RELATIVIZATION IN CHADIC: A CASE STUDY OF MUSGUM, MASA, WANDALA AND GIZIGA

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Abstract: The paper addresses relative clause formation in four Chadic languages spoken in the upper north region of Cameroon, namely Musgum, Masa, Wandela and Giziga. Relative clauses are introduced by a relativizer which agrees in gender and number with the head noun (Masa). In these languages, the unmarked relative position is DP REL and the relativizer modifies DPs. It is argued that the promotion analysis (Schachter 1973, Vergnaud 1974, Kayne 1994 is used to derive relative clause in these languages since wh-relatives aren't attested in these languages. Furthermore, the accessibility hierarchy devised by Keenan and Comrie is respected in these languages: Subject, Direct Object, Indirect object of pre-or postposition as well as Possessor are relativizable positions in the aforementioned languages. Following Biloa (2013), it is argued that the landing site of relativization is the specifier position of Relative Phrase (RelP) that the head hosts relativizer.

Keywords: Chadic languages, relative clause, wh-relatives, specifier, relativizer.

Introduction

Relative clauses are a very popular object of theoretical linguistic inquiry. They consist of the head noun, called *domain noun* in Keenan (1985:142) and the relative clause which is introduced either by a relative pronoun as in French or English or by a relativizer. The relative clause is a larger noun-modifying clause construction. Relativization is the process by which a relative clause is derived from an underlying non-relative clause. This paper discusses relativization in four Chadic languages spoken in the northern Cameroon. In this respect, the paper considers whether these languages abide by the Accessibility Hierarchy devised by Keenan and Comrie (1977). The discussion probes the landing site of relativization in the languages under study and analyses the structure and licensing of Relative Phrase (RelP). In doing so, section one surveys some theoretical approaches to relativization. Relativization in Musgum is probed in section two. Section three studies relativization in Masa meanwhile section four and five are respectively devoted to relativization in Wandala and Giziga. Some concluding remarks close off the paper.

1. Theoretical assumptions

Two main approaches to relativization are attested in generative grammar: the promotion analysis (Schachter 1973, Vergnaud 1974, Kayne 1994) and the matching analysis (Chomsky 1977, Safir 1986, Browning 1987). The study of English relative constructions has, historically, been conducted either within the framework of the promotion analysis or in the light of the matching approach. The promotion analysis claims that the head of a relative clause can be interpreted as if it is in the gap position inside the relative clause (reconstruction effects) (Aoun and Li, 2003: 97). More precisely, the head is raised from within the relative clause: this line of reasoning was called the promotion analysis (Schachter 1973, Vergnaud 1974). Kayne (1994) resuscitated this analysis and his approach to word order and phrase structure rules out right adjunction structures in the grammar of

natural languages. Kayne (1994) and Bianchi (1999, 2000 a-b) observe that relatives involve the following Head movement/raising process and complementation structure (see also Biloa 2013: 442, (83)):

(1) *The promotion analysis*

$[_{DP}$ D $[_{CP}$ NP/DP$_i[_C[_{IP}...t_i....]]]]$

Chomsky (1977b) is the main proponent of the matching analysis for which relative constructions are derived via wh-movement, like wh-interrogatives (as are clefts, comparatives, topicalizations, easy-to-please, comparative, etc). In this respect, the following properties are illustrated by relatives:

(2) (Aoun and Li 2003: 99; Biloa 2013: 442)

   a. The construction contains a gap.

  b. Long –distance relatives are available.

  c. Island constraints are relevant.

Apart from Chomsky, other advocates of this approach include Safir (1986), Browning (1987).

Chomsky (1977b) suggests that relatives are derived as follows:

(3) *The matching analysis*

$[_{NP/DP}[_{Head}$ NP/DP$_i...]$ $[_{Relative\ CP}$ Wh$_i[...t_i...]]]]$

Aoun and Li (2003: 106, (30)-(31)) summarize the promotion analysis and the matching analysis into the following subparts:

(4)

  a. Complementation structure: the relative clause is a complement to D.

  b. Adjunction structure: the relative clause is adjoined to the Head.

If a relative clause contains a trace, two analyses make themselves available:

(5) *Head raising/ promotion and head base-generation / operator movement:*

a. Head raising/ promotion: the nominal to be relativized moves to the Head position; that is the trace in the relative clause is derived by movement of the Head.

b. Head base-generation/operator movement: the Head is base-generated in its surface position and interpreted with the relative clause via a wh-operator movement to the Spec of the relative CP; that is the trace in the relative clause is derived by operator movement.

Aoun and Li indicate that the Head raising approach (promotion analysis) involves non-wh relatives, while the operator movement approach (matching analysis) concerns wh-relatives. The following generalizations can be drawn from their study (p.114):

(6)

     a. Non - wh – relatives exhibit reconstruction effects; that is the Head can be derived by movement from the position where it is interpreted to its surface position.

     b. Wh-relatives do not exhibit reconstruction effects; that is the Head is not derived by movement from the position where it is interpreted to its surface position. It is base-generated in its surface position.

The Aoun and Li's typology infers that, within the class of restrictive relatives, there are two types of relative constructions: wh-relatives and non-wh-relatives. From the above

reasoning, it follows that both a Head-raising analysis and operator analysis are important. Furthermore, the conjunction facts demonstrate that a relative construction, either a wh-relative or a non-wh-relative, must be projected as a DP (Aoun and Li, 2003: 118).

Additionally, a complementation structure, such as the one developed by Bianchi (1999) refines Kayne's (1994) proposal and can accommodate both Head-raising and operator movement.

In the Head-raising approach (promotion analysis of a non-wh-relative), the Head DP, with empty D, is raised to the peripheral position of the CP. Otherwisely stated, a non-wh-relative is structured and derived in the following manner:

(7)   [$_{DP}$ D[$_{CP}$ DP$_i$ [C [$_{IP}$… t$_i$…]]]]

(8) [$_{DP}$ the [$_{CP}$[$_{DP}$ Ø picture]$_i$ that [$_{IP}$ … Bill liked t$_i$]]]

Kayne indicates that wh-relatives are derived the same way. Moreover, he argues that a wh-relative is derived in two steps: first, a wh-phrase is moved to the Spec of CP; second, the NP is raised to the Spec of the Wh-phrase:

(9) [$_{DP}$ [$_D$ the] [$_{CP}$ [$_{DP}$ boy$_i$ [who t$_i$]]]$_C$ [$_{IP}$ I like]]]]

On the contrary, Bianchi suggests that the NP is not raised to the Spec of the wh-phrase. Instead it is moved to the Spec of a higher projection, assuming Rizzi's (1997) Split-CP analysis:
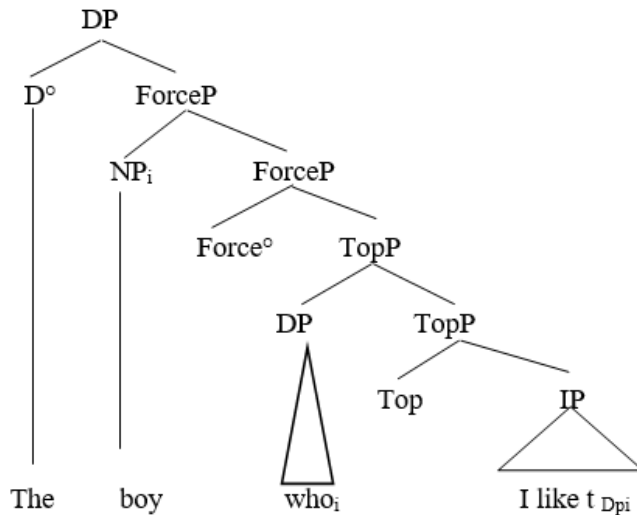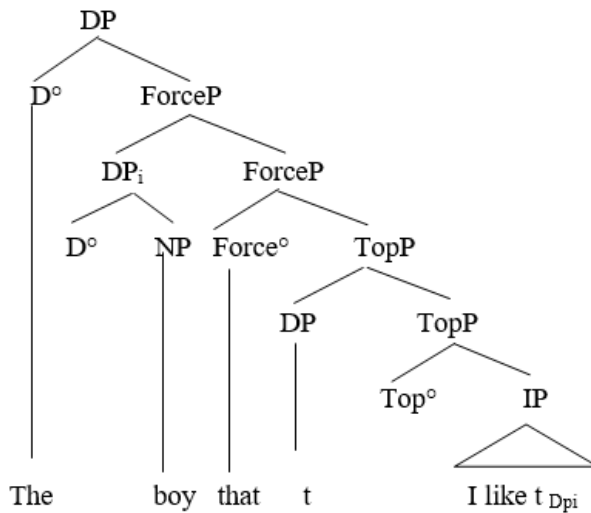
(10)
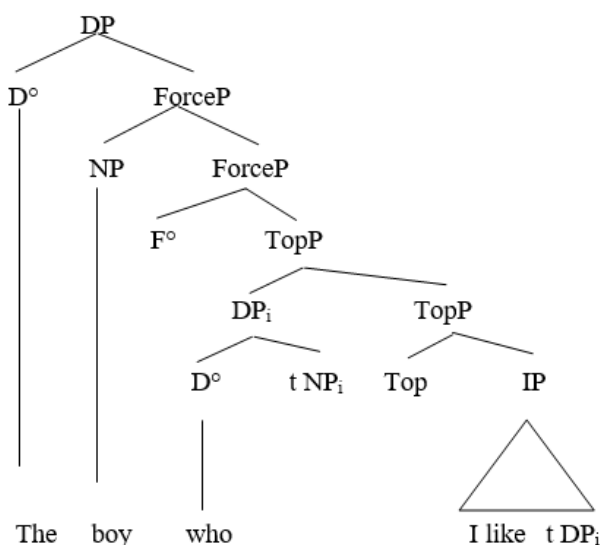
It is observed by Aoun and Li that, in Kayne's and Bianchi's approaches, "a relative clause with a *who* phrase is derived by base-generating [*who* NP] in the argument position". The phrase [who NP] is raised from within the relative IP to the Spec of a Topic projection that is complement to a Force projection. "The NP of the phrase [who NP] undergoes further movement: it moves from inside the DP occupying the Spec of TopP to the Spec of ForceP" (pp. 119-120). Aoun and Li attempt to refine some of Kayne's and Bianchi's assumptions and proposals by proposing that the Spec of TopP hosts the wh-words *who, why, where, when, which,* and so on; their claim supposedly falls in line with Chomsky's (1977b) suggestion that relativization is derived by the movement of a wh-operator to (the Spec of) Comp. " The wh-word is an operator predicated of the Head NP in the Spec of ForceP position […] in contrast to the structure where the NP in the Spec of ForceP is moved from within the DP in

