Cognitive and interactional motivations for prosodic phrasing

A corpus-based analysis of the clause in spoken Israeli Hebrew

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Focusing mainly on elicited narrative discourse, past research has tended to explain prosodic phrasing in terms of underlying cognitive motivations, such as memory constraints and processing limitations. However, when one examines instances of prosodic phrasing in conversational discourse, additional types of motivations emerge, namely interactional ones, reflecting speaker's awareness of the sensitivity of the situation, of the recipient's emotional and cognitive state, and of the discourse structure of the conversation. In this paper, instances of clauses realized over several prosodic units will be presented, and underlying motivations of such phrasing will be discussed. The suggested conclusion will be that each instance of prosodic phrasing might exhibit, to a varying degree, both cognitive and interactional motivations, stressing the importance of taking into consideration the communicative context within which the analyzed syntactic structure is embedded.

Keywords: prosodic phrasing, cognitive motivations, interactional motivations, speech management phenomena

1.   Introduction

In the last two decades, spoken language has drawn considerable attention of scholars, who have attempted to offer descriptions of various and typologically diverse languages (Iwasaki & Tao 1993; Chafe 1994; Croft 1995, 2007; Tao 1996; Helasvuo 2001; Park 2002; Matsumoto 2003; Ewing 2005; Izre'el 2005; Wouk 2008; Kibrik & Podlesskaya 2009). The basis of many of these studies was segmentation of speech flow into prosodic units, commonly termed *intonation units*, by identifying different prosodic cues. The nature of these prosodic

units was suggested to be mainly cognitive, reflecting limitations on the speaker's memory and processing capacities. That served to explain, for example, why some intonation units consisted of syntactic elements smaller than a clause, suggesting that speakers might prosodically distribute the clause over more than one intonation unit in order to spread the amount of new information over several processable speech "chunks".

In recent years, however, interactionally oriented researchers have begun challenging this mainly cognitive approach, suggesting that in order to fully capture the nature of intonation units, one must seriously consider how the interactive nature of conversation, as well as cognitive constraints, affect speech production and consequently the prosodic phrasing of syntactic structures. According to these approaches, prosodic phrasing may reflect various discourse strategies, such as signaling emphasis, creating suspense and displaying emotive involvement of the speaker (Selting 2010: 8-12). In other words, prosodic phrasing might be derived from the interactive need of participants, such as projecting turn completion, and may be sensitive to interactive requirements, such as recipient design (Couper-Kuhlen & Selting 1996: 17).

The main objective of this study is to further substantiate the interaction-oriented approach by examining data from spontaneous conversation in Hebrew. It will be shown that prosodic phrasing in conversation is often motivated by cognitive and interactive considerations, often intertwined. The remainder of this paper is structured as follows: Section 2 will summarize the cognitively-oriented approach to prosodic phrasing. Section 3 will present the evolving interactionally-oriented views on prosodic phrasing. Section 4 will lay out the methodology and theoretical assumptions adopted in this study. Section 5 will present detailed analysis of excerpts from Hebrew conversations, focusing on clauses that were realized in several prosodic units.

2.   Cognitively-oriented approach

Research on spoken language has shown that frequently intonation units and syntactic units are not co-extensive. From a prosody-to-syntax perspective, it was found that varying frequencies of intonation units exhibited subclausal structure, forming *multi-intonation unit clauses* with adjacent units[1]. Corre-

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[1] The proportion of subclausal intonation units is language specific, and may range from 4.2% (Iwasaki 1996: 755; for Thai) to 18% (Matsumoto 2003: 58; for Japanese).

spondingly, from a syntax-to-prosody perspective, it was demonstrated that varying frequencies of clauses were realized within more than one prosodic unit[2].

These findings have led several scholars to conclude that although speakers aim at verbalizing intonation units in the format of a clause, in some cases speakers spread the clause across several intonation units (Chafe 1994: 66; Kibrik & Podlesskaya 2006). The main reason for such "distributed" prosodic phrasing was suggested to be of a cognitive nature, most prominently put forward by Chafe's *one new idea constraint* – a cognitive limitation on how much new information an intonation unit can express (Chafe 1994: 109-110). This constraint rests on the assumption that intonation unit verbalizes the information active in the speaker's mind at its onset (ibid.: 63). Similarly, Kibrik & Podlesskaya (2006) have described cases of clauses partitioned into separate prosodic units (their *elementary discourse units*)[3]. Such partitioning is expected when the preplanned clause turns out to be too complex in terms of the amount of new information, in line with the *one new idea constraint*.

Croft (1995, 2007) suggested that processing constraints might limit the size of a grammatical unit found in a single intonation unit. These constraints are reflected in two main factors – complexity of the grammatical unit and syntactic distance between two constituents (Croft 1995: 865). Similarly, Cruttenden (1997: 69-72) suggests that a constraint on the length of the intonation-group might determine the division into intonation groups.

It seems that the focus on cognitive constraints, be it limitations on the amount of new information, or processing limitations, stems from studies based on elicited spoken narratives (Chafe 1994; Croft 1995, 2007; Kibrik & Podlesskaya 2009). Such narratives are usually not very different from written narrative – they exhibit more or less well organized structure, and are produced mainly by a single participant, with minimal contributions from others (Norrick 2000: 136). Such monologic genre inherently underrepresents many linguistic phenomena present in dialogical discourse, resulting in a high degree of correspondence between intonation units and grammatical clauses (ibid.: 11). Consequently, the tendency to focus on memory and processing limitations while trying to explain prosodic phrasing, might be seen as *written language-biased* (Linell 2005). Perhaps not surprisingly, scholars who have studied spontaneous conversation have demonstrated that limitation on the amount of new infor-

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[2] The proportion of clauses consisting of more than one prosodic unit is language specific, and may range from 19 % (Matsumoto 2003: 94; for Japanese) to 33.4% (Park 2002: 648; for Korean).

[3] The Russian term for such partitioning is *парцелляция* (parcelljacija).

mation can explain only a part of the data. In conversational Japanese, for in-
stance, such constraint was only accountable for one-third of prosodically dis-
tributed clauses, resulting in the realization that there are additional factors in-
volved (Matsumoto 2003: 134-137).

3.   Interactionally-oriented approach

Ono & Thompson (1995: 233) were, probably, among the first to explicitly sug-
gest that there are two broad categories of factors that result in extending one
clause (their *constructional schema*) across intonation unit boundaries – factors
that are more cognitive, and factors that are more interactional. From a cognitive
point of view, they emphasized the role of the on-line nature of spoken discourse
production. It seems that in some cases, speakers do not plan their utterances in
advance, but produce them online, one intonation unit at a time, as evidenced by
the disfluency phenomena frequent in these contexts. From an interactive point
of view, they present examples of co-constructions, where interlocutors com-
plete each other's utterances as a response to apparent difficulties in finishing
the utterance[4]. As a result, a significant conclusion can be drawn:

> The realization of syntax is locally managed and dynamic, depending on the needs and
> the constraints arising at the moment of speech in the situated interactional event.
> Cognitive constraints and interactional factors thus continously act locally to shape the
> forms actual utterances may take. (Ono & Thompson 1995: 258)

Taking Ono & Thompson's findings one step further, Park (2002) suggested that
the intonation unit is motivated both cognitively and interactively. He provides
examples from conversational Korean where the speaker's decision to spread the
clause across several intonation units is interactively motivated – requesting and
allowing acknowledgement from the speaker of the referent that is being estab-
lished, and negotiating mutual understanding of potential target forms, in con-
text of word search (Park 2002: 663-668). Consequently, Park suggests an inno-
vative interpretation of the intonation unit as an *interactional resource* – it is
necessary due to limitations in the cognitive capacities of speakers and listeners,
however speakers can manipulate this already available prosodic tool in order to
signal and achieve certain interactional activities or needs (Park 2002: 672-673).
Park concludes that:

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[4] See Ono & Thompson (1995), Par. 4.2.1.

> These dual forces [cognition and interaction] cannot be easily separated from each other, but rather, provide a basis for each other. Cognition influences the shape of the way people interact with each other; thus the participants' actions are centered around IUs....On the other hand, specific interactional contexts give rise to different cognitive tasks; hence different sizes of IUs are used in different interactional contexts. (Park 2002: 674)

The insight that the size and the format of prosodic units are affected both by informational and interactional considerations, was taken further by scholars operating within the *Interactional Linguistics* approach. This approach aims to analyze the structures of spoken language in interaction, in particular structures of syntax, prosody and pragmatics with respect to their functions for the sequential organization of natural talk-in-interaction (Selting 2010: 15). Couper-Kuhlen & Selting (1996: 16-17) claim that prosodic phrase in speech, when viewed interactively, is likely *not* to be the prosodic counterpart of a grammatical sentence or clause, but rather a "phonetic chunk" which speakers use to constitute and articulate turns-at-talk. Thus, its shape will derive from the interactive need of participants, such as projecting turn completion, and it will be sensitive to interactive requirements, such as recipient design and local fit. Müller (1996: 143-144) stresses the incremental and recipient-oriented nature of prosodic phrasing, which demarcates emerging parts of ongoing speech as units to be specifically acknowledged by the recipient.

 Barth-Weingarten (2007) claims that the division of talk into prosodic units is an epiphenomenon of interaction, thus the intonation unit is an emergent phenomenon, a means to package information in a way that allows speakers to accomplish the action they pursue. As a result, speakers might manipulate the boundaries of the prosodic units they produce in a way that serves their current interactional purposes. Such manipulation may be done, for instance, to signal emphasis and to create suspense (Selting 2010: 8). Anward (2010: 215-216) stresses that although there might be an upper limit for how complex a prosodic unit may be, complexity can be seen to interact with the emergent informational rhythm and thus be context-dependent.

4. Data and Methodology

The framework and the terminology adopted for this study were developed by Izre'el (2012, forthcoming a, forthcoming b, forthcoming c; Izre'el & Mettouchi 2015), who suggests an interface between prosodic, discursive and syntactic

units, where prosodic units encapsulate information units which in turn contain syntactic units.

On the basic level, the *prosodic module* (aka *tone group*, *tone unit*, *intonation group*, *intonation unit*, *elementary discourse units* etc.), ending in a major or minor prosodic boundary[5], encapsulates the *segmental module*, together forming the *information module*. Syntactically, the *information module* can contain any type of component, most frequently a phrase or a clause. On a higher level, a stretch of one or more *prosodic modules*, the last of which carries a major boundary tone, forms a *prosodic set*. This *prosodic set* encapsulates a *segmental set*, together forming the *utterance*. The *utterance* can be seen as a stretch of *information modules*, the last of which ends with a major prosodic boundary. The *utterance* has been proposed by Izre'el to be the reference unit for spoken discourse, similarly to the *utterance* within the C-ORAL-ROM project[6] (Moneglia & Raso 2014). Also, the *utterance* is suggested to be the default domain of the clause, in contrast to many other approaches which view the *information module* as such unit.

The *utterance* is a message-oriented unit, since it is delimited by a major prosodic boundary which "serves to express a speaker's judgement that he or she has completed the verbalization of some coherent unit of content" (Chafe 1994: 143). It is also an interaction-oriented unit, as the major prosodic boundary seems to be a crucial factor affecting the turn-taking system (Ford & Thompson 1996: 154-155).

The *clause* in this framework is defined as a unit consisting minimally of a *predicate domain*, which can be *nuclear* (consisting of a single element which serves as the *nucleus*) or *extended* (consisting of a *nucleus* accompanied by complements and modifiers). The *predicate domain* is the component that carries the informational load of the clause within the discourse context – it contains by default a newly introduced element, carries the modality of the clause, and includes the focus of the clause. Two main classes of clauses can thus be identified: (1) *unipartite*, consisting only of a *predicate domain*; (2) *bipartite*, where a clause consists – in its minimal manifestation – of a predicate and a subject.

According to such an approach, rather than being seen as underlying the *utterance*, and perhaps predetermined apriori, the clause structure is treated as

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[5] Prosodic boundaries fall into two main types: major prosodic boundaries, indicating terminality (including boundary carrying an 'appeal' tone), and minor prosodic boundaries, indicating continuity (Du Bois *et al.* 1992).

[6] Berrendonner (2011: 84) proposes a similarly defined unit, the *période*, which can be seen as "une procédure achevée, une unité d'action parvenue à son terme".

emerging from the *utterance* in the course of its production as "the product of a process of interaction between speaker and hearer" (Goodwin 1979: 98). This view of the clause is advantageous for several reasons. Many functionally complete units in spoken language do not exhibit a bipartite structure (both a subject and a predicate phrase) and consist of only a rhematic phrase, with no overt subject (Izre'el forthcoming a, Cresti 2014). In addition, many clauses do not overtly express some of their core arguments, as might be expected from traditional accounts of argument structure, according to which verbs "choose" the arguments that go with them (Thompson & Hopper 2001). These data are in contrast to what is expected if one adheres to common views of the clause as a unit that consists of both subject and predicate phrases (Matthews 2007: 15-16), or as a unit that consists of a (verbal) predicate with its core arguments, optionally accompanied by additional adjuncts (van Valin & Lapolla 1997: 25, Helasvuo 2001: 21). Thus, adopting the "emergent" approach to clausal structure, enables a realistic description of spoken language data, and absolves us from the need to reconstruct missing arguments that had, presumably, been elided, since such practice is highly speculative and is not supported by empirical evidence (Moneglia & Cresti 2006: 101-102).

The corpus for this research consists of two conversations (C511_1 and Y311) taken from The Corpus of Spoken Israeli Hebrew (*CoSIH*) database[7]. These conversations were first segmented into *information modules* and *utterances*, and then into *clauses*. Each *clause* was marked for the following features: (1) the number of *information modules* over which it was realized; (2) when the clause was realized over more than one *information module* (henceforth *distributed prosodic phrasing*), various motivations for such phrasing were considered[8].

5.   Examples

In this section, I will present instances of clauses that exhibit distributed prosodic phrasing, and discuss the possible motivations underlying such phrasing. It will be shown that it is not always straightforward to determine

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[7] Available from <http://humanities.tau.ac.il/~cosih/table-3.html>.
[8] Transcription notation: | minor prosodic boundary; || major prosodic boundary; / major prosodic boundary carrying an 'appeal' tone; - truncated word; <creak> non-verbal sounds; ::: elongation; (pauses in seconds); [overlap]. Glossing follows, mutatis mutandis, the Leipzig Glossing Rules.
<http://www.eva.mpg.de/lingua/resources/glossing-rules.php>.

whether the phrasing was cognitively or interactionally motivated, leading to the conclusion that each instance is probably motivated by both, in varying degrees.

The following excerpt was taken from the beginning of a meeting between two friends – sp1 and sp2. After having noticed that sp1 holds some kind of electronic device, sp2 is informed that she is being recorded for the purpose of an experiment, conducted by Tel-Aviv University:

(1)   (C514_1_sp1_006-011, sp2_9)

sp1   takʃivi jɛkiʁati | at   muklɛtɛt   aχʃav | (0.891)
        listen   my_darling | you are_recorded now | (0.891)

        jɛʃ   maʃɛhu   ʃɛ   at   rɔtsa::: | lɛhagid / <laughter>
        there_is something that you want::: | to_say /   <laughter>

sp2   (1.2) ʃakʁanit ||
        (1.2) liar ||

sp1   <inhale> <high pitch voice> niʃba.at laχ || <laughter>
        <inhale>   swear   to_you || <laughter>

sp1: 'Listen my dear, you are being recorded right now, is there anything
you would like to say?'
sp2: 'Liar.'
sp1: 'I swear to you.'

This announcement comes to sp2 as a surprise, as evidenced both by sp2's response (ʃakʁanit 'liar') and by the fact that it was delayed (after a considerable pause), and makes the interaction between them humorous and somewhat awkward. After informing sp2, sp1 seeks for confirmation by asking *jɛʃ maʃɛhu ʃɛ=at rɔtsa::: lɛhagid* 'Is there anything you would like to say?'. The clause *at ʁɔtsa lɛhagid* 'you want to say', is distributed over two information modules, separating the predicate head from its infinitival complement. The split can presumably be motivated by cognitive considerations, since this clause serves as an attributive clause in a clause complex, which might be too complex to process in a single information module. However, addressing only the complexity factor might miss the whole point of this exchange. Due to the surprising information delivered by sp1, the interaction becomes amusing and somewhat embarrassing, as evidenced by the laughter of both speakers. It seems that sp1, being responsible for this surprising situation, does not want to overload sp2 with too much information too quickly, perhaps in order to enable her to process the surprise and

display understanding of the situation. As a result, she produces the whole utterance with a considerable pause (0.891), elongates the last syllable before the split, and distributes the clause over two chunks of information modules instead of one.

These phenomena – pause, elongation and distributed phrasing – can be seen as creating a slow paced and delayed production of the utterance. Although delay in speech is often considered as reflecting cognitive problems on the part of the speaker, Keevalik (2010: 167) has proposed that this is not always the case. Instead, there may be interpersonal reasons for the delay, such as providing opportunity for the recipient to display a stance toward the information being produced, or easing the perception of new and unexpected information for the recipient. Consequently, distributed phrasing in this case might better be seen as more interactively motivated, since along with other speech management phenomena[9], it reflects sp1's understanding of the situation and the presumed sp2's need to process the surprising information at a slower pace[10].

After telling sp2 that she is being recorded for the purpose of an experiment, sp1 asks her for personal details:

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(2)   (C514_1_sp1_013-020, sp2_013-015)

    sp1: ani   ʦʁiχa   gam   lɛhagid ɛt ha | at   ʦʁiχa
          I   need   also   to_say ACC the| you   need

          latɛt   li | bɛvakaʃa | (0.71) gil | (0.73) [haskala] |
          to_give to_me | please | (0.71) age | (0.73) [education] |

    sp2 [<laughter>]
         [<laughter>]

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[9] Following Rühlemann (2006), I adopt the term *speech management* instead of what is usually termed *disfluency*. Rühlemann rightly objects to the use of the latter term, since it suggests that the phenomena under this label reflect a somewhat pathological speech condition. The term *speech management*, on the other hand, implies active control of the speech production in the service of interaction and information processing (ibid.: 400-403).

[10] This is perhaps similar to the *didactic strategy* described by Degand & Simon (2009: 98-99). This strategy is characterized by a slow speech rate which allows the speaker to distribute silent pauses after each syntactic chunk, resulting in focusing on one piece of information after another. Such strategy is typically found in political discourse and in news texts. Similarly, Rao (2011: 493-494) mentions slow speech rate and increased pause length as features of teacher talk.

sp1   vɛ::: | (0.41) mɔ'tsa   ‖ (1.71) at   ʁɔa- <laughter>
       and::: | (0.41) origin   ‖ (1.71) you see- <laughter>

sp2   ɛsʁim vɛ χamɛʃ | <laughter> lama ma   zɛ /
       twenty five | <laughter> why   what this /

sp1: 'I also need to say the, you need to give me, please, your age,
education and place of origin. You see (truncated)'
sp2: 'Twenty five, for what purpose?'

Here, the clause *at tsʁiχa latɛt li bɛvakaʃa gil haskala vɛ=mɔtsa* 'you need to give me, please, your age, education and place of origin', is split into six information modules, separating the predicate head from its direct object (comprised of a split three-item list). Also, the politeness marker *bɛvakaʃa* 'please' and the connector *vɛ* 'and' are realized in separate information modules. The distributed prosodic phrasing can be seen as both cognitively and interactively motivated. From a cognitive perspective each item in the list contains a new idea, and had the clause been produced in a single information module, it would have resulted in an overly complex information module. However, one has also to take into account the awkward and embarrassing nature of this specific interaction, indicated by recurring laughter. The clause is realized in a relatively slow and delayed manner, containing three considerable pauses, and elongation of *vɛ* 'and'. From an interactive perspective, the slow production of the clause seems to indicate, as in excerpt (1), that sp1 is trying to ease the processing of new and surprising information, in the context of an awkward situation, by creating space for a possible reaction on sp2's behalf. A similar strategy was noted by Keevalik (2010: 166) as helpful in cases of perceived disalignment on the part of the recipient. Keevalik suggests that in such cases, fragmentary production of the speaker's turn enables the recipient to take a stance after each chunk of talk. Another interactional motivation that could possibly underlie the distributed phrasing is the wish to emphasize each requested detail in the list, stressing the significance of receiving each and every one of them[11].

The two examples discussed so far seem to manifest the fundamental process of recipient design – the process by which speakers accommodate the informational and interactive needs of their recepients, manifested by certain

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[11] Phrasing in separate information modules results in the constitution of separate accented syllables with each accented syllable signaling a separate focus of its own (Selting 2010: 8).

lexical, syntactic, prosodic and semantic-pragmatic choices (Fox 2008: 255). According to Fox, prosody plays an important role in recipient design of utterances – making clear to the recipient what the informational organization of the utterance is, what kind of action is underway, and how the current utterance fits with the unfolding sequential environment (ibid.: 271). It seems that in the examples discussed above, the process of recipient design is manifested, through the choice of a prosodic phrasing, which takes into consideration the emotional and cognitive state of the recipient, and enables him to process the utterance given this specific state.

  After closing the topic of the Tel-Aviv university experiment, sp2 introduces a new topic:

◕ 3 ▶ (3) (C514_1_sp2_034-037, sp1_064)
     sp2: (2.53) az ɛm | bɛχɔlzɔt ani ɛsapɛʁ | (0.92) al ɛh |
        (2.53) so uhm | anyway I will_tell | (0.92) about uh |

     sp1: az sapʁi ‖
        so tell ‖

     sp2: ma.alalɛj   ɛfʁat   mɛ   ɛtmɔl |
        escapades_of Efrat   from yesterday |

     sp2: 'So uhm, anyway, I am going to tell about uh,'
     sp1: 'So tell.'
     sp2: 'Efrat's escapades of yesterday.'

This topic initiation is performed with the utterance *az ɛm bɛχɔlzɔt ani ɛsapɛʁ al ɛh ma.alalɛj ɛfʁat mɛ ɛtmɔl* 'so, uhm, anyway, I am going to tell about uh Efrat's escapades from yesterday.' This formulation enables sp2 to achieve several goals. Firstly, the utterance-initial discourse markers *az* 'so' and *bɛχɔlzɔt* 'anyway' have the function of projecting some divergence from the previous topic (Lenk 1998; Takahara 1998; Yatziv & Livnat 2006; Bolden 2009). Clark (2002: 7) terms these markers *orienting expressions* whose functions are to request the addressees' attention, and signal the intention to initiate speech. Secondly, it establishes the reportability of the topical matter, by using the connotative word *ma.alalɛj* 'escapades_of', instead of a more neutral term. Thirdly, it projects the content of the topic and its expected narrative genre. Finally, it allows sp1 to confirm the proposed topic, as she explicitly does with the utterance *az sapʁi* 'so tell' (Svennevig 1999: 173-176).

The clause, encapsulated by this utterance, is produced in three information modules, separating the predicate head (*ɛsapɛʁ* 'I am going to tell') from the preposition *al* 'about' and the indirect object *ma.alalɛj ɛfʁat mɛ ɛtmɔl* 'Efrat's escapades from yesterday'.

In this case, it is possible to claim that such phrasing was motivated by a limitation on new information, since the first information module served to project an upcoming narrative, and the third information module conveyed the abstract of the narrative. However, it seems to me that such an explanation would be too narrow since it disregards the utterance position in the overall discourse structure of the conversation.

As I mentioned earlier, this utterance serves as a topic initiator, creating a major discourse boundary. According to Chafe (1980: 173), beginning a narrative requires some time-consuming mental processing in order to find and clarify an initial focus, generally resulting in longer pauses and hesitations[12]. Similarly, using corpus linguistic tools, Rühlemann, Bagoutdinov & O'Donnell (2011: 220) have shown that (filled and unfilled) pauses are more frequent in the initial component of the narrative compared to the other narrative components. The initial component is the position where the narrators make clear to their co-conversationalists that what they are going to do is tell a story and give their listeners orientation as to the basic details of the situation in which the events are going to evolve. These actions require planning and increased mental processing, resulting in increased pausing.

Taking that into consideration, it seems that the distributed phrasing in this case might be motivated not only by limitation on new information, but also by increased processing cost incurred by the sequential position of the clause in a point of topic transition. Furthermore, the utterance in excerpt (3) includes speech management elements – two filled pauses (*ɛm* 'uhm', *ɛh* 'uh') and one unfilled pause (0.920) – supporting the assumption of increased processing cost at this point in discourse. It suggests that prosodic phrasing, perhaps might serve as yet another speech management element, reflecting augmented processing constraints imposed on the speaker by the need to initiate a new topic.

At the same time, from an interactional perspective, prosodic phrasing, along with other speech management elements, can be seen as projecting some

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[12] This is also true for transitions within the narrative itself – at episode boundaries more time is necessary for the processing of greater amounts of new information, resulting in increased amount of disfluencies (Swerts 1998: 488-489; Maschler 2009: 5).

kind of discourse boundary, in this case a topic shift. It has been shown that speech management phenomena, usually considered as reflecting the speaker's own cognitive process, often have an interactional import. Keevalik (2010: 164-167), for example, has shown that the Estonian demonstrative *see*, which is also used as a placeholder, has various interactional functions, one of which is announcing structurally large topic boundaries in conversation, making them salient for others. Similarly, Hayashi & Yoon (2006: 526-529) have demonstrated that hesitator demonstratives in Japanese and Korean often preface certain types of interactional moves, such as initiating a new topic or initiating the social encounter itself. This should come as no surprise, since speakers generally provide ample prosodic information on the topic structure of discourse: they start new topics relatively high in their pitch range and in amplitude, they mark paragraph boundaries by a filled pause, the duration of which is longer for major than for minor topic shifts, and they produce slower speech at the beginning of the paragraph than at its end (Swerts & Geluykens 1994: 29-30; Cutler, Dahan & Van Donselaar 1997: 180). In the same vein, prosodic phrasing can be seen as one such strategy that provides information on the topic structure of discourse.

The next excerpt features another type of transition, but this time within the discourse topic. After generally discussing the consequences of "imbalanced" love affairs, where one of the partners is single, while the other is not, sp1 goes on to provide a specific example of the opposite case:

   (4)   (Y311_sp1_031-035)

      sp1: (0.59) aχʃav | (0.6) ɛ::: | ani jɛχɔla lɛhagid laχ |
           (0.59) now | (0.6) uh::::| I   can   to_tell   to_you |

      sp1: ʃɛ   ani makiʁa | zug   ɛ::: | nasuj |
          that I   know | couple uh::: | married |

      sp1: 'Now, uh, I can tell you that I know a married, uh, couple…'

This transition from general discussion to specific example is performed with the utterance *aχʃav ɛ::: ani jɛχɔla lɛhagid laχ ʃɛ ani makiʁa zug ɛ::: nasuj* 'Now, uh, I can tell you that I know a married, uh, couple…'. The second clause of the two, encapsulated by this utterance, was produced in three information modules, separating the predicate head (*makiʁa* 'know') from its direct object *zug nasuj* 'married couple', which is further separated between its head and modifier.

Similarly to the previous excerpt, the transition to a new discourse unit is first projected by a discourse marker, in this case *aχʃav* 'now'[13]. Also, this utterance exhibits several speech management phenomena – two unfilled pauses (0.59, 0.6) and two elongated filled pauses (ɛ::: 'uh'). It seems that comparably to example (3), the speech management phenomena along with the distributed phrasing testify to the increased mental processing incurred by a new conversational move, as well as interactively signaling that the speaker has not yet finished his or her turn, in order to discourage another speaker from taking the floor (cf. Biber et *al*. 1999: 1054).

6.   Conclusions

Past studies of prosodic phrasing on the whole have not paid attention to the specific communicative situation in which the analyzed segment was produced. They have also tended to overly focus on monologic discourse, such as elicited narratives. Focusing on such discourse has led, I believe, to the overemphasis of the role of cognitive constraints as a motivation underlying prosodic phrasing. This kind of discourse is inherently dependent on the speaker's own cognitive process, since it is produced mainly by a single participant, with minimal contributions from others. The purpose of this article was to suggest that when analyzing specific instances of prosodic phrasing in their communicative context, additional types of motivations emerge, namely interactional ones, reflecting speaker's awareness of the sensitivity of the situation, of the recipient's emotional and cognitive state, and of the discourse structure of the conversation.

       The discussion in this study was based on a rather small sample of contexts that seemed to motivate distributed prosodic phrasing. Expanding the data sample in future research will certainly contribute to the validity of the

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[13] One of the functions of the Hebrew discourse marker *aχʃav* 'now' is to help the speaker to segment the discourse into units so that the listener can follow the content being conveyed. As a result, *aχʃav* draws the listener's attention to the content of the upcoming discourse unit (Gonen, Livnat & Amir 2015: 73-74). Similarly, the equivalent discourse marker *now* signals that the following utterance should be processed in a context that is in part significantly new with respect to assumptions already highly accessible to the hearer. More specifically, this function can manifest itself in various ways, among them a shift to a subtopic, a return to a previous topic after a digression, and a shift from a general position in an argument to a concrete one (Schourup 2011).

conclusions. Moreover, the opposite situation – contexts that motivate non-distributed prosodic phrasing – has not been discussed in the study. Such contrasting analysis should be performed in the future, since it is expected to shed more light on the topic. However, despite these limitations, I believe that the current discussion has demonstrated that the specific nature of the communicative situation might affect the prosodic phrasing of speech. When a speaker delivers some surprising and unexpected information, resulting in an embarrassing and humorous situation, he is likely to design his talk in a slower paced manner, in order to not overload the recipient with too much new information, and to enable him to process the surprise and display understanding of the situation. In other words, prosodic phrasing accomodates the emotional and cognitive state of the recipient and enables him to "provide responses, display understanding, and achieve mutual alignment" (Iwasaki 2009: 242).

In addition, it was shown that discourse structure might also have influence on the prosodic phrasing of speech. Major discourse boundaries, such as points of (sub)topic transition, require planning and increased mental processing, which might result in a more distributed phrasing of syntactic structures. At the same time, such phrasing might have an interactional function of announcing major topic boundaries in conversation, making them salient for other participants, and focusing the participants' attention on the upcoming segment.

Having stressed the significance of interactional motivations, it is important to point out that each instance of prosodic phrasing may exhibit, to a varying degree, both cognitive and interactional motivations. Thus, for example, it would be inaccurate and misleading for the analyst to suggest that a certain complex syntactic structure was prosodically distributed solely due to its complexity. Without taking into consideration the specific nature of this structure's production, one cannot know whether the cognitive factor of complexity was not accompanied by some additional interactional factor.

Finally, another trend that was observed is the affinity of distributed prosodic phrasing to various speech management phenomena, such as discourse markers, pauses and elongation (cf. Grosman 2014: 48). The latter have been shown to have an interactional import, not merely reflecting speaker's production problems. This highlights the importance of examining the various ways in which prosodic phrasing and speech management phenomena are correlated. Such examination will undoubtedly lead to better understanding of

the interactional motivations for prosodic phrasing, as well as of the cognitive ones.

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