# THE EPISODE IN NARRATION: THE INTERACTION OF PROSODY AND DISCOURSE MARKERS

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## ABSTRACT

The proposed algorithm segments a narrative into episodes (units larger than sentences) using both discourse markers and prosodic cues: fundamental frequency, pause, and declination. The episodes identified are not merely the result of physiological needs, but are thematically unified. In addition to identifying episodes, a combination of prosodic cues and discourse markers also identifies the major divisions of the narrative.

## **1. EPISODES AS PROSODIC UNITS**

This paper presents a line-by-line algorithm which uses prosodic cues and discourse markers to identify the boundaries of prosodic units. Lehiste [1], Brown and Yule [2], Kumpf [3], Chafe [4], Coulthard and Brazil [5], and Schuetze-Coburn <u>et al.</u> [6] have all discussed how pause, high and low fundamental frequency, and declination serve as cues to the boundaries of prosodic units larger than sentences. Discourse analyses by Schiffrin [7], Polanyi and Martin [8], Hirshberg and Litman [9], and others have shown how discourse markers (hesitation forms, clue words, cue phrases, particles) signal discourse structure. The proposed algorithm assumes that no single cue is sufficient; declination, pause, phrase-final lowering and discourse markers all interact to organize a narrative into prosodic units.

I propose that these prosodic units are narrative units with thematic unity similar to van Dijk's [10] *episodes* and I have adopted this term. Using the proposed algorithm to identify episodes in a narrative collected by Mary O'Mally<sup>1</sup>, I apply a procedure from Polanyi [11] to show that these units reflect the structure of that narrative and are not simply the result of physiological factors. The text of the narrative was originally transcribed and divided into lines occurring between pauses of .3 seconds or more. Using phonetic data like that in Figure 1, the text was annotated giving:

 a. the highest fundamental frequency (f<sub>o</sub>) in brackets at the beginning of the line;

b. the terminal  $f_0$  at the end of the line in brackets;

# c. the length of the pause (in seconds) in parentheses.

For example, the information in Figure 1 is represented as in (2).



Figure 1

- (2) [200] that is [120] (1.6)
  - [190] a prison guard's life [130] (1.)

Assuming that the first episode begins with the first line of text, each subsequent line is tested as a possible closing line. Excluding lines which contain only discourse markers, a line is judged to be the final line if it meets three or more of the following criteria:

(3) a. the following text line (n+1) contains a higher  $f_0$  than the line being tested (n);

b. the line (n) ends at 105 hz. or below;

c. the line (n) is followed by a pause of at least 1 second;<sup>2</sup>

d. the line (n) is followed by one or more discourse markers (n+1=d.m) (<u>uh</u>, <u>and uh</u>, <u>well</u>, <u>so</u>, <u>but</u>, <u>but uh</u> or a repetition) plus a pause of at least .2 seconds.

Excluding discourse markers, the line following the last line of one episode becomes the first line of the next episode.

The use of an algorithm which requires three out of four characteristics is not as <u>ad hoc</u> as it may seem, because prosody and discourse markers, including the prosody on the discourse markers themselves, can serve the same function. Pause and discourse markers followed by pause both give the narrator time to plan the next episode. An episode which does not fall to 105 hz. may be followed by a discourse marker which does. A resetting of register or pitch within an episode is usually the signal that a new episode has begun, but it may be the resetting after a parenthetical or direct quotation.

The proposed algorithm segments the text, "Bread," into episodes, as shown in (4). Each new episode identified by (3) is assigned a letter; a later revision will add other divisions; these are marked with letters and one or more primes. Lines which serve only as discourse markers are identified as d-. The symbol ? indicates rising intonation. In lines where the highest  $f_0$  occurs on a word other than the first content word in the line, the word with the highest  $f_0$  is underlined. The {?} indicates where the interviewer has asked a question which cannot be heard on the tape; the following line is the narrator's response. The original text including the line divisions is not changed, but in a few cases phonetic data is missing.

(4)

- A.1. [200] that is [120] (1.6)
  - 2. [190] a prison guard's life [130] (1.)
  - 3. [160] if I had the talent for writing [80] (1.0)
  - 4. [150] you could [100] (2.2)
  - 5. {?}
- d- 6. [130] uh [100] (1.8)
- B. 7. [170] not quite fifteen years [90] (2.2)
- C. 8. [200] if I had the talents for writing [100](.8) 9. [160] I got more stories [105] (1.0) 10.[140] from [95] (.5) 11.[150] guys that I was good to [95] (1.1)

- d-12.[120] and uh [100](.9)
- D.13.[150] you know heard about [110] (2.)
  - 14.[150] how they got in trouble and uh [100] (.4)
  - 15.[150] how their lifes changed and so forth [100] (2.2)
- E.16.[290] and then of course [180] (.7)
- 17.[240] you bump into people in [160] (.5)
- 18.[230] in prisons that uh [150] (2.5)
- 19.[222] just no matter how good you are to them [160] (2.5)
- 21.[170] they just don't <u>understand</u> it they would uh [120] (.4)
- 22.[160] they go <u>out</u> of the- out of their way to hurt you [110] (1.)
- 23.[140] like uh there was uh [100] (3.0)
- F.24.[180] a Puerto <u>Rican</u> [90] (.4)
- 25.[130] we had [100] (1.0)
- d-26.[130] and uh [100] (4.4)
- G.27.[190] the bread that they had in jail was terrible [95] (2.2)
  - 28. {?}
- d-29.[110] bread yeah [80](1.0)
- H.30.[120] I uh (3.0) 31.[115] I couldn't eat a whole piece of that bread it was so (1.0) [100] 32.[110] so awful (.8) [80]
- I. 33.[120] uh [90] (.2) [225] I could get [130] (2.1) 34.[210]I could buy my lunch [120] (.9)
  - 35.[205] for about a quarter at that time (2.) [90]
  - 37.[160] save me the trouble of carrying it up there and everything [140] (.6)
- d-.38.[150] but [180] (1.1)
- I'. 39.[240] (1.) I like a couple of pieces of bread with my lunch (.4) [90]

40.[240] well I couldn't <u>stand</u> that bread [80] (1.4) d-41.[155] so [112](1.6)

J. 42.[220] I used to uh <u>carry</u> my lunch(.8) [100] 43.[170] my wife would [115] (1.0) 44.[170] pack me a couple of sandwiches [150]\_(1.) d-45.[150] and uh [110] (2.2)

K.46.[270] the only time I enjoyed the jailhouse lunch [115](.5)
47.[127] was [115] (.2) uh (.9)
48.[150] when uh [115](.5)

- 49.[220] the <u>cook</u> up there [95] (.6)
- 50.[170] his name was black [100] (1.5)
- 51.[160] when he made irish stew [85] (.9)
- 52.[150] and uh he made [130] (.5)

53.[180] he made <u>terrific</u> stew [90] (1.2) d-54 .[130] and uh [100] (.5)

- L.55.[200] when he had that [130] (1.9)
  - 56.[190] the inmates would [110] (.5)
  - 57.[170] they'd find out about it before me [90] (.8)
- d-58. [130] and uh [110] (.8)
  - 59.[160] they'd come and tell me [110] (.5)
  - 60.[160] that there was gonna be irish <u>stew</u> the next day [80] (.6)
- d- 61.[130] well [180] (7.5)
- d- 62.[130] oh [100] (.2)
- d- 63.[160] there was gonna be irish stew that day [85]
- M.64.(data missing) well if there was irish stew I'd give them my lunch.
- N.65.[135] well I would have [90] (.9)
  - 66.[295] bread from <u>home</u> see [100] (.6)
  - 67.[160] and uh that's what they wanted uh [80] (2.4)
- 68.[150] the bread mostly [95] (.6)
- d-69.[260] and then [140] (.7)
- O.70.[245] it got so (1.0) that uh [100] (2.1)

71.[150] I uh [130] (1.5)

- 72.[240] I would take two three four pieces of bread extra and stick it in my lunch [100] (1.3)
- 73.[200] and they just [170] (.9)
- 74.[210] they'd make a sandwich in the kitchen [200](1.6)
- 75.[220] bring it out [155] (.5)
- 76.[210] and throw that bread away and use my bread [80] (1.1)
- 77.[170] because [130] (.6)
- 78.[150] they hated that bread in there too [105] (1.)
- d-79.[175] so uh [130](1.0)
- P.80.[232] the reason I'm telling this story [100](.9) 81.[160] about the bread is [120] (1.)
  - 82.[240] this Puerto Rican kid (2.0) [130]
- Q.83.[160] I uh
  - 84.(data missing) I gave these other kids some white bread
  - 85.[260] and I didn't have no more [95](.7)
  - 86.[335] I didn't give him any well I didn't <u>have</u> no more I couldn't give him any (1.3) [90]

d-87.[200] and [150] (.7)

- R.88.[330] I didn't know he was real mad [100-170] (1.5) 89.[245) he uh [180] (.5) 90.[245] he told these other kids [140] (.9)
  - 91.[170] that uh [160] (.3)
  - 92.[230] he's gonna really uh [130] (.9)
  - 93.[232] get even with me [90] (1.)
- d-94.[140] so uh [110](2.1)

- S.95.[175] I didn't hear nothing about that [120] (1.0) 96.[220] well the next day [130] (1.5) 97.[170] I uh I was working four to twelve [110] (.6) 98.[220] when I come in [120] (1.)
  - 99.[170] he said uh [110] (1.)
  - 100.[130] uh [120] (1.4)
- T.101.[230] the first thing I did when I come in on that shift [130] (.7)
  - 102.[140] was to uh [100](.8)
  - 103.[180] check the coal bin [90] (1.2)
  - 104.[160] see we uh [100](1.8)
  - 105.[170] I had coal I had uh boiler room duties [90] (1.2)
- d-106.[140] and uh [105] (.90)
- U.107.[180] I checked the coal bin to make sure there was enough coal in there to do for the shift (.6) [110] 108.[160] and uh they knew that was the first thing I did
- was check the coal bin (.4) [85] d- 109.[120] well [105] (.3)
- V.110.[170] the coal bin was uh (.6) [90]
- 111.[200] you entered a small door and looked in there [130](.6)
- d-112.[120] and uh [100] (1.5)
  - 113.[210] I'd be in there by myself all the time just checking to see how much was in there to see if we needed any [100] (1.0)
- W. 116.[220] one of my [120] (1.0) 117.[200] friendly prisoners [130] (.5) 118.[168] run up to me [138] (.3) 119.[138] and said uh [105] (.9)
- W' 120.[180] mister thompson? [140] (1.5)
   121.[190] so-and-so is waiting for you with a knife in the coal bin [110] (1.3)
- W" 122.[300+] I said what ? [300] (1.0)
- W" '123.[200] he said don't look at me I'm not supposed to be telling ya [140] (.7)
- W""124.[180] I thought how do you like this [80] (1.6)
- d 125.[130] so uh [110] (1.3)
- X. 126.[200] well what I should have done [100] 127.(data omitted) was not go in the coal bin 128.[179] and go and get a couple more guards [105] (.7) 129.[181] and take them in with me [100] (.7)
- d- 130.[120] and uh [100] (1.7)
- Y. 131.[200] well he might have got killed then [100] (1.8)
  - 132.[200] but uh I was just so mad [100] (1.0)
  - 133.[180] when I found out who it was [110] (.5)
  - 134.[220] I had never done anything to him [130] (.9)

- 135.[200] the only thing I did was run out of bread and didn't have any more [110] (1.6)
- 136.[220] but I was so mad I thought well I'll go in and see what he's gonna do with that knife [85] (1.2)d-. 137.[130] well [120] (1.1)
- Z. 138.[160] I opened the door and walked in [100] (1.2)
- d- 139.[100] and uh [80] (1.4)
- AA.140.[150] I didn't see nobody in there [100] (1.4) d- 141.[110] but uh [100] (2.)
- BB. 142.[190] as I strolled [140] (1.1)
  143.[168] in further [120]
  144.(data missing) fortunately there was a shovel
  - laying there 145.[140] so I had enough sense to pick the shovel up [90] (1.4)
- d- 146.[110] and uh [105] (.3)
- CC.147.[180] soon after I picked the shovel up he stepped out [95] (3.7)
- DD.148.(data missing) and he had this knife 149.[170] you know where they get the knives [100] (2.) 150.[150] ya know the bed spring [120] (2.3)
  - 151.[180] and they take and they cut them off somehow or other or they break them off [90] (1.1)
- EE. 152.[190] and they get somebody that works in the machine shop to sharpen it up [100] (1.9)
- d- 153.[110] and uh [100] (1.)
- FF. 154.[160] that's uh that's a jailhouse knife [100] 155.(data missing) it'll kill you in a minute 156.[170] it's good and sharp and everything they sharpen it up [100](.4)
- d-. 157.[232] Well anyhow [115] (1.4)
- GG.158.[200] he started cursing me out and telling me how he was gonna cut my throat (.2] [240] and [170] (data missing) this that and the other thing.
- HH.159.[155] I said you are ? [230] (.8)
  - 160.[270] so I said well come on [148] (1.1)
    - 161.[180] he was so mad he didn't notice the shovel in my hand [95]
- II. 162.(data missing) so he runs over 163.[170] raises a knife [105] (1.0) 164.[170] and as he raised the knife he got the shovel on his head [85] (1.2)
  d- 165.[110] and uh [110] (1.4)

- JJ. 166.[180] I banged him a couple of times knocked him down [110] (.6)
  - 167.[240] and I was about to push it into his face but I thought no [100] (.6)
  - 168.[150] it's liable to kill him [90] (1.1)
  - d- 169.[140] so uh [105] (1.2)

KK.170.[185] he was unconscious then [100] (1.0)

An examination of the proposed episodes suggests that other factors in addition to prosody and discourse markers must be considered. Episodes  $\underline{W}$  and <u>HH</u> both contain direct quotations by new speakers, and it is reasonable to expect that these will begin new episodes, comparable to new paragraphs in written discourse. Expressions such as "he said" and "I said" operate as discourse markers in these cases.

In episode I, the discourse marker <u>but</u>, with its markedly rising intonation, seems to signal a new episode should beginning on line #39, particularly because of the resetting of register on that line. Rising intonation in the upper voice range makes discourse markers more salient, as in lines #16 and then [160-290 hz.], #69 and then [140-260 hz.], and #157 <u>well</u> [120-230 hz.], all of which occur at episode boundaries. Because of the rising intonation, an episode boundary is stipulated at line #39.

The summary chart in (5) shows the characteristics of the episodes identified by the algorithm in (3) plus the proposed revisions. The chart identifies the first and last lines of each episode, the terminal pitch, the length of the pause after the last line, the resetting of pitch within the episode, and the following discourse marker plus fo and pause.

(5) Unit Line		end fo	pause	reset?	next dm.
Α	1-4	100	(2.2)		uh [100] (1.8)
В.	7	90	(2.2)		
С.	8-11	95	(1.1)	yes	and uh [100] (.9)
D.	13-15	100	(2.2)		
E.	16-23	100	(3.0)		
F.	24-25	100	(1.0)		and uh [100] (4.4)
G.	27	95	(2.2)		
H.	30-32	80	(.8)		uh [90] (.2)
I.	33-37	140	(1.1)		but [180] (1.1)
Ι'	39-40	80	(1.4)		so [112] (1.6)
J.	42-44	150	(1.0)		and uh [110] (2.2)
Κ.	46-53	90	(1.2)		
L.	55-60	80	(.6)		well/oh [100] (.2)
М.	64	data r	nissing		
N.	65-68	95	( .6)	yes	and then [140] (.7)
0.	70-78	105	(1.0)	yes	so uh (2.1)
Ρ.	80-82	130	(2.0)		(whole unit=d.m.)
Q.	83-86	90	(1.3)	yes	and [150] (.7)

Unit	Line	end fo	pause	reset?	next dm +pause
R.	88-93	<del>9</del> 0	(1.0)	yes	so uh [90] (2.1)
S.	95-99	110	(1.0)	yes	uh [120] (1.4)
Т.	101-105	<del>9</del> 0	(1.2)	yes	and uh [100] (.9)
U.	107-108	85	(.4)		well [105] (.3)
V.	110-113	100	(1.0)	yes	
W.	116-119	105	(.9)		said uh [105] (.9)
W'	120-121	110	(1.3)		I said
W"	122	300	(1.0)		he said
W'''	123	140	(.7)		I thought
W""	124	80	(1.6)		so uh [110] (1.3)
Х.	126-129	100	(.7)		and uh [100] (1.7)
Υ.	131-136	85	(1.6)	yes	well [120] (1.1)
Z.	138	100	(1.2)		and uh [80] (1.4)
AA.	140	100	(1.4)		but uh [100] (2.0)
BB.	142-145	90	(1.4)		and uh [105] (.3)
CC.	147	95	data missing		
DD.	148-151	90	(1.1)	yes	
EE.	152	100	(1.9)		and uh [100] (1.0)
FF.	154-156	100	(0.4)		well anyhow (1.4)
GG.	158		data missing		I said
HH.	159	95	data missing		
II.	162-164	85	(1.2)		and uh [110] (1.4)
JJ.	166-168	90	(1.1)	yes	so uh [105] (1.2)
KK.	170	100	(1.0)		so uh [100]

In several cases, because of missing phonetic data the boundary between episodes is assigned based on the evidence available.

## 2.THE SEMANTIC UNITY OF EPISODES

Having proposed that a revised algorithm can correctly identify most episodes, it is still necessary to show that these units have semantic unity. Grimes [12] and