the Spec of TopP, [they] suggest that the NP is *not* moved from within the wh-phrase. If it is not moved to the Spec of ForceP, it must be base-generated there. Accordingly, it is base-generated in the Spec of ForceP and a wh-operator occupies the Spec of TopP. The NP is the Head of the relative construction and enters into either a predication relation with the wh-operator or an agreement relation (see Chomsky 1977b; Safir 1986; Browning 1987)" (Aoun and Li 2003: 121-122). On the basis of the above reasoning, Aoun and Li conclude that English has two restrictive relative structures:

(11) *Operator movement (wh-relative)*

```
                    DP
                   /  \
                 D°    ForceP
                 |    /     \
                 |  NP_i    ForceP
                 |   |      /    \
                 |   |   Force°   TopP
                 |   |          /    \
                 |   |        DP     TopP
                 |   |        /\    /    \
                 |   |       /  \ Top    IP
                 |   |      /    \       /\
               The  boy  who_i        I like t_Dpi
```

(12) *Head-raising (non-wh-relatives)*

```
                 DP
                /  \
              D°    ForceP
              |    /      \
              |  DP_i     ForceP
              |  /  \     /     \
              | D°  NP Force°   TopP
              | |   |   |      /    \
              | |   |   |     DP    TopP
              | |   |   |     |    /    \
              | |   |   |     |  Top°    IP
              | |   |   |     |          /\
            The  boy that   t        I like t_Dpi
```

In the following lines, relativization in Musgum is discussed in detail. First, one wonders whether the Accessibility Hierarchy devised by Keenan and Comrie (1977) is respected. Moreover, the landing site of relativization is probed. Additionally, the structure and licensing of Rel(ative) P(hrase) is analyzed.

2. Relativization in Musgum

2.1 Musgum classification and word order

Musgum (Musgu, Mousgou, Munjuk, Mulwi) is an Afro-Asiatic, Chadic, Biu-Mandara language spoken by 61, 500 inhabitants in the Far North Region, Mayo – Danay Division, entire Maga Subdivision of the Republic of Cameroon. It is also spoken in Chad (Ethnologue 2005). Musgum word order is SVO:

(13) Adam   a-   furi-ji-ti   Amina
       Adam   SM   love-PRS0-ACC Amina
          "Adam loves Amina"

This word order is not disrupted by negation:

(14) Adam   a-   furi-ji-ti   Amina   kai
       Adam   SM   love-PRS0-ACC   Amina   NEG
          "Adam does not love Amina"

2.2. Accessibility Hierarchy

Keenan and Comrie (1977) proposed a crosslinguistically valid hierarchy with regard to relative clause formation:

(15) *Subject; Direct Object; Indirect object of pre-or postposition; Possessor.*
For illustration, consider the following Musgum data:

(16) *Subject*
a. Dif **na** luma   wusi   a- mihil
   man **REL** eat   rat   SM- steal
"The/a man who eats rat is a thief"

b. *Direct object*
Hirge   **na** Adam   a- wuraŋ a- sida   mirɗek
Dog   **REL** Adam   SM buy SM   see   black
"The/a dog that Adam bought is black"

c. *Indirect object*
Aliyagwi   **na**   dif- zihitiri a- midi- ni   a- hini   pai
 Child   **REL**   man teacher SM   talk RES.pro SM son   chief
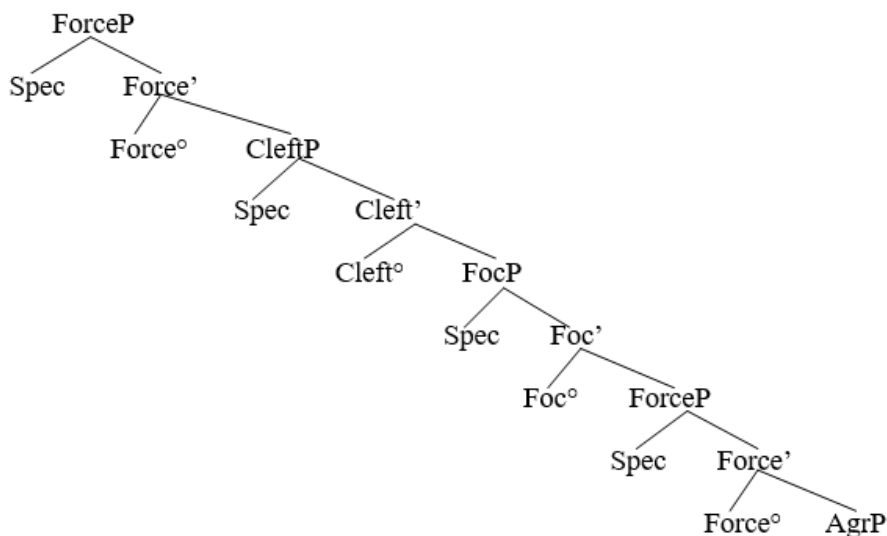"The/a child to whom the teacher talks to is the chief's son"
d. *Possessor*
Muni   **na**   e- hili   sapakaiɗi te-   tuwa
Woman **REL** SM   steal   clothes   SM   cry
"The/a woman whose clothes were stolen is crying"

On the basis of the above data, it appears that Musgum abides by the Accessibility Hierarchy designed by Keenan and Comrie (1977).

2.3. The landing site of relativization

Assuming that relative clause formation in this language is an instance of Move Alpha, one wonders what its landing site is. Notice, first of all, that this language seems to be devoid of wh-relatives, that is, there are no relative with one of the following wh-words:

(17) *Musgum Wh-items*

Arguments:	sia "who"
	Ama "what"
Referential adjuncts:	kazwa "when"
	Wata "where"
Non-referential adjuncts:	masla "how"
	Briima "why

Following Biloa (2013), the landing site of relativization in this language is RelP (Relative Phrase). This view departs from the one advocated by previous researchers over the years: Bresnan (1970, 1972, 1979), Chomsky (1977, 1986), Rizzi (1997). Bresnan (1970, 1972, 1979) and Chomsky (1977) argued that the landing site of relativization or of wh-movement in general was Comp. Chomsky (1986) revised this position by splitting Comp into Spec, CP and C, CP to the effect that Spec, CP became the host of extracted wh-items, relative operators or null operators, while C° accommodated lexical complementizers. Rizzi (1997, 2001, and 2004) refined the system by suggesting that CP be *split* into a number of different projections – an analysis widely referred to as the *Split CP hypothesis* (Radford 2009). He suggested that "complementizers (by virtue of their role in specifying whether a given clause is declarative, interrogative, imperative or exclamative in *force*) should be analyzed as *Force* markers heading a *ForceP* (=Force Phrase) projection, and that focused constituents should be analyzed as contained within a separate FocP (= Focus Phrase) headed by a *Foc* constituent (=Focus marker)". Furthermore, he argued "that just as focused constituents occupy the specifier position within a Focus Phrase, so too topicalised constituents should occupy the specifier position within a TopP (= Topic Phrase)" (Radford 2009: 280-281). In the "Fine structure of the left periphery" advocated by Rizzi (1997), "relative operators occupy the highest specifier position, the Spec of Force" (Rizzi 1997: 289). If this is true for English and other languages (Radford 2009: 282), it can be problematic for a language like Musgum in view of sentences like the following:

(18)

a. Avele   a- sida bo ti Amina **na**   Sali a- diriti
   Avele   SM know that FOC Amina **REL** Sali SM   loves
   "Avele knows that it is Amina that Sali loves"

b. Zigla a- mud-a   bo dif **na** luma wusi   a- mihil
   Zigla SM   say- PST that man **REL**   eat rat   SM steal
   "Zigla said that the/ a man who eats rat is a thief"

Building on the phrase marker proposed in (11) for the embedded clause in (18a) above, one can infer that the label bracketed representation of the latter construction is the following:

(19)

[$_{AgrP}$ Avele   a sida[$_{ForceP}$[$_{Force'}$[$_{Force°}$bo [$_{CleftP}$[$_{Cleft'}$[$_{Cleft°}$ ti[$_{FocP}$[$_{Spec}$Amina[$_{Foc'}$[$_{Foc°}$[$_{RelP}$[$_{Rel'}$[$_{Rel°}$ na[$_{AgrP}$ Sali a- diriti]]]]]]]]]]]]]]]]

(19) reveals that the highest ForceP hosts the lexical complementizer *bo* "that". This ForceP dominates CleftP, FocP and RelP. A potential bone of contention is likely to arise about the latter maximal projection, RelP, since in Rizzi's clausal architecture ForceP can

potentially host the relativizer *na*. The problem is in the cartographic approach it is difficult to imagine an embedded clause structured as follows:

```
                    ForceP
                   /      \
                Spec      Force'
                         /      \
                     Force°     CleftP
                               /      \
                            Spec      Cleft'
                                     /      \
                                  Cleft°    FocP
                                           /     \
                                        Spec     Foc'
                                                /     \
                                            Foc°     ForceP
                                                    /      \
                                                 Spec     Force'
                                                         /      \
                                                     Force°     AgrP
```

(20)

In (20), the highest ForceP successively dominates CleftP, FocP and ForceP, as depicted below:

(21) *ForceP>CleftP>FocP>ForceP*

As indicated above, the most embedded ForceP is the potential landing site of relativization in Musgum if one rejects the proposal made above according to which the relativizer in Musgum is base-generated as the head of a RelP (Relative Phrase). Adopting (20) – (21) violates one of "cartography's basic tenets" as it implicitly allows ForceP "to be freely merged anywhere along the functional spine" (Craenenbroeck 2009: 3). (19), on the contrary, does not seem to violate any condition or principle of Universal Grammar (UG). It rather strengthens the assumption that "functional material is able to project syntactic structure in conformity with the X-bar – format […] in combination with the principle in [(22)]" (Cinque and Rizzi 2009: 2; Van Craenenbroeck 2009: 1):

(22) *One feature One Head (OFOH).*

Each morphosyntactic feature corresponds to an independent syntactic head with a specific slot in the functional hierarchy.

On the basis of the above reasoning, it seems plausible to assume that the maximal projection hosting the relativizer *na* is different from Force. It is difficult to account for the projection of the same functional XP in the same clause as in (21). On the other hand, this language is devoid of overt relative operators à la English or French. In English for instance, as indicated above, it has been argued by Rizzi (1997) that relative operators substitute for the specifier position of ForceP. In Musgum, relative operators being nonexistent, it is the relativizer *na* that is said to assign its denomination to the projection hosting it, namely RelP (Relative Phrase), given X-bar theory and Cartography's tenets.

Furthermore, Baker's (1989) Head Licensing Condition (HLC) that requires that every head be traced up to a single maximal projection is not violated since the relativizer *na* heads the maximal projection proposed, the Rel(ative) P(hrase). Moreover, Koopman (1996, 2005) PPA (Principle of Projection Activation) is equally respected in Musgum:

(23) *Principle of Projection Activation* (Koopman 1996) (PPA)
A Projection is interpretable if it is associated with lexical material at some stage in the derivation.

The PPA is respected since the head of the proposed Rel(ative) P(hrase) hosts the relativizer *na*. Koopman (2005) observes that "the PPA prevents representations with truly empty projections (where neither Spec, nor head contains a lexical item or a trace) and forces movement. The PPA can be rephrased in the standard Minimalism terminology as follows:

(24) (Koopman's (2005), (11))
Functional heads are strong.

Overt material must be linearized. […] the distribution of overt lexical items over these huge universal structures is determined by some version of LCA (Linear Correspondence Axiom (Kayne 1994)):

(25) (Koopman (2005), (12))
The modified LCA has as consequence that no Spec and head position can simultaneous contain overt lexical material.

But this modification of the LCA cannot be maintained given that there are languages for which the [Spec, FocP] and [Foc, FocP] positions are both lexically filled. In Tuki question formation, for instance, the raised wh-item is hosted by the specifier position of the focus phrase (FocP) while the head of FocP, Foc° accommodates the so-called focus marker (for details, see Biloa (2013)):

(26)
a. Ane odzu   Puta   a-nu-bana-m
  Who   FOC   Puta   SM-FUT1-marry-Inc.
"Who will Puta Marry?"
b. [$_{FocP}$[$_{Spec}$ ane[$_{Foc'}$[$_{Foc°}$ odzu[$_{AgrP}$ Puta a-nu-bana-m]]]]]
(27)
a. Mbara a-sesa-m   ee ane odzu Puta   a- nu- bana- m
   Mbara SM-ask-Inc. that who FOC Puta   SM-FUT1- marry-Inc.
    "Mbara asks who Puta will marry"
b. Mbara a- sesa- m [$_{ForceP}$ [$_{Spec}$ Ø [$_{Force'}$ [$_{Force°}$ ee[$_{FocP}$[$_{Spec}$ ane[$_{Foc'}$[$_{Foc°}$ odzu [$_{AgrP}$ Puta a- nu- bana- m]]]]]]]]]]]

In languages like Gungbe, Tuki, Basaa (Bassong 2010, 2014), Muyang (Bebey, 2015), the expression of scope-discourse semantics is "syntacticized" by the criterial heads that are overtly expressed, "with overt Q, Top, Foc markers, and also special complementizers for relatives, for exclamatives, for comparatives, and other kinds of A'-constructions" (Rizzi 2013: 201). As is well known, these markers are not overt in all languages. For instance, the Top marker is nonexistent in Tuki whereas it is attested in Gungbe, Basaa or Muyang. But, as argued by Rizzi (2013: 201-202), "under the uniformity guidelines that guide modern comparative syntax, the natural initial assumption, to be abandoned only on the basis of clear disconforming evidence, is that all languages use a similar system of syntactic markers, except that such markers may be overt or not; this is a spell-out parameter, a familiar and widely attested kind of low level parametrization." In Musgum, the Chadic language under investigation, there are "special complementizers" for relatives (*na*) and clefts (*a, ti*), while there seem to be no marker for topicalization or focalization. There are also "special complementizers" for questions (interrogatives), *bo,* and *di*, for indirect and yes-no questions respectively:

(28)

a. Dairou   dara   a   sida   bo   Avele aga-   a-   da   hilif

   Dairou   like   SM   know   if   Avele FUT   SM   cook   fish

   "Dairou would like to know if Avele will cook fish"

b. Adam a-furi-ji   ti   Amina ɗi

   Adam SM-love-pos RES.pro. Amina QM

    "Does Adam love Amina?"

Bo and *ɗi* are analysed in catography as Int (errogative) heads. *ɗi*, in particular, is believed to host the yes/no question operator or the pied-piped AgrP in Spec, IntP, as the following sketchy derivation of (28b) shows it:

(29)
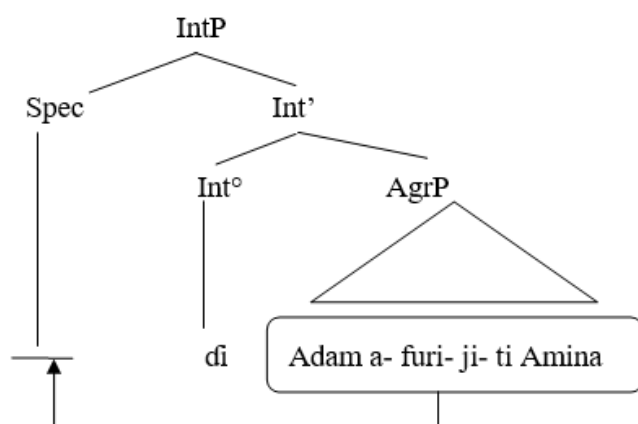
Chomsky's (1993) Extension Condition accounts for the pied-piping of AgrP into Spec, IntP: when a head is merged, movement into its specifier is obligatory (see also Koopman and Szabolcsi 2000:42).

