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Dislocations and Frames in Somali. Syntax, prosody and discourse at the interfaces

https://doi.org/10.1515/flin-2026-2003
Received May 15, 2024; accepted March 3, 2026; published online April 29, 2026

Abstract: This study investigates the syntax–pragmatics interface of discourse-related categories, focusing on Topics and Frame-setters within the cartographic approach. Previous research has established, on a cross-linguistic basis, that discourse functions are systematically linked to specific syntactic positions in the left periphery and to distinct prosodic properties. Building on this background, the paper examines elements functioning as Frames, which, unlike Topics and Foci, delimit the truth-conditional domain of the sentence. The analysis is based on a pilot study conducted on Somali, using photo-elicitation data collected from native speakers. The results provide empirical support for the distinction between A-Topics, C-Topics, and Frames, highlighting their different discourse roles and structural positions. In particular, it is shown that A-Topics occupy the highest position in the C-domain, Frames scope over C-Topics and wh-elements, and may also occur in the right periphery with an afterthought interpretation. With specific reference to Somali, the study shows that Frames are mainly realized through relative clauses (especially for temporal and spatial reference) and DPs (for domain specification), and are predominantly located in the left periphery. Despite its limited scale, the consistency of the data suggests that this pilot study offers a valuable contribution to the analysis of discourse structure and opens new directions for future research.

Keywords: discourse structure; left periphery; topic; frame-setters; somali; cartographic approach

1 Introduction

The syntax and interpretation of discourse-related categories is a major issue of linguistic research and a number of recent analyses have provided evidence for a connection between the pragmatic functions of dislocated constituents and their formal properties, which is encoded in a strict hierarchy in the left periphery of the sentence (“Cartographic approach”, cf. Rizzi 1997 and subsequent works). This means

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that not only are different Topic types located in dedicated positions in the C-domain (cf., among others, Frascarelli 2007; Frascarelli 2008), they are also characterized by specific prosodic properties according to their discourse role.[1] This systematic connection, originally proposed in Frascarelli and Hinterhölzl (2007) for Italian and German, has been supported by experimental evidence in a number of typologically different languages, including Somali (Puglielli and Frascarelli 2009a, 2009b).[2]

Cross-linguistic analysis has also shown that the C-domain can host discourse-related categories that cannot be classified either as Topics nor as Foci, since they are not entities (differently from Topics; cf. Reinhart 1982) and have no impact on the Focus value of the sentence. These elements provide a "frame" for the following sentence and have the function to limit the truth-conditional validity of the predication they are associated with (within some restricted domain; cf., among others, Chafe's 1976 "Chinese style" topics; Lambrecht's 1994 "scene-setting" topics; Krifka's 2007 "frame-setters"). As such, these constituents "select a set of alternative frames so as to delimit the domain of application of the asserted proposition, possibly contrasting a given frame with alternative ones" (Krifka 2007: 36–37).

Topics and Frames thus serve different discourse functions and, in a cartographic approach of information-structure, it is feasible to hypothesize that they are merged in distinct functional projections and are consequently interpreted for their specific formal properties. In this line of analysis, this work is intended to discuss the outcome of a comparative investigation carried out on Topics and Frame-setters in Somali, taking into account the relation between their discourse, (morpho-)syntactic and intonational properties.

Before presenting the experimental test specifically designed for this research, an overview on the relevant discourse notions is in order.

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1 In the cartographic approach to the left periphery (cf. Rizzi 1997), the original CP-node has been reanalyzed as an array of functional projections, each dedicated to a specific information-structural related function. The resulting functional 'split' is typically referred to as the 'C-domain'. In particular, Rizzi proposes that the C-domain is included between the projections dedicated to the illocutionary force of the sentence (ForceP) and the specification of finiteness (FinP). The Force-Fin system thus provides an interface between the propositional content (the IP-node) and specific discourse roles, which are interpreted in dedicated projections, as is shown in (i) below (where the asterisk indicates recursion):

(i) [ForceP [TopP* [FocP [TopP* [FinP [IP

2 For additional cross-linguistic evidence, the interested reader can refer to Frascarelli (2010b) for Tagalog, Bianchi and Frascarelli (2010) for English, Jiménez-Fernández (2016) for Spanish, Frascarelli (2018) for Finnish and Russian, van Gelderen (2013) for Old English and Sigurdsson (2011) for Icelandic.

2 Different types of Topics and Frames: an overview

2.1 The Aboutness-Shift Topic (A-Topic)

The so-called Aboutness-Shift Topic (A-Topic; cf. Frascarelli 2007; Frascarelli and Hinterhölzl 2007) connects Reinhart's (1982) *aboutness* ('what the sentence is about') with the property of being newly proposed or reintroduced in the discourse, thereby exhibiting a *shifting* function (hence its name). Following Reinhart's approach, it is assumed that Topic is an *entity* and the CG an ordered set of propositions, divided into subsets which are stored under defining entries. Given this scenario, the A-Topic can be defined as the entry identifying the "file card" under which the proposition expressed in the sentence is stored. Consider the following example from Italian:[3]

(1) *Sempre a parlare di lavoro*! [*La tua famiglia*,]$_{\text{A-Top}}$ *come sta*?[4]
always at talk.INF of work the your family how be.3SG
'Always talking about work! How is your family doing?'
[Lit: Always talking about work! Your family, how is it?]

As we can see, the production of an A-Topic is intended to introduce a new argument in the discourse, moving from a previous one. An A-Topic thus implies an update of the CG and, as such, it qualifies as a *conversational move* ("a speech act itself", cf. Krifka 2007: 25). Prosodically, this topic shift is signalled by a rise in the Fundamental Frequency (F0),[5] which is aligned with the tonic vowel in its full extension (for details and relevant examples, cf. Frascarelli 2007: §3.1, and Section 3.2.1 below).

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3 The list of abbreviations used in this paper is the following: AN = anaphoric; CG = Common Ground; CL = clitic; DECL = declarative force marker; DEM = demonstrative; DET = determiner; DEP = dependent verb paradigm; DO = direct object; F = feminine; FM = focus marker; IMPERS = impersonal; INF = infinitive mood; IO = indirect object; M = masculine; NEG = negative marker; NOM = nominative case; NONNOM = non-nominative case; OCL = object clitic; POSS = possessive; PRES = present tense; PROG = progressive aspect; PST = past tense; QM = question marker; RED = reduced paradigm; REFL = reflexive; SCL = subject clitic; SG = singular.

4 Italian examples are used to illustrate the position of different Topic types since the left periphery of this language allows for the dislocation of a great variety of discourse-related categories. From a syntactic viewpoint Italian is therefore somehow 'closer' than English to a discourse-prominent language like Somali.

5 In phonetic studies, fundamental frequency (F0) refers to the lowest frequency component of a complex sound wave, specifically the rate at which vocal folds vibrate during speech. It's a key parameter in acoustic phonetics and is closely related to the perceived pitch of a sound. F0 is measured in Hertz (Hz) and is crucial for understanding speech production, intonation, and even emotional expression in spoken language (cf. Hirst and Looze 2021).

2.2 The contrastive Topic (C-Topic)

Contrastive Topics (C-Topics) induce alternatives in the discourse that have no impact on the Focus value of the sentence. Specifically, in the Alternative Semantics approach (Rooth 1992) it is argued that a contrastive Focus generates a set of alternative propositions (varying in the position of the focused element), whereas C-Topics imply a set of questions hierarchically ordered by entailment relations.

In this line of analysis, Büring (1999, 2003) argues that, to obtain congruence, every declarative clause containing a C-Topic must be the answer to a question belonging to a set of alternative questions (either explicit or implicit), which are all part of a strategy to solve a super-question. In other words, this discourse category provides an *instruction* (cf. Krifka 2007) for the hearer on how to relate the asserted proposition to a strategy of inquiry.

From a discourse-semantic perspective, C-Topics can be thus defined as a way to "break down a complex proposition into a conjunction of simpler ones, in which a predicate applies separately to each member of a salient set" (Bianchi and Frascarelli 2010: 72). The following example can provide an illustration:

(2) A: *Cosa hanno scelto i tuoi figli dopo la maturità?*
'What did your children choose after the High School?'
B: [*Leo*]$_{\text{C-Top}}$ *studia* *medicina*,
Leo study.3SG medicine
[*Sara*]$_{\text{C-Top}}$ *vuole* *diventare* *avvocato*.
Sara want.3SG become.INF lawyer
'Leo is a medical student, Sara wants to be a lawyer.'

Syntactically, the C-Topic is located in a position in the left periphery that is lower than the position hosting the A-Topic and is characterized by a high tone that is aligned on the tonic vowel, which can be realized as a complex tone in a number of languages (the so-called 'B-Accent', cf. Büring 2003; Frascarelli 2007, and Section 3.2.2 below).

2.3 The familiar/given Topic (G-Topic)

G-Topics refer to given information that is somehow salient to the conversation. Since givenness is calculated on the basis of the Common Ground (CG) content, it can be said that the main function of a G-Topic is the retrieval of given information that is *stored in the CG repository*. This retrieval can be operated through either "Givenness" (i.e., definiteness and/or overt mention, cf. Heim 1982), or

"Familiarity" (cf. Roberts 2003), that is to say, by means of discourse referents that are (i) perceptually accessible in the utterance, (ii) globally familiar from shared cultural knowledge, (iii) contextually entailed to exist, or (iv) implied via "bridging".

