



Conventional and Free Association with Focus in Ngamo (West Chadic)*

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Abstract. The paper discusses association with focus in Ngamo (West Chadic, Afro-Asiatic). We present evidence from this non-Indoeuropean language in favour of Beaver & Clark (2008)'s claim that different kinds of focus-sensitive elements interact with the meaning of focus in different ways, namely conventional association with focus vs free association. We show that exclusive particles (*only*) in Ngamo, as in English, conventionally associate with focus. (Scalar-) Additive particles (*also, even*), by contrast, do not pattern like their English counterparts: Same as Q-adverbials, they are more free in their association behaviour, and can also associate with non-focused elements under certain conditions.

1 Association with Focus

Focus-sensitive elements depend on the grammatical placement of focus for their interpretation. This semantic dependency is often referred to as *association with focus* and can be seen clearly in sentences containing the focus-sensitive particle *only* (cf. (1)): *only* is an exclusive particle, it leads to an exclusion of the alternatives induced by focus. In (1a), because focus is on *Bill*, it is excluded that John likes other people, whereas in (1b), because focus is on *likes*, it is excluded that John loves or admires Bill. In the case of *only*, association with focus actually makes a truth-conditional difference: (1a) is false in the given context, whereas (1b) is true.

- (1) (Context: John likes Mary and Bill, but he loves Sue.)
- a. # John *only* likes [BILL]_F.
(excluded alternatives: {John likes Mary, John likes Sue})
 - b. John *only* [LIKES]_F Bill.
(excluded alternative: {John loves Bill})

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Analogous, but non-truth-conditional effects can be seen with the focus-sensitive particles *also* and *even*. *Also* is an additive particle, which includes alternatives to the focused element. (2a) says that John sent a letter to somebody besides Bill, whereas (2b) expresses that John sent something besides a letter to Bill.

- (2) a. John *also* sent a letter to [BILL]_F.
(included alternative e.g. {John sent a letter to Sue})
b. John *also* sent a [LETter]_F to Bill.
(included alternative e.g. {John sent a package to Bill})

Even also has this additive meaning component, e.g. that John sent a letter to someone else in (3a). In addition, it has a scalar meaning component (Karttunen & Peters 1979): the presence of *even* expresses that on a scale of expectability, Bill is less likely to receive a letter by John than any of the implied (focus) alternatives to Bill.

- (3) a. John *even* sent a letter to [BILL]_F.
(included alternative e.g. {John sent a letter to his mother})
b. John *even* sent a [LETter]_F to Bill.
(included alternative e.g. {John sent an email to Bill})

Again, the alternatives that are added and the corresponding scale shift when the focus is shifted: in (3b), what is added is that John sent something else to Bill – e.g. an email, and that sending this other object is more expected than sending a letter. Each of these particles thus associates with focus in an intuitive sense. The main question of this paper is whether the particles *only*, *also* and *even* associate with focus in the same way, intra- as well as cross-linguistically. Chapter 2 describes two unified approaches to this association process, *conventional* and *free* association, and presents the mixed approach of Beaver & Clark (2008), whose general framework and terminology we adopt in this paper. Their main argument is that in English, different focus-sensitive elements associate with focus in different ways. The focus particles *only*, *also* and *even* all conventionally associate with focus, whereas other focus-sensitive elements like the q-adverbial *always* freely associate with focus. In section 3, we present some data from the West Chadic language Ngamo that show that, as proposed by Beaver & Clark for English, there are also different kinds of association with focus in Ngamo. The data also suggests, however, that, unlike in English, additive(-scalar) particles associate only freely with focus in Ngamo. Section 4 presents the formal semantic analysis of focus-sensitive particles in Ngamo. Section 5 concludes.

2 Conventional and Free Association with Focus

There are two kinds of unified approaches to the association process: *Conventional association* accounts and *free association* accounts. Conventional and free association are the terms used by Beaver & Clark (2008), and correspond to Rooth's (1992) weak and strong association, respectively.

In conventional association accounts (Rooth 1985; Jacobs 1983), focus-sensitive elements relate directly to the alternatives introduced by focus. This relation is semantic, i.e. the dependency on focus is coded directly into their lexical meaning, as shown for *only* in (4a). In free association (Rooth 1992; von Stechow 1994), on the other hand, focus-sensitive elements quantify over an implicit free variable C, the reference of which is fixed by the context (4b).