2.4. The licensing and structure of RelP

It was argued above that the relativizer *na* in Musgum is hosted by the head of the Rel(ative) P(hrase), Rel°. The question now is "how is RelP licensed in this language?" In (19), the RelP position is preceded and dominated by the Spec, FocP position, *Amina*. The Spec, RelP position is supposedly filled by a null operator whose antecedent is *Amina*. Licensing is therefore plausible.

If licensing is plausible, one still has to provide an answer to the question "what is the structure of Musgum relatives?" (19) seems to infer that in Musgum relatives, an abstract operator merges into the Spec, RelP position, a position in (19) that is lower than ForceP, CleftP and FocP respectively. Moreover, the landing site of relativization is therefore distinct from the landing site of question formation or focalization in this language. This is hardly surprising since in many languages, the same situation obtains. In Tuki (Biloa 2013), the landing site of question formation is Spec, FocP whereas the landing site of relativization is Spec, RelP. In Hungarian (Horvath 1986), the landing site of relativization is COMP while the landing site of wh-question formation is a position inside VP. In English (Rizzi 1997), wh-phrases merge in Spec, FocP but relative operators are hosted by Spec, ForceP. Although Shlonsky and Soare (2011: 653) have recently argued that the non-referential adjunct *why*,

as a relative operator, merges into Spec, RelP. On the basis of the above, the Musgum facts are no longer exotic.

In Rizzi (1997: 289), it is indicated that "relative operators occupy the highest specifier position, the Spec of Force". This stand is taken by Rizzi on the basis of the English and Italian empirical materials. The Musgum data, under investigation in this endeavor, seem to suggest that in relatives a null operator merges in the Specifier position of a phrase called Rel(ative) P(hrase), the head of which is occupied by the relativizer *na*.

In view of the above, one wonders how the derivation and structure of Musgum relativization fares with regard to developments in generative grammar as far as head initial relative constructions are concerned (Kayne 1994; Bianchi 1999, 2000 a-b; Aoun and Li 2003; Biloa (2013).

In view of the above theoretical apparatus put forth by Aoun and Li, one wonders how the Musgum data can be accounted for. To provide some elements as a way of suggesting an adequate answer to the above question, consider the following Musgum sentence:

(30)

ɗif zihitiri nawiya **na** mu firiy-an a mrasu

Man teacher my **REL** I like-RES.pro. SM dead

"My teacher that I like is dead"

Bear in mind that this language is devoid of articles such as *the/a*. Furthermore, (30) seems to illustrate the sole relativization strategy available in the language. Thus it seems to be the case that there are no wh-relatives. In other words, there are no relatives with one of these wh-items:

> (31) (see (17) above)
> Sia   "who"
> Ama   "what"
> Kazwa "when"
> Wata   "where"
> Masla "how"
> Briim "why"

Since Musgum has no wh-relatives, it seems to be the case that Musgum relatives are derived by Head raising. If the view defended by Bianchi (1999), Aoun and Li (2003) that wh-relatives and non-wh-relatives alike are projected as DPs is correct, then the above Musgum relative is structured and derived as follows:

(32)
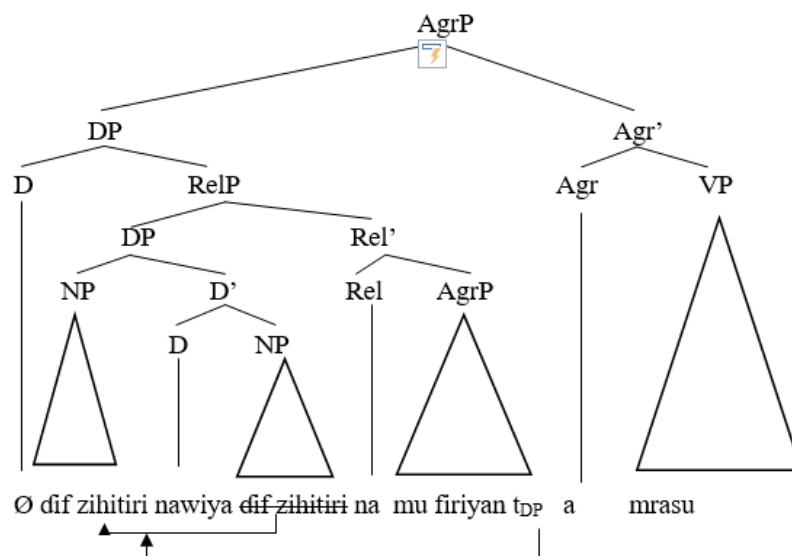
On the basis of the criterial approach to scope-discourse semantics, the description of Musgum has revealed that overtly realized criterial particles project articulations relevant for the scope-discourse semantics such as CleftP, FocP and RelP. The Musgum data so analysed lend support to 'the syntacization' of scope discourse semantics' (Rizzi 2103: 199). The fact that Musgum is overtly endowed with cleft heads (/a/, /ti/,) a Rel head (/ra/), special complementizers for interrogatives (/bo/) and indirect and yes/no questions (/ɗì)/ seems to favour Rizzi's criterial approach as it adamantly abides by the following arguments: 'the existence […] of overt criterial heads populating the left periphery, which are hard to reanalyse case-like or prepositions attached to the relevant phrases; and the existence of C-particles occurring in distinct positions with respect to other elements, and even co-occuring in distinct positions of the same left-peripheral structure' (Rizzi 2013:221). Relative clause formation in Masa is examined in this section by wondering, first, whether the language abides by the Accessibility Hierarchy devised by Keenan and Comrie (1977). Next, the landing site of relativization is probed.

3. Relative clause formation in Masa
3.1. Masa classification and word order

Masa is an Afro-asiatic, north southern Chadic language spoken by 103,000 people in the upper north of Cameroon (SIL 1982), in the south east of Mayo-Danay division, in the Yagoua area. Its alternate names include Massa, Massana, Masa, Masana. The dialects are Walya (Walia), Bongor, Wina (Viri), Gizay (Guissey), Bugudum. This language is spoken on both sides of the Logone River, in Cameroon and Chad (see also *Atlas linguistique du Cameroun*, 2012: 151). The language word order is SVO.

(33) Gassissou   ín   zìy-à
      Gassissou build.IMPERF   house –FV
      "Gassissou builds a house."

This order is not altered by negation:

(34) Gassissou   (máy)   ín   zìyd-ì
      Gassissou   NEG build.IMPERF   house –FV
        "Gassissou does not build a house."

3.2. Accessibility Hierarchy

        With respect to relativization, Keenan and Comrie (1977) proposed a crosslinguistic valid hierarchy:

        (35) Subject; Direct Object; Indirect Object of pre- or postposition; Possessor
For illustration, consider the following Masa data:

        (36) *Subject*

a. nàn ŋaf̂ saˆ   **ma̅** ká   nǎ   vǒ-n   dǒw-ní
  I   meet.PERF man **REL** PROG go.IMPERF village-DEF POS-DEM
      "I met the man who is going to the village."

b. nàn tuˀ   hà y sīnè **ma̅**   góy   ŋòr nìy lūm-ma̅
   I   go.PERF inside farm **REL.MASC** outside back   water river-DEF
      "I went to the farm that is on the other side of the river."

        (37) *Direct object*

a. sa̅   **ma̅** nàn hūm   a̅là Putta sl-ūm-ú-n   mīdīy-á
  Man **REL** I   hear.PERF that Putta marry.PERF-FV-COMPL die.PERF-PP-FV
      "The whom I heard that Putta married has died."

b. sa̅   **ma̅** hāt-na̅   ma̅ dìy-na̅ v-alàm v-úm-m̀   mīd-īy-á
  Man REL teacher-DEF REL dog-DEF of-him bite-him-DEF die-PP-FV
      "The teacher whose dog bit him has died."

        (38) *Indirect object*

a. gòr   **ta̅**   Digim búr   zìn-áˀ-ta̅   hay̅-à
 Child **REL.FEM** Digim   lie.PERF with-her-DEF   stomach-FV
    "The girl whom Digim made love is pregnant."

b. gòr   **ma̅** pêː-r   lawˊ-amˊ-mˊ   zǒw-n mîˋ   gòː-rá   mūl-là
  Child **REL.MAS** priest-DEF talk.IMPERF-   him-DEF POS.-DEM child-DEF lamido-DEF
      "The child to whom the prist talks is the lamido's son."

        (39) Possessor

a. ca̅-dà   v-àn   **ta̅**   kuĺ kūl-aˀ slígáː-rà   v-àˀ-tá ká   tíy-a̅
 Wife-DEF of-me **REL.FEM** thief steal.PERF-her clothes-DEF of-her-DEF PROG
cry.IMP-FV
    "My wife whose clothes were stolen by a thief is crying."

b. cà   **ta̅**   slígáː-rà   v-àˀ   kūlîˊy-t ká   moy̅-à
 Wife **REL.FEM** clothes-DEF of-her   steal.PERF-DEF PROG   sickness-FV
    "The woman whose clothes were stolen is sick."

