The intonation of Topic and Focus in Zaar (Chadic, SBW)

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To cite this version:

Bernard Caron. The intonation of Topic and Focus in Zaar (Chadic, SBW). BICCL 2013 (7th Biennial International Colloquium On Chadic Languages), Sep 2013, Hamburg, Germany. halshs-00922387

HAL Id: halshs-00922387
https://halshs.archives-ouvertes.fr/halshs-00922387
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THE INTONATION
OF TOPIC AND FOCUS IN ZAAR
(CHADIC, SBW)

BERNARD CARON

LLACAN¹ (INALCO, CNRS, PRES SORBONNE PARIS-CITE)

Capitalizing on my recent work on Zaar corpus and intonation (CorpAfroas 2007-2012), I have decided to study the part of intonation in the workings of one of my pet subjects: topic and focus, using a corpus-based analysis.

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¹ Llacan : UMR 8135 : Langage, Langues et Cultures d’Afrique Noire.
1. Definitions & Methodology

1.1. Restricted Topic & Focus

I start with a typological division of utterances into: thetic, topical and focal. Topical and focal utterances are based on a dichotomy between two elements: topic and comment on the one hand; focus and preconstruct on the other hand. Thetic utterances are not based on such a dichotomy, and correspond to one single unit, expressing logically simple judgements.

<table>
<thead>
<tr>
<th>Caron s.p. (b)</th>
<th>Lambrecht 1994</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topical utterance</td>
<td>Predicate-focus structure</td>
</tr>
<tr>
<td>Focal utterance</td>
<td>Argument-focus structure</td>
</tr>
<tr>
<td>Thetic utterance</td>
<td>Sentence-focus structure</td>
</tr>
</tbody>
</table>

**Topic**: A minimal topical utterance is characterized by a division into two intonation units: `<Topic / Comment>`. I use the word "topic" for what (Lambrecht 1994) defines as the 'Topic Expression':

“A constituent is a topic expression if the proposition expressed by the clause with which it is associated is pragmatically construed as being about the referent of this constituent” (p. 131).

In this study, I further restrict the use of the word ‘topic’ as a short-cut for Argument-topic, i.e. the “disjoint lexical support” of the utterance (Morel & Danon-Boileau 1998). The Argument Topic, or Topic proper, is to be differentiated from left-dislocated circumstantial which include Time and Place adverbials, conditions, etc. These merely set the circumstantial frame for the following predication. In this study, I use the term “Frame” (as a short-hand for Frame-setting Topic) to set them apart from the Topic (as a short-hand for Argument Topic).

**Focus**: A focal utterance is a complex syntactic construction where a predications is given as a backgrounded preconstruct falling outside the scope of the assertion. Out of this predications, an element is selected and identified as the relevant element that fills the gap created by the extraction out of the predication. As a result we have two predications that are syntactically linked: a qualitative identification of the focus expression; and a 'classical' predications which is preconstructed (Caron 2000; Robert 1993). The assertion of the utterance bears on the identification of the focus expression, e.g. JOHN came. (HAI : AUDÙ NÉ yā zō.), <John > (<Audù >) is asserted ; <(x) came> (< yā zō>) is the backgrounded preconstruct.

1.2. Intonation

Intonation concerns the use of melody, rhythm and intensity for the expression of assertive modalities (declarative, interrogative and negative utterances), information structure (topic, focus, parenthesis, afterthought, etc.) and paralinguistic phenoma such as emphasis.

1.3. Corpus and Phonetics : Tools

1.3.1. CorpAfrOAS

This work is a development from our contribution of a Zaar corpus and grammatical sketch to the CorpAfrOAs project financed by the CNRS and directed by Amina Mettouchi.²

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² CorpAfrOAs is an integrated pilot project realized by field linguists for field linguists and typologists, which proposes:
- A methodology for the treatment of fieldwork textual data in underdescribed languages, from data gathering to automatic searches on the corpus,
- A free, open-source and user-friendly new software, ELAN-CorpA, developed within our project from Elan (Max Planck Institute Nijmegen),
1.3.2. **PRAAT**


I worked some time with *Programme*, a module of PRAAT developed by P. Mertens to convert Hz to semitones in the representation of melodies. I had to abandon it as it was not adapted to the study of tone languages and sp. Zaar;

