

Kapa AS AN END-OF-SCALE MARKER IN BOLE AND NGIZIM (WEST CHADIC)*

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1 Introduction

This paper discusses the particle *kapa* found in the West Chadic languages Bole and Ngizim. These languages are only distantly related, Bole being of the West Chadic ‘A’ branch, Ngizim of the ‘B’ branch, but they are spoken in the same region, in and around the town of Potiskum, Yobe State, North-East Nigeria, and share a number of lexical items, including *kapa* Schuh (2005:81). The interesting fact about *kapa* is that part of its usage has changed during the borrowing process: whereas in Bole, it is used as UNTIL, AS FAR AS¹, and ONLY, in Ngizim it is used as UNTIL, AS FAR AS, and EVEN - the goal of this paper is to explain this shift in the use of *kapa*, by examining how the different uses of the particle are semantically alike².

I suggest that the core meaning of *kapa* is one of endpoint marking: In its use as durative UNTIL and AS FAR AS, *kapa* marks something as a ‘high’ temporal or locative endpoint - this use of *kapa* will be discussed in section 3. This was extended in Ngizim to more flexible scales: In its use as EVEN, the particle marks a proposition as the strongest true proposition of a salient set of alternatives, and therefore as an endpoint on a scale of strength - cf. section 4. In Bole, *kapa* can additionally be used as an exclusive operator, yielding uses in which *kapa* marks something as ‘low’ on a salient scale of strength - these cases, in which *kapa* is translated as ONLY and punctual UNTIL, will be discussed in section 5. To sum up, *kapa* is a scalar particle indicating that a certain alternative is at the end of a presupposed scale, a temporal or locative scale in the case of (NOT) UNTIL and AS FAR AS, and a more flexible scale in the case of ONLY and EVEN. The proposal thus relates ONLY and EVEN, but also punctual and durative UNTIL, in a new way.

*This research was conducted as part of the SFB 632 “Information Structure”, project A5, funded by the German Science Foundation (DFG). I would like to thank the DFG for the funding, the audiences at SULAbar, in Tübingen, Potsdam, and at Sinn und Bedeutung 16 for the helpful comments, my Bole and Ngizim informants, especially Malam Ibrahim Fika, Madu Bah, Hajiya Adama Malam Boyi, and Usman Babayo Garba Potiskum for their time and patience.

¹I will write the lexeme in italics, e.g. English *only*, and its meaning in small capitals, e.g. ONLY.

²Some of the data and ideas presented here will appear as a proceedings paper in the *Proceedings of SULA 6 and SULA-Bar: Semantics of Under-Represented Languages in the Americas (and Elsewhere)*. Amherst: GLSA Publications. The current paper focuses on the analysis - for more data, see the previous paper.

2 Focus and focus-sensitivity

I adopt a ‘question under discussion’ approach to focus (Roberts, 1996, Beaver and Clark, 2008). In this approach, focus/background marking plays a discourse management role: It indicates what (explicit or implicit) hearer question the utterance answers, thus giving the hearer further clues on how to connect the information provided in the utterance with the information provided by the previous discourse. For example, the focus on *Bill* in (1) indicates that the question under discussion is *Who does John like?*, rather than, e.g. *Who likes Bill?*, further indicating that there is a reason not to find it debatable that John likes somebody - i.e. this is *not at-issue* with respect to the question under discussion.

(1) John likes [Bill]_F.

The projective behaviour of utterances indicates what is not-at-issue, i.e. it can give us a clue on what the question under discussion is (Simons et al., 2010). For example, when embedding (1) under negation, *John likes somebody* projects, suggesting that this is not-at-issue. This will become relevant in the next sections as a test for finding out what the question under discussion is.

(2) It is not the case that John likes [Bill]_F.

By indicating the question under discussion, the focus/background structure indicates its *alternatives*, too. These are the possible alternative answers to the question under discussion. For (1), in a situation where *Bill*, *Peter* and *Sue* are salient, these are the following:

(3) [[John likes [Bill]_F]]^F = [[Who does John like?]]⁰ =
= {John likes Bill, John likes Peter, John likes Sue, John likes Bill and Peter, ... , John likes Bill, Peter and Sue}

Focus-sensitive elements like English *only* interact with these alternatives. In (4), the exclusive *only* excludes all alternatives except for the *prejacent*, *John likes Bill*, whereas in (5), other alternatives are excluded, e.g. *John loves Bill*, *John adores Bill*.

