrasted elements regardless of whether they form the new

8. Thanks to Tim Bazalgette for bringing this to my attention.

information or rheme of the sentence (Vallduví and Vilkuna 1998, Neeleman et al. 2009, Neeleman and Vermeulen 2012).

6.4 Unexpectedness

Some ‘focus’ strategies are licensed in contexts characterised by unexpectedness or surprise, as further elaborated below. It is unclear whether this ‘mirativity’ should be seen as a subtype of focus, or alternatively as a separate linguistic category altogether, being outside of the domain of focus. If it is a focus type, we may wonder whether languages have a dedicated strategy for mirative focus or press an underspecified focus strategy into service to express mirativity. If it is a category independent of focus, this diagnostic can show the multifunctionality of a linguistic strategy (implying that it is not a dedicated focus strategy).

Mirative focus means that there is a higher degree of unexpectedness for the element surfacing in the focus strategy, described by Skopeteas and Fanselow (2011:1698) as “attracting the hearer’s attention to that portion of the utterance that may not be in line with the hearer’s expectations”, and Bianchi et al. (2014) state that it expresses the “comparative likelihood of alternative propositions: there are one or more focus alternatives which are more likely than the proposition expressed by the clause”. The strategy is thus used not only to establish a contrast with logical alternatives, but also has the marking of unexpectedness as one of its pragmatic functions. One could see this as a contrast with expectations. This is what Frascarelli & Jiménez-Fernández (2013) describe for the focus in sentences like (37): “Contrast is established with an element that is part of the shared knowledge of the participants and can be semantically characterized as a “proposal to negotiate a shared evaluation” (Bianchi 2012)” (see also Brunetti 2009, Cruschina 2012, Bearth 1992, Martins 2011, Destruel and Velleman 2014).

Italian (Cruschina 2012: 120)

- (37) a. Ma guarda te! IN BAGNO ha messo le chiavi!
 but look.IMP.2SG you in bathroom have put the keys
 ‘Look at that! He put the keys in the bathroom!’
- b. Non-ci posso credere!
 not-to.it can.PRES.1SG believe
 DUE BOTTIGLIE ci siamo bevuti!
 two bottles REFLCL be.PRES.1PL drink.PP
 ‘I can’t believe it! We drank two bottles!’

Skopeteas and Fanselow (2011) argue that the influence of non-predictability calls for a more flexible or underspecifying approach to focus: “whenever the speaker selects a marked construction, the hearer infers that there is at least one reason

motivating the choice of a marked rather than an unmarked pattern” (Skopeteas and Fanselow 2011: 1699). Zimmermann (2008: 347) similarly urges us to “take into account discourse-semantic notions like ‘hearer expectation’ or ‘discourse expectability’ of the focused content in a given discourse situation. The less expected the focus content is judged to be for the hearer, relative to the Common Ground, the more likely a speaker is to mark the focus constituent by means of special grammatical devices, thus giving rise to emphasis.”

It remains to be seen whether we would want to include mirative focus as a type of sentence focus (cf. Garcia 2013), or operate with a separate notion of contrast (which may be divided into different subtypes, cf. Frascarelli and Ramaglia 2013), or analyse the mirative import as a conventional implicature (Frey 2010, Bianchi et al. 2015). Regardless of the theoretical analysis, it is important to test for the unexpectedness context, since it appears as a relevant factor in the felicity of focus strategies.

7. Correction

One of Dik’s (1997) subtypes of focus is ‘corrective’ focus. The category of diagnostics involving correction is again an interesting one, since it is right on the border between pragmatic and semantic focus. This is because correcting an incorrect, incomplete or overcomplete statement (or replying correctively to an incorrect, incomplete or overcomplete yes/no question) involves a rejection of part of the statement or question, but this rejection (that is, exclusion) of an alternative can be a pragmatic implicature or an inherent aspect of the meaning of the strategy (van Leusen 2004). Also, a peculiar aspect of correction is that it can target parts of speech that are normally not focused, such as functional elements, e.g. ‘he didn’t eat A cookie, he ate THE cookie’ (see also Section 8.4).