1.3.3. **ELAN**

1.4. **EXPONENTS OF INTONATION**

Elan, and more precisely the version developed for CorpAfroas at Llacan ([http://corpafroas.tge-adonis.fr/elan/461/install.htm](http://corpafroas.tge-adonis.fr/elan/461/install.htm)). ELAN is a professional tool developed by the Max Plank Institute (Nijmegen) for the creation of complex annotations on video and audio resources. ([http://tla.mpi.nl/tools/tla-tools/elan/](http://tla.mpi.nl/tools/tla-tools/elan/))

1.4.1. **DECLINATION**

For both tone and non-tone languages, declination has been presented as a universal tendency due to physiological constraints, linked to the energy used to expel pulmonic air through the vocal organs. This creates the background for a “neutral” intonation against which variations of pitch by the speaker can be interpreted as meaningful patterns of deviations.

This is noticeable sp. in High tones. The highest tone in an IU is the first High tone of this unit. Each following High tone is pronounced lower than the preceding one. In example (1), the first three High tones read at 251 (á), 249 (mí) and 243 (ŋá) respectively, with the last High tone of the utterance (lí) reading at 172. The same declination is observed in the final Low tones reading at 175 (má) and 169 (jë). Utterance-final Falls are added to declination, e.g. the lexically Mid tone of the last syllable of the paratone (ó:) which bears the utterance-final Fall from 161 (lower than the preceding Low tone) to 140 Hz.

(1.) á lá:rmi ɲá:wôs mándí mà jëlí ó:/ //

<table>
<thead>
<tr>
<th>á</th>
<th>lá:r</th>
<th>=mí</th>
<th>ɲá:</th>
<th>=wôs</th>
</tr>
</thead>
<tbody>
<tr>
<td>3SG.AOR.SBJ</td>
<td>bring</td>
<td>=1PL.OBJ</td>
<td>son</td>
<td>3SG.POS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>món</th>
<th>-dí</th>
<th>mà</th>
<th>jël</th>
<th>-i</th>
<th>-o:</th>
</tr>
</thead>
<tbody>
<tr>
<td>BEN</td>
<td>-DIR</td>
<td>1PLAOR.SBJ</td>
<td>see</td>
<td>-SPCF</td>
<td>FCT</td>
</tr>
</tbody>
</table>

He has brought his son for us to see. (SAY_BC_CONV_Ͳʹ_SPʹ_Ͳʹ)
This is representative of the canonical declarative intonation of Zaar. The same intonation pattern is found in WH-Questions, as in example (2):

(2.) ː tôː zəgìʧi gòs dzàn gjòː //
   tôː zəgiʧi gòsdzàn gjòː //
   well Ziggy 3SG.SBJ.be 3SG.POS day which //

   Well, Ziggy, his own, which day (was it)? (SAY_BC_CONV_03_SP1_703)

To compensate for declination, each IU starts with an initial pitch reset, also called ‘declination reset’ (Ladd 1996:2792.2)

Apart from those exceptions, declination helps identify the limit of speech units through pitch reset. Against this general background, intonemes operate both at the initial of IUs (affecting the whole of the unit) and at the end of paratones, in what Bearth (1998) calls ‘peripheral intonation’.

1.4.2. INTONEMES
Intonemes are defined as the minimal units of distinctive intonation contours associated with particular functions.

1.4.2.1. Initial: Step-up and Step-down
Initial lowering (Step-down, noted !) or raising (Step-up, noted ¡) consist in a noticeable change in the register of an intonation unit compared to the preceding one. This initial pitch adjustment creates a break in the gradual lowering of the pitch induced by declination. Both Step-up and Step-down are associated with specific functions: Step-up is associated with topicalisation, emphasis of adverbials and emotional statements. Step-down is associated with parenthesis and comments following a (stepped-up) topic.\(^5\)

\(^5\) The terms Step-up and Step-down are borrowed from (Crystal 1969:143-52) to avoid any confusion with downstep, as characterised in (note 11) above.