The above data seem to demonstrate that Masa respects the Accessibility Hierarchy proposed by Keenan and Comrie (1977).

3.2. The landing site of relativization

Relativization, being an instance of Move Alpha (Chomsky 1977), therefore begs the question "what is the landing site of relative clause formation in Masa?" Wh-relatives do not seem to exist in this language. In other words, there are no relatives with one of the following wh-words:

(40) *Masa wh-words*

	Complete forms	**Reduced forms**	
arguments	gì-gé	gě	"who?"
	mì-gé	mě	"what?"
	maː̄/taː̄-rī gé	maː̄/taː̄-ra̅	"what/which?"
Referential adjuncts	cítī̄-gé	cítâ	"when?"
	ārī̄-gé	āra̅	"where?"
Non-referential adjuncts	nánī̄-gé	nána̅	"how?"
	lítī̄-gé	líta̅	"how feel?"
	gà:-gé	gà:	"how much?"
	ānì̄-gé	āna̅̌	"why?"

Rizzi (1997) advocates that "relative operators occupy the highest specifier position, the spec of Force" (Rizzi 1997: 289). That being the case, how could the following Masa sentence be derived?

(41) gòr   m-ān   **ma̅**   nàn   mín-ím-ma̅
     Child to-me **REL.MASC** I   love.IMPERF-him-DEF
     "My child that I love."

Returning to Masa, since it has no wh-relatives, it follows that its relatives are derived by Head raising. Adopting the view defended by Bianchi (1999), Aoun and Li (2003) that wh-relatives and non-wh-relatives alike are projected as DPs, the Masa construction in (41) can be structured and derived as follows:

(42)
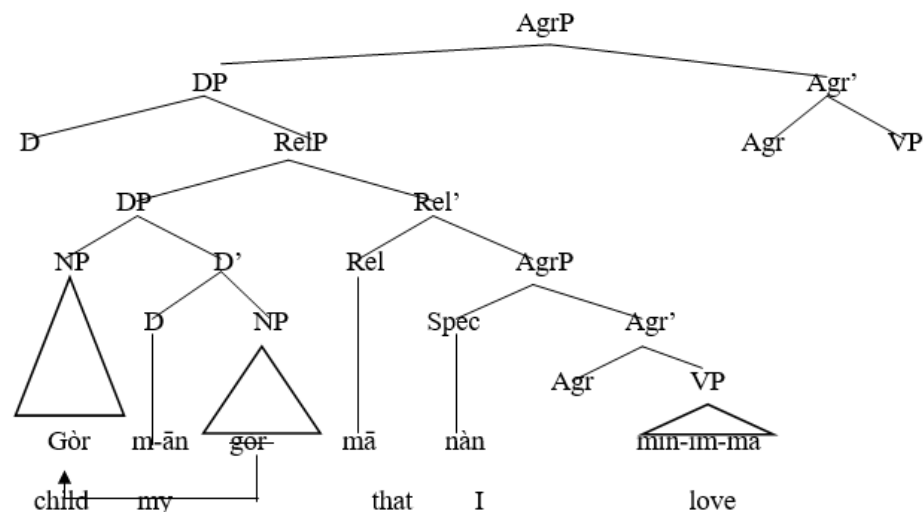
In (42), the relative clause is projected as DP and is hosted by RelP (Relative Phrase) as suggested by Biloa (2013) (see also Shlonsky and Soare 2011). In this analysis, the head noun in relative clause formation is hosted by Spec, RelP while the relativizer (what is descriptively called relative pronoun above) heads RelP (i.e. it is hosted by Rel°). In this language, an agreement relationship obtains between the head noun (in Spec, RelP) and the relativizer in Rel°. If the head noun is masculine, the relativizer is "mā". When the head noun is feminine, the relativizer in "tā". If it is plural, then the relativizer is "sā". So in structures like (42) and (43), the specifier and the head of RelP both agree in gender and number. This state of affairs amply justifies the fact that the head noun and the relativizer are hosted by the same maximal projection in which Spec-Head agreement logically obtains. This language exhibits constructions in which the same head is relativized twice:

(43) sā **mā**   hāt-nā   mā   dō̄   lívīrē-nà (ká)   mōy-à
    Man **REL**   teacher-DEF REL write.PERF   book-DEF exist   sickness
      The teacher who wrote the book is sick.

Literally, (43) means "the man who teaches and wrote a book is sick". It seems to be the case that there are two relative clauses therein, with the same DP being the head noun. To try to understand what is going on, consider the following tree representation:

"The teacher who wrote the book is sick."
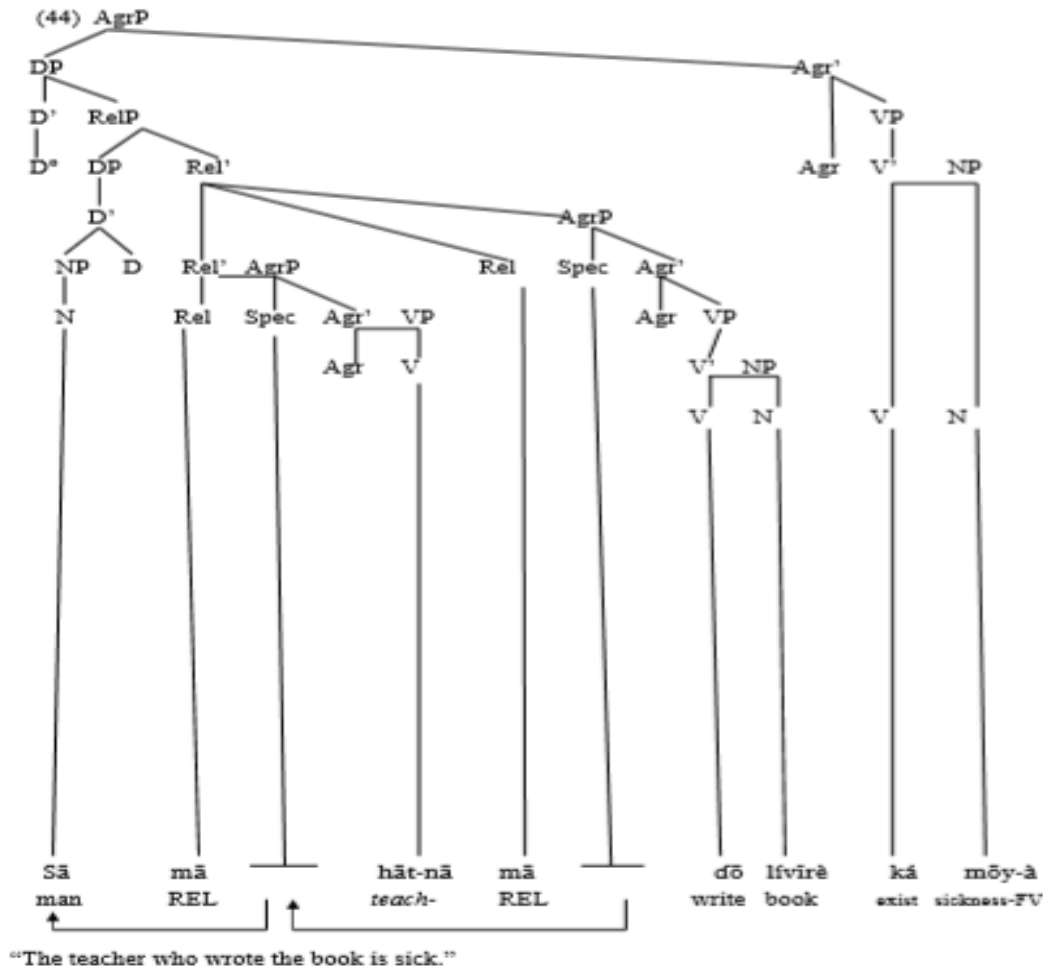
(44) indicates that the head noun has undergone NP movement (head raising) from the specifier of the most embedded AgrP in the subject position to the spec of the higher AgrP (that is attached to Rel'), hence from it raises to Spec, RelP. These two steps depict head-raising (which is usually called the promotion analysis). It follows that the relativizer is base-generated in the head position of RelP (i.e. Rel°), thereby justifying why there are no wh-relatives. This derivation seems to account nicely for the validity of the promotion analysis for the Masa language.

The following section aims at finding out what the landing site of relativization is in Wandala. But first, the question is asked as to what positions can be relativized in this language.