(4) John only likes [Bill]_F.
(excludes: John likes Peter, John likes Sue, ...)

(5) John only [likes]_F Bill.
(excludes: John loves Bill, John adores Bill, ...)

Similarly, in (6), the focus-sensitive operator *even* interacts with the focus alternatives, indicating that the *prejacent* is in a sense more ‘extreme’ than the other alternatives. When the focus shifts, the alternatives for comparison shift, too.

(6) John even likes [Bill]_F.
(e.g. more extreme than: John likes Sue)

(7) John even [likes]_F Bill.
(e.g. more extreme than: John tolerates Bill)

Whereas ONLY and EVEN are traditionally analyzed as focus-sensitive, (durative) UNTIL and AS FAR AS are not. The next section explores a focus-sensitive analysis of these uses of *kapa*.

3 A focus-sensitive analysis of UNTIL and AS FAR AS

In this section, the shared use of *kapa* in Bole and Ngizim will be discussed: In both languages, it can be used as UNTIL and AS FAR AS, indicating a temporal or locative endpoint, respectively. It will be argued that *kapa* marks an endpoints on a salient scale of alternatives, yielding a focus-sensitive analysis of *kapa*_{until} and *kapa*_{as-far-as}.

Example (8) shows *kapa*_{until} in Bole, (9) shows a similar example for Ngizim³. It indicates that a state or activity holds until a temporal endpoint indicated by the *kapa*-phrase, and is thus an example for a so-called *durative* use of *kapa*_{until}, see e.g. Karttunen (1974).

- (8) Ga mamme ga mamme *kapa* cap mi'y'ya (...) takango. (B1)
 and thus and thus KAPA all people finish.PL.PFV
 “It keeps going like this until all the people (...) have finished.”
- (9) Nda kun ka sau *kapa* wənya da dlamən-gara dabaku. (N3)
 3PL continue(?) like that KAPA girl 3SG become-ICP young.woman
 “Things went on that way until the girl became a young woman.”

Similarly, in (10) in Bole and (11) in Ngizim, *kapa*_{as-far-as} indicates a locative endpoint.

- (10) Po'um a jo (...) *kapa* bo bin Da Zonge. (B4)
 gourd.plant IPFV run.NMLZ KAPA mouth hut sister desert.date
 “The gourd plant ran (...) up to Zonge’s (‘Desert Date’s’) door.”
- (11) Akshi a rakan (...) *kapa* wənduwa=u. (N4)
 3.PL 3.AGR travel.NMLZ KAPA house=DET
 “They walk (...) all the way to the house.”

3.1 Previous accounts of durative UNTIL and AS FAR AS

Sentences with durative UNTIL indicate that a situation holds from an implicit start point until an end point indicated by the UNTIL-phrase. De Swart (1996) formalizes this as follows (ignoring tense): she introduces three temporal intervals (start time, run time and end time of the situation denoted by the main clause), and states that for any time interval inbetween the start time and the end time, a subsituation of this situation holds.

- (12) John slept until 9 = $\exists s \exists t \exists t' \exists t'' [sleep(j)(s) \wedge AT(s, t'') \wedge nine(t') \wedge t \subseteq t'' \wedge \forall t'' [[t \preceq t'' \prec t'] \rightarrow \exists s' [s' \sqsubseteq s \wedge sleep(j)(s') \wedge AT(s', t'')]]]$

An equally non-focus-sensitive formalization of AS FAR AS along these lines is conceivable.

³The following glosses were used: 1/2/3 = first/second/third person, SG/PL = singular/plural, F/M = feminine/masculine, AI = animate intransitive, BM = background marker, DEM = demonstrative, DET = determiner, ICP = ‘intransitive copy pronoun’, IMPF = imperfective, NEG = negation, NMLZ = nominalization, NONAFF = nonaffirmative, PFV = perfective, REL = relative, Ø-OBJ = zero-object marker. The following abbreviations were used for the Bole and Ngizim texts. They can be retrieved from www.humnet.ucla.edu/humnet/aflang/Yobe/yobe.html: B1 = “Aru Bo Bole”, B2 = “Talube Leyi Kuyanga Bolewa”, B3 = “Zonge ga Ada”, B4 = “Ibilisa ga Da Zonge”, N1 = “Ruwa Miya Ngizim”, N2 = “Ama Dagai Na Gwaigwai”, N3 = “Nen Na Amatingeri Shirin”, N4 = “Zebak Ngizim”, N5 = “dayak”. Where no text is cited, the data stems from my own fieldwork in Potiskum and Maiduguri, NE Nigeria.