- (4) a. $\llbracket \text{only} \rrbracket^w = \lambda q \forall p \in \llbracket \mathbf{q} \rrbracket^f : p(w) \rightarrow p = \llbracket \mathbf{q} \rrbracket^0$
 b. $\llbracket \text{only}_C \rrbracket^{g,w} = \lambda q \forall p \in g(\llbracket \mathbf{C} \rrbracket) : p(w) \rightarrow p = q$

C usually resolves to the focus alternatives, since these are contextually salient, so the difference is mainly one of empirical elegance: According to Rooth (1992), a free account is stronger because it does not tie the semantic effects of focus to the meaning of specific lexical items. Moreover, the free association account makes a prediction that the conventional account does not make: (apparent) association with non-focused elements should be possible if the context provides a value for C that differs from the focus alternatives. As Beaver & Clark (2008) point out, this prediction is borne out for some focus-sensitive elements, but not for others. While *only* can never associate with grammatically non-focused constituents, *always* can occur in contexts in which it seems to associate with non-focused material. This can be seen in example (5) from Beaver & Clark (2008: 193), which tests for association with weak, unstressable, and hence inherently unfocused pronouns. The test sentence enforces a reading in which the focus-sensitive element associates with the weak DO-pronoun, because other possible readings (association with the verb or VP) are excluded by the context. This reading is not accepted for a sentence with *only*, but it is fine for the parallel sentence with *always*.

- (5) a. ??People who grow rice **only** eat it. # 'People who grow rice eat nothing but rice'
 b. People who grow rice **always** eat it. 'Whenever people who grow rice eat, they eat rice'

Based on the different behaviour of *always* and *only*, Beaver & Clark (2008) propose that different focus-sensitive elements associate with focus in different ways, with some elements conventionally associating with focus (e.g. *only*), and

others freely associating with focus (e.g. *always*). According to them, the class of conventionally associating elements in English contains the focus-sensitive particles *only*, *also* and *even* discussed above, whereas the class of freely associating expressions contains, for example, quantificational adverbs like *always*, generics, counterfactuals, and modals.

Another candidate for a freely associating element is the stressed additive particle *AUCH* (“also”) in German, which appears to associate with the preceding contrastive topic (Krifka 1999).

- (6) (I know that Pia visited the exhibition. But what did Peter do?)
 Peter hat die Ausstellung *AUCH* besucht. ‘Peter visited the exhibition, too.’

In these cases, the contrastive topic introduces the alternatives that are relevant for the resolution of the free variable C. This is another instance in which a “focus-sensitive” element can associate with a prosodically weak or even empty element. In example (7a), the associate of the stressed additive particle can be elided, because it is given in the preceding context question. This is not possible for prefocal unstressed *auch*, which must associate with an overt focus-accented element (7b).

- (7) (You did the dishes. And the garbage?)
 a. Hab ich *AUCH* erledigt.
 have I AUCH done
 b. Auch *(DAS) hab ich erledigt.
 auch that have I done
 ‘I took care (of it) too.’

The next section presents data from Ngamo (West Chadic) that support Beaver & Clark’s claim that there are different kinds of focus-sensitive elements. Moreover, the Ngamo data provide further evidence that additive particles, at least in some languages, do not belong in the same class as exclusives. This is not fully unexpected given the behaviour of German additives mentioned above.

3 Focus & Focus-Sensitive Particles in Ngamo

This section gives an overview of grammatical focus marking and focus-sensitive particles in Ngamo. Ngamo is a West Chadic language of the ‘A’ sub-branch spoken in NE Nigeria by about 60’000 speakers (Gordon 2005). It has two major dialects, Yaya Ngamo and Gudi Ngamo (Schuh 2005). The data in this paper come from the Gudi dialect.