4. Relativization in Wandala
4.1 Wandala classification and word order

According to *Ethnologue* (2005: 73), the Wandala language is also called Mandara, Ndara, and Mandara Montagnard. It is spoken in Cameroon by 23,500 people. It is also spoken in Nigeria by 20,000 people. In Cameroon, it is spoken in the "Far North Region (Upper North Region), Mayo-Sava Division, in a belt starting east of Mora, around it to the North in a semicircle, and northwest to the Nigeria border" (*Ethnologue*). It is an Afro-Asiatic language, Chadic, Biu-Mandara, A, A.4, Mandara Proper, and Mandara. The word order in Wandala is SVO (Data from Ousman Kolia 2013: 56):

(45) Blama   á-bakə   babour   ara
      Blama   SM-drive motorcycle his
   "Blama drives his motorcycle"

Negation does not disrupt the word order attested above:
(46) Blama   á-bakə   ka   babour   ara
      Blama   SM-drive Neg motorcycle his
   "Blama does not drive his motorcycle"

However, although the future tense marker occurs in this language between the SM (Subject marker) and the verb stem, as illustrated below,
(47) Ousman   á-də-ga   Alima
      Ousman   SM-FUT-marry   Alima
    "Ousman will marry Alima"

the past tense marker occurs before the subject marker:
(48) Ousmanou   ndza-á-shukwanve   masalam
      Ousmanou   PST-SM-buy   sword
    "Ousmanou bought a sword"

This state of affairs does not fundamentally change the language word order as it is still SVO. What presumably obtains in (48) seems to be an instance of head movement as it is well known that T(ense) sometimes moves from one position to another. The raising of the past tense marker will be discussed in detail when focalization in this language is talked about.

4.2. Accessibility Hierarchy

Keenan and Comrie (1977) proposed a crosslinguistically valid hierarchy with regard to relativization:

(49)

Subject – Direct Object – Indirect Object of Pre - or postposition - possessor

To see whether the Accessibility Hierarchy is respected in Wandala, consider the following data:

(50)

a. *Subject*

Mushe **nani** ndza-á-pua   laya   na   lapika
Teacher REL   PST-SM-pour writing COMP sick
"The teacher who was writing is sick"

b. *Direct object*

Gyale **nani**   ndza-á-wayta Boukar na   á-huɗe
Girl   REL   PST-SM-love   Boukar COMP SM-belly
"The girl that/whom Boukar loved is pregnant"

c. *Indirect object*

Jile   nani ndza ya dja irɛ antara   na á-tira   dé am ékse   na
man   REL PST I   hit head with COMP SM-PROG go in   village COMP
"The man whom/that I met went to the village"

d. *Possessor*

Mukse nani ndza-ta-ilu   kazlaŋa ara   naile   aha   na   á-tira kyəwa
Woman REL PST-SM-steal clothes her   thief   PL. COMP   SM-PROG.cry
"The woman whose clothes were stolen by a thief is crying"

In (50), all positions are relativized, demonstrating thereby that Wandala respects the Accessibility Hierarchy.

4.3. Relativization and Bounding theory

It is important to determine whether Wandala relative clause formation is an instance of Move Alpha. Consider the following sentences:

(51)

a.Jile   **nani** ndza ya céna géni á-ga   Fadi   na kəɗakəɗa
  Man   REL PST I hear   that SM-marry Fadi COMP   die
"The man that I heard that Fadi will marry is dead"

b.* Tatá **nani** ndza ya cəna labara gəni Fadi   ga   jile ara   na   ɣəɣiye
    Place **REL** PST   I   hear   news that Fadi marry man his   COMP far
    "The place where I heard the news that Fadi will get married is far"

c. Nawa   gyale **nani** á-djadja   na   Bouba   gəni   Boukar
  Here.is girl **REL** SM-think COMP Bouba   that   Boukar
diadia fakat gəni   éda-ŋara á-dé-ŋye   a   mba
know   sure   that   father-her SM-FUT-chase off house
"Here is the girl that Bouba thinks that Boukar knows for sure that her father will kick her out of the house"

The examples in (51a, b, c,) show that in Wandala relativization is an unbounded process: the relativized constituents have raised over several clauses and in so doing they have transgressed the Specified Subject Condition (SSC) and the Nominative Island Condition (NIC). However, (51b) is ungrammatical because it violates the Complex Noun Phrase Constraint (CNPC), thereby proving that Wandala obeys Subjacency and that relativization is an instance of Move Alpha. That being the case, what is the landing site of relativization in this language?

4.4. The landing site of relativization

It has been established above that relativization, in this language, is an instance of Move Alpha (Chomsky 1997). That being the case, one wonders "what is its landing site in Wandala?" This language seems to be devoid of wh-relatives as there are no relatives with one of the following wh-words:

(52) *Wandala wh-words*
a. *Arguments*
i. waré   "who"
ii. uwé   "what"
b. *Referential adjuncts*
i. vatará   "when"
ii. amé "where"
c. *Non-referential adjuncts*
i. estará   "how"
ii. aɗàbawé/guwé   "why"
ii. azarazara   "how much/how many"

Since Wandala is short of wh-relatives, its relatives must be derived by head raising. Having said that, it is not yet known what "the fine-grained structural cartography" (Belletti 2004) of Wandala relativization is.

Some items are termed relativizers. They are so called because they are relative clause markers in the absence of wh-relatives. Analogically, they are supposed to play the same role as focus and topic markers. That being the case, they should logically head a maximal projection the denomination of which should follow from the name of its head, given X-bar theory. If the relativizer is a relative clause marker, it should head a maximal projection called RelP (Relative Phrase):

(53)

RelP
├── Spec
└── Rel'
    ├── Rel
    └── …
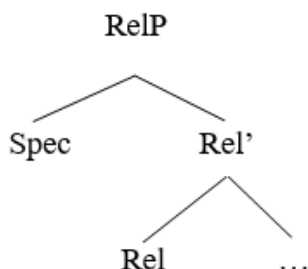
On the basis of above and adopting the view defended by Bianchi (1999), Aoun and Li (2003) that wh-relatives and non-wh-relatives alike are projected as DPs, the Wandala construction in (51a) (repeated as (54a) can be structured and derived as follows (cf. (54b)):

(54)

a. Mushe nani ndza-á-pua laya na lapika

  Teacher REL PST-SM-pour writing COMP sick

"The teacher who was writing is sick

In (54b), the relative clause is projected as DP and is hosted by RelP (relative Phrase) as suggested by Biloa (2013) (see also Shlonsky and Soare 2011). This analysis postulates that the head noun in relative clause formation is hosted by Spec, RelP while the relativizer heads RelP (i.e. it is hosted by Rel°). Notice that TP is pied-piped to Spec, ForceP, thereby preceding *na* in Force° that closes off the relative clause and accounting for the word order attested. *Na* functions like a final complementizer as it occurs at the end of the relative clause (see Kayne 1994).

Now consider (51b) (repeated below as (55a)) and its derivation (cf. (55b)):

(55)

a. Gyale nani ndza-á-wayta Boukar na á-huɗe

  Girl REL PST-SM-love Boukar COMP SM-belly

  "The girl that/whom Boukar loved is pregnant"
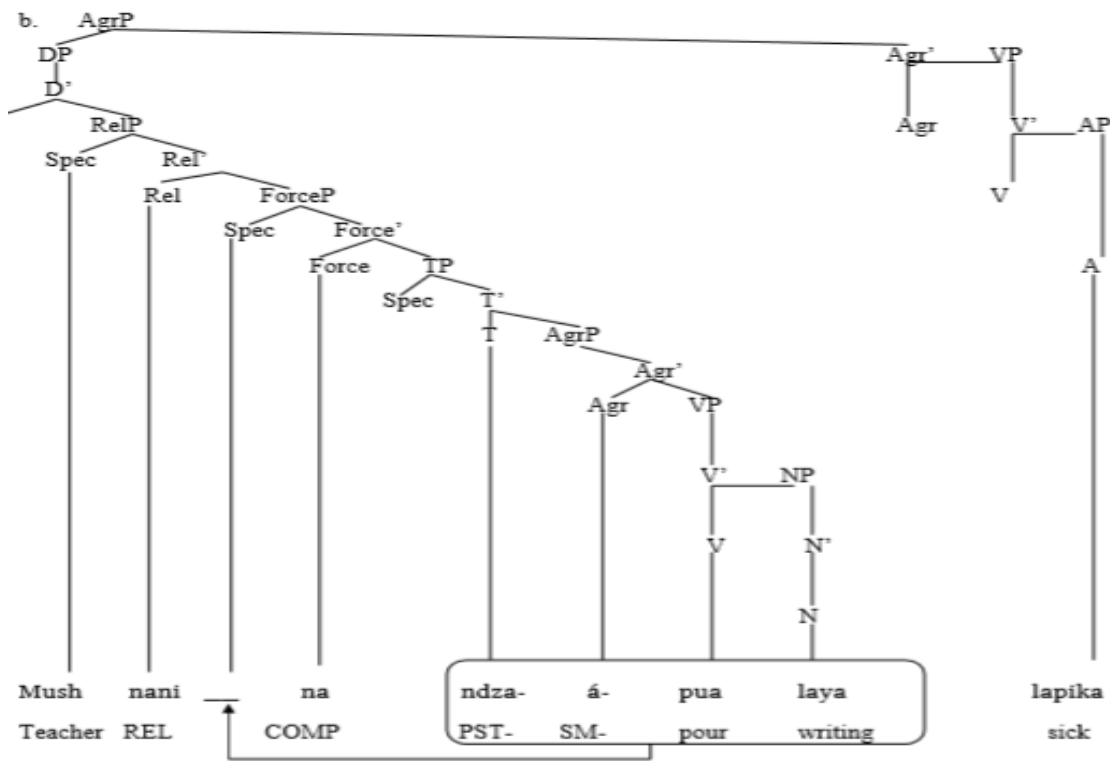
In (55b), there are three movement operations; i. The direct object NP, *gyale* "girl", raises to Spec, RelP; ii. The verbal unit *ndza-á –wayta* "loved" moves to the higher Force, ForceP position; iii. Finally, the remnant phrase TP is pied-piped to the lower Spec, ForceP position. Three raising processes account for the word order attested in (55a-b). Notice that in (54b) and (55b), *nani* and *na* are respectively base – generated in Rel° and Force°. *Nani* is the relativizer and its presence explains why there are no wh-relatives. As for *na*, it is the final complementizer that closes off the relative clause domain. In the next section, the

accessibility hierarchy proposed by Keenan and Comrie (1977) is checked with respect to the Giziga empirical material in order to find out whether this language respects it. More precisely, it is important to determine positions that can be relativized in the language.