3.2 Scalar endpoint analysis: ‘high’ endpoint

I will however argue for a different denotation than (12) for both *kapa*_{until} and *kapa*_{as-far-as}, namely a denotation that takes into account the projection behaviour of sentences with UNTIL and AS FAR AS. A sentence like (13) has two readings, one in which the negation takes wide scope (a), and one in which it takes narrow scope (b) (Condoravdi, 2008:11). In the wide scope reading, the meaning component ‘John stayed (from an implicit start time *t*)’ projects.

- (13) John didn’t stay until 8 o’clock.
 a. Not((Until(8))(J. stayed)) (not-throughout-reading)
 b. (Until(8)(Not(J. stayed))) (throughout-not-reading)

I suggest that this is due to focus on the UNTIL-phrase, giving rise to the immediate question under discussion in (14) for sentence (13) as well as for its positive counterpart. The focus alternatives are thus of the form {John stayed from *t* to *t'*}, for salient points of time *t'* ($t \prec t' \preceq 8$).

- (14) How long did John stay (from implicit startpoint *t*)?
 = {John stayed from *t* to 6, John stayed from *t* to 7, John stayed from *t* to 8}

Similarly, in (15), where a sentence with AS-FAR-AS, is negated, *Mary walked (from a start point *x*)* projects, but the salient alternatives involve shorter walking distances (e.g. from *x* to *y*, or from *x* to *z*, *y* and *z* being between *x* and the well). The salient alternatives in both cases are thus ‘shorter’ alternatives with the same implicit startpoint.

- (15) Mary didn’t walk as far as the well.
 (16) How far did Mary walk (from implicit startpoint *x*)?
 = {Mary walked from *x* to *y*, Mary walked from *x* to *z*, Mary walked from *x* to the well}

I propose to capture this as follows: Sentences with UNTIL/AS FAR AS presuppose that all considered alternative answers to the question under discussion rank lower on a salient scale of strength than the answer contextually implicated by the prejacent, and assert that the prejacent is true, thus that this most informative considered alternative is the strongest true answer to the QUD. Example (17) shows this for a sentence with UNTIL, whereby \geq in $p \geq p'$ (*p* is stronger than *p'*) represents the ordering of strength.

- (17) [[John stayed until 9]]^w
 Contextual implication $p = \text{‘John stayed from } t \text{ to } 9\text{’}$.
 Presupposition: $\forall p' \in \text{QUD } [p \geq p']$
 Assertion: $\forall p' \in \text{QUD } [p'(w) \rightarrow p \geq p']$

I tentatively suggest that *kapa* was borrowed in its uses as UNTIL and AS FAR AS from one language to the other, since these are the only shared uses - Russell Schuh (p.c.) suggested to me that *kapa* might have been borrowed from Bole into Ngizim.

In section 4, the extension of the proposal to *kapa*_{even} in Ngizim will be presented, section 5 presents the proposal for *exclusive* uses of *kapa* in Bole: ONLY and so-called *punctual* UNTIL. Whereas all of these uses are analyzed as marking a scalar endpoint, the exclusive uses differ in that they mark a low scalar endpoint.

4 EVEN

In Ngizim, but not in Bole, *kapa* is used as EVEN.

- (18) Ndiwa tawanke deyau *kapa* Mammadi (Ngizim)
 Person every come.PFV KAPA Mammadi
 “Everybody came, even Mammadi.”
- (19) Lelo i kele n Ibbi, *kapa* Mammadi *(iwo sa) (Bole)
 everyone do.PFV greeting to Ibbi KAPA Mammadi do.PFV.Ø-OBJ NEG
 “Everybody greeted Ibbi, only Mammadi didn’t greet him.”
 (intended:) #“Everybody greeted Ibbi, even Mammadi.”

I suggest that *kapa*_{even} has developed from *kapa*_{until/as-far-as} in Ngizim. Crosslinguistically, there are many particles used as UNTIL and AS FAR AS which are also used as EVEN, e.g. Greek *mexri* (Giannakidou, 2007:p.46), Spanish *hasta* (Schwenter, 2003, Schwenter and Vasissth, 2001), Hindi *-tak* (Schwenter and Vasissth, 2001), Swedish *till och med* (lit. ‘until and with’) (Gast and van der Auwera, 2011) or particles meaning EVEN which developed from a particle meaning UNTIL, e.g. Spanish *aun* (from Latin *adhuc* ‘until’) and Russian and Bulgarian *daže* (Gast and van der Auwera, 2011). To make this connection, the standard analysis of EVEN however has to be abandoned.