3.1 Focus in Ngamo

As in many other African languages (Fiedler et al. 2010), overt focus marking in Ngamo is asymmetric: Focused subjects must be syntactically marked, whereas focused non-subjects need not be explicitly marked for focus. The canonical word order is SVO, but when a subject is questioned or focused, the subject is inverted to the right edge of vP. The subject cannot occur between the verb and the object (8a), but its word order is free with respect to other constituents following the direct object (cf. (8b)). Non-subject focus is preferably realized in-situ (9a), but ex-situ test sentences are also accepted (9b).

- (8) a. *Salko **-i lo** *bano* a Nigeria mano?
build-PFV BM who house in Nigeria last.year
- b. Sàlko *bàndò* (**-i lo**) à Nìgerià (**-i lo**) màndò (**-i lô**) ?
build-PFV house BM who in Nigeria BM who last.year BM who
 ‘Who built a house in Nigeria last year?’
- (9) a. Shuwa èsha **lò yâm**?
Shuwa call.PFV who loudly
 ‘Who did Shuwa call loudly?’
- b. Èsha *yâm yè Jajèi*.
call.PFV loudly BM Jajei
 ‘(she) called JAJEI loudly.’

We suggest that the reason behind the subject inversion to the right edge of vP is an interface requirement that forces the focused element to be right-aligned with a phonological phrase boundary projected by the right edge of vP (Samek-Lodovici 2005; Truckenbrodt 1999; Zimmermann 2006). Since objects and adjuncts are canonically realized at the right edge of vP anyway, it follows that they can remain in-situ when focused.

Inverted subjects are obligatorily preceded by a morphological marker *i/ye* (10a), which is again optional with focused non-subjects (10b). Schuh (2005: 27) suggests that *i/ye* is not a focus marker, but a background marker, which is historically derived from the definite determiner *ye’e*. This suggestion is supported by the fact that it can occur twice in an utterance, thus marking backgrounded material following the focused constituent (10c).

- (10) a. [Context: Hasha called Yura]
 O’ò, eshà Yùrà ***(-i) Kulè**
No, call.PFV Yura BM Kule
 ‘No, KULE called Yura.’

- b. [Context: Who did Shuwa call?]
 Shùwa èshà (-i) **Jàjêi**.
Shuwa call.PFV BM Jajei
 ‘Shuwa called JAJEI.’
- c. Sàlko bàndò -i **lo** à Nìgerià màndò **yê?**
build-PFV house BM who in Nigeria last-year BM
 ‘Who built a house in Nigeria last year?’

A standard test for exhaustivity in (11) shows that answers with *i/ye* are interpreted as exhaustive, or maximal, in contrast to answers without *i/ye*: In the question context in (11), the complete answer A entails the partial answer A1 without *i/ye*, but it does not entail the partial answer A2 with *i/ye*, which signals maximality, making A2 infelicitous in the given context.

- (11) [Context: Who did Kule call?] A: Kule called Shuwa and Dimza.
 → A1:Kule èsha **Dimzà**
Kule call.PFV Dimza
 ‘There was an event of Kule calling Dimza.’
 → A2:#Kule èshà -i **Dimzâ**
Kule call.PFV BM Dimza
 ‘The maximal calling event by Kule involves Dimza as a callee.’

We suggest that *i/ye* is a definiteness marker on events (Larson 2003; Hole submitted) that introduces a presupposition that there is a maximal contextually salient event exemplifying the vP-denotation (excluding the focus denotation) as in (Kratzer 2007), cf. answer A2 in (11):

- (12) $\llbracket -i/ye \rrbracket = \lambda f_{\langle v, t \rangle} : \text{there is a maximal salient event } e, \text{ s.t. } f(e) = 1. f$

This analysis of the maximality effect is supported by the fact that it is cancellable in cases in which we talk about separate events (13).

- (13) Sàlko bàndò -i **Dimzà**, Umàr kè sàlko bàndò.
build-PFV house BM Dimza Umar also build-PFV house
 ‘(lit.) DIMZA did the house-building, and Umar built a(nother) house.’

To sum up, subject focus in Ngamo is obligatorily marked by inversion to the right edge of vP, with background marking of the backgrounded part preceding the focused subject. Non-subject focus is only optionally marked. The background marker is a definiteness marker on events which introduces a maximality presupposition on the backgrounded vP-denotation.