5. Relativization in Giziga
5.1 Giziga classification and word order

Giziga is an Afro-Asiatic, Chadic, Biu-Mandara language spoken by approximately 80, 000 people in the Far North Region of Cameroon, in the Diamare and Mayo Kani divisions. It is also called Guiziga, Gisiga, Gisika, Tchere, Mi Marva. Its dialects include Muturami (Muturwa, Muturua, Giziga de Moutouroua, Loulou), Mi Mijivin (Giziga de Midjivin), Rum.

This language word order is SVO:

(56) a. Dairou a-wuɗ   Soma
        Dairou   SM-love Soma
           "Dairoua loves Soma"

     b. Dairou á-pura   Soma   le   a viŋé
        Dairou SM.PST-see   Soma   Perf. in bedroom
       "Dairoua saw Soma in the bedroom"

This word order is not altered by negation, as the negation marker occurs in clause final position:

(57) a. Dairou a-wuɗ   Soma   ta
         Dairou SM-love Soma Neg
          "Dairou does not love Soma"

     b. Dairou á-pura   Somale   a viŋé ta
        Dairou SM.PST-see Soma   Perf.   in bedroom   Neg
       "Dairou did not see Soma in the bedroom"

Although negation marker occurs clause-finally, it has scope over the entire clause. This is accounted for by the following phrase marker that depicts the derivation of (57a):

(58)
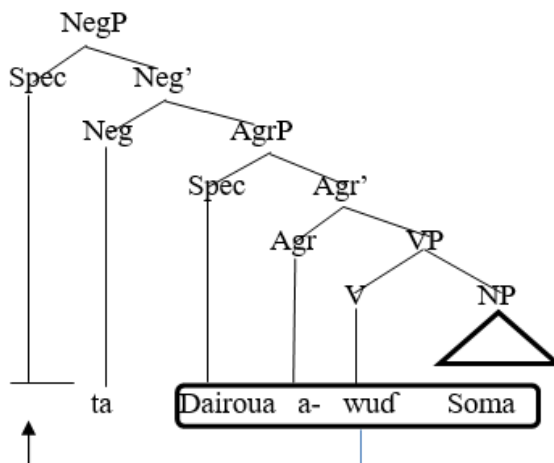
In (58), NEG dominates and c-commands the rest of the clause. The latter is massively pied-piped into Spec, NegP which accounts for the word order attested in (57a).

5.2. Accessibility hierarchy
Keenan and Comrie (1977) devised a crosslinguistically valid hierarchy aiming at determining positions that are relativizable:

(59) Subject – Direct Object – Indirect Object of Pre- or postposition – Possessor.

In the following lines, one wonders whether all the above positions can be relativized in Giziga. To achieve this goal, consider the following sentences:

(60)

a. ngwas **má** dí kilif ná naŋ ti záná gagaza
   Woman REL cook fish COMP she with dress red
"The woman who cooks fish is wearing a red dress"

b. mota **mísi** cine ɗu **mɨ** hiɗɨka na naŋ gagaza
   Car REL father my REL buy COMP she red
"The car that my father bought is red"

c. ngwas **mísí** ya **má** ɓa-ŋ ná í metir ngi mangal ɗu
   Woman REL me REL speak-to-he COMP is teacher of son my
"The woman to whom I am talking is my son's teacher"

d. ngwas **mísí mɨ** kiɗaka sukum naŋ ná á-rá- wudí
   Woman REL REL kill sister her COMP SM-PROG-cry
"The woman whose sister was killed is crying"

In (60a), the subject position is relativized. In (60b), it is the direct object that is relativized. In (60c), the indirect object is relativized. In (60d), the possessor is relativized. On the basis of the above paradigm, all positions are relativizable in Giziga.

5.3. Relativization and Bounding theory
In this subsection, the Giziga data are checked against movement constraints such as the Complex Noun Phrase Constraint (CNPC). More importantly, it is important to see whether Giziga relativization is an instance of Move Alpha. If it is, it cannot violate Bounding Theory or Subjacency. Consider the following sentences:

(61) a. Mbur ya **mɨ** cina mísí Soma **mí** zuɓa zle'é ná á mú le
      Man me REL hear that Soma REL marry PST COMP SM.PST die.PST PERF.
         "The man who I heard that Soma married died"

b.*Li mísí adigá ya **mɨ** cina bí mísí Soma á- zuba
   Place that where me REL hear story that Soma SM.PST marry
    zil naŋá le ná naŋ kíléŋ
husband his PERF. COMP an away
"The place where I heard the story that Soma married her husband is far away"

c. Hana i zuŋ Nada **má** bi mísí Vagay mí
   This is child Nada REL think that Vagay that
sina le gisiŋ cine naŋa a-sa-ɓula ti hayá
know PERF. well father her SM-FUT-chase her house

"This is the girl whom Nada thinks that Vagay knows for sure that her father will kick her out of the house"

d.*Haná I típrík   ti vuna   Nada   a-wa   **mísí** Vagay á-
    This is tomorrow when Nada SM-think REL   Vagay   SM
   sina ɓí   misi sojeheyé   á-sa-jaka   múhutoy
   know story that policemen SM-FUT- arrest   thieves
"This is tomorrow when Nada thinks that Vagay knows the story that the police will arrest the thieves"

In the first three sentences (cf. (61a) and (61b, c)), the relativized constituents have raised over several clauses, thereby apparently violating the Specified Subject Condition (SSC) and the Nominative Island Condition (NIC): these examples constitute prima facie evidence that relativization is an unbounded process. (61b) and (61d), however, are ungrammatical because the Complex Noun Phrase Constraint is transgressed: this shows that relative clauses in Giziga obey Subjacency.

5.4. The landing site of relativization

In this subsection, the issue of the landing site of relativization in Giziga is addressed. Bear in mind that there are no wh-relatives in this language. In other words, there are no relatives with one of the following wh-words:

(62) Giziga wh-words
a. *Arguments*
i. wá   "who"
ii. mí   "what"
b. *Referential adjuncts*
i. ti vuna   "when"
ii. ama "where"
c. *Non-referential adjuncts*
i. ka wana   "how"
ii. vúr mí   "why"

Given that there are no wh-relatives in Giziga, one wonders how its relative clauses are derived. Since Giziga is devoid of wh-relatives, it means that its relatives are derived by head raising. Given the above theoretical layout, how could the following Giziga sentences be derived?