4.1 Previous accounts of EVEN

EVEN is often analyzed very similarly to additive ALSO, e.g. by Karttunen and Peters (1979), Rooth (1985): According to this account, the difference between EVEN and ALSO lies in a second presupposition triggered by the former, a presupposition that the prejacent ranks low on a scale of likelihood (or high on a scale of unlikelihood) with respect to its alternatives.

- (20) *Also* [Mary]_F came
 assertion: Mary came
 presupposition: Somebody else came (additive)
- (21) *Even* [Mary]_F came
 assertion: Mary came
 presupposition: Somebody else came (additive)
 presupposition: That other person is more likely to come than Mary on a salient scale of likelihood (scalar)

However, this analysis has been challenged, e.g. by Fauconnier (1976), Kay (1990): (i) the additive meaning component is not always available, and (ii) the scale is not necessarily a likelihood scale. Both can be seen in (22), uttered e.g. by a person living in Berlin⁴, and in (23).

- (22) We first considered going to Spain, but then we even went to Morocco.
 NO presupposition: We went somewhere else
 NO presupposition: Morocco is a less likely travel destination than Spain.
- (23) Leather seats in automobiles are mainly coloured dark gray, indeed mostly even black.
 NO presupposition: The car seats are some other colour besides black.
 NO presupposition: Black is a less likely colour for car seats than dark gray.

⁴This example was suggested to me by Manfred Krifka (p.c.).

4.2 Scalar endpoint analysis: ‘high’ endpoint

For $kapa_{\text{even}}$, I adopt an analysis similar to Fauconnier (1976)’s analysis of French *même* (= EVEN). Fauconnier suggested that a sentence like (24) only has one presupposition triggered by EVEN: it presupposes a scale on which the focused alternative is the strongest considered alternative, entailing the other alternatives - making it the endpoint on a salient scale of alternatives. For this, an additional rule like (25) is needed.

- (24) *Even* [Mary]_F came
 assertion: Mary came
 presupposition: ‘Mary’ is the highest alternative on a scale of alternatives.
- (25) Entailment rule: If x_1 is higher than x_2 , then x_1 *came* entails x_2 *came*.

In this account, the universal (*All (salient) others came*) is a pragmatic implicature of the prejacent combined with the presupposed scale. The advantages of the account are that the scale is a scale of strength, and not of likelihood, and that there is no additive presupposition.

There is however one main disadvantage of the account, namely that an additional rule has to be stipulated to make e.g. ‘Mary’ a stronger alternative than e.g. ‘John’⁵. I thus adopt the proposal by Gast and van der Auwera (2011), who suggest that it is enough if there is an entailment relation between *contextual implications* of the prejacent and its alternatives. Contextual implications are inferences drawn from the sentence together with its context (Wilson and Sperber, 2004). So, under this account, an utterance like *Even Mary came* in (26) would have a contextual implication *John, Peter and Mary came*, which is stronger than all its alternatives, e.g. *John and Peter came*, on a presupposed scale.

- (26) a. Who came?
 b. Context: John and Peter came, and...
even Mary came.

The alternatives on the scale are alternative answers to the question under discussion, e.g. *Who came?*. Stronger alternatives entail weaker alternatives, i.e. in the case of (26), an alternative

⁵Kay (1990:89) additionally criticizes this account for another reason: he suggests that EVEN cannot mark a scalar endpoint, due to the existence of examples like (i), where *even* associates with *semi-finals*, which has a stronger alternative, *finals*. Note that Fauconnier (1976:108) himself made a similar point with examples like (ii).

- (i) Not only did Mary win her first round match, she even made it to the semi-finals.
 (ii) Paul ou même Pierre ou même à la rigueur Philippe ferait l’affaire.
 “Paul or even Pierre or even in the worst case Philippe would do.”

I consider this to be unproblematic: Fauconnier’s account remains valid if one considers *even* and *même* to mark the endpoints of scales of *considered* alternatives, which are variable, rather than inherent endpoints. Recent work by Schwenter and Vasishth (2001), Schwenter (2003) shows that additive-scalar operators differ with respect to whether this is possible, cf (iii). Further fieldwork will tell what the behaviour of $kapa_{\text{even}}$ is in these contexts.