7.1 Reply to an incorrect statement or question

Giving a false statement or a yes/no question with a false presupposition will trigger a reply that corrects that part of the sentence that is not true. More precisely, the background/presupposition of the corrective statement will be the same as in the false statement, and the focus is the contrasting part (cf. van Leusen 2004). This is similar to Erteschik-Shir and Lappin’s (1979, 1983) lie-test “challenging only that portion of the utterance which is presented as new” (Lambrecht 1994: 52). The correction will replace the false constituent with one for which the proposition yields a positive truth value, thereby contrasting the false with the alternative true.

This implies that one alternative is excluded (the corrected one) and hence the strategy used is compatible with exclusive focus.

This can easily be tested with the stimuli from the QUIS. For example, we can show a picture with a woman having cheese, and pose the 'loaded' question 'Does Elena have soup?'. The correcting answer can be 'Elena has cheese', replacing and focusing the object. Similarly, Kim (2012) uses a different QUIS test to show that the Korean suffix *-ka* expresses identification, whereas *-nun* does not (38).

Korean (Kim 2012 and p.c.)

- (38) A: John-i ku phathi-ey ka-ss-e.
 John-NOM the party-DAT GO-PAST-DEC
 'John went to the party.'
 B: Aniya. Mary-ka/#nun ka-ss-e.
 no Mary-NOM/#NUN GO-PAST-DEC
 'No. Mary went (to the party).'

An advantage of this diagnostic is that correction can apply to any constituent, also the predicate or the truth value, as illustrated in (39) and (40).

- (39) A: 'The woman ate the beans.'
 B: '(No.) (she didn't eat the beans,) she ate the rice.'
 (from QUIS)
 (40) A: 'The woman didn't eat the beans.'
 B: 'She did eat the beans.'
 (from QUIS)

Map-tasks are also particularly useful for eliciting corrective statements (as also in the QUIS).⁹ In a map-task, two participants are given similar but not identical maps, and one of them explains a route indicated on his map to the other participant. As they cannot see the other person's map (and assume that the maps are the same), at some point they will start asking and correcting: "So I go left where the sheep are?" "No, where the house is."

As mentioned, the exclusivity in this diagnostic can be simply pragmatic. In the example above, Elena could have both soup and cheese. Giving the correct constituent instead of the false one only indicates necessary exclusion of the other alternative if the alternatives are incompatible. This is the case if there is an explicit negation (when the answer is preceded by 'no', the perceived exclusion of 'soup' is confirmed), or if there is only one referent that the proposition can be true for (like 'winning a race', where stating that Y won the race automatically means that X did not).

9. Thanks to Mara Frascarelli for reminding me of this test.

A special category of correction is so-called ‘counterpresuppositional focus’, where what is corrected is not part of what is currently under discussion, but part of what the speaker assumes to be common ground.¹⁰ Gussenhoven (2008) and Greif (2010) show that this type of focus can be expressed by differences in tonal and intonational behaviour (41), and Destruel and Velleman (2014) study the influence of violating hearer-expectations on the felicitous use of an it-cleft in English.

- (41) a. (A: We’re in France)
 B: We’re [NOT]_{FOC} in France
 b. (A: We need to speak French now, remember!)
 B: We’re [not]_{FOC} IN France (Gussenhoven 2008: 384)

Similarly to mirative focus, counterpresuppositional focus concerns hearer-expectations. This factor has recently attracted more attention in the field, but is still ill-understood and in need of more research.

7.2 Reply to an incomplete statement/question

In the same way, presenting an incomplete statement or yes/no question can trigger a corrective reply, but crucially it is not the focused constituent that is corrected, but only its exhaustive aspect. This is done by explicitly mentioning the larger set to which the predicate applies. Szabolcsi (1981) gives the opposing (Hungarian equivalent to the) sentences ‘It wasn’t Peter who slept on the floor, but Peter and Paul’. This can also easily be carried out with QUIS pictures. There are actually two aspects to this diagnostic. One is by the appropriateness of answer particles (yes or no), and another is by the conjunction used if the particle can be yes (yes-but or yes-and).