(63) a. zuŋ   du   **(mísí)** ya **má** wuɗ ná
       Child   my   REL   I REL love COMP
          "My child that I love"

b. Metir (mísí) **mí**   túh ɗerewol ná v-ó   á-rá-jaŋ
   Teacher REL REL.PST write book COMP body   SM-PROG-sick.him
      "The teacher who wrote a book is sick"

c. Metir (mísí) i   kiri   **mí**   ja   ná   á-múc   le
   teacher REL FOC   dog REL.PST bite   COMP SM-die.PST PERF.
      "The teacher whom it is the dog that bit (him) died"

Assuming the view defended by Bianchi (1999), Aoun and Li (2003) that wh-relatives and non-wh-relatives alike are projected as DPs, the Giziga construction in (63a) can be structured and derived as follows:


(64)
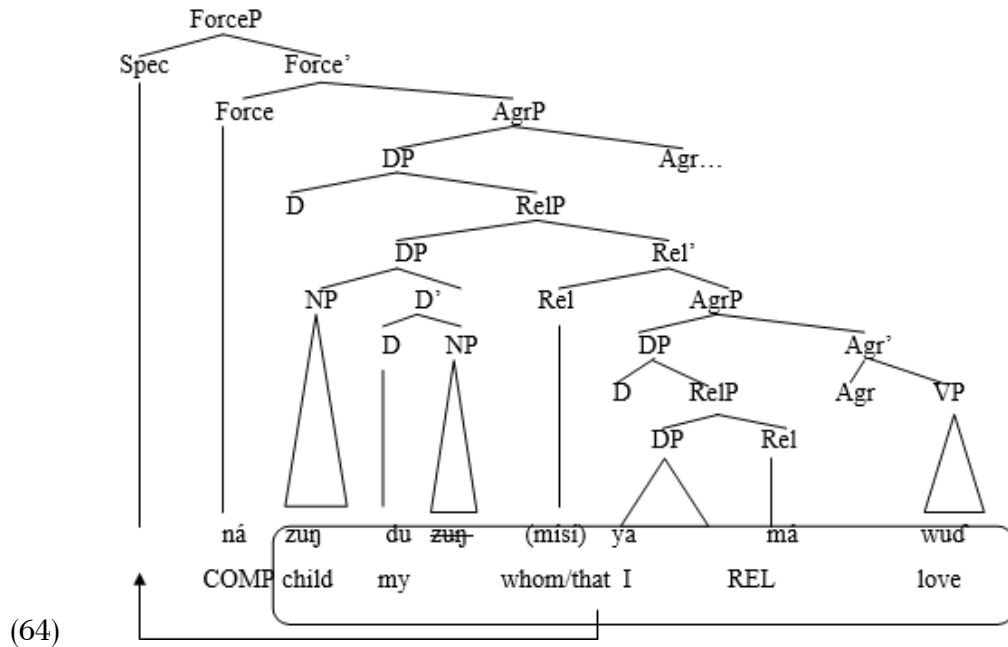
In (64), the relative clause is projected as DP and is hosted by RelP (Relative Phrase) as suggested by Biloa (2013) (see also Shlonsky and Soare 2011). In this frame, Spec, RelP hosts the head noun whereas Rel° (the head of RelP) accommodates the relativizer (the marker of relative clause formation). The head nominal and relative clause are heavily pied-piped to Spec, ForceP, which explains why the complementizer *ná* in Force° closes off the relative clause in (63a).

Consider in (65) below the tree representation and the derivation of (63b):
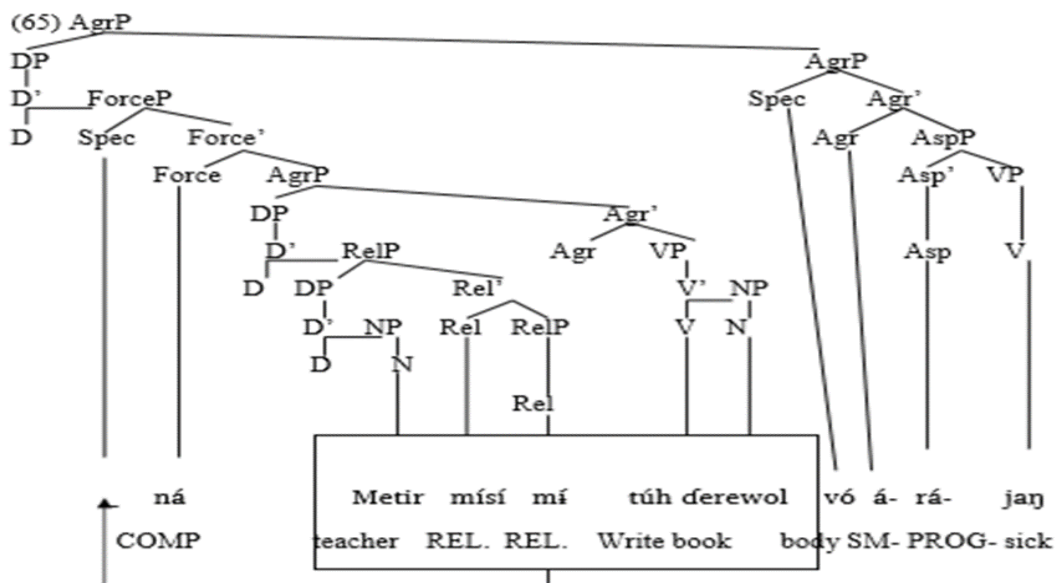
For reasons that are not, for the time being, accountable, there are two relativizers inside the subject position, although the first one is optional. The head noun and the relative clause are heavily pied-piped into the Spec, ForceP position, preceding thereby the complementizer *nà* in Force°, thereby accounting for the word order attested in (63b).

Next, attention is turned to the derivation of (63c). To this effect, consider the following phrase marker:

(66) AgrP
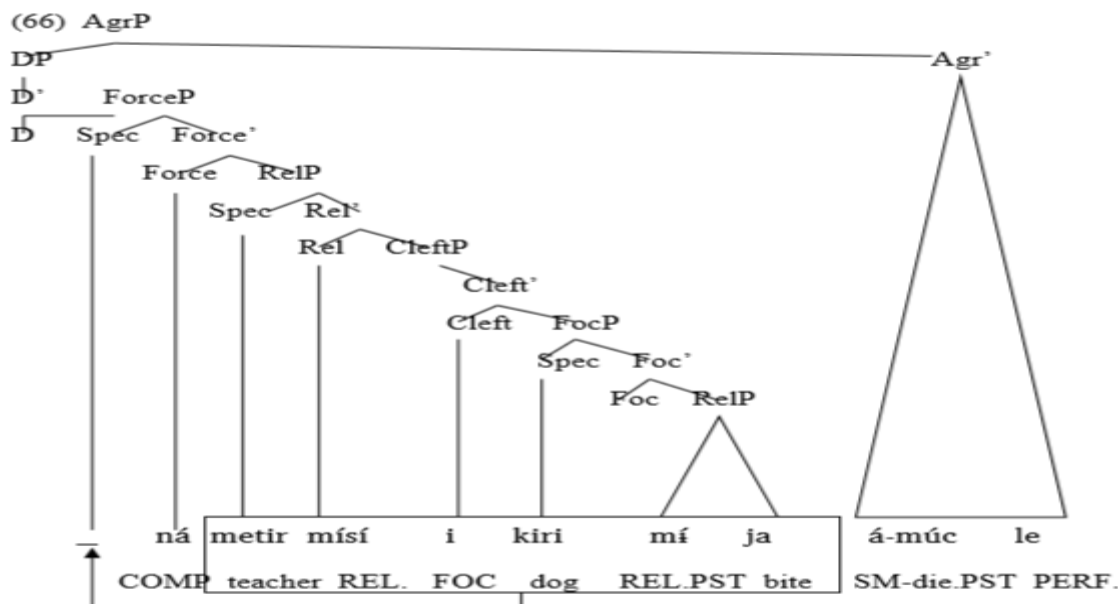
The derivation in (66) operates pretty much like the one in (65): the head noun and the relative clause that make up the grammatical subject position are heavily pied-piped into Spec, ForceP, the head of which, Force°, hosts the complementizer *ná* that closes off the relative clause (as is by now familiar).

6. Concluding remarks

This paper sketches out relativization in some Chadic languages spoken in Cameroon. The accessibility hierarchy devised by Keenan and Comrie (1977) is respected in the languages under study. Subject, direct object, indirect object as well as possessor are relativizable positions in these languages. Relative particles are attested in these languages. Unlike English that has wh-relatives, these languages are short of wh-relatives and relative clauses are derived by head raising. Being an instance of Molve alpha, relativization in these languages obeys the Subjacency Condition and the landing site of this operation is RelP the head of which, in the cartographic spirit, is filled by the so-called relativizer. Data from Giziga show something very interesting, two relativizers co-occur inside the subject position.

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Abbreviations and symbols

ACC: Accusative

CleftP: Cleft Phrase

COMPL: Completive

CP: Complementizer Phrase

DCleft: Declarative Cleft

DEF: Definiteness

DO: Direct Object Complement

DP: Determiner Phrase

Fem: Feminine

FM: Focus Marker

FOC-DEM: Focus-Demonstrative

FOC: Focus

FocP: Focus Phrase

ForceP: Force Phrase

FUT1: Future tense one

FV: Final Vowel

IMPERF: Imperfective

INF: Infinitive

INC: Incompletive aspect

IND: Indefinite

IP: Inflectional Phrase

IntP: Interrogative Phrase

Masc: Masculine

NP: Noun Phrase

OBL: Oblique

P0: Present tense

P1: Past tense one marker

PERF: Perfective

Pos-DEM : Possessive Demonstrative

PossP : Possibility phrase
PP : Prepositional Phrase
PROG : Progressive aspect
PRS : Present Tense
PST1 : Past tense 1
PST2: Past tense 2
Q: Question
QM: Question Morpheme/Question Marker
QP: Question Particle
REC.: Reciprocal marker
REL: Relativizer
Rel. pro: Relative Pronoun
Res. pro: Resumptive pronoun
SM: Subject Marker
TP: Tense Phrase
VP:Verb Phrase