- (iii) No sólo X, *incluso/##hasta* vino Y e *incluso/##hasta* Z.
 not only X $even_{\text{rel}}/even_{\text{abs}}$ came Y and $even_{\text{rel}}/even_{\text{abs}}$ Z
 “Not only X, even Y came and even Z came.”

answer like e.g. *Mary and Peter came* is not possible. I assume, adapting similar proposals from Beaver and Clark (2008) and Coppock and Beaver (2011) for ONLY, that the question under discussion is modified by the use of the focus-sensitive operator EVEN: the presupposition triggered by the focus/background structure would usually be the full range of possible answers to the question under discussion, including *Mary and Peter came*. The use of EVEN however additionally constrains the question under discussion in a way that certain alternatives are not under consideration any more, i.e. stronger alternatives than the one contextually implicated by the prejacent, and alternatives not entailed by this contextual implication. Coppock and Beaver (2011) call this the *discourse presupposition* of the focus-sensitive operator.

The nature of the question under discussion can be quite varied. For example (22) above, Gast and van der Auwera (2011) would assume a question under discussion and alternatives like in (27). Example (23) analogously indicates a question under discussion ‘How dark are the seats?’.

- (27) a. How far did you go?
 b. We even went to Spain
 Contextual implication: We went *d*-far,
 entails all salient alternatives of the form ‘we went *d'*-far’.

The proposal for EVEN is thus as follows⁶:

- (28) [[Even]]^w(q)
 Contextual implication: *p*
 Presupposition: $\forall p' \in \text{QUD} [p \geq p']$
 Assertion: $\forall p' \in \text{QUD} [p'(w) \rightarrow p \geq p']$

This proposal captures the relatedness of *kapa*_{even} and *kapa*_{until/as-far-as} above: Both presuppose a scale on which the alternative indicated by their prejacent is the strongest considered alternative, and assert that this is the strongest true alternative. Under this account, there is no close relation between EVEN and ALSO: EVEN has no additive meaning component⁷.

In the following section, the relation between these inclusive uses of *kapa* and the exclusive uses of *kapa*, punctual UNTIL and ONLY, will be discussed.

⁶Note that there are examples in which scale reversal takes place, cf. (i). I will assume that these are elliptical sentences (the non-elided sentence being ‘*kapa Mammadi deyi bai*’), and that *kapa* takes scope over the negation - the alternatives being of the form *x didn’t come*, with the contextual implication of *Mammadi didn’t come* ranking highest on the scale. There is then no need to assume the existence of a NPI *kapa*_{even} (Rooth, 1985, Giannakidou, 2007).

- (i) Na nən wara deyi bai, kapa Mammadi.
 there.is person REL come.PFV NEG KAPA Mammadi
 “Nobody came, even Mammadi (didn’t come).”
 (Consultant comment: you are expecting Mammadi to come even if the others don’t, but even he didn’t come.)

⁷I suggest that this is the reason for the following difference between EVEN and ALSO: ALSO cannot include alternatives that are in some way entailed by the prejacent, EVEN often does, cf. Jacobs (1983).

- (i) Sogar / #Auch ALLE Kinder sind gekommen
 “Even / #Also ALL children came”

5 NOT UNTIL, ONLY

In Bole, but not in Ngizim, *kapa* can be used as *punctual* UNTIL and as ONLY. Punctual UNTIL occurs in sentences describing accomplishments or achievements, and indicates (i) that the event took place at the time indicated by the UNTIL-phrase, and (ii) that this is unexpectedly late, indicating an exclusion of alternative earlier times. In the Bole example in (29), a hyena is threatening to eat the children of her former friend, the dog, but not before the dog comes home.

- (29) Kala in ngada-ku sa *kapa* non-ku ndingo. (B3)
 but 1SG eat-2PL NEG KAPA mother-2PL come.PFV
 “But I won’t eat you until your mother comes.”

(30) is a Bole example of so-called ‘non-scalar’ *kapa*_{only}, in which it is excluded that Bamoi called other people apart from Mammadi - I will later argue that these uses are scalar, too. (31) shows a so-called ‘scalar’ or ‘evaluative’ use, which expresses that going home is a less eventful way to end a ritual than the possible alternatives.