The retrieval function of a G-Topic can serve either (a) to maintain the *continuity* of an established A-Topic (the function of the so-called *Aboutness G-Topics*); or (b) to mention a constituent that is part of the background, but is not a copy of the current A-Topic and is not proposed for a topic shift (*Background G-Topics*; for discussion, cf. Frascarelli 2017, 2018).

In order to understand the distinction between an Aboutness and a Background G-Topic consider the passage in (3) below (from Frascarelli 2007), in which a student is talking about a self-learning course and the *autoapprendimento* ('self-learning') is the established A-Topic (i.e., the constituent heading the current topic chain):[6]

(3) *Il problema di questo autoapprendimento è stato affrontare la grammatica*
'The problem of this self-learning course was the grammar part
lì ti trovi davanti ad argomenti nuovi nei quali avresti bisogno di qualcuno […], *invece*
there you deal with new topics for which you might require someone […], whereas
[*l'* *autoapprendimento,*]$_{k}$ Aboutness G-Top [*questo,*]$_{j}$ Background G-Top pro$_{k}$
DET self-learning this
non *me* *l'* *ha* *dato*
not me.IO.CL it.DO.CL have.3SG given
self-learning did not give this to me.'
[Lit.: self-learning, this, (it) did not give it to me]

Syntactically, the G-Topic is merged in the lowest Topic position in the left periphery and, prosodically, its tonic vowel is realized as a low tone at the minimum of the speaker's range, with no significant difference with respect to the pretonic F0 level. As diverse given entities can be realized in a single sentence, G-Topics can be multiple and can also appear in the right periphery of the sentence (differently from A- and C-Topics).

Based on the information-structural characterization illustrated so far, in Frascarelli and Hinterhölzl's (2007) work, it is argued that a systematic correlation exists between discourse, syntactic and prosodic properties, which is encoded in

6 Notice that in (3), and throughout the paper, the gloss in examples is only given for the sentence under examination.

specific functional projections in the C-domain, which has been thus re-elaborated as in (4) below (cf. the original Rizzi's 1997 structure in footnote 1 above):

(4) $[_{ForceP}\ [_{ShiftP}$ A-Topic $[_{ContrP}$ C-Topic $[_{FocP}$ Focus $[_{FampP^*}$ G-Topic $[_{FinP}\ [_{TP}\ [_{VP}\ \ldots\ ]]]]]]]]$

The fine structure of the left periphery illustrated in (4) has been then supported in a number of subsequent articles, in which different languages have been examined (cf. footnote 2 above). The systematic association between intonation and Topic types then led Frascarelli (2018) to argue for the existence *p-features* as *formal features*, encoded in the lexicon in the form of syntactic features for interface interpretation (cf. also Adger and Svenonius 2011).

Let us now turn to Frames, in order to outline their properties and define their function and position in the C-domain.

2.4 Frames

As said above, Frame setters qualify as dislocated elements that do not refer to entities: this semantic quality provides a first, crucial distinction with respect to Topics. Indeed, Frames do not serve to propose or maintain a topic, nor do they refer to some given or familiar element stored in the interlocutor's CG repository: the function of Frames is to limit the truth-conditional validity of the sentence they are associated with, in terms of *Time*, *Space* and *Domain* (cf. Krifka 2007). For an illustration, consider the examples in (5a-c) below:

(5) a. A: Can I come tomorrow for a haircut?
B: In the morning, my agenda is full! (TIME)
b. A: Where can I store this luggage?
B: Sorry, there's no space, in my closet. (SPACE)
c: A: How is your son doing?
B: Healthwise, he's fine. (DOMAIN)

Krifka (2007) relates Frame-setters to contrastive (C-)Topics, since the former imply that there are other aspects for which other predications might hold, thus creating the expectation that the information provided in the following assertion is not valid for other dimensions (as C-Topics do with entities). The expectation is therefore that C-Topics and Frame-setters might share (some) major formal properties.

This prediction seems to be borne out for Italian, at least from a prosodic viewpoint. Carella (2015) shows that Frames ("Limiting Topics", in his terminology) are characterized by a high tone in Italian, that is to say, the same intonational contour associated with C-Topics in Frascarelli and Hinterhölzl (2007).

Despite this interface similarity, however, Italian data discussed in Frascarelli (2017) seem to show that the framing function cannot be considered as a sub-type of (and reduced to) contrastive topicalization, for different reasons. First of all, Frame-setters can also be realized in the right periphery of the sentence (cf. (5b) above), whereas this position is totally excluded for C-Topics. Furthermore, differently from C-Topics, Frames can refer to given/background information (as right-hand G-Topics do) and, finally, Frames are realized through categories that cannot be used for C-Topics (e.g., PPs and Adverbial phrases; cf. Frascarelli 2017 for examples and discussion).

2.5 Topics and Frames in Somali

Topicalization and Frame-setting can be considered relevant issues for scholars dealing with a 'discourse-configurational' language like Somali (cf. Kiss 1995), since in these languages discourse-related categories play a crucial role in the structural characterization of the sentence (cf., among others Svolacchia and Puglielli 1999; Svolacchia et al. 1995). Nevertheless, no systematic interface investigation has ever been carried out on Somali Frames and C-Topics. The present study can be thus considered a pilot field research in this area of research, providing "brand-new" data, results and relevant analysis.

Indeed, the analysis of discourse-related categories in Somali mainly converged on Focus and Topic constituents (cf. Puglielli 1981; Svolacchia and Puglielli 1999; Svolacchia et al. 1995) and, with regard to the latter, A-Topic and G-Topic received the most attention for their interface properties (Puglielli and Frascarelli 2009a, 2009b), supporting the existence of a crucial interplay between discourse and formal properties. As the present analysis assumes these works as its starting point, a preliminary overview of relevant assumptions and results is in order.

3 Information-structure in the Somali C-domain

3.1 Somali: basic structural properties

Somali is a head-final language characterized, on the one hand, by the existence of a Verbal Complex (VC) in which the SOV order of elements is strictly fixed (cf. the template in (6) below) and, on the other, by the presence of markers indicating the discourse role of constituents in specific configurations (for details, cf. Andrzejewski 1960; Puglielli 1981):

(6)

impersonal Subject Clitic *la*	Object Clitic	Adpositions (mostly 2)[7]	Object Clitic (realized as a Possessive)	Space Deictics *soo / sii*	some adverbial Nouns of place/ manner	Verb

Since full DPs are never included within the VC, Somali can be considered a *pronominal argument language* (or a polysythentic language, according to Svolacchia and Puglielli 1999), in which clitic pronouns in the VC are only visible for theta-role assignment through incorporation onto the verbal head (in line with Baker's 1996 Morphological Visibility Condition). This means that full DPs never carry argument role and, consequently, they are always merged in extrasentential position. In particular, Foci are marked with specific markers, while Topics are connected to their argument and syntactic function by means of clitic resumptive pronouns arranged in the VC.

In order to provide an illustration of possible word orders and relevant interpretations, consider the following examples, in which (7a-c) are appropriate answers to the wh-question 'what are the men eating?' (so they realize object Focus), while (8a) realizes Subject Focus, answering the wh-question 'who is eating the meat?' (Topic constituents are boldfaced, while Foci are signaled by small caps, here and in the rest of the paper):

(7) a. *Nimanku* *HILIBKA* *bay* *cunayaan.*
men.DET.NOM meat.DET.NONNOM FM.SCL.3PL eat.PRES.PROG.3PL
'The men, they are eating THE MEAT.'

b. *HILIBKA* *bay* *cunayaan* ***nimanku.***
meat.DET.NONNOM FM.SCL.3PL eat.PRES.PROG.3PL men.DET.NOM
'They are eating THE MEAT, the men.'

c. *HILIBKA* *bay* ***nimanku*** *cunayaan.*
meat.DET.NONNOM FM.SCL.3PL men.DET.NOM eat.PRES.PROG.3PL
'The men, they are eating THE MEAT.'

d. **HILIBKA* ***nimanku*** *bay cunayaan.*

(8) a. ***Hilibka*** *NIMANKA* *baa* *cunayá.*
meat.DET.NONNOM men.DET.NONNOM FM eat.PRES.RED
'The meat, THE MEN are eating (it).'

b. **NIMANKA* ***hilibka*** *baa cunayá.*

7 In Puglielli (1981) the number of adpositions is defined as 2. However, an anonymous reviewer has pointed out that examples with 3 adpositions can be also found on the web (like ***ugala*** *hadlay*, from: https://www.bbc.com/somali/articles/c512wyyd2zpo). Though possibly sporadic and narrow cases, they cannot be ignored and for this reason "mostly" has been added in the relevant slot (in this respect, cf. also Bendjaballah 2024; Green 2021).

As illustrated, while Topics are not marked and can be found in different positions (except below the Focus, as is shown in (7d)),[8] a major constraint is imposed on the distribution of narrow Focus constituents, which must be overtly marked in root clauses, fronted and immediately left-adjacent to the Focus Marker *baa/ayaa* (compare (8a) and (8b)). Indeed, no DP can separate the Focus Marker from the focused constituent, which cannot be resumed in the VC and invariably shows NON-NOM Case.[9] For such pervasive constraints Somali is also considered a *Focus-prominent* language (cf. Kiss 1995).

Finally notice that several Topics can be realized in the same sentence, sitting in the three available positions (shown in (7a-c) above). Consider sentence (9) below:

(9) *Shalay* *CALI* *baan*$_{k}$ (*baa-aan*) ***anigu***$_{\mathbf{k}}$ *Ø*$_{j}$*-ku* *arkay* ***jaamacadda***$_{\mathbf{j}}$
yesterday Cali FM-SCL.1SG I.NOM OCL.3SG-at see.PST.1SG university.DET
'Yesterday, I saw CALI at the university.'

As we can see, the left-hand DP *shalay* 'yesterday' obtains an adverbial interpretation and, as such, is not clitic resumed; on the other hand, the "internal topic" *anigu* ('I') is resumed by the subject pronoun *aan*, cliticized onto the Focus Marker, and the right-hand Topic DP *jaamacadda* is interpreted as an indirect object through a silent resumptive pronoun (third person clitics are zero forms in Somali, cf. Puglielli 1981), cliticized onto the preposition *ku* in the VC.

Given this preliminary overview on Somali phrase structure, we can deal with the interface investigations carried out on Somali Topics and Frames.

3.2 Interface properties: previous survey and relevant results

The survey carried out in Puglielli and Frascarelli (2009b) was intended to identify the prosodic properties of Topics in Somali and the possible connection between intonation and discourse roles. The relevant investigation was based on a corpus of semi-spontaneous conversations (elicited through a "map-task" test) produced by three native speakers of Somali (Mogadishu and Northern variety), aged between 35

8 For the sake of accuracy, it must be said that Topics obtain specific discourse interpretations according to their (left-hand/internal/right-hand) position. However, since this subject is not relevant for the present analysis, we refer the interested reader to Puglielli and Frascarelli (2009a).

9 Somali Case marking only distinguishes subject DPs (by means of NOM Case) from all object DPs, which are morphologically unmarked. This is the reason why the non-subject function is glossed as 'non-nominative' rather than ACC(usative). Incidentally notice that Subject focusing implies the presence of a 'reduced' paradigm of the verb (as indicated in the gloss of (8a)). Though 'antiagreement' is a relevant phenomenon in Somali and in several other languages (cf. Frascarelli 2010a), its discussion is immaterial for the purposes of the present work.

and 60. These conversations (ca. 20 min) have been transcribed, obtaining 250 utterances which contained 136 Topics in different positions (specifically, 84 left-hand Topics, 26 internal Topics and 26 right-hand Topics).

The intonational analysis carried out by the authors provided clear evidence that Topics show different contours depending on their position, and relevant contours are systematically associated with specific discourse functions.[10]

3.2.1 A-Topics in Somali

When a Topic DP is realized in the left periphery of the sentence, it is generally associated with a complex L*+H tone (in line with a number of typologically different languages, which have been analysed in this respect[11]), which can be described as a low tone or a fall to the Tone Bearing Unit (TBU)[12] and a F0 (i.e., 'Fundamental frequency') rise in the second half of the TBU, with a peak even before the end of the tonic or in the post-tonic syllable (cf., for details, Gili Fivela et al. 2015: 148).

The relevant interface analysis shows that this Topic type is related to the aboutness-shift function (cf. Section 2.1), since the entity at issue is proposed as the most prominent participant in the discourse and establishes what the following sentence is about. Its high position in the C-domain and the association of a complex L*+H tone shows that Somali is totally in line with the formal features that characterize the A-Topic cross-linguistically (cf. Section 2.1 above).

As an illustration, consider the dialogue in (10) below (from Puglielli and Frascarelli 2009b), in which speaker A asks speaker B to describe a picture and speaker B answers proposing *Cali* as the A-Topic of the following description:[13]

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10 Several scholars have also recently dealt with the correlation between tone patterns and their functions in Somali (cf., among others, Frid 1995, Green and Morrison 2016; Le Gac 2018, 2003). As far as we know, however, no study has addressed systematically the *interface* correlation between the formal properties that different levels of grammar associate to different discourse-related categories. In this respect, the work on Somali started in Puglielli and Frascarelli (2009a, 2009b) can be considered innovative and it is to this line of research that the present work relates.

11 Indeed, the association of the A-Topic with the complex L*+H contour, originally identified for Italian and German in Frascarelli and Hinterhölzl (2007), was later confirmed in Somali (Puglielli and Frascarelli 2009b) and other typologically different languages (cf. Frascarelli and Casentini 2019 for Chinese, Frascarelli and Jimenez-Fernández 2021 for Spanish).

12 Specifically, the TBU is the tonic vowel bearing the Nuclear Pitch Accent (NPA) in languages with stress accent or the mora to which tone is generally assigned in tone languages.

13 Here and in the following examples, the question (or context) preceding the target sentence is given in English (for space limits). It is however important to underline that Somali was the only language used during the survey.

(10) A: '*Come on Ahmed, tell me about the first picture*'
B: ***Cali***$_{\mathbf{k}}$ *in-uu*$_{\mathbf{k}}$ *CAJIIN qasayaa la moodaa*
Cali.NOM that-SCL.3SG.M dough beat.3SG.M.DEP.FM IMPERS seem.PRES.3SG
'Cali seems to be making PASTA.'
[Lit.: Cali, that he is making PASTA it seems]

As is shown, the DP *Cali* precedes the sentential complement (which, in turn, precedes the VC, consistent with the OV character of this language) and is resumed by the subject pronoun *uu*, cliticized onto the Complementizer *in* ('that'). The intonational contour of this sentence is shown in Figure 1 below:[14]

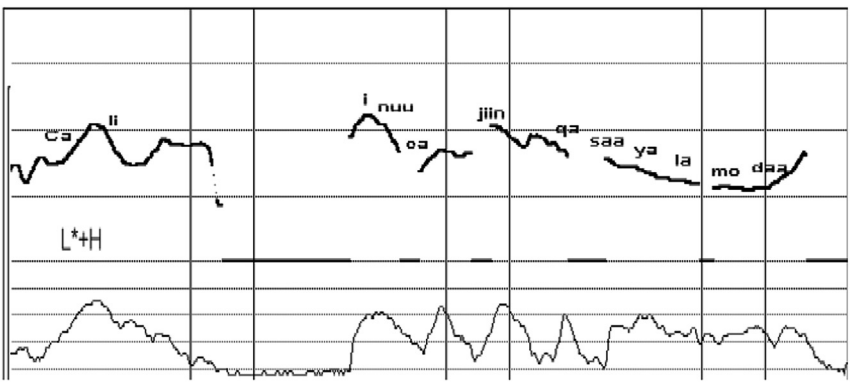


Figure 1: A-Topic in Somali.

As can be seen, the left-hand Topic *Cali*, which is proposed by the speaker as the aboutness of the predicative part of the sentence, shows a rising contour on the TBU and is followed by a long pause, thus forming an independent prosodic domain with respect to the following Comment (characterized by an H+L* downgrading contour,

14 The WinPitch software tool (Martin 2004) was originally used to extract the curves, whereas the Praat program (Boersma and Weenik 2001) has been used for the present analysis. For this reason, Figures 1–3 show a different format with respect to the following ones. Unfortunately, this inconsistency cannot be mended (unfortunately, the original tracks are on worn and obsolete media).

which is typically associated t with assertive sentences; cf. Pierrehumbert and Hirschberg 1990).[15,16]

3.2.2 G-Topics in Somali

When an aboutness Topic is not realized to propose a shift and is used either to provide background information or to repeat a previously introduced A-Topic (for a *topic-continuity* function), it is marked by a low-tone (L*) on the TBU.

This type of Topic qualifies as a G-Topic, which can be realized either in the left or in the right periphery of the sentence. An illustration of the former case is given through the DP *Cali* in sentence (11B) below:

(11) A: 'Is Maryan giving a sign to Ahmed or to Cali?'
B: *Maryam* *Cali*$_j$ *Ø$_j$-u* *baaqi* *mayso*
Maryan Cali OCL.3SG-to give a sign NEG.PRES.3SG.F
Cali *CUNTUU* (*cunto-baa-uu*) *cunayaa*
Cali.NOM food.DET.FM.3SG.M eat.PRES.PROG.3SG
'Maryan is not giving a sign to Cali, Cali is eating FOOD.'
[Lit: Maryan, to Cali, is not giving a sign, Cali, he is eating FOOD]

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15 A reviewer interestingly noticed that the Topic *Cali* might be (in principle) interpreted either in the embedded or in the matrix left periphery (since word order does not allow to decide between these two hypotheses). S/he thus wondered whether the intonational contour reported in Figure 1 can help us decide. Unfortunately, however, intonation cannot disambiguate the semantic merge of Topics in Somali, since they are always inserted in extrasentential position (cf. Section 3.1). Hence, no sandhi phenomena or movement operation might get 'disrupted' by the trace of a Topic in the sentence. On the other hand, the belonging of the Topic *Cali* to the subordinate clause is made clear by the fact that the subject of 'seem' is the impersonal pronoun *la*, which is a full (not a clitic) pronoun (as is shown in the template given in (6) above) and cannot serve for resumption. Instead, the resumptive 3SGM clitic pronoun *-uu* is realized in the subordinate sentence (cliticized onto the Complementizer *in*). I thank the reviewer for her/his observation and relevant stimulating questions.

16 The same reviewer wonders about the NOM marking (and status) of the DP *Cali*. According to the literature subject marking on a proper name such as this would be indicated with low tone throughout. Hence, a low tone would be expected on *Cali* in (10), whereas it is shown to have a rising contour. So, the question that arises is what corresponds to the NOM mark expressed in the gloss. The answer to this question is far from trivial. Indeed, *Cali* in (10) is for sure interpreted as the *logical* subject of the sentence, but in fact it is *not* the *syntactic* subject, as it is a Topic, and Topics in Somali are merged in the left periphery of the sentence. Therefore, the NOM marking could (or should) be removed. However, it could be hypothesized that the Topic DP *Cali* receives NOM Case by the subject pronoun *uu* via binding and that the typical NOM tone is superseded by the intonation required by information structure for interface visibility. As said above, the question is not easy, and a solution requires further study and investigation.

After speaker A's question, speaker B proposes *Maryan* as the Topic of his answer, whereas *Cali* is backgrounded as a G-Topic. The intonational contour of the following sentence shows that speaker B is not shifting the topic to *Cali*, since this constituent stays low on the speaker's baseline level, as is shown in Figure 2 below:[17]

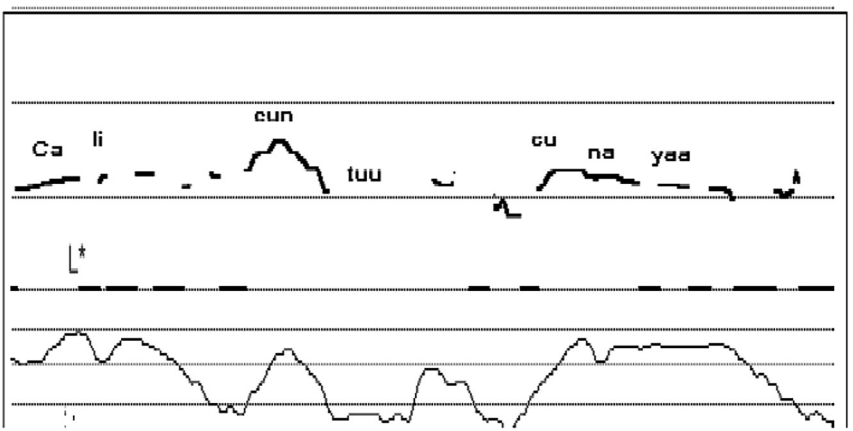


Figure 2: G-Topic in the left periphery in Somali.

This is evidence that *Cali* is a G-Topic also in this sentence and, consequently, that *Maryan* is maintained as the (silent) A-Topic of the whole answer under examination (on silent A-Topics, cf. Frascarelli 2007).

The realization of a low-toned Topic in the left periphery of the sentence (as shown in Figure 2) shows that the realization of a rising or high contour on a left-hand Topic (as in the case of A-Topics and C-Topics) should not be considered a phonetic consequence of its initial position. Indeed, it shows that *prosodic properties depend on discourse-related formal features* associated with specific projections in the C-domain. Hence, left-hand Topics can be either high- or low-toned, depending on their function in the discourse.

Let us now consider the prosodic properties of G-Topics in the right periphery of the sentence. For an illustration, consider the DP *macallinka* ('teacher') in (12) and its intonational contour in Figure 3 below:

17 An anonymous reviewer objects that such low contour is expected given that *Cali* is a non-focused subject and, s/he argues, the lack of tone on a DP, as is this case, is recognized in the literature as a marker of the Subject function (cf., among others, Green and Lampitelli 2022; Green and Morrison 2016; Le Gac 2018). Nevertheless, the analysis of *Cali* as a Topic follows structurally from the fact that *Cali* is followed by a fronted Focus (cf. (4) above). Moreover, the presence of a Focus implies a partition of the sentence between Focus and Presupposition (Krifka 2007) and, consequently, what is not focused is topicalized (for details on this approach, see also Frascarelli 2010a).

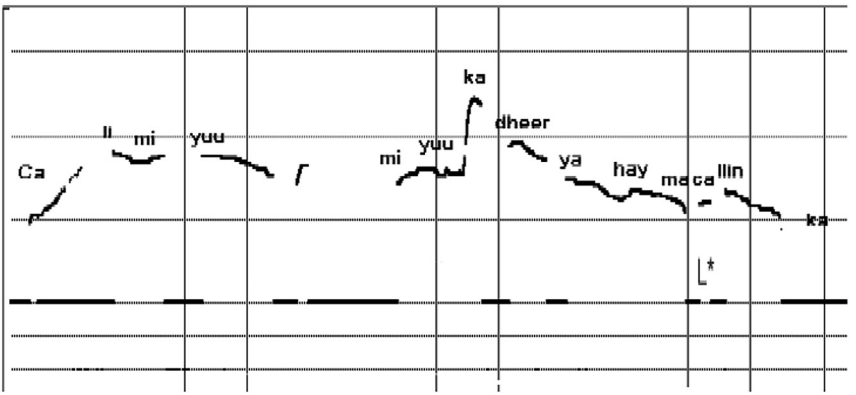


Figure 3: G-Topic in the right periphery in Somali.

(12) [Talking about the teacher in the picture]

Cali	*miyuu–*	*miyuu*	*Ka*	*dheeryahay*	*macallinka?*
Cali	QM.SCL.3SG.M	QM.SCL.3SG.M	than	be tall.PRES.3SG.M	teacher.DET

'Cali, is he taller than the teacher?[18]'

As is clear from the incorporation of the definite article *ka* in *macallin*, the teacher mentioned in the question is a definite referent (cf. Heim 1982) and, as such, it must be known and identifiable by the participants in the conversation. It is, therefore, a *familiar* entity, which is repeated in the question for continuity.[19] Consequently, it is low-toned G-Topic, which is part of the (downstepping) sentential curve.

Given this interface characterization of A- and G-Topics in Somali, let us now turn to the present experiment, starting with the illustration of data and methodology.

4 The present experiment: data and methodology

Data on C-Topics and Frames were collected through an investigation carried out before the pandemics with the collaboration of 4 Somali informants (2 women and 2

18 As can be noticed in Figure 3, *miyuu* is repeated twice by the speaker. This can be considered a performance effect, a "restart", which is a frequent phenomenon of speech, here presumably due to hesitation in the wording of the relevant question.

19 It should be noticed that this definite expression is also "familiar" since the 'teacher' is represented in the picture and, as such, contextually entailed to exist (cf. Section 3.2 above). For this reason, the determiner *-ka* is used, and not the anaphoric determiner *-kii*, which indicates reference to a "givenness in the discourse" (in other words, previously mentioned). Indeed, even though a slight F0 rise is realized on the tonic syllable of *macállinka*, it remains basically low, on the speaker's baseline value.

men) aged around 40, coming from Mogadishu and Djibouti, and the assistance of an expert (a native speaker himself, aged 60), who was appointed to 'lead the experiment' and stimulate a 'semi-spontaneous conversation' by asking questions about elements present in pictures from everyday life, which were gradually shown to them. A sample picture (specifically used to stimulate conversations about school and education) is provided in Figure 4 below (6 pictures were used in the whole experiment):



Figure 4: Sample picture used in the experimental test.

This type of experimental diagnostics, defined as "Photo elicitation" (cf. Harper 2002), is a participatory-oriented method, which is used in different research areas such as visual sociology, marketing research and, indeed, (socio-)linguistic analysis. Pictures were shown also in Puglielli and Frascarelli's (2009a) investigation; however, in that case the experiment was only based on question-answer elicitation (to obtain specific Focus and Topic types), whereas in this experiment the conversation was left rather free, and only stimulated from time to time.

As a matter of fact, the present research was aimed at collecting as much spontaneous data as possible on the structural and prosodic production of discourse-related categories (such as Topic and Frames) and a structured test would have biased naturalness. Indeed, as the informants were quite impressed for being involved in linguistic research, to reduce emotional stress the microphone was placed in an inconspicuous place. This enhanced informality, however, unfortunately, had the negative side-effect of often sub-optimal quality of tracks.

Based on this testing device, 24 occurrences of C-Topics and 66 Frames were collected. Though limited in terms of informants and data, relevant productions are very consistent across speakers. Hence, this investigation can be considered a valid

pilot study, offering initial insights into the realization and the (different) properties of Frames and C-Topics in Somali.

4.1 C-Topics in Somali

During the survey, the assistant (speaker A in the examples) proposed to informants the pictures one by one and started each conversation with a question (related to the relevant picture), intended to stimulate the production of C-Topics and Frames.

For instance, in the case illustrated in sentence (13) below, after showing a picture concerning typical Somali food, for instance, the expert asked speaker B (a woman) about a dinner she had recently organized for Italian friends. In the question two entities are introduced, namely *baastada* ('the pasta') and *kalluunka* ('the fish'), as the objects of the event at issue. Since 'pasta' and 'fish' have been cooked by different persons, speaker B was "obliged" to "split" her answer and formulate two sentences implying an implicit super-question "who cooked what?" (cf. Büring 2003; Krifka 2007). *Baastada* ('the pasta') and *kalluunka* ('the fish') thus qualify as C-Topics in the relevant answer and, as expected, they are marked by a high tone:

(13) A: Yesterday you and your husband cooked pasta and fish together for the dinner, did you?

B: ***Baastada***, *waxaa* *diyaariyay* *odaygayga*,
pasta.DET thing.DET prepare.PST.3SG.M husband.POSS1SG.DET
kalluunka, *ANIGaa* *kariyay*
fish. DET I.FM cook. PST.1SG
B: 'The pasta, my husband prepared, the fish I cooked.'
[Lit: The pasta, it is what my husband prepared, the fish, it is ME who cooked it]

As is shown in Figure 5 below, the baseline value is reached in the final part of both C-Topics. According to Prosodic Phonology tenets (cf. Nespor and Vogel 1986), this is evidence for the presence of a right-hand prosodic boundary. This leads to the plausible hypothesis that C-Topics form independent prosodic domains in Somali, a hypothesis that is supported by the presence of a pause after each of them.

Consistent with cross-linguistic findings, relevant C-Topics are both marked with a H* tone on the TBU which is realized as L+H* on the first element of the contrastive sequence (with the L tone on the pretonic vowel of *baastada*), and as H*+L on the second: a "rising-falling" tone pattern which is frequently realized for C-Topic pairs cross-linguistically. The alignment between tones and C-Topics provided in the

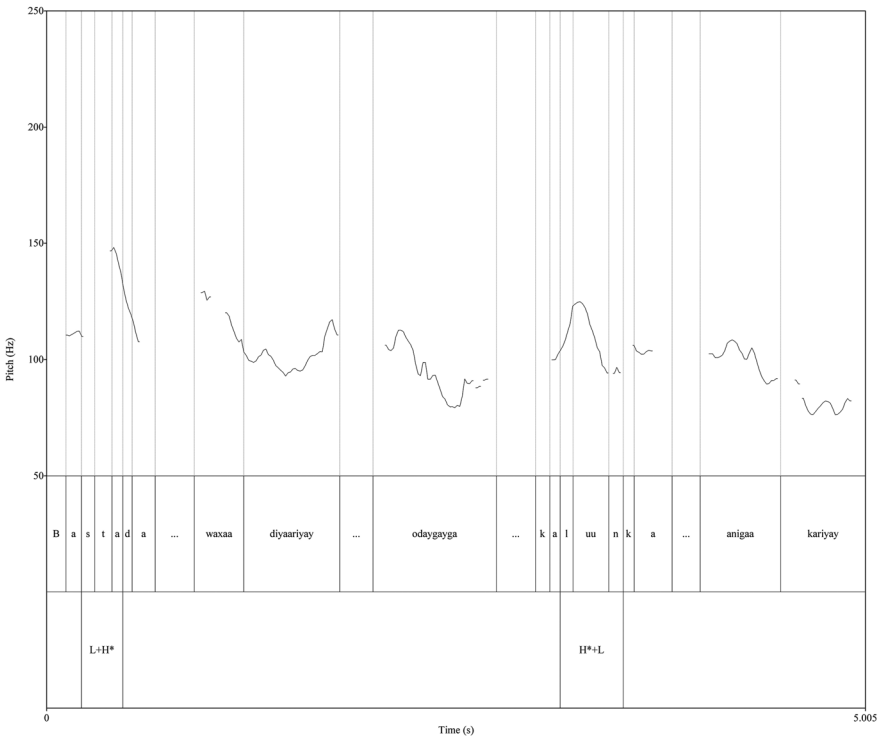


Figure 5: C-Topics in Somali.

Figure is also made evident by the phonetic "gaps" following *aa* in *baastada* and *uun* in *kalluunka*, due to the voiceless consonants following them.[20]

As expected, no occurrence of right-hand C-Topics could be found in the corpus collected. We can thus feasibly conclude that, like A-Topics, C-Topics in Somali can only be realized in the left periphery of the sentence (differently from G-Topics and, once more, in line with cross-linguistic data).

20 An anonymous reviewer wonders whether the pattern on *kalluunka* in (13) is due to its status as a C-topic and not rather to the fact that it is a definite noun. Although the doubt is legitimate (and I thank reviewer for raising it), the analysis provided is supported by the fact that *kalluunka* in the relevant example precedes the narrow Focus *aniga*, which is marked by the Focus marker *baa*, hence it cannot be sitting in the low FamP position dedicated to given information (cf. (4)). Rather, it must be located in the high periphery of the sentence and, given the discourse-semantic contrastive context induced by the question, *kalluunka* must be a C-Topic (in opposition to *baastada*). As a matter of fact, though definite nouns are given, given DPs can also provide contrastive/corrective information (cf. Frascarelli 2010a; Krifka 2007). In particular, C-Topics are typically definite DPs insofar as they are given in opposition to some other constituent mentioned in the text.

Also notice in (13) that the proposition following the C-Topic can be either realized as a pseudo-cleft *waxaa* sentence, that is to say, a construction that typically implements a Topic-Comment structure (cf. Frascarelli 2011; Frascarelli and Ramaglia 2013),[21] or as a Narrow Focus sentence (through the FM *baa/ayaa*).

It is also important to notice that C-Topics *are never focus-marked* in Somali (i.e., they are never followed by the FM *baa/ayaa* cf. Puglielli and Frascarelli 2009a, 2009b). As Somali is a Focus prominent language, in which Focus must be overtly marked, this is strong evidence that C-Topics and Contrastive Foci are *distinct* discourse-related categories. This means that Krifka's (2007) suggestion – according to which C-Topics are a "combination of topic and focus" since they consist of "an aboutness topic that contains a focus" – is hard to maintain and should be re-considered (as also suggested in Frascarelli 2017). As a matter of fact, even though C-Topics create alternatives in the discourse (like Foci do), these alternatives have no impact on the Focus of the sentence and imply the introduction of two (or more) Topics, which are contrasted in relation to different propositions (Comments).

4.2 Frame-setters in Somali

4.2.1 General considerations

As said above, through this experiment we could identify 66 cases in which the speakers used a constituent to limit the truth-conditional validity of the following (or preceding) sentence and, based on the tripartite division assumed in the literature (i.e., Domain, Space and Time; cf. Section 2.4), we could find that Time Frames are the most frequently produced in the corpus collected (40 sentences), whereas the use of Space and Domain Frames is more limited (13 each).

Focusing on their *structural* realization, it is interesting to notice that Frames are mostly realized through a relative clause, which is in fact the construction that is commonly used to realize adverbial clauses in Somali (cf. Puglielli 1981). Nevertheless, DPs are also rather frequent, while framing sentences (CPs) have been found in a single case. Consider Table 1 below (here, and in Table 2, total values are shown in bold):

21 In Frascarelli (2011) evidence is provided that *baa* and *waxaa* constructions are by no means interchangeable narrow Focus constructions. Even though *waxaa* sentences can be used as answers to wh-questions (a distinctive feature with respect to declarative *waa* sentences), they are mainly used in contexts in which unfocused information is not topicalized but contributes to the informative part of the sentence (that is to say, it is part of the Comment).

Table 1: Frame Types: structural realization.

	Structure Type			
Frame Type	**CP**	**DP**	**Relative**	**Total**
Domain	1 (1.5 %)	8 (12.1 %)	4 (6.1 %)	**13** (19.7 %)
Space	0	11 (16.7 %)	11 (16.7 %)	**13** (19.7 %)
Time	0	10 (15.1 %)	10 (15.1 %)	**40** (60.6 %)
Total	1 (1.5 %)	29 (43.9 %)	29 (43.9 %)	**66** (100 %)

As is shown, Time Frames score 60.6 % of total occurrences (40/66) and they are mainly associated with a relative clause, which qualifies as the most frequent structural strategy used to realize Frames (54.5 % of total occurrences). On the other hand, DPs appear to be dominant in the case of Space Frames and not infrequent with Time Frames. Indeed, even though the DP strategy is (almost) evenly used across the three Frame types, statistical analysis shows that the difference between relative clauses and DPs with Time Frames is significant (see Section 4.2.2. below).

As for their *position*, Frames appear to be mainly located in the left periphery of the sentence (especially Time and Space Frames). Consider Table 2 below:

Table 2: Frame Types: position.

Frame Type	**Position**		**Total**
	Left	**Right**	
Domain	8 (12.1 %)	5 (12.1 %)	**13** (19.7 %)
Space	12 (18.2 %)	1 (1.5 %)	**13** (19.7 %)
Time	37 (56.1 %)	3 (4.5 %)	**40** (60.6 %)
Total	57 (86.4 %)	9 (13.6 %)	**66** (100 %)

As we can see, left-handed Frames are dominant (86.4 % of total occurrences), as expected from their limiting function and only in the case of Domain Frames is the right-hand position slightly favored.

In the following section the data just presented in terms of numbers and percentages will be assessed for their significance by means of statistical devices.

4.2.2 Statistical analysis

For the sake of statistical analysis, informants' productions have been normalized (i.e., converted into z-scores) and analyzed using the Chi-square test.[22]

Specifically, two Chi-square tests have been carried out, in order to assess the significance of the variations observed in Tables 1 and 2 above. In one case the independent variables set for the test were (i) the type of Frame (labelled "Frame Type") with three levels (Time, Space and Domain) and (ii) the structural realization of the Frame (labelled "Structure Type") also with three levels (CP, DP and relative clause). In the second test the "Frame Type" was taken again and confronted with (iii) the position of the Frame (labelled "Position") with two levels (left-hand and right-hand). The mean z-score was instead selected as the dependent variable. After the Chi-square analysis, a Tukey's HSD Post Hoc test was also carried out, in order to identify any significant differences between the different experimental conditions.[23]

Let us then consider the results obtained in Tables 3a-b below, showing that both the interactions considered are significant. In particular, the interaction

Table 3a-b: Factors' effect and their interaction with Type.

χ^2 tests	Structure		
	Value	**df**	**p**
χ^2	21.2	4	<0.001
N	66		
χ^2 tests	**Position**		
	Value	**df**	**p**
χ^2	8.47	2	<0.014
N	66		

22 A chi-square (χ^2) test is a statistical hypothesis test used to determine if there's a significant difference between observed *categorical data* and *expected data*, checking if relationships between variables are due to chance or a real association, with common types being the Goodness of Fit test (for one variable) and the Test of Independence (for two variables, as in this case). It works by comparing actual counts (observed) to counts expected under a null hypothesis (no relationship) using the Greek letter Chi (χ). For details, the interested reader can refer to Field et al. (2012), Agresti (2018) and Sharpe (2015).

23 A Post Hoc test, in statistics, is a multiple comparison test that is performed after that an analysis of variance has indicated a significant difference between the groups. Indeed, Post Hoc tests perform pairwise comparisons between groups, so as to identify specific differences.

between Type and Structure appears to be *highly* significant: $p < 0.001$ (significant results are highlighted):[24]

Let us now consider the details offered by the Post Hoc test, starting with the interaction between Type and Structure in Table 4 below:

Table 4: Factors' interaction between Type and Structure.

Frame Type	Structure Type		
	CP	DP	Relative
Domain	2.035	1.43	−1.92
Space	−0.499	3.30	−3.16
Time	−1.250	−3.85	4.14

As shown by the data highlighted in the charts, statistical analysis confirms general impressions: Time frames are significantly more often realized with relative clauses (the stronger result) and tend to avoid DPs, whereas Space Frames are significantly more frequently realized through DPs.

The Post-Hoc test also signals the significant use of CP for Domain Frame; nevertheless, we should remember that this is only due to a difference between 1 occurrence instead of 0 (see Table 1 above).

Let us then turn to Table 5, showing the interaction between Type and Position:

Table 5: Factors' interaction between Type and Position.

Frame Type	Position	
	Left	Right
Domain	−2.911	2.911
Space	0.697	−0.697
Time	1.802	−1.802

As is shown, in this case the only significant difference concerns the position of Domain Frames, which are significantly more frequently realized in the right periphery of the sentence, as a sort of after-thought. Though essentially limited to Domain Frames, the possibility of (and preference for) a right-hand position confirms Frascarelli's (2017) proposal for a strong distinction between Frames and C-Topics (which can be only realized in sentence-initial position).

24 In the Tables, the term "Value" indicates the effect size (or "confidence interval") of a test while "df" is the so-called "degree of freedom", that is to say the amount of independent information available for estimating parameters or testing hypotheses.

After statistical assessment and considerations, let us now delve into the illustration and discussion of some sample sentences for each Frame type.

4.2.3 Time Frames

As we have seen in Table 1, Time Frames are the most frequent Frame-setters in Somali, mostly realized in the left periphery of the sentence through a relative clause. This phrasal realization is exemplified in (14) and illustrated in Figure 6 below (Frames are given within square brackets in the target sentences):

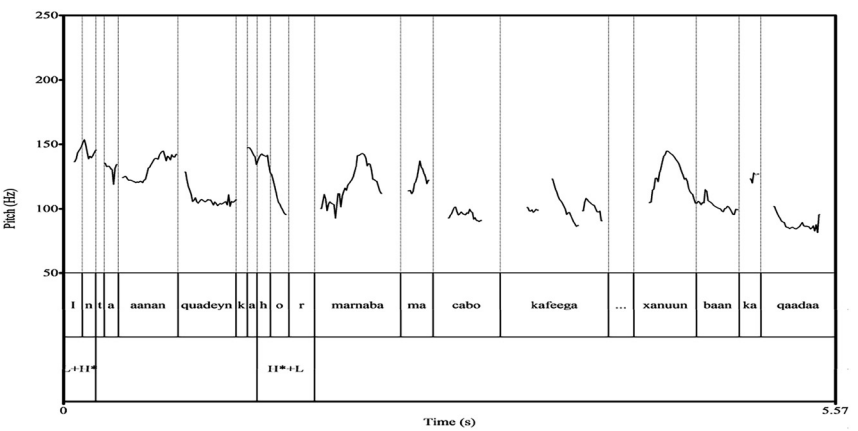


Figure 6: Left-hand time Frame in Somali.

(14) A: They [showing people in a picture] are drinking something hot… shall we go and have a coffee together for a break?

B: [*Inta aanan qadeyn ka hor*]
time.DET SCL.1SG.NEG have lunch.NEG from before
MARNABA ma[25] *CABO kafeega: XANUUN baan ka qaadaa*
Never NEG drink coffee.DET pain FM.SCL.1SG from take. PRES.3SG

25 The negative particle *ma* in Somali is used to form negative sentences with verbal focus and, as such, it can also be considered a Focus marker (like *baa* and *waa*). As reported in Puglielli (1981: 279–280), it is placed within the VC (cf. (6) above) and, specifically, after object pronouns and the adpositions, but it must precede the object pronouns realized as possessives. Finally, the verb must show the negative paradigm form, as shown in the following example:

(i) *Axmed lacagta iiguma kaa KEENIN*
Axmed money.DET OCL.to.for. your give.PST.NEG
'Axmed didn't give me the money for you.'

'[Before lunch] I NEVER DRINK coffee: I get a BAD STOMACH.'
[Lit: [the time having lunch before] I NEVER drink coffee: PAIN I get from it]

As we can see, after the DP *hor* ('before') the intonational contour reaches the speaker's baseline value, followed by a short pause; as discussed above (cf. Section 3.2.1), this is evidence for an independent prosodic phrase. The relative clause thus creates an independent scope domain and, as such, it is delimited by a rising complex tone (L+H*) on the noun-head *inta* ('time'), located on its left boundary, and a high tone on its right boundary, which is followed by a fall (H*+L) (cf. among others, Cheng and Downing 2007; Inkelas and Zec 1995; Sanfelici et al. 2020; Truckenbrodt 2007).[26]

The Time Frame under examination is followed by two sentences, each of which shows a high pitch (H*) on the focused constituent. In particular, the first sentence (*marnaba ma cabo kafeega* 'I never drink coffee') the H* is on the negative phrase *marnaba* ('never'), marked by the NEG marker *ma*, whereas in the final sentence (*xanuun baan ka qaadaa* 'I get pain from it') the H* pitch is on the DP *xanuun* ('pain'), which is marked by the focus marker *baa* and plays a contrastive role with respect to *kafeega* (on the correlates between the H* tone and new/salient information; cf., among others, Pierrehumbert and Hirschberg 1990).

4.2.4 Space Frames

Let us now turn to the realization of Space Frames, taking into consideration both a left-hand (15) and a right-hand realization, respectively illustrated in Figures 7 and 8 below:[27]

26 An anonymous reviewer objected that the high tone on *hor* is not necessarily due to its being part of a tone pattern since the preceding word is *ka* and "a high tone on it is expected in all positions when it occurs on its own". Nevertheless, it should be also noticed that *hor* is located in the *final* part of a prosodic phrase and the realization of a high tone in that position is generally excluded (cf. Nespor and Vogel 1986), if not motivated by information-structural requirements. Furthermore, the existence of a scope domain is supported by the fact that the *baseline* is reached after *hor*, showing that it marks the rightmost boundary of a prosodic unit. Nevertheless, we agree on the fact that more should be made on the relation between the discourse-related (pragmatic) intonation and what is considered the 'default' tonal patterns in a tonal language like Somali. This is an issue we will return to and explore in greater depth in future research.

27 Since in (15) and (16) B's answers were very long, we decided to represent, in Figures 8 and 9 respectively, only the target Framing setter, in order to avoid excessive compression of the intonational contour and thus enhance F0 visibility.

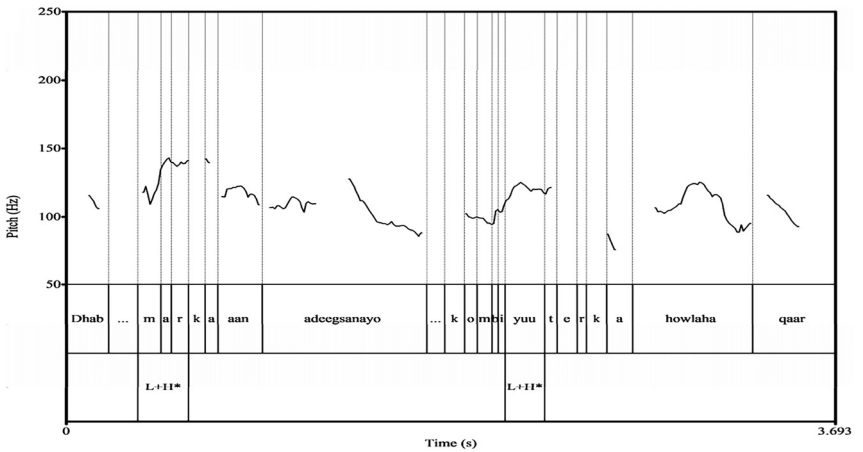


Figure 7: Left-hand space Frame in Somali.

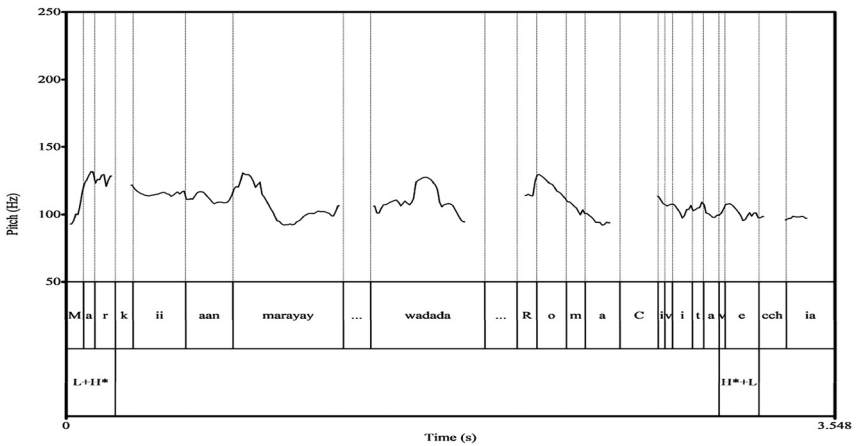


Figure 8: Right-hand space Frame in Somali.

(15) A: [Showing the picture in Figure 4 above] They are studying sitting together in front of the teacher. Today things are changing… Do you think online activities are difficult?

B: *Dhab* [*marka aan adeegsanayo kombiyuutarka*], *howlaha,*
in fact time.DET I use.DEP computer.DET activities.DET
qaar ***waxay*** *igu qaadataa waqti yar sameyntooda*
some thing.DET.SCL3SG.F me.to take.PRES.3SG time little doing.their
'Actually [on the computer] some tasks take me less time.'
[Lit: In fact, [the time I use the computer], (among) tasks, something takes me less time]

As we can see, the Space Frame in (15) is realized through a relative clause and, as in the case examined in (14) above, the syntactic scope of this constituent is signaled by a rising complex tone (L+H*) on its left boundary (*marka* 'time'). It can be interesting to notice that the baseline is reached twice in this Frame. First, after the verb *adeegsanayo* ('use'), showing that the speaker intended to close the relative clause at that point. However, after a short hesitation, the speaker decided to specify the type of the activities at stake. Hence, the relative scope is 'opened' again with a second rising tone (L+H*) on *kombiyuutarka* and closed up on the right side of this constituent. Interface analysis thus provides evidence for a consistent interpretation of discourse-structural information in Somali.

Let us now consider the properties of a right-hand Space Frame through sentence (16):

(16) A: I heard that you arrived at home very late last night!
B: *Haa, runtii,* *CAQABAD AAD U XUN* *ayaan la kulmay,*
Yes truth.DET challenge very bad FM.I with meet.PST.1SG
[*markii aan marayay waddada*
time.AN.DET I pass.along.PST.1SG road.DET
Roma-Civitavecchia]
Rome-Civitavecchia
'Yes, and sincerely: I had A BAD TIME [while passing along the Roma-Civitavecchia highway]!'
[Lit: Yes, truly, I met a very bad challenge [the time I was passing along the Rome-Civitavecchia road]]

It can be noticed that the Space Frame is realized through a relative clause also in this case and the H* pitch that marks the right boundary of the relative scope domain is realized twice. The first realization can be found on *Roma* (which is not the rightmost constituent of the relative clause), whereas the second pitch appears (downstepped[28]) on *Civitavécchia*. This prosodic phenomenon can be given an explanation

28 The so-called "downstep" is a pitch-lowering phenomenon that is widely recognized to occur in tone languages but has been recently extended to account for phenomena associated with intonation

if we consider that 'Roma-Civitavecchia' is a compound noun, hence it is plausible to hypothesize that the Somali speaker has considered both nouns as heads of the relevant compound, thus obtaining two tonal accents (on the feasibility of two High tones on the same word in Somali, cf. Kaldohl and Johnsen 2025).

It should be finally noticed that the noun-head of the relative clauses used to realize Space Frames in the corpus collected is always *marka/markii*, namely, 'the (definite/anaphoric) time'. This seems to show that the concept of 'space' in a framing context is expressed in terms of 'the time that is spent in a (given) space'. If this hypothesis is correct, Space Frames could be reduced to Time Frames in Somali, reducing the relevant typology to a twofold distinction. This is an interesting question, also in a cross-linguistic perspective, which is left for future research.

Let us finally consider the formal realization of Domain Frames.

4.2.5 Domain Frames

As we have seen in Table 1 above, Domain Frames are not very frequent in the corpus collected and, differently from Time and Space Frames, they are mostly realised through DPs. Consider the following two examples, showing a left-hand (17) and a right-hand (18) Domain Frame, with the relevant intonational contours (Figures 9 and 10, respectively):

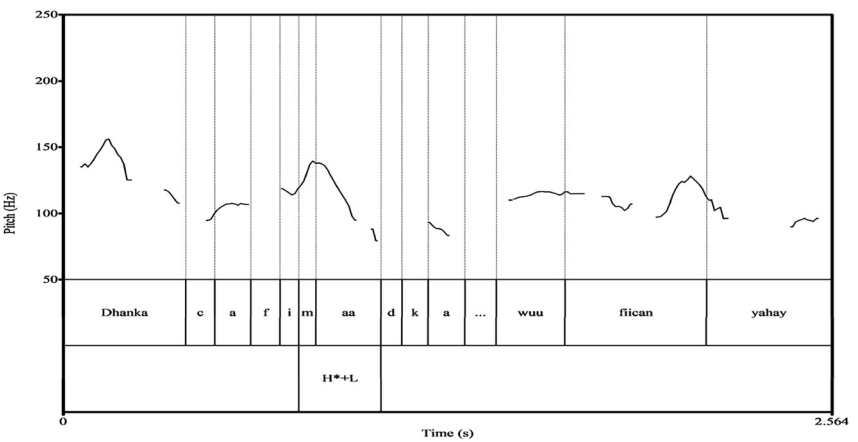


Figure 9: Left-hand domain Frame in Somali.

in non-tonal languages as well. Downstep is most commonly described as the lowering influence of a low tone (L) on a following high tone (H), such that a new, lower, 'ceiling' is set for all subsequent H tones within a specifiable domain or prosodic unit (cf. Connell 2011).

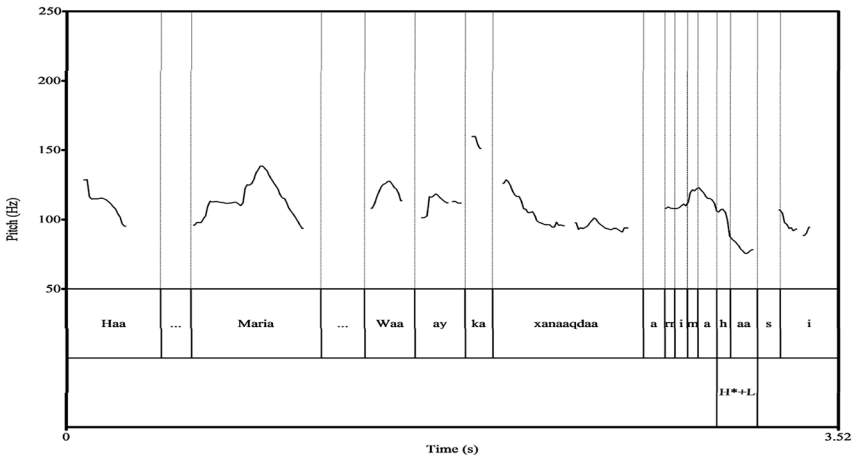


Figure 10: Right-hand domain Frame in Somali.

(17) A: How is your son doing?
B: [*Dhanka caafimaadka*], *wuu* *fiican* *yahay*
side.DET health.DET DECL.SCL.3SG.M good be.PRES.3SG
'Healthwise he is fine.'
[Lit.: [the side of the health], he is fine]

(18) A: I think that Maria has taken that question too seriously!
B: *Haa: Maria* ***waa*** *ay ka xanaaqdaa* [*arrimahaasi*]
Yes Maria DECL 3SG.F with angry questions.DEM
'Yes, Maria is annoyed by those matters.'
[Lit.: 'Yes, Maria is angry [with these questions].'

As we can see, independent of its position, the right boundary of a Domain Frame is marked with a complex H*+L tone, consistent with the findings illustrated above for the other Frame types. Furthermore, notice that the initial L+H* tone is not realized in this case: this result was also expected since this type of Frame is not realized through a relative clause but through a DP, hence, no scope domain is created.

As a conclusion to this presentation, it seems feasible to say that the resulting intonational picture shows that the Frames in Somali:

(19) a) always form *independent prosodic domains*;
b) are mostly realized through *relative clauses*;
c) *cannot be treated on a par with C-Topics*; and

d) are *not focused constituents,* since Focus is realized in the *associate sentence*, appearing as:
   i) a *waa/ma* construction (in broad Focus or negative sentences),
   ii) a *baa/ayaa* construction (in narrow Focus sentences),
   iii) a *waxaa* construction (in pseudo-cleft sentences).

Let us then finally turn to consider additional evidence supporting the feasibility of the present pilot analysis, specifically dealing with the combination of Frames with different discourse-related constituents in the same sentence.

5 Co-occurrence of frames with different discourse categories

In the corpus examined, only in a few cases does a Frame co-occur with another discourse category. This was unexpected, since Somali is a discourse-configurational language and several phrases can be hosted in both peripheries as dislocated constituents.

Nevertheless, these few cases can help define the position of Frames in the left periphery and support the hierarchy of Topics proposed in the literature (cf. (4) above) and assumed in this work. Let us first consider the combination of Frames with A-Topics in (20):

(20) A: I learnt that you had problems yesterday driving on the highway
B: ***Aniga*** [*mar*] *waxaan* *is* *weydiiyay*: *suurtogal*
I time thing.DET.SCL1SG REFL wonder.PST.1SG possible
maahan *miyaa* *in* *ay* *jirto* *waddo dib* *loogu* *laabto?*
QM.not.be.3SG QM.be.3SG that 3SG exist.DEP road back with.it.to turn
'As for me, [at a certain point], I wondered: is it possible that there is no U-turn?'
[Lit: I, (that) time, the thing that I wondered: is it not possible (or) is it that there exists a road to turn back?]

As we can see in Figure 11 below, the DP *mar* ('time'), which realizes the Time Frame, is preceded by a left-dislocated constituent (*aniga*). This constituent proposes "what the sentence is about" (i.e., the speaker himself, his adventure and what he thought), is realized with a L*+H tone and forms an independent prosodic domain, separated by the rest of the sentence by a long pause. Therefore, the DP *aniga* clearly qualifies as an A-Topic; its position and co-occurrence with the Frame *mar* shows that:

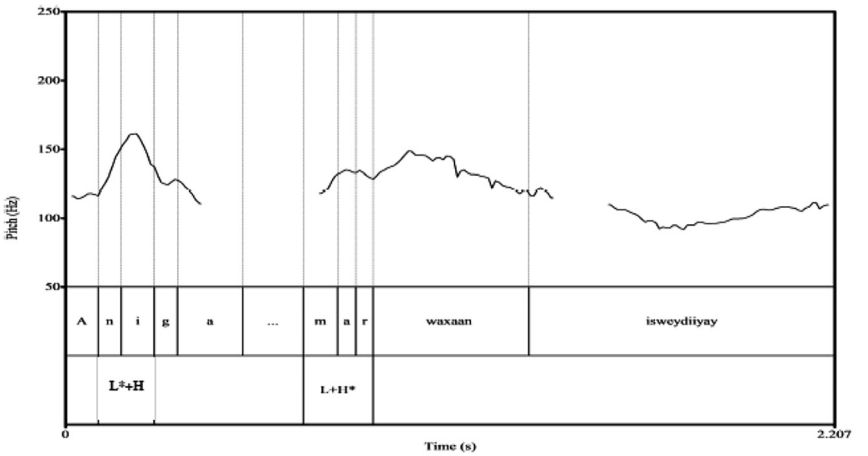


Figure 11: Combination of an A-Topic and a time Frame.

a) A-Topics and Frames *belong to distinct discourse categories* (since a unique A-Topic is allowed per sentence);
b) A-Topics are located in a *higher position than Frames* in the C-domain.

Let us now consider a sentence in which a Frame is combined with a C-Topic. In this case it is important to notice that the Somali expert decided for a different strategy of elicitation. Indeed, he asked the informant to translate into Somali the English sentence (21A), in which a Domain Frame is "split" between the left and the right periphery of the sentence. Hence, (21B) is not a spontaneous utterance. Nevertheless, the structural differences which emerge between Somali and English can suggest some interesting considerations (also from an intonational viewpoint, as is shown in Figure 12).

(21) A: [In receptive skills], how do you deal [with movies]?
B: [*Marka aad dhageysanayo filimada*[29]] *heerkaaga*
time.DET you listening.make.DEP movies.DET level.your.DET
fahamka intee le'egyahay?
understanding.DET measure.QM be.alike.3SG
'[When you listen to movies], the level of your understanding, how is it like?'

29 An FL reviewer points out that, to be grammatical, the verb should be *dhegeysanayso* ('are listening.2SG'), and the plural noun 'movies' should be *filimmada*, with a geminate /m:/. The audio has been then checked again and we can confirm that the speaker's pronunciation of these two words is indeed as reported in the relevant example (and Figure). These "errors" may be easily related to a slip of the tongue or to those performance mistakes that are typical of speech.

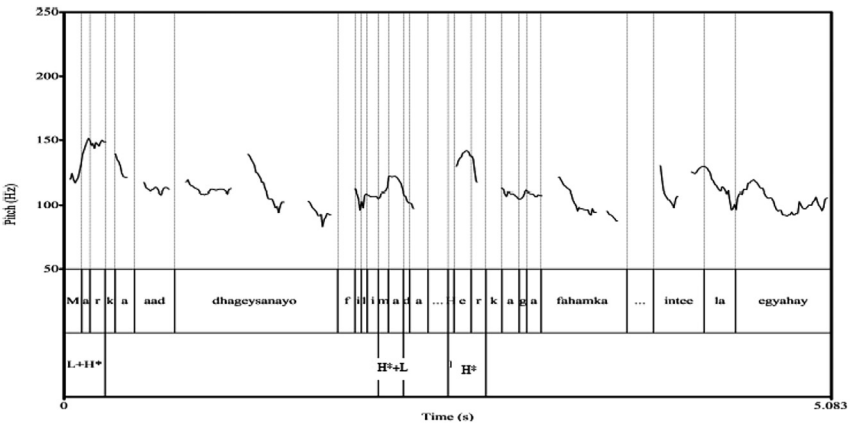


Figure 12: Combination between C-Topic and domain Frame.

As is shown, despite the English "model" for translation, the Somali informant realized the two parts of the Domain Frame into a single constituent, which is realized as a relative clause in the left periphery of the sentence. This decision can be considered as additional evidence that the relative clause is the most frequent structural strategy for Frames in Somali, and that the left periphery is their dominant location.

It is also interesting to notice that the Domain Frame (*Marka aad dhageysanayo filimada* 'when you listen to movies') is followed by a discourse-related constituent (the C-Topic *heerkaaga fahamka* 'level of understanding') which "turns" the generic question (*intee le'egyahay* 'how is it like?') into an implicit super-question (cf. Büring 1999). Indeed, within the congruent set of abilities that may be concerned with the activity of 'movie watching' (i.e., level of understanding, level of interest, level of learning efficacy, etc.), the speaker selects the 'level of understanding' (*heerkaaga fahamka)* as the C-Topic of following question, implicitly comparing it with all the others. This discourse-related function is confirmed by the high tone that marks the phrasal head *heerkaaga*. It should be also noticed that the baseline value is reached at the end of this constituent, supporting the hypothesis that C-Topics do form an independent prosodic domain in Somali as well.

From a cartographic viewpoint, this sentence also provides crucial information about the position of Frames in the C-domain. Indeed, the relevant C-Topic precedes the wh-phrase (*intee*) and follows the Domain Frame. This seems to confirm (once more) that C-Topics, Frames and Focus-related constituents are *distinct* discourse categories. Finally, the relevant word order also provides additional evidence that the projection dedicated to Frames is *higher than ContrP*.

6 Concluding remarks

To summarize, the present pilot investigation has provided feasible evidence for a number of issues which confirm for Somali – and thus support – previous analyses and claims provided in the literature (cf. Carella 2015; Frascarelli 2017, 2019; Frascarelli and Casentini in press). These results are relevant for the structural and interpretive analysis of discourse-related categories in Somali and open a new path for cross-linguistic research. In particular, the data illustrated, and relevant analyses, have shown that:

(22)
(i) A-Topics, C-Topics and Frames are distinct discourse categories, which serve different discourse functions and show different interface properties;
(ii) C-Topics and Frames are *neither focused* constituents *nor do they contain a focused element*; rather they associate with Comments containing focused constituents;
(iii) The A-Topic is located in the *highest position in the C-domain*, consistent with its dominant function in the sentence as an "initiating speech act" (Krifka 2007);
(iv) *Frames scope over C-Topics and wh*-constituents;
(v) *Frames* can be realized in the *right periphery*.

From a *cartographic* perspective, these findings support the feasibility of an integration in the C-domain hierarchy, as is proposed in (23) below:

(23) $[_{\text{ForceP}}\ [_{\text{ShiftP}}$ A-Topic $\mathbf{[_{FrameP}}$ **Frame** $[_{\text{ContrP}}$ C-Topic $[_{\text{FocP}}$ Focus/wh $[_{\text{FamP}}$ G-Topic $[_{\text{FinP}}\ [_{\text{TP}}\ [_{\text{VP}}\ \ldots\ ]]]]]]]]$

From a *prosodic* viewpoint, specific properties also emerged from the analysis, namely:

(24)
(i) C-Topics and Frames are both marked with a high pitch (H*), which is usually combined with a low tone (forming a complex tone), when they are located in the *left* periphery;
(i) Right-hand Frames are marked with a low tone (L*), showing a connection with the discourse-semantic properties of G-Topics.

Finally focusing on Somali, the present pilot investigation provides original evidence for the *structural realization of Frames* in Somali, showing that:

(25)
(i) The *relative clause* is the most frequent phrasal construction used to convey this type of information, especially for Time and Space Frames;
(iii) The DP is mostly used for Domain Frames;

(iv) The *left-periphery* of the sentence is their *dominant location*, consistent with their *limiting function scoping over* the truth-conditional value of the associated sentence;
(v) The *right-hand position is also available for Frames* (differently from C-Topics), where the limiting function is associated with an "afterthought effect" (similar to G-Topics).

Though limited in terms of informants and data collected, the consistency of the data provided and the assessment obtained from statistical analysis can make this pilot study a valid contribution to linguistic research. The interface properties discussed might be thus taken as a valid starting point for future research on the information-structural properties of Frames and discourse-related categories, both in Somali and in a cross-linguistic perspective.

Acknowledgement: This article has benefited from discussion and comments on the part of several colleagues and friends, on various occasions. In particular, I wish to thank Annarita Puglielli, who introduced me to the world of scientific fieldwork research and Abdalla Omar Mansur, for his valuable collaboration in data collection with informants. Also, special thanks to two anonymous *Folia Linguistica* reviewers, whose suggestions, corrections and criticism helped me improve my work and enhance the relevant contribution. Shortcomings are all mine.

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