3.2 Focus-Sensitive Particles in Ngamo

This section presents the distribution and the association behaviour of three focus-sensitive particles in Ngamo: the additive *ke* ('also'), the additive-scalar *har* ('even'), and the exclusive particle *yak* ('only').

When associating with non-subjects, the three particles behave alike. All three focus-sensitive particles can occur sentence-initially, in immediately preverbal position and after the VP, but not between the verb and the direct object.

- (14) (*Har*) Baba (*har*) **bo'ytak** bano-s('e) (*har'i*).
even Baba even sell-PFV house even
 'Baba even SOLD the house.'
- (15) (*Ke*) Dimzà (*ke*) ònko àgogo (*ke*) **ki Abù** (*kè'ê*).
also Dimza also give-PFV watch also to Abu also
 'Dimza also gave a watch TO ABU.'
- (16) (*Yak*) te (*yak*) esha si (*yak*) **nzono** (*yak'i*).
only she only call.PFV him only yesterday only
 'She only called him YESTERDAY.'

These examples show that the particles can precede or follow their associate, without a change in meaning. In addition, they have a pre-focal (e.g. *har*) and a post-focal form (e.g. *har'i*), the distribution of which appears to be conditioned by prosodic factors, such as the presence of a subsequent prosodic boundary. The examples also show that there is no adjacency requirement: all three particles can associate from an adjacent or distant position. Non-adjacent preverbal and post-VP particles are illustrated in (17).

- (17) [Context: Kule built a house.]
- a. si *ke* sàlko **makarantâ**.
he also build-PFV school
 'He also built a SCHOOL.'
- b. Kule **bo'ytak** bano-s *ke'e*.
Kule sell-PFV house=DET also
 'Kule also SOLD the house'

We propose that focus particles in Ngamo typically denote adverbial operators that are adjoined to the extended vP-projection, but there appear to be adnominal counterparts as well (e.g. the third *yak* in (16)).

Crucially, the three particles however behave differently when it comes to association with subjects. Recall that in cases of conventional association with focus, the associate of the focus-sensitive particle is obligatorily focus-

marked, whereas in free association with focus this is not necessarily the case. Since focused subjects are marked by inversion, we therefore predict that conventionally associating focus-sensitive elements will only be able to associate with inverted – and, thus, focus-marked – subjects! This expectation is borne out for exclusive *yak*, which can only associate with inverted subjects.

- (18) a. Sàlko b̀̀nò -ì yak **Kulè**
build-PFV house BM only Kule
 ‘Only KULE built a house.’
- b. #Yak **Shuwa** yak s̀̀lko b̀̀nò yàk’i.
only Shuwa only build-PFV house only
 (intended:) ‘Only SHUWA built a house.’

In contrast, *kelhar* cannot associate with inverted subjects. We suggest that this is due to a clash of the maximality presupposition of the background marker with the additive presupposition of the particles. In (19), background marking introduces the presupposition that there is a salient maximal event of building a house involving Kule (and nobody else), whereas the additive particle *ke* (‘also’) presupposes that someone else took part in the contextually salient event of house-building, in violation of maximality. According to one consultant, this structure is only permitted in a context in which the (maximal) house-building event is juxtaposed to a (maximal) event of a different type.

- (19) [Context: Hawwa built a house]
- a. #Salko bano -i ke **Kule**.
build-PFV house BM also Kule
 (intended) ‘KULE also built a house.’
 (Consultant comment: ‘Where there is ‘salko bano-i’, this means that the other person did something else.’)
- b. *Salko bano -i har **Kule**
build-PFV house BM even Kule
 (intended): ‘Even KULE built a house.’

Instead, the only way of expressing what looks like association with subjects with these particles is to leave the subject in its canonical preverbal position.

- (20) a. Kè/Har **Kulè** s̀̀lko b̀̀nò
also/even Kule build-PFV house
- b. **Kulè** kè/har s̀̀lko b̀̀nò.
Kule also/even build-PFV house

- c. **Kulè** sàlko bànò *kè'è/hàr'î*.
Kule build-PFV house also/even
 'KULE built a house, too.'

Since focused subjects are banned from this position (see above), we are led to conclude that the particles *ke* and *har* do not operate directly on the focus value of the subject in such cases, but interact with the subject denotation in a more indirect way. In short, we capture the difference between the additive particles and the exclusive particle by suggesting that the former freely associate with focus, whereas the latter conventionally associates with focus.