- (30) Bamoi undu Ibbi sa, *kapa* Mammadi.
 Bamoi call.PFV Ibbi NEG KAPA Mammadi
 “Bamoi didn’t call Ibbi, only Mammadi.” (‘non-scalar’ use of *kapa*_{only})
- (31) *Kapa* ita mem bon-to za ishin deyi (B2)
 KAPA 3SG.F come.back.PFV house-3SG.F then 3SG.M stop.NMLZ
 “She just comes back to her house, then it [the ritual] is finished.” (‘scalar’ use of *kapa*_{only})

In Ngizim, in the available data, *se/sai* (= ‘only’, ‘until’) is used instead of *kapa* in these contexts. This is shown in (32) for punctual UNTIL, and in (33) and (34) for ONLY.

- (32) Na baru bai *se* ka tatkani ruwa-kəm karak tənu. (N2)
 1SG give.PFV NEG SE 2SG show.1SG song-2SG.F nice DEM
 “I won’t give him up until you show me that nice song of yours.”
- (33) Akshi a dlama nana nana yaye, zəgaya *se* Səku (N5)
 3PL 3AGR do.NMLZ how how even knowledge SE God
 “Whatever they might have done, only God knows.”
- (34) #Na nən wara deyi bai, *kapa* Mammadi (Ngizim).
 there.is person REL come.PFV NEG KAPA Mammadi
 (intended:) # “Nobody came, except for Mammadi.”
 (Comment: This means “Nobody came, even Mammadi didn’t come.”)

Bole and Ngizim aren’t the only languages in which the close relation between ONLY and punctual UNTIL is apparent. Other languages in which exclusive particles can be used as punctual UNTIL English *only* in (35) (Declerck, 1995), French *ne... que* (De Swart, 1996), and Greek *para monon*⁸.

- (35) John only woke up at nine.

⁸Cf. Declerck (1995), König (1991), who also analyze *not... until* and its crosslinguistic equivalents (e.g. German *erst*) as exclusive focus-sensitive particles.

In some languages, ONLY can receive a EVEN-reading in scale-reversing contexts, e.g. e.g. German *auch nur*, Dutch *ook maar*, Italian *anche solo/soltanto*, Slovak *i len*, Czech *i jen*, all meaning ALSO ONLY, Spanish *tan solo/solamente* and Catalan *tan sols* meaning SO ONLY (Gast and van der Auwera, 2011:p.32), and Blackfoot *ikak-* meaning ONLY (Bliss, 2010). In Bole, in these contexts the particle *le* (=EVEN) is used instead of *kapa*:

- (36) Le lowa-to kufattukko. (B6)
 LE answer.3SG.F refuse.TOT.PFV
 “She refused even to answer her.”

So, whereas a close relation between ONLY and punctual UNTIL was found in both languages, no direct relation was found between ONLY and EVEN - The development of *kapa* to include EVEN in Ngizim and ONLY in Bole indicates that they are in a sense more closely related usually assumed, but I believe that it is an indirect relation, mediated by durative and punctual UNTIL.

5.1 Previous accounts of punctual UNTIL and ONLY

*Kapa*_{only} and punctual *kapa*_{until} should thus also be analyzed as scalar endpoint markers. The standard analyses of ONLY and punctual UNTIL are however non-scalar⁹. Under such a standard account, a sentence like (37) has an asserted exclusive meaning component (‘No other alternative is true’) and a presuppositional meaning component, the exact nature of which has not been agreed upon. Horn (1969)’s influential proposal takes the prejacent to be presupposed¹⁰:

- (37) *Only* Mary came
 assertion: Nobody else came
 presupposition e.g. Mary came

Punctual UNTIL, on the other hand, was initially not distinguished from durative UNTIL discussed above (Klima, 1964, Heinämäki, 1978, Mittwoch, 1977), it was assumed that negation renders eventive predicates durative, and that the proper interpretation of an utterance like (38) is therefore: There was an interval of John not waking up ranging from an implicit startpoint to the endpoint indicated by the UNTIL-phrase.

- (38) John didn’t wake up until nine.

Most recently, punctual UNTIL is however analyzed as an NPI (De Swart, 1996, Giannakidou, 2002, 2003, Condoravdi, 2008). The reason for this is that in contrast to durative UNTIL, the change of state indicated by a sentence with punctual UNTIL has to take place for it to be uttered felicitously - this can be seen in negative sentences with durative and punctual UNTIL.

- (39) a. # Nancy didn’t get married until she died. (Punctual)
 b. Nancy remained a spinster until she died. (Durative)

An analogous example for this in Ngizim is (40): One can see that this is a durative use of UNTIL, because the indicated event does not take place - this is not possible with punctual UNTIL. Punctual and durative UNTIL can thus not be the same.