To illustrate, if Artem saw two people, Johannes and Maurits, then it would be incomplete to state ‘Artem saw Johannes’. If in a reaction to this statement it is felicitous to say ‘no, Artem saw Johannes and Maurits’ or ‘no, he saw Maurits too’, then the ‘no’ does not negate the truth of the statement that Artem saw Johannes (because he did), but it negates the exhaustivity (it was not *only* Johannes he saw).¹¹ This can reveal the exhaustivity of the strategy used in the first statement. If a reply starts with ‘yes’, that suggests that the strategy used in the first statement is not exhaustive (see also 6.2). However, the conjunction used in the following correction can reveal a conventionally implied contrast if the contrastive ‘but’ is preferred.

10. Thanks to an anonymous reviewer for bringing this to my attention.

11. This is subsumed under ‘metalinguistic negation’, that is, objecting to a previous utterance on the basis of its implication (Horn 1985).

É. Kiss (1998) attributes this test to Donka Farkas and illustrates it with the Hungarian preverbal focus position, as in (42). The fact that the exclusivity can be negated in B's reply ('it was a hat but not only a hat') indicates that the focus strategy used by A (in this case the preverbal position) is used for exhaustive focus. Onea (2007) points out that this effect can be due to constructing the sentence as a singular event (cf. Szabolcsi 1994, Kratzer 2009).

Hungarian (É. Kiss 1998: 251)

- (42) A: Mari egy kalapot nezett ki maganak.
 Mary a hat.ACC picked out herself.DAT
 'It was a hat that Mary picked for herself.'
 B: Nem, egy kabatot is ki nezett.
 no a coat too out picked
 'No, she picked a coat, too.'

For the same language, Onea and Beaver (2011) set up an experiment for the 'yes, but' diagnostic. Participants in the experiment are presented with a picture of a situation and a sentence, and are asked whether the sentence is true or false. The picture, for example, shows two kids who both caught a butterfly, and the sentence is a description 'Marci caught a butterfly' with either a "neutral" or focus strategy. The participants could answer the true/false question with 'no, Peter also caught a butterfly', 'yes, and...' and 'yes, but...'. If the focus strategy encodes exhaustive focus, participants are expected to choose the negative answer ('no'), indicating inherent incompatibility between the stimulus and the sentence. If the 'yes, and...' answer is chosen, the strategy is not exhaustive, and the 'yes, but...' answer indicates that the sentence is not truth-conditionally incompatible with the stimulus, but that there are still (implicational) effects of exhaustivity. The results of these tests for Hungarian as opposed to German show that the Hungarian preverbal position is much more strongly associated with an exhaustive interpretation than German focus intonation, but that this effect is pragmatic, rather than semantic.¹²

7.3 Reply to an overcomplete statement/question

Szabolcsi (1981) also proposed the opposite test, an overcomplete statement or yes/no question, which can also reveal exhaustivity. "Szabolcsi's [1981] test involves a pair of sentences in which the first sentence contains a focus consisting

12. After finishing the current overview, more recent work has come to my attention (Destruel et al. 2014) that takes issue with the 'yes, but' test as a diagnostic for the source of exhaustivity as pragmatic or semantic, instead suggesting that it diagnoses the status of the exhaustivity inference as at-issue or non-at-issue.

of two coordinate DPs [e.g. Yani and Maria] and the second sentence differs from the first one only in that one of the two coordinate DPs has been dropped [e.g. Yani ~~and Maria~~]. If the second sentence is not among the logical consequences of the first one, the focus expresses exhaustive identification.” (É. Kiss 1998:250). In other words, if we know that the predicate is true for two referents (Yani and Maria), then a sentence mentioning only one of these referents (Yani) should leave open the possibility that the predicate is true for alternatives (such as Maria) as well. This is not the case if the single referent is in exhaustive focus, meaning that the predicate is only true for that referent (Yani) and false for all alternatives (like Maria). Thus, the sentence is incompatible with the actual situation. Note that it may be difficult for non-linguist consultants to grasp the logical entailments and express firm judgements.

Baltazani (1998) applies this test to Greek, finding that the preverbal position has an exhaustive reading, as speakers do not count the second sentence among the entailments of the first. In (43), if it is true that I bought trousers for only John and Mary, it does not follow that I bought trousers for only John (thereby excluding also Mary).

Greek (Gryllia 2009:15,16)

- (43) a. Sto Yani ke sti Maria
 to.the.ACC John.ACC and to.the.ACC Maria.ACC
 agorasa padeloni.
 buy.1SG trousers.ACC
 ‘I bought a pair of trousers [for John]_{FOC} and [for Mary]_{FOC}.’
 DOES NOT ENTAIL
- b. Sto Yani agorasa padeloni.
 to.the.ACC John.ACC buy.1SG trousers.ACC
 ‘I bought a pair of trousers [for John]_{FOC}.’