\(^6\) Lowering and raising of register linked to informational factors such as emphasis or parenthesis, here described as Step-down and and Step-up are associated with and may be described as compression and expansion of register. Level and span are intimately linked, insofar as raising the voice, involves expanding the pitch span from the bottom up while the bottom of the speaking range remains more or less constant. “[...] broadly speaking, the higher the level the wider the span.” (Ladd 1996: 260).
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In example (3), a Step-down separates the temporal frame (‘since I started’) from the assertion (I haven’t been here). The two IUs average at 101 and 87.75 Hz respectively, with their respective nuclei measuring at 111 and 89 Hz.

(3.) tündan ma ngúp / ìbà: má: tà te: dàníŋ //

tündan ma ngúp / hà: má: tà te: dàní hàŋ //
since 1SG.AOR start / NEG1 1SG.PFV go at there NEG2 //

Since I started, I haven’t been there. (SAY_BC_CONV_Ͳͺ_Ͳͺͺͺ)

In example (4), after an initial IU corresponding to the introduction of a new topic (a new example to prove the speaker’s case), a Step-down on the second topic accompanies some backgrounded elements where the speaker reminds her audience of the theme of the conversation (women keep running about, overworking themselves, whereas men stay idle in the compound, chatting with their friends). This long paratone is characterized by ample declination and clear pitch reset at the beginning of the last two IUs.

(4.) mà:m màːmi kúmáːː / !ljàndì gòs’dìːː / tàː fiː ni gòs / < koyarwa makaranta > makaranta //

ma:m kó móːmi kúmá -ːː / ljam -dì gòs -dì -ːː /
mum posl Momi also -length / return -ctp 3sg.pos -ctp-length /

tàː: fi -ni gòs / < koyarwa makaranta > //
3sg.ipfv do -inch 3sg.pos / < teaching school > //

As for Momi’s mum, the place where she goes, what she does, is to teach children in school. (SAY_BC_CONV_ͲͺͺϬ_Ͳͺͺͺ)

1.4.2.2. Terminal : Fall, Rise, Level, High-Rise
These terminal intonemes are the Fall, the Rise, the Level, and the High Rise.

3.2.1 Fall
The Fall intoneme (transcribed with the sign “l” in the annotation) consists in a distinctive lowering of the pitch at the end of the paratone. It characterises canonical assertions and Wh-questions. In Zaaar, contrary to what avails e.g. in French and other Afro-Asiatic languages e.g.
Hausa (Newman 2000: 613) and Bole (Schuh, Gimba & Ritchart 2012:236), it is found at the end of Y/N-Questions as well.

(5.) ʧаː tә git mәrә yә makaranta ↓//
ʤәː tә giɡ mәtә kә makaranta //
3SG.IPFV go show child.PL at school //

She goes to teach children in the school. (SAY_BC_CONV_Ͳʹ_SPͺͳͺ_Ͳʹͺ)

3.2.2  Rise
This final intoneme (transcribed ↑) is mostly associated with exclamation, such as can be seen on example (6) and here in example (11), where the final high tone on má: is measured at 255,5 Hz while the second syllable of soséj, the paratone nucleus, peaks 12 Hz below at 243,6 Hz only:

(6.) ʤәː sosәj mәː: ↑//
ʤәː sosәj mәː: //
ah quite even //
Ah quite so!

3.2.3  Level
This final intoneme (transcribed →) cancels declination. It is often associated with lengthening and induces the only (rare) cases of plateau realization of flat tones. This intoneme can be observed twice in example (4), at the end of the first two IU’s. The intonation of this example can now be transcribed as follows: má:m mó:mm kàmà:mmː →/!ʤәmәli gәsәliːː →/ tfәː fәnә gәs / < kәyarwә > makaranta ↓//. As is the case here with the first two IU’s, the Level intoneme often identifies the limit and relationship between a topic and a comment. It is also associated with hesitation, e.g. in example (14) at the end of the paper.

3.2.4  High Rise
High Rise (transcribed ↑↑) is characterised by a sharp rise of F₀ to a level beyond the speaker’s usual range of high tones. It is associated with e.g. emphasis on negation, ideophones and assertion particles. It can be followed by a Fall when occurring at the end of a paratone. In Example (7), we have two occurrences of this intoneme. The first High Rise occurs at the end of
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an intonation unit, but paratone-internally. It is borne by the last syllable of the word kimsá. The second High Rise occurs at the end of the paratone, and is followed by a Fall.