Further evidence for this proposal comes from the association of the different types of particles with weak and strong pronouns. In Ngamo, indirect object pronouns are usually incorporated into the verb. When the pronoun is focused, it must occur in its strong form, which is headed by the preposition *ki* ('to'). Crucially, additive *ke* can associate with the weak, incorporated, and thus non-focused form of the pronoun (21), whereas *yak* can only associate with strong, and hence focused pronouns (22).

- (21) [Context: Whom did Kule give a watch?]
 'Onko agoggo -i ki Dimzà, *ke* **ono** agoggô.
give-PFV watch BM to Dimza also give-1SG watch
 'He gave a watch to Dimza, and also gave a watch to me.'
- (22) [Context: Did Kule give a watch to all of them?]
- a. #O'o, Kule **onto** agoggo *yak'i*.
No Kule give-3SG.F watch only
 (intended:) 'No, Kule only gave a watch to HER.'
- b. O'o, Kule onko agoggo -i **ki te** *yak'i*.
No Kule give-PFV watch BM to 3SG.F only
 'No, Kule only gave a watch to HER.'

Moreover, *ke* can freely associate with zero subjects, an option excluded for the exclusive particle, as is shown for the contrastive topic context in (23), which is modeled after an example from (Krifka 1999). Here, an answer with a contrastive topic subject is enforced by explicitly giving a partial answer to a superquestion of the form "Who did what?", which is followed by a request for information concerning a second individual, functioning as a contrastive topic in this context. As the subject is given, it can be dropped from the answer, although the additive particle *ke* seemingly associates with it. This is another instance in which the additive particle associates with unfocused material, and thus evidence in favour of free, and not conventional, association with focus.

- (23) a. Nè mànoti Kulè sàlko bànò, Shùwa me jò?
I know.PRS Kule build-PFV house Shuwa but what.about
 ‘I know that Kule built a house, but what about Shuwa?’
- b. Kè salkô (bànò).
also build-PFV house
 ‘(He) also built a house.’

Summing up, additive(-scalar) particles show a different association behaviour with subject focus when compared to the exclusive particle: While *yak* (‘only’) must associate with focus-marked (inverted) subjects, *ke* (‘also’) and *har* (‘even’) cannot associate with such inverted subjects. Instead, they appear to associate with preverbal subjects, which are never focused. This leads us to conclude that *yak* conventionally associates with focus, while *ke* and *har* freely associate with focus.

4 Analysis & Discussion

This section presents the formal analysis of the focus-sensitive particles introduced in the previous section. First, the framework used for the analysis is presented in section (4.1), then the exclusive particle *yak* will be discussed (4.2), then the additive(-scalar) particles *ke* and *har* (4.3).

4.1 A QUD Approach to Information Structure

In a QUD-approach (e.g. Roberts 1996, Büring 2003), the idea that the goal of discourse is to share previously unshared information is captured by modeling discourse as driven by implicit (hearer-) questions: The goal of each new conversation is to cooperatively answer the super-question “What is the way things are?”. This question is tackled by splitting it up into subquestions, which each ask for a partial answer to the superquestion. Each new declarative utterance answers the lowest question in the tree – the *Current Question*. In this model, information structural categories like focus and topic are used for discourse-management. They indicate what the implicit questions under discussion are. This is done through question-answer congruence: According to Roberts (1996), the focus alternative set (cf. Rooth 1985; 1992) of the utterance is congruent to the set of possible answers indicated by the Current Question, e.g. (24) for answer A1 in (25a).¹

- (24) $[[\text{CQ}]]^0 = [[\text{A1}]]^F = \{ \text{John likes Bill, John likes Mary, John likes Sue} \}$

¹ For weaker constraints on question-answer congruence, see Büring (2003: 517) and Beaver & Clark (2008: 47).