This contrasts with the postverbal position (44), where the second sentence is entailed by the first, showing that this focus strategy is not exhaustive.

- (44) a. Agorasa padeloni sto Yani
 buy.1SG trousers.ACC to.the.ACC John.ACC
 ke sti Maria.
 and to.the.ACC Maria.ACC
 ‘I bought a pair of trousers [for John]_{FOC} and [for Mary]_{FOC}.’
 ENTAILS
- b. Agorasa padeloni sto Yani.
 buy.1SG trousers.ACC to.the.ACC John.ACC
 ‘I bought a pair of trousers [for John]_{FOC}.’

Gryllia (2009) finds that if the entailment does not go through, the preverbal element is interpreted collectively (as ‘John and Mary’ rather than ‘John’ and ‘Mary’). On a distributive reading, which can be controlled for by using ‘each’, the entailment does go through: ‘I bought John and Mary a pair of trousers each’ entails ‘I bought John a pair of trousers’, in either the preverbal or postverbal position. This shows that the preverbal focus in Greek is not necessarily exhaustive, but this depends on the collective or distributive reading.

Abels and Muriungi (2008:712) apply the same test in Kĩtharaka. Three strategies are tested against an initial sentence with a conjoined object, and two strategies (a preverbal position with marker *nĩ* (45a) and a postverbal position (45b)) are shown to be interpreted exhaustively: a single object in these positions is incompatible with the initial sentence. Only the neutral or verb-focused alternative (45c) is entailed by the initial sentence.

- (45) N-ĩi-buku na ka-ramu Ruth a-gũr-ir-e.
 FOC-5-book and 12-pen 1.Ruth 1SM-buy-PERF-FV
 ‘It’s a book and a pen that Ruth bought.’
- a. DOES NOT ENTAIL
 N-ĩi-buku Ruth a-gũr-ir-e. [pre-verbal with *nĩ*]
 FOC-5-book 1.Ruth 1SM-buy-PERF-FV
 ‘It’s a book that Ruth bought.’
- b. DOES NOT ENTAIL
 Ruth a-gũr-ir-e ĩ-buku. [in situ focus]
 1.Ruth 1SM-buy-PERF-FV 5-book
 ‘Ruth bought a book.’
- c. ENTAILS
 Ruth n-a-gũr-ir-e ĩ-buku. [in situ neutral/V-focus]
 1.Ruth FOC-1SM-buy-PERF-FV 5-book
 ‘Ruth bought a book.’

Green and Jaggar (2003) show a similar test in Hausa, where a conjoined object is negated and corrected with a subset of the conjoined object. This reveals that the preverbal position (46) but not the postverbal one (47) triggers an exhaustive reading.¹³

13. Nevertheless, Hartmann and Zimmermann (2007) show that the exhaustive interpretation of the preverbal focus position in Hausa is only a tendency and not a clear-cut semantic property of this focus position.

Hausa (Green and Jaggar 2003:201)

- (46) Bā Audù dà Mūsā ba (neè) Kànde takè sô...
 NEG Audu and Musa NEG (FM.PL) Kande 3F.FOC.IMPF love
 ‘It’s not Audu and Musa that Kande loves...’
 ... Audù (nē) takè sô
 Audu (FM.M) 3F.FOC.IMPF love
 ...it’s Audu she loves.’
- (47) Kànde bā tà sôn Audù dà Mūsā...
 Kande NEG 3F.IMPF love Audu and Musa
 ‘Kande doesn’t love Audu and Musa...’
 # ... tanà sôn Audù
 3F.IMPF love Audu
 ‘...she loves Audu.’

The *ex-situ* strategy in (47) excludes the other alternatives and is thereby in line with the negation. Contrastingly, the non-exhaustive *in-situ* strategy in (48) is incompatible with the negation of the conjoined object (Audu and Musa), since it leaves open the possibility of the predicate being true not only for Audu but for other alternatives (such as Musa) as well.