(7.) [...] mjá:na: tul gip kimsá †ff/ (816) káwâj mà:jín / (314) fi mâyôp †ff//

mjá:na: tul gip ki =ma -sa / 1SG.CONC arrive inside 2PL.SBJ =1SG.OBJ -PL /
káwâj mà:jín / fi môkôp // merely motorbike / do stop //

[...] we had just entered Kimseh when the motorcycle stopped. (SAY_BC_CONV_03_SP1_400-4)

2. Focus

Focus is expressed in Zaar through a cleft construction involving left-dislocation, and identification of the focus with either of the two ‘be’ copulas: the independent particle na (Foc1), or the enclitic particle =kan or one of its allomorphs (=kandi, =kandá) (Foc2), or both (Foc3). The relativizer dan can optionally be associated with the Foc1 construction. This gives four different syntactic structures:

- 1. Foc1a : < na NP > Predication
- 2. Foc1b : < na NP dan > Predication (ex. 8)
- 3. Foc2 : < NP=kan > Predication (ex. 9)

The two structures can be combined:

- 4. Foc3 : < na NP=kan > Predication (ex. 10)

These structures have a negative counterpart when combined with the sentence-final negative particle hôn, which can be completed by the optional loanword hà, borrowed from Hausa, preceding the particle na. The result is the structure (hà: ) na ... hôn, as can be seen in (ex. 10).

The resulting focal utterances are realized as a single intonation unit, with the standard pattern characterised by declination and final Fall. There is no intensity stress on the focus, or pause between the left-dislocated focus and the predication.
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We are the ones whose name he called. (SAY_BC_CONV_02_SP2_221)

[SAY_BC_CONV_03_SP1_695] it's Takwaras who came to meet me [...] (SAY_BC_CONV_03_SP1_695)

[SAY_BC_CONV_03_SP1_705] it's not our people of Malar who are speaking like this. (SAY_BC_CONV_03_SP1_705)
3. Topic

Two types of topics exist in Zaar: specified topics which are followed by a topic particle (called modal particle in Chadic linguistic tradition), and unspecified topics.

3.1.1. Unspecified Topics

Unspecified topics are left-dislocated, and correspond to an intonational unit characterized by various exponents separating the topic from the comment:

- suspension of declination;
- pause;
- lengthening of the last segment of the topic;
- pitch reset and/or change of register.

In (ex. 11), the second and third topics, ɮɔm ɗì ɠòs ɗìːːː ‘the place where she goes’ and ʧáː fiɲi ɠòs ‘what she does’ are unspecified topics, separated by a change in register. The third topic is followed by a pitch reset. The first topic mǎːm móːmi kúmá ‘as for Momi’s mother’ is a topic specified by the discourse particle kúmá ‘as for’.

(11.) mǎːm móːmi kúmáːːː / ɮɔm ɗì ɠòs ɗìːːː / ʧáː fiɲi ɠòs / < koyarwa makaranta > makaranta //

mǎm ká móːmi kúmá -ːːː / ɮam -ɗi ɠòs -ɗi -ːːː /
mum posl Momi also -length / return -ctp 3sg.pos -ctp-length /
ʧáː: fi -ni ɠòs / < koyarwa makaranta > //
3sg.ipfv do -inch 3sg.pos / < teaching school > //

As for Momi’s mum, the place where she goes, what she does, is to teach children in school. (SAY_BC_CONV_02_SP1_023-26)

In Ex. (12), the first two topics are only limited by a pause. There is no lengthening or level intoneme, but there is on the contrary a final fall. As for the third topic, the pause has disappeared and the limit between the topic and the comment is given by an emphatic rise on the first word of the comment: burúk, ‘all (of it)’.

SAY_BC_CONV_02_SP2 270-1
(12.) \( \text{tă la: kă dăn -i / 268 tă la: kă nămtso -i /} \)
\( \text{with work PosL house -INDF / with work PosL bush -INDF /} \)
\( \text{219 gudi za:r kə -wəpm / burük mjă: fi -to -i: //} \)
\( \text{woman.PL human 2SG.AOR -1PL.POS / all 1PL.IPFV do -3S.OBJ -RES //} \)

The work of the house and the work of the bush we Zaar women, all of it, we do it.