⁹Notable exceptions include Horn (1969), who assumed a scalar meaning for VP-only, and Jacobs (1983), who assumed a unified, scalar approach to German *nur*.

¹⁰Other proposals include that the prejacent is entailed (Atlas, 1993), that an existential ‘John likes someone’ is presupposed (Horn, 1996, von Stechow, 1997), and many more.

- (40) Da nawi da wənyi, sa am bai bare abən *kapa*
 from spending.the.day from spending.the.night drink.PFV water NEG let.alone food KAPA
 maya da təkatu dəl. (N2)
 hunger 3SG kill.3SG.F dəl
 “She spend day and night (singing), she didn’t drink any water much less (eat) food until
 hunger killed her.”

The second kind of evidence for an NPI analysis stems from crosslinguistic data, cf. e.g. Giannakidou (2002, 2003): in many languages, they are realized differently, as seen in this paper for Ngizim. In an early NPI analysis of punctual UNTIL, Karttunen (1974:p.294) proposes that a sentence like (41) has a presupposition that the event in question either happened at the time indicated by the UNTIL-phrase or earlier, and asserts that it didn’t happen earlier, thereby indicating that the event happened at the time indicated by the UNTIL-phrase. Evidence for this comes from the projection behaviour of these sentences, cf (42).

- (41) John didn’t arrive until 9.
 presupposition: John arrived before 9 or he arrived at 9.
 assertion: John didn’t arrive before 9.
 entailment of (i) & (ii): John arrived at 9.
- (42) If John hadn’t arrived until 9, he would have missed the fireworks.
 → John arrived before 9 or he arrived at 9.

This analysis is very close to the one I will eventually propose, but like the standard account of ONLY above does not take scalarity into account.

5.2 Scalar endpoint analysis: first attempt

This section shows why the analysis proposed for the inclusive uses of *kapa* above cannot be extended to ONLY and punctual UNTIL. An analysis like this for ONLY would go as follows: A sentence with ONLY presupposes that the contextual implication of the prejacent is the strongest endpoint on a scale, and asserts that it is the maximal true alternative. This however does not work in the case of ONLY, since in some cases, the prejacent is not asserted, but projects, cf. (43).

- (43) It is not the case that only Alceste came
 → Alceste came.

In addition, cancellability tests show that whereas the exclusion of stronger alternatives in the case of EVEN, AS FAR AS, and durative UNTIL is only an implicature, in the case of ONLY and punctual UNTIL, the exclusion of alternatives is stronger (cf. e.g. Kay (1990) for *even*, Giannakidou (2003) for *until*, Beaver and Clark (2008) for *only*).

- (44) a. Even Mary came, in fact, even Sue came.
 b. She went as far as the door, in fact, she even went outside.
 c. She was awake until 8 o’clock, in fact, she only went to bed at 9.
 d. Only Mary came, # in fact, Sue also came.
 e. She didn’t fall asleep until 8 o’clock, # in fact, she fell asleep at 7/9.

Thirdly, ONLY actually marks its prejacent as **weak** with respect to the considered alternatives (Zeevat, 2009, Beaver and Clark, 2008), cf. example (45) from Roberts (2010): Here, the surprise of the speaker concerns the fact that Sarah did not have more than two children. The considered alternative answers to the question under discussion are thus stronger alternatives. I propose that the ‘unexpected lateness’ indicated by sentences with punctual UNTIL is actually also an indication of weakness with respect to the considered alternatives, cf. (45 c).

- (45) a. You look surprised. What’s up?
 b. Sarah only had twins.
 (Expectation: Sarah had more children)
 c. Sarah didn’t have her baby until this morning!
 (Expectation: Sarah had her baby earlier)

So, like with durative UNTIL, the alternatives are earlier intervals of time with the same startpoint, but whereas these alternatives are weaker in the case of durative UNTIL, cf. (46), they are stronger with punctual UNTIL, cf. (47). The reason lies in the aktionsart of the verb: because durative UNTIL occurs with atelic verbs, longer intervals entail shorter intervals. With the telic verbs punctual UNTIL occurs with, this is reversed.

- (46) John was awake between t and 9 o’clock
 → John was awake between t and 8 o’clock.
 (47) John arrived between t and 8 o’clock
 → John arrived between t and 9 o’clock.