8. Inherent properties of nominals

Some properties are inherently incompatible with exclusive focus. This is the case for universally quantified and non-specific nouns, which are all-inclusive, as well as nouns with unique referents. However, excludable alternatives can usually be found even for these nominals, as shown below. A fourth diagnostic here involves nouns that are unfocusable because they do not carry meaning that can be contrasted. This diagnostic can show whether a strategy is in fact a focus strategy or a more general/underspecified strategy.

8.1 Universal quantifiers

The universal quantifiers ‘all’ and ‘every’ are incompatible with exclusive focus (É. Kiss 1998): all referents are included and therefore there is no exclusion of alternatives in the same set. For example, the Hausa *ex-situ* focus position may not house a universal pronoun (48); hence this strategy/position can be said to express exclusive focus.

Hausa (Green and Jaggar 2003:200)

- (48) a. Kōwā yanà sâ hùkà
 everybody 3M.IMPF put hat
 'Everybody wears a hat.'
- b. *Kōwā (nè) yakè sâ hùkà
 everybody FM.M 3M.FOC.IMPF put hat
 'It's everybody who wears a hat.'

However, the incompatibility can be remedied by specifying the set of alternatives for the universally quantified DP, for example by adding a relative clause (specifying within the referents of the universally quantified DP), or mentioning an alternative set in the context (specifying the whole set as an alternative to other whole sets). To illustrate, although alternatives cannot be excluded from the set designated by 'every cookie', exclusion is possible for 'every cookie that Margaret made' (the alternatives being all the cookies she did not make), or equally when 'all the cookies' are opposed to 'all the milk shakes', as also illustrated for Hungarian in (49).

Hungarian (Wedgwood 2012)

- (49) a. *Minden regényt olvasott el.
 every novel.ACC read VM
 'He read every novel.'
- b. Minden regényt olvasott el (nem minden cikket).
 every novel.ACC read VM not every article.ACC
 'He read every novel (not every article).'

8.2 Indefinite non-specific NP, existentials

Indefinite non-specific NPs are incompatible with exclusivity, since non-specifics do not generate alternatives. As a simple illustration, when Mark Ronson sings 'I want somebody to love me', this can be anyone, that is, nobody is excluded. This entails that if a non-specific reading is available for a focus strategy, it is not exclusive. This has interesting repercussions for the possible interpretations of the words for 'person' in some Bantu languages. In Makhuwa, for example, it can mean 'anybody' or 'a specific person' when used with the so-called disjoint verb form, but when used with the alternating conjoint verb form, this reading is not available. Instead, in order to exclude alternatives, the language resorts to a generic reading as 'human being' in the position after the conjoint form, allowing for the exclusion of other species. This again shows that the conjoint form places the element immediately following the verb in exclusive focus (Van der Wal 2011, see also Section 4).

Makhuwa (Van der Wal 2011: 1740)

- (50) a. DJ Ko-ní-wéha ínthu.
 1SG.SM.PERF.DJ-1OM-look 1.person
 ‘I saw someone.’ (specific/non-specific)
- b. CJ # Ki-m-weh-alé ntthú.
 1SG.SM-1OM-look-PERF.CJ 1.person
 int: ‘I saw someone.’
- c. CJ Ki-m-weh-alé ntthú, nki-weh-álé enáma.
 1SG.SM-1OM-look-PERF.CJ 1.person NEG.1SG-look-PERF 9.animal
 ‘I saw a person/human being, not an animal.’

8.3 Unique referent

Kenesei (1986, 2006) remarks that no alternatives exist for a unique referent and that hence no alternatives can be excluded. Therefore, he reasons, if a focus strategy is incompatible with a unique referent, it expresses exclusive focus. If the Hungarian preverbal focus position is associated with exclusivity, the referent ‘the sun’ is predicted to be ungrammatical, as there is only one sun in our solar system (51).

Hungarian (Kenesei 2006: 150)

- (51) a. *A nap sütött ki a felhök mögül.
 the sun shone out the clouds from.behind
 ‘The sun shone from behind the clouds.’
- b. A nap ki-sütött a felhök mögöl.
 ‘The sun shone through the clouds.’

However, this test can quite easily be shown to be flawed, as native speakers report that (51b) is felicitous in a plausible context where there is a contrast with the moon, for example.