3.1.2. Specified Topics

When topics are followed by a modal particle, e.g. kăn, ‘indeed’; mă:, ‘even’, kūma, ‘too, as for’, all the various elements characterizing unspecified topics, except for the change in register, can be omitted. This is the case in (ex. 13) where the topic kótă lă: mômmonță ‘all the men’s work’ is specified by the discourse particle mă: ‘even’:

(13.) \( \text{kótă la: kă mămomľă mă: mikă fi -kăni bät //} \)
\( \text{all work POS man PL even 1PL.CONT do -NMLZ all //} \)

All the men’s work even, we do it all. (SAY_BC_CONV_02_SP2_289-90)

<table>
<thead>
<tr>
<th>Pitch (Hz)</th>
<th>Low</th>
<th>High</th>
<th>Mean</th>
<th>Span (val)</th>
<th>Span (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>kótă la: mămomľă má: (Spec.Top)</td>
<td>179,6</td>
<td>469,5</td>
<td>359,2</td>
<td>289,9</td>
<td>80,7</td>
</tr>
<tr>
<td>mă: fîyăni bät // (Comm.)</td>
<td>114,75</td>
<td>328,7</td>
<td>235</td>
<td>214,2</td>
<td>91,2</td>
</tr>
</tbody>
</table>

However: difference in register.
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4. FOCUS AND TOPIC IN CONTEXT

Young girls they are the ones who will... who will cook food. Yes, a young girl will cook, she will fetch water and cook the food. Mm. She will cook the food, and then give it to me and her father, then we eat. Then I rest. But if I do not have a young girl who cooks the food, I am the one who will cook myself before I eat. Mm.
4.1. **INTONATIONAL FOCUS OR EMPHASIS?**
The answer is in the analysis of the informational structure, not in the acoustic cues or intonation exponents.
4.2. **Topic and Frame: Same Intonation**

The theoretical distinction does not correspond to a change in intonation.

(16.) \( \text{tô:} \ / \text{mjà:ní} \ / \text{làp já:} \ / \text{tô: mà fi: nò ɲamtsò nàtkàni} \ // \)

\[
\begin{align*}
\text{tô:} & \ / \text{mjà:ní} & \ / \text{làp já:} & \ / \text{tâ:} & \ / \\
\text{well} & \ / \text{1PL} & \ / \text{place} & \text{3SG.COND} & \text{cut} & \text{-RES} & \\
\text{tô:} & \ / \text{mà} & \ / \text{i:} & \ / \text{nò ɲamtsò} & \text{nat} & \text{-kàni} & \ // \\
\text{well} & \text{1PL.AOR} & \text{go} & \text{-RES} & \text{for wood} & \text{tie} & \text{-NMLZ} & //
\end{align*}
\]

Well, *we*, when the day breaks, well we go and collect wood.

\( \text{SAY}_\text{BC}_\text{CONV}_02_\text{SPI}_014-019 \)

4.3. **Specified Topic and Focus**

Again, a theoretical problem. Apart from change in register, when ScT has no pause, lengthening or level tone, e.g. (Ex. 13) not much difference between specified topic and focus. The modal particle could be analysed as a focus marker (cf. Manfredi on *zatu* in Juba Arabic in Caron & al. s.p.). Information structure is what matters: see what is asserted and what is backgrounded. In the case of focus, the left-dislocated element is asserted, and the rest is backgrounded; in the case of Topic, the left-dislocated element has a neutral value: neither asserted, nor backgrounded. It is merely stated. The Comment is asserted.

5. **Conclusion**

The more morphology is present, the less intonation is used. (cf: Specified vs. Unspecified topics; Focus & Y/N Questions in Zaar: no specific intonation structure).

Register is most important: higher register: foreground (topic, emphasis); lower register: background (afterthought, comment, parenthesis). Can this be quantified? Difference between High Rise and Rise?

Boundary for final intonemes: syllable or phrase?

Importance of genres: conversation ≠ narration ≠ tale telling ≠ interview.
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