- (25) (a) What is the way things are?
 |
 ...
 |
 CQ. **Whom** does John like?
 |
 A1. [John likes [**Bill**]_F
- (b) What is the way things are?
 |
 ...
 |
 Who likes **whom**?
 |
 CQ. **Whom** does *John* like?
 |
 A2. [*John*]_{CT} likes [**Bill**]_F

Contrastive topics indicate the presence of alternatives raised by questions above the Current Question (Büring 2003). So in (25b), the focus on *Bill* in A2 indicates that *Bill* must be replaced by a *wh*-element in the Current Question CQ, but the contrastive topic accent on *John* indicates that there is an additional relevant question immediately above the Current Question, in which the subject *John* is also replaced by a *wh*-element. Büring (2003) proposes that utterances like this do not only have a normal and a focus value, but also a CT value, which marks them as partial answers to this higher question.

4.2 The Exclusive Particle *yak*

In order to account for the conventional association behaviour of the exclusive particle *yak* ‘only’ in Ngamo, we follow suggestions by Beaver & Clark (2008) on the semantic function of exclusives. According to these authors, the main function of exclusive particles is not to exclude alternatives, but to indicate that the proposition modified by the exclusive particle in an answer to an explicit or implicit CQ indicated by the focus structure is less strong (on a salient scale) than expected by the hearer. By uttering (26A) in response to the explicit CQ in (26Q), for instance, the speaker signals that he takes the hearer to expect a stronger alternative out of the question denotation to be true, e.g. that John invited Mary, Sue, Bill and John, among others.

- (26) Q. Whom did he invite?
 A. He invited only Mary_F.

Technically, this effect can be modelled by assigning *yak* the lexical entry in (27), which can be conceived of as a variant of the lexical entry for *only* in Beaver & Clark (2008):

- (27) $[[\mathbf{yak}]]^w(\mathbf{p}) = 1$ iff $\neg \exists q \in \text{CQ}_{yak}: p \leq q \wedge q(w)$;
 defined iff $\forall q \in \text{CQ}_{yak} p \leq q$; where ‘ \leq ’ stands for ‘weaker on a contextually salient scale’.

According to (27), the semantic effects of *yak* are twofold. First, the presence of *yak* imposes a restriction - in form of a presupposition - of the original CQ indicated by grammatical focus marking. According to the presupposition in (27), the new CQ_{yak} contains only propositional alternatives that are at least as strong (on a contextually salient scale) as the proposition expressed by the utterance containing *yak*. Restricting the original CQ to CQ_{yak} in this way captures the intuition that the hearer expects stronger alternatives to *p* to be true. At the same time, the presupposition excludes alternatives of equal strength (e.g., Bill and John in the case of (26)) as it requires all the alternatives in CQ_{yak} to be either identical to *p*, or stronger than *p* on a relevant scale. The second effect of *yak* takes place at the truth-conditional level by specifying that *p* is indeed the strongest true alternative in the *yak*-modified CQ_{yak} . Importantly, this analysis continues to treat *yak* as conventionally associating with focus, as *yak* makes direct reference to an – albeit modified – CQ as indicated by grammatical focus marking in its lexical entry.

4.3 The Additive(-Scalar) Particles *ke* and *har*

The additive(-scalar) particles *ke* and *har* do not refer to the focus alternatives directly. Their central semantic contribution consists in presupposing the existence of another contextually salient situation, in which an alternative proposition out of a contextually bound variable *C* holds.

$$(28) \quad \llbracket \mathbf{ke}_C \rrbracket^{g,w}(\mathbf{p})(\mathbf{s}) = \mathbf{p}(\mathbf{s})(w);$$

defined iff $\exists s' \text{ in } w, s' \neq s : \exists q \in g(\llbracket \mathbf{C} \rrbracket), q \neq \mathbf{p} : [q(s')(w)]$

Har additionally presupposes that its complement is relatively unlikely.

$$(29) \quad \llbracket \mathbf{har}_C \rrbracket^{g,w}(\mathbf{p})(\mathbf{s}) = \mathbf{p}(\mathbf{s})(w), \text{ defined iff}$$

- i. $\exists s' \text{ in } w, s' \neq s : \exists q \in g(\llbracket \mathbf{C} \rrbracket), q \neq \mathbf{p} : [q(s')(w)]$
- ii. *p* is (relatively) unexpected compared to other elements in $g(\llbracket \mathbf{C} \rrbracket)$.