8.4 Non-focusable elements

Focus naturally only applies to contentful elements that can be conceived of as the new or contrasted information. Therefore, cognate objects, dummy objects and objects in idioms are non-focusable. If a strategy can be felicitously used with these objects, it shows that the strategy is not a dedicated marker of new information or contrast on the affected phrase. Instead, it may be that such a marked construction is underspecified for broad or narrow focus, or that the strategy is not a dedicated focus strategy at all. Fanselow and Lenertová (2011) show that in

German a subpart of the focus can be fronted, even if this fronted element is part of an idiom and does not have any meaning by itself, as in (52).

German (Fanselow and Lenertová 2011: 176)

- (52) [Den GARaus]_i hat er ihr t_i gemacht.
 the.ACC *garaus* has he her.DAT made
 ‘He killed her.’

The fact that the English *it*-cleft does not preserve the idiomatic meaning shows that it must be different from German focus fronting.

- (53) a. She popped her clogs.
 ‘She died.’
 b. It was her clogs that she popped.
 (??)
- (54) a. They painted the town red.
 ‘They went out and had a really exciting time.’
 b. It was red that they painted the town.
 (only literal meaning)

Similar data are found for the Somali focus marker *baa*, which Tosco (2002) shows to be more correctly characterised as an assertion creating device rather than a focus marker. Lecarme (1999: 284) states that “the [XP *baa*] position can be occupied by constituents that cannot be interpreted as the focus of the sentence, such as the implicit argument *wax* ‘thing’”. This is one of the arguments against an analysis as a dedicated focus marker (cf. Matic & Wedgwood 2013).

Somali (Lecarme 1999: 284)

- (55) (I dháaf,) wax báan akhrínayaa.
 1SG let thing FOC.1SG am.reading
 ‘(Let me alone,) I am reading.’

A further category that is unfocussable are resumptive pronouns in relative clauses. These have been used to show that the conjoint verb form in Zulu –unlike the same in Makhuwa, see (21) and (24)– does *not* encode focus on the following element: the conjoint form can (and must) appear before the resumptive pronoun *khona* ‘there’ in (56), showing that the use of the conjoint verb form is only indirectly related to focus (Buell 2006).

Zulu (Buell 2006: 18)

- (56) indawo lapho [ngi-cul-e khona]
 9.place REL 1SG.SM-sing-PERF.CJ there
 ‘the place where I sang’

9. Conclusion

Even though the definitions of focus will probably remain variable and confusing, and the overview provided is not by any measure exhaustive, this paper has shown that there are a good number of diagnostics that can help us establish the size and type of focus for different linguistic focus strategies in different languages. There are three specific points that these diagnostics reconfirm.

The first is the wide crosslinguistic variation found in the expression of focus, and the consequences for diagnostics. As mentioned, not all tests are equally applicable, depending on the language, the native speaker consultants, and the available test materials. Furthermore, it is important to recognise that one diagnostic may not be enough to safely claim a certain interpretation/function for a given strategy, necessitating the application of various tests to show the behaviour of that strategy.

The second point is that not all strategies that can be used for focus are indeed inherently focus strategies. That is, showing that a certain strategy is used in a sentence with a certain interpretation (e.g., exhaustive), or is compatible with / felicitous in a certain interpretively limited context, does not necessarily mean that the strategy is a dedicated maker for this interpretation. It may be that the strategy indeed encodes focus, but is underspecified as to the precise interpretation (the type of focus) it encodes, or it may be that the interpretation is a side-effect of some other mechanism (Matić and Wedgwood 2013).

The third point is that the boundaries between pragmatics and semantics are not as clear-cut as sometimes suggested: an exhaustive or contrastive effect may be an inherent part of the meaning of a strategy, or it may be conventionally or conversationally associated with a strategy but still of a pragmatic nature. The diagnostics thus force us to admit the existence of a larger array of focus meanings, possibly on a semantics-pragmatics continuum, and Bazalgette's (2015) four types seems a particularly clear suggestion in that direction.

Abbreviations

CJ	conjoint verb form	OM	object marker
CL	clitic	PR	preverb
DEC	declarative	PRT	particle
DJ	disjoint	SM	subject marker
EXP	experience in the past	VB.FOC	emphatic verb-focusing conjugation
FM	focus marker	VM	verbal marker
M	masculine		

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