For this reason, I will propose an analysis where punctual UNTIL and ONLY mark an alternative as the low endpoint on the scale of considered alternatives.

5.3 Scalar endpoint analysis: ‘low’ endpoint

I propose that both punctual UNTIL and ONLY are best analyzed by adapting the account proposed by Beaver and Clark (2008) for ONLY: A sentence with punctual UNTIL or ONLY presupposes a scale on which the contextual implication of the prejacent is the low endpoint, all other considered alternatives being stronger. It then asserts the prejacent, indicating that this lowest endpoint is the strongest true answer to the question under discussion.

For example, (48) presupposes possible answers to the question under discussion, ranked on an entailment scale such that *John and Peter came* is the weakest considered answer. It then asserts that no stronger alternatives are true. Like in the case of EVEN, the answer dynamically changes the question under discussion, such that no weaker alternatives (e.g. *John came*), and no alternatives that do not entail the prejacent (e.g. *Mary and Peter came*) are under consideration. The considered scales are very similar to those discussed in the section about EVEN, cf also (49).

- (48) a. Who came?
 b. Only John and Peter came.
 presupposition: ‘John and Peter came’ is the weakest considered alternative.
 assertion: ‘John and Peter came’ is the strongest true alternative.

(49) We first considered going to Morocco, but then we only went to Spain.

Similarly, (50) presupposes that ‘John arrived between t and 9’ is the weakest considered answer to the question under discussion, stronger ones being ‘John arrived between t and t' (t' being between t and 9). It then asserts that no stronger alternatives are true, entailing ‘John arrived at 9’, like in Karttunen (1974)’s proposal. The main innovation with respect to Karttunen’s approach is the scalar endpoint marking, which accounts for the similarity between punctual UNTIL and ONLY on the one hand, and durative UNTIL on the other.

- (50) a. When did John arrive?
b. John didn’t arrive until 9.

This will be captured by the following denotation for ONLY / punctual UNTIL:

- (51) $[[\text{Only}]]^w(q) / [[\text{Until}^P]]^w(t)(q)$
Contextual implication: p
Presupposition: $\forall p' \in \text{QUD} [p' \geq p]$
Assertion: $\forall p' \in \text{QUD} [p'(w) \rightarrow p \geq p']$

To summarize, sentences with punctual UNTIL and ONLY presuppose an entailment scale of considered alternatives with their contextual implication ranked lowest, and assert that this is the strongest true alternative, thereby excluding all stronger alternatives.

6 Conclusion & further work

We have seen the following uses of *kapa*: a shared use as durative UNTIL and AS FAR AS, a further inclusive use as EVEN in Ngizim, and exclusive uses as punctual UNTIL and ONLY in Bole.

	<i>only</i>	<i>until</i> ^P	<i>until</i> ^D	<i>as far as</i>	<i>even</i>
Ngizim			✓	✓	✓
Bole	✓	✓	✓	✓	

I proposed that *kapa* presupposes a scale on which the considered answers to the question under discussion (i.e. the different focus alternatives) are ranked in a certain way, such that the alternative indicated by the utterance is a *scalar endpoint*. This alternative is then asserted to be the maximal true alternative. The difference between the inclusive uses of *kapa* (UNTIL^D, AS FAR AS, EVEN) and its exclusive uses (UNTIL^P, ONLY) lies in which endpoint is marked: inclusive *kapa* marks a high scalar endpoint, exclusive *kapa* marks a low scalar endpoint.

In further fieldwork, I will investigate the proposed meanings, including tests for *absolute* vs. *relative* end-of-scale marking (Schwenter and Vasisht, 2001, Schwenter, 2003). It might also be fruitful to examine the scalar operators *sai/se* (= ONLY, UNTIL) and *har* (= EVEN, UNTIL), which are widespread in this region and are similar in meaning and use to *kapa*.

There is also another use of *kapa* which is not included in the discussion yet: in Bole, it can be used as a strong or weak necessity modal (52). This also does not seem accidental - in the related language Hausa, *sai* (= ONLY, UNTIL) can be used as a necessity modal, too (Kraft, 1970). It remains to be seen whether this can be analyzed as a scalar endpoint marker.

- (52) *kapa ka oppu boz ga bon=ko*
 KAPA 2.SG dig-PFV.M well at house=2.SG.POSS
 “you have to dig a well in your house”
- (53) *Sai mù tàfi gidaa.*
 SAI 1PL.SBJV go home
 “We should go home.”

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