Since the Current Question is typically salient in a given context, the context variable *C* is usually resolved to it; e.g. in (30), *C* is resolved to the Current Question “What did Kule build?”, giving rise to the meaning in (31).

$$(30) \quad [\text{CQ: What did Kule build? Kule built a school, and...}]$$

Kule *ke* salko **bano**.

Kule also build-PFV house.

‘Kule also built a HOUSE.’

$$(31) \quad \llbracket \mathbf{ke}_C \rrbracket^{g,w}(\llbracket \text{Kule built a school} \rrbracket)(\mathbf{s}) = 1 \text{ iff Kule built a school in } \mathbf{s} \text{ in } w, \text{ defined iff } \exists s' \text{ in } w, s' \neq s : \exists q \in \{\text{Kule built a school, Kule built}$$

a house, Kule built a shed, ...}, $q \neq p$: $[q(s')(w)]$

As seen in connection with example (19), in the case of focus-marked (inverted) subjects (32), we see that if C is contextually resolved to the Current Question: “Who built a house?”, this will normally lead to a clash between the presuppositions of *ke* and the background marker (33) (but see below).

(32) [CQ: Who built a house? Hawwa built a house, and...]

#salko bano -i *ke* **Kule**.

build-PFV *house* BM *also* *Kule*

(intended:) ‘KULE also built a house.’

(33) $\llbracket ke_C \rrbracket^{g,w}(\llbracket \text{Kule built a house} \rrbracket)(s) = 1$ iff Kule built a house in s in w , defined iff $\exists s'$ in w , $s' \neq s$: $\exists q \in \{\text{Hawwa built a house, Kule built a house, Shuwa built a house, ...}\}$, $q \neq p$: $[q(s')(w)]$

Presupposition of i-marking: There is a maximal salient house-building event whose agent is Kule.

Instead, as argued above, any association of a (scalar-) additive particle with a subject is indirect in nature, constituting an instance of free association with focus. There are at least two ways for such free associations with non-focused subjects to arise. First, the Current Question can be resolved to wide-scope questions of the form “What happened?” (34) in contexts in which the VP is given, as illustrated in (35). Notice that the nuclear accent in the English paraphrase falls on the subject because the VP is given.

(34) [What happened? Hawwa built a house, and...]

Kule *ke* salko bano.

Kule also build-PFV *house*

‘KULE also built a house.’

(35) $\llbracket ke_C \rrbracket^{g,w}(\llbracket \text{Kule built a house} \rrbracket)(s) = 1$ iff Kule built a house in s in w , defined iff $\exists s'$ in w , $s' \neq s$: $\exists q \in \{\text{Hawwa built a house, Hawwa bought a car, Kule built a house, ...}\}$, $q \neq p$: $[q(s')(w)]$

The second strategy involves apparent association with a (contrastive) topic, which is possible since the canonical preverbal position of subjects is the default topic position. In this case, the *ke*-sentence with topical subject relates to the super-question “Who did what?”, which splits up into VP-subquestions as in (36), leading to (37).

(36) [(What did Hawwa do?) Hawwa built a house, and... (CQ: What did Kule do?)]

Kule *ke* salko bano.
Kule also build-PFV house
 ‘KULE built a house, too.’

- (37) $\llbracket ke_C \rrbracket^{s,w}(\llbracket \text{Kule built a house} \rrbracket)(s) = 1$ iff Kule built a house in *s* in *w*, defined iff $\exists s'$ in *w*, $s' \neq s : \exists q \in \{\text{Hawwa built a house, Hawwa bought a car, Kule built a house, ...}\}$, $q \neq p: [q(s')(w)]$

Additional evidence for this second option comes from marked discourse-contexts in which *ke* actually does occur together with a focus-marked subject (38). In such cases, the focus/background marking suggests that the meaning of the *i/ye*-marked VP ‘building a house’ forms the (contrastive) topic event. The antecedent super-question is again “Who did what?”, but this time it is split up into subject questions ranging over contextually given events (38). The result is shown in (39).

- (38) [(Who bought a car?) Hawwa bought a car, and... (CQ: Who built a house?)]

Salko bano **-i** *ke* **Kule**.
build-PFV house BM also Kule
 ‘Kule (also) built a house.’

- (39) $\llbracket ke_C \rrbracket^{s,w}(\llbracket \text{Kule built a house} \rrbracket)(s) = 1$ iff Kule built a house in *s* in *w*, defined iff $\exists s'$ in *w*, $s' \neq s : \exists q \in \{\text{Hawwa built a house, Hawwa bought a car, Kule built a house, ...}\}$, $q \neq p: [q(s')(w)]$
Presupposition of i-marking: There is a maximal salient house-building event whose agent is Kule.

In sum, we have shown that the proposed analysis of *ke* and *har* with the denotations in (28) and (29) can account for the behaviour of these particles observed in section 3.2.

5 Conclusion

The Ngamo data presented suggest that there are different kinds of association with focus, similar to what was found for English by Beaver & Clark (2008). However, in contrast to English *also* and *even*, Ngamo additive particles do not conventionally associate with focus. This corresponds to findings from other languages, e.g. Bura (Hartmann & Zimmermann 2008) and Thompson Salish (Koch & Zimmermann 2010). What remains to be seen is whether the analysis of additive particles in Ngamo can be extended to provide a unified account of stressed and unstressed additive particles in German.

References

- Beaver, D. & B. Clark. 2008. *Sense and Sensitivity*. Oxford: Wiley-Blackwell.
- Büring, D. 2003. On D-Trees, Beans, and B-Accents. *Linguistics & Philosophy* 26. 511–545.
- Fiedler, I. et al. 2010. Subject focus in West African languages. In M. Zimmermann & C. Féry (eds.), *Information structure*, 234–257. Oxford: Oxford University Press.
- von Fintel, K. 1994. *Restrictions on Quantifier Domains*: UMass Amherst dissertation.
- Gordon, R.G. 2005. *Ethnologue: Languages of the World*. Dallas, Texas: SIL.
- Hartmann, K. & M. Zimmermann. 2008. Not only 'only', but 'too', too. Alternative-sensitive particles in Bura. In A. Grønn (ed.), *Proceedings of Sinn und Bedeutung (SuB) 12*, 196–211.
- Hole, D. submitted. The deconstruction of Chinese 'shi...de' clefts revisited.
- Jacobs, J. 1983. *Fokus und Skalen*. Tübingen: Niemeyer.
- Karttunen, L. & S. Peters. 1979. Conventional implicature. In C.K. Oh & D. Dineen (eds.), *Presupposition*, New York: Academic Press.
- Koch, K. & M. Zimmermann. 2010. Focus-sensitive operators in Nlhe7kepmxcin (Thompson River Salish). In M. Prinzhorn et al. (eds.), *Proceedings of Sinn und Bedeutung 14, Vienna*, .
- Kratzer, A. 2007. Situations in natural language semantics. In E.N. Zalta (ed.), *Stanford encyclopedia of philosophy*, Stanford: CSLI.
- Krifka, M. 1999. Additive Particles under Stress. In *Proceedings of SALT 8*, 111–128. Cornell: CLC Publications.
- Larson, R.K. 2003. Event descriptions in Fon and Haitian Creole. In D. Adone (ed.), *Development in Creole Studies*, Tuebingen: Niemeyer.
- Roberts, C. 1996. Information Structure in Discourse: Towards an Integrated Formal Theory of Pragmatics. *OSU Working Papers in Linguistics* 49.
- Rooth, M. 1985. *Association with focus*. UMass. Amherst: Graduate Linguistics Student Association.
- Rooth, M. 1992. A Theory of Focus Interpretation. *Natural Language Semantics* 1. 75–116.
- Samek-Lodovici, V. 2005. Prosody syntax interaction in the expression of focus. *Natural Language and Linguistic Theory* 23. 687–755.
- Schuh, R. 2005. Yobe State, Nigeria as a Linguistic Area. Manuscript, UCLA.
- Truckenbrodt, H. 1999. On the Relation between Syntactic Phrases and Phonological Phrases. *Linguistic Inquiry* 30. 219–255.
- Zimmermann, M. 2006. Focus in Western Chadic: A Unified OT-Account. In C Davis et al. (eds.), *Proceedings of NELS 36*, UMASS, Amherst.