

PROSODIC FEATURES AND NARRATIVE STRATEGIES IN POLISH DISCOURSE

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1. Introduction

Studies of natural spoken discourse with respect to prosodic structure are still infrequent (Brown et al. (1980)), Crystal and Davy (1969), Brazil et al. (1980), Chafe (1984), Kumpf (1984)), and are mainly restricted to English. The broadening of the scope of studies to cover other languages is needed to provide cross-linguistic evidence for generalizations.

The existing analyses of the discourse — grammatical relations in narratives have been for the most part concerned with topic continuity features, tense — aspect morphology, rhetorical structures, the distinction between foreground and background, etc. Nonetheless, the relationship between narrative structure and prosody has remained relatively unexplored despite numerous allusions of various authors to its putative importance as shedding additional light on the organization of narratives.

In an attempt to partially fill this gap, the paper examines the interaction between narrative structure and prosodic structure. Specifically, we shall consider the correspondence between:

- a) clauses and tone units
- b) expository units and prosodic units
- c) event line sequences and prosodic integration
- d) individual prosodic features vs. foregrounding and backgrounding

The approach used here is basically an adaptation of the framework of prosodic organization presented in Crystal (1969); which is an exceptionally

exhaustive study based on natural language data. Although Crystal's work refers solely to English, his general prosodic systems seem to hold true for Polish as well. Individual detailed differences for the purposes of this study are not significant.

2. *Materials and Method*

The Polish data consist of three oral narratives of the Pear Story film (c. f. Chafe 1980). The audiotapes were transcribed including repetition and false starts and the prosodic analysis was conducted in basically three stages. First, tone unit boundaries were marked off including the specification of the placement and type of nuclear movement. Here, especially for Speaker C, we encountered some problems when trying to identify the movement of pitch. The speaker at times lapsed into a "story-teller's delivery" mode which had its reflection on tonal movement in the form of a sequence of two different pitch levels realizing the nucleus rather than of the gliding manner of pitch change characterizing other speaker's performance and the majority of this informant's tone units. However, the different realization, deemed purely stylistic, if not idiosyncratic, was not marked separately. This stage of auditory analysis also included the notation of pitch level changes occurring in all the positions within the unit in the shape of boosters (step-ups ↑), high boosters (↑), and extra-high boosters (↑↑), which were very rare in our data, as well as drops (step-downs ↓) and low drops (↓↓). Also marked were simple pitch-range variations.

Secondly, the placement of pauses was specified at a separate listening in order to make relative judgements more feasible. We found it necessary to identify four types of pauses in the data: the brief pause (·) felt as a very slight but still perceptible cessation in phonation (like a minor hesitation) not extending beyond 0.5 seconds; the double pause (··), roughly equivalent to two brief pauses (between 0.5 to 1.0 seconds in duration and typically lasting for 0.7 to 0.8 seconds); the treble pause (···), corresponding to three brief pauses but not extending two-second spans. Any pause longer than the two seconds was marked as a long pause (····). It should be mentioned at this point that the measurements were not made systematically for all the pauses that occurred, but were arrived at through averaging ten measurements of each pause type. The pause marking was a reflection of comparative auditory decisions and thus may have been influenced by other factors affecting temporal organization such as individual speaker's overall tempo of delivery, the lengthening variations of immediately preceding or following segments, and even the phonetic type of the segments themselves. Consequently, in absolute terms, the length of a given pause type might vary

slightly among different speakers and even for the same speaker. The decisive factor in marking pause types was their relative duration as judged against the background of individual speaker's style of delivery.

The third stage of analysis involved separate listening for other prosodic features such as simple and complex tempo, loudness variations, as well as for complex pitch-range variations. The glosses on the margins of the transcripts used for describing the effects in question, are discussed at length in Crystal (1969). Their scope of operation is signalled by inverted commas. In cases of overlap, the first gloss on the margin corresponds to the innermost commas in the transcript.

3. *Clauses vs. tone units*

Clauses, as understood here, are propositions containing predicates expressed in finite verb forms and their arguments. Infinitive and participial clauses, as well as nominalizations are not recognized as independent units of clausal organization.

The identified units include independent (main) and dependent (subordinate) clauses, where the latter term covers relative, adverbial, and complement clauses.

The basic unit in the prosodic organization of the narratives is taken to be the tone unit. Its recognition and delimitation rest on a number of criteria. Each unit will contain a pitch prominent syllable — the nucleus, manifested by kinetic pitch movement (static tones are very rare in our data), and the prominent syllable normally carries a considerable degree of stress together with the accompanying lengthening of the syllable. In fact, in a number of cases, especially related to rising type movement, the lengthening effect was more noticeable than the pitch movement itself. Following the nucleus is the tone unit boundary usually signalled with a step-up in pitch (if the nuclear syllable is falling) or a step-down (if the nucleus is of a rising type, i.e. a simple rise or a fall-rise), or either a step-up or a step-down for the few cases of level tones. A fairly reliable diagnostic of tone unit boundary proved to be the presence of a pause (see following discussion), although its occurrence was by no means a necessary and sufficient condition for tone unit demarcation.

It should be mentioned that tone unit boundaries for the examined narratives could be assigned with a good deal of confidence most of the time. Only less than 5% of the units had their boundaries reassigned on subsequent listenings.

The data analysed here show that in the majority of cases, tone units coincide with clause boundaries (76% of the time). The following is the break-

down for each of the speakers:

- for subject A the coincidence is 78% (120/153 units)
- for subject B the coincidence is 69% (93/135 units)
- for subject C the coincidence is 82% (55/67 units).

Cases of discrepancy where tone units are not coterminous with clauses are as follows:

a) more tone units to a clause than one

Speaker A	Speaker B	Speaker C
10% (16/153)	14% (19/135)	7% (5/67)

b) fewer tone units to a clause than one (a tone unit covers more than one clause)

Speaker A	Speaker B	Speaker C
11% (17/153)	17% (23/135)	10% (7/67)

Where two or more clauses are integrated into one tone unit, the usual alignment is main clause or subordinate clause plus subordinate clause. The combination of two or more main clauses in one unit is very rare and appears 5% (2/44 cases) of the time.

In a clause cluster, it is usually the final clause which receives tonic prominence (i.e. nuclear status). This happens in 82% of the cases and indicates that subordinate clauses are not always processed separately if one follows the hypothesis that the tone unit represents a cognitive reality in speech processing. We will return to this question below.

As for the size of the tone units, in terms of number of words, the average length of tone unit per speaker is 4.7 words as opposed to 6–9 words for English data as reported in Chafe (1984) and Pawley and Syder (1977). Speakers A, B, and C average 4.05, 5.07, and 4.88 words per intonation unit respectively. However, individual units vary greatly with respect to the number of lexical items used. The minimum is one word, and the maximum — 13, 15, and 20 words for speakers A, B, and C, respectively.

4. The status of subordinate clauses

Some authors have suggested that the use of subordinate clauses tends to be a phenomenon of written rather than of spoken language and that speakers tend instead to use coordinate or adjoined clauses because the complexity involved in processing subordinate clauses precludes their effective use in ongoing speech. That is, ongoing speech prefers to make use of short independent clauses and to show subordination through other means such as intonation, body gestures, etc. Granted the intuitive appeal of the claim, we still found that a substantial portion of the clauses (25%) were subordinate,

and that, moreover, these clauses tend to be prosodically integrated. The following shows the percentage of subordinate clauses found in each speaker's corpus:

Speaker A	Speaker B	Speaker C
27%	30%	19%
(32/136 clauses)	(40/133)	(13/69)

Most of the time, subordinate clauses do not form separate tone units. The following shows the number of subordinate clauses constituting separate tone units for each speaker:

Speaker A	Speaker B	Speaker C
43% of subs	8% of subs	31% of subs

As mentioned above, in the majority of cases subordinates do not form tone groups of their own but belong to a tone unit containing other clauses or parts of clauses. Exceptions, where a subordinate clause extends beyond one tone unit, were few. Subjects A, B, and C had 1, 6, and 0 subordinate clauses, respectively, that were longer than one tone unit. In other words, subordinates tend to be fully integrated prosodically into larger tonal structures, which seems to run counter to the supposition of Pawley and Syder, since the integration points to relative lack of disfluencies.

Out of the clauses that are integrated into a single tone unit with other clauses, 93% are subordinated and 7% are coordinates. The individual distribution is:

Speaker A	Speaker B	Speaker C
90%	89%	100%

There is no significant difference in the distribution of types of subordinate clauses between those which form separate units and those that are prosodically integrated into larger units:

a) subordinate clauses forming separate units:

	Speaker A	Speaker B	Speaker C
Type of clause:			
relative	27% (10)	32% (13)	38% (5)
adverbial	21% (8)	27% (11)	15% (2)
complement	51% (19)	40% (16)	46% (6)

b) subordinate clauses integrated into larger units:

	Speaker A	Speaker B	Speaker C
relative	19% (3)	29% (7)	22% (2)
adverbial	6% (1)	33% (8)	22% (2)
complement	75% (12)	37% (9)	56% (5)

5. Characteristics of interclausal tone unit boundaries

In the cases where tone units do not coincide with separate clauses, we looked closer at the characteristics of such tone units, i.e. we were seeking to answer the question whether there was a consistent pattern of distribution between type of clause fragment (e.g. prepositional phrase, apposition) and type of nuclear tone that occurred.

The tone unit boundaries within clauses coincide with the following clausal elements: adverbial, participial, reintroduced subject, objects, apposition, relative and dislocation. We could observe that the preboundary tone is almost invariably rising in function (rising, falling-rising, level) for sentence modifying elements (adverbials, participials, reintroduced subjects, objects). In the cases of predicates preceding the boundary, the preboundary tonic may be either falling or rising. Out of seven cases of falling preboundary tone only two do not terminate with a fall in the next tone group belonging to the clause. Here the preboundary fall (cadential in nature) is followed by anti-cadence (a rise — pointing to continuation or incompleteness). In the majority of cases, however, the preboundary rising — type tone has a cadential continuation in the nuclear movement of the immediately following tone group belonging to the same clause. Such an alignment of tones clearly points to an underlying integrative tendency supportive of the existence of Chafe's category of extended clauses (1984:18-20).

6. Pause distribution characteristics

The data examined here lead us to believe that the generalizations concerning the role of pauses in discourse have at times been too sweeping as some of the evidence from our narratives stands in apparent disagreement with a number of claims made in the literature (c. f. Pawley and Syder (1977), Chafe (1984)).

As far as inter-tone unit pauses are concerned, their distribution at the end of tone units is as follows:

Speaker	∅ pause
A	20%	29%	25%	17%	9%
B	9%	41%	29%	14%	6%
C	11%	39%	33%	17%	0%
Total average	13%	36%	29%	16%	5%

Moreover, pauses tend to co-occur with tone unit boundaries rather than with clause boundaries, which points to the separate cognitive status accorded

to the tone unit rather than the clause, if pauses are taken to directly reflect processing strategies (c. f. Chafe 1984:3). As a corollary to this, one may observe that if the end of the clause occurs inside the tone unit, the appearance of pauses is rare — 16%, and they are only brief.

Clause ends co-extensive with the end of tone units, are normally marked by a pause (84% of cases).

For detailed distribution of type of pauses occurring in this position see the chart below:

Pause type	No. of cases	Percentage
∅	49	16%
.	101	32%
..	88	28%
...	54	17%
....	20	6%
Total	264	

As far as pauses before a subordinate clause within an intonation unit are concerned, out of sixty cases of subordinate clauses which are prosodically integrated with other clauses into a tone unit, only in six cases (10%) does a brief pause (.) appear. No pause whatsoever occurs in the remaining 90% of the cases. This concurs with the finding mentioned earlier, referring to the relative lack of disfluencies here.

Pause occurrence inside the clause is much more frequent than that in front of integrated subordinators:

Pauses in front of

adjectives	10%	(13 cases)
nouns	46%	(59 cases)
verbs	27%	(34 cases)
adverbs	17%	(21 cases)

Thus the total number of clauses internal pauses (127 instances) is smaller than the number of pauses found in between clauses (273 instances).

Pause distribution characteristics and tone unit division in the Polish narratives examined here stand in apparent disagreement with the supposition made by Pawley and Syder in relation to English discourse. They assume that "speakers attempting to integrate clauses (...) will show more disfluencies than speakers attempting to chain independent clauses one after another" (1977:47). In contrast to their findings, it is not unusual for Polish speakers to produce fluent units comprising two or more clauses within a single intonation unit. The occurrence of such units does, in Pawley and Syder's own words, provide "genuine counter-evidence to the hypothesis

of a one-clause-at-a-time constraint" since the units in the Polish data "consist of utterances significantly longer than a single clause, which are spoken rapidly, which are free of internal disfluencies, which are newly created by the speaker" (1977:35).

7. Event line sequences vs. prosodic integration

In order to examine the relationship between narrative event line sequences¹ and prosody, the narratives were delineated into event line vs. non-event line clause chains. The event line sequences were examined in order to ascertain the degree to which they might show a prosodic systematicity in distinction to the rest of the narrative. It was found that prosodically integrated event line sequences are just as frequent as unintegrated ones. The integrated sequence typically consists of a series of tone units with rising type nuclear movement terminating with a single falling tone unit.

The longest prosodically integrated event line sequence contains six rising nuclei followed by a falling tone in the final tone group of a series. This occurs when events appear in a listing manner and the last one in the series receives cadential interpretation. Examples of prosodically integrated event lines are given below:

Speaker A

zderzył się z /panienką •
 /wysypał ••
 szła • trójeczka /ludzi ••
 rozdzielili się tymi /gruszczkami •
 'znaczy pomogli mu zebrać te ,gruchy' ••• 'allegro'
 i on /odjechał •••
 i potem zostawił \ 'kapelusz' • 'wide'

he bumped into the young lady
 scattered (them)
 there were three people coming
 they distributed the pears among themselves
 that is they helped him to pick up the pears
 and he rode away
 and then left his hat

¹ An event, as defined here, constitutes narrative action expressed through dynamic or static verbs which is the speaker's way of presenting the story line (i.e. how the chain of events unfolds in a story). The speaker may express this event either directly in the main clause through a verb, e.g. "he+verb", or indirectly through a subordinate clause which is preceded with an introductory main clause, e.g. "we see that ..." or "the film shows that ...". This information excludes background, summary, opinion, description, comment, etc.

Speaker B

więc /gwizdnął na na nich •
 no i jeden chłopiec /przybiegł •
 dał im /gruszki ••
 i z ↑ powrotem \rozchodzą się •

so he whistled to them
 so one of the boys came running
 gave them pears
 and again they split

Speaker C

wywrócił się /rower •
 on też się /'wywrócił' •• 'wide'
 wszystkie gruszki się /rozsypany ••
 z naprzeciwną nadchodzili • trzech /'chłopcy' •• 'wide'
 ee • podnieśli mu /rower ••
 pomogli pozbierać gruszki do • /kosza •••
 i • \poszli w swoją stronę •

the bicycle overturned
 he also fell over
 all the pears got scattered
 there were three boys coming from opposite direction
 uh they picked up the bicycle for him
 helped to gather the pears into the basket
 and went their own way

The tonally non-integrated sequences, where falling and rising tonics intermingle, would show some integration if one took into account the pitch patterning in semantically related neighboring clauses. Below are examples of prosodically non-integrated event line chains:

'zauważył że ma za mało \gruszek' 'allegro'
 i nagle /patrzy •••
 'że • idą ludzie i jedzą \gruszki' •• 'allegro'
 no i główkował co się \stało •

noticed that he had too few pears
 and suddenly he looks
 and sees people coming and eating pears
 and he was wondering what happened

i ↑ schodzi /na dół.
 i .. już ma zamiar wsypać √gruszki.
 ale patrzy że zamiast \trzech koszyków
 są tylko ↑ \‘dwa’.. ‘wide’
 and he comes down
 and is about to pour the pears
 but sees that instead of three baskets
 there are only two

8. Prosodically integrated vs. non-integrated expository units

An integrated unit, as mentioned previously, is taken to be a series of rising or rising-type tonics terminating with a falling tone. The distribution of prosodically integrated expository units for each speaker is as follows:

Speaker A	26%	of expository units	(6/23)
Speaker B	21%	„	(4/19)
Speaker C	88%	„	(7/8)

Interestingly enough, most expository units are marked off by pauses:

Speaker A	48%	units have long pauses (··· or ····)
	39%	units have short pauses (· or ··)
Speaker B	58%	units have long pauses
	42%	units have short pauses
Speaker C	50%	units have long pauses
	38%	units have short pauses

The total number of pauses located at the end of expository units are thus 87%, 100%, and 88% for speakers A, B, and C respectively.

Out of the non-integrated expository units, some showed a considerable degree of integration when broken into subunits. Subunits are parts of expository units bearing a cohesive semantic relation at a lower level. A unit is thus viewed as a hyper-theme, i.e. centered around one idea, person, object, or scene etc., while subunits are those units which obtain after further subdividing the large units (expository units) into chunks with separate individual semantic cohesion. These subunits can further be broken into smaller stretches which are parallel to idea units. An analogy can be drawn here between paragraphs, sentences, and clauses in writing and expository units, subunits, and tone units in speech. This an average of 37% subunits displayed integration in terms of sequences of rising tones terminating with a fall. Speakers A, B, and C, showed, respectively, 24%, 39%, and 50% prosodically integrated subunits.

Out of the subunits and units still unaccounted for in terms of the “rising—falling” integration pattern, some may be shown to also exhibit a pattern of integration when one disregards the presence of extra falling tones in the final position of expository units and subunits. This fall is a result of the speaker’s appending an afterthought or a summarizing comment or elaborating remark at the end of the unit. Such a cadential comment may typically be accompanied by such prosodic devices as the use of monotone, narrow range and piano articulation:

i i · akeja · teraz · pokazuje jak · · ↑ ten √wieśniak
 który zrywał /gruszki · ·
 ma zamiar · zejść na /dół /
 żeby napełnić ↑ \koszyk ·
 ‘bo już jego fartuch jest ^‘pełny’ ‘piano’ ‘narrow’
 and and the action now shows how this peasant
 who was picking pears
 is about to climb down
 in order to fill the basket
 because his apron is already full

The inclusion of these cases increases the percentage of the integrated units and subunits which for each of the speakers is now as follows:

Speaker A	41%	(13/32)
Speaker B	69%	(22/32)
Speaker C	89%	(8/9)

Speakers may be observed to vary in the way they employ the rise — fall integrating device. In addition to the use of the rising — falling pattern, they take recourse to other integrative prosodic devices like complex pitch range and tempo variation:

w ciągu · całego — filmu · ·
 ↑ dwa \razy · · · ‘descending’
 wchodził na górę · i \schodził · ·
 during the whole film
 two times
 (he) climbed up and down
 ↓ jeden był /pełen ·
 drugi był /prawie pełen · ‘descending’
 i jeden ↓ \pusty · ‘rallentando’
 one was full
 the second was almost full
 and one (was) empty

9. Prosodic features and presentation of information

Occasionally speakers resort to other prosodic features for signalling special effects. The prosodic devices appear to have two basic functions: attenuation and highlighting. For attenuation they tend to employ the features of monotone, low and narrow range, allegro, accelerando, and diminuendo articulation. Highlighting effect, on the other hand, may be achieved through the use of wide pitch range, lento and forte articulation.

Attenuation normally accompanies the following type of rhetorical effects: elaboration, repetition, explanation, recapitulation, and recalled action, whereas highlighting may mark juxtaposition or contrast, as in the case of allegro vs. lento articulation, for instance, used side by side. It should be stressed that the speakers do not employ these devices in a consistent manner, that is there is no way of predicting that a given rhetorical effect will of necessity be marked with a certain prosodic device. Occasionally, for instance, a feature from either category (attenuation or highlighting) may be used for conveying an exactly opposite effect (e.g. allegro appears for both repetition and foregrounding twice in A's narrative).


In several instances we could observe in each narrative an interesting relationship between tone units which were immediately in sequence and where one of the units was, in a sense, prosodically dependent on the other. This dependence takes the form of tonal subordination and refers to the relationship of pitch movement within consecutive tone units, where the pitch pattern of the subordinate unit repeats the direction of the nuclear glide of the superordinate unit, and whose overall pitch range falls within the range of the latter. Thus, the width of the nuclear glide of the superordinate unit must be greater than that in the subordinate unit which may either precede (preposed subordination) or follow it (postposed subordination).²

We could only find instances of simple subordination in our data (one subordinate and one superordinate unit side by side). Consequently, only neighbouring tone units in pairs exhibited subordinate relationship. As far as the function of prosodic subordination in narrative structure is concerned, we found it difficult to point to features in the text that would cooccur with it in a systematic manner. The only clearer type of correspondence that emerged concerned speakers' use of subordination for presenting material as less relevant for the narrated events (background elaboration).


The relation of grammatical subordination to prosodic subordination is not consistent either. Rather, it is the speaker's choice to present the main or

subordinate clause as more or less relevant to the chain of events presented in the discourse and mark it accordingly by prosodic means which matters.

Below are examples of preposed subordination where the main clause is prosodically subordinate:



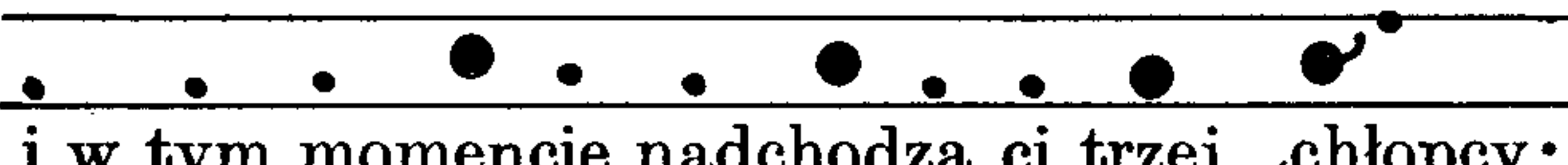
i... chłopiec... ee... jak się mijają.



odwraca głowę.


'subordinate'

and the boy when they are passing
turns his head



i w tym momencie nadchodzą ci trzech chłopcy...

'subordinate'



których ten mały spotkał po drodze...

and at this moment there come the three boys
who the small boy met on his way

10. Conclusion

The breaking of narratives into tone units reveals that the organization of narratives has a bearing on prosodic structure which, in turn, may shed additional light on the cognitive status of the structural units into which narratives are analysed. Thus, we have observed that clause units are equivalent to intonation units in the majority of cases while pause distribution characteristics provide evidence for the psychological reality of the tone unit rather than the clause. Furthermore, it appears that subordinate clauses can form separate tone units; they usually, however, form part of a larger intonation unit.

Event line sequences, as such, do not show prosodic integration, although expository units which are organized around one idea do provide prosodic evidence for their status as separate units. Prosodically reflected was also the difference between foreground and background presentation which made systematic

² For an extended discussion of tonal subordination see Crystal 1969:chap. 5.

use of highlighting and attenuation devices. Prosodic subordination, however, has not been found to correlate with grammatical subordination in any significant way.

Given the specific nature of the narratives studied and the limited corpus of material, our observations require further corroboration from a more varied and a larger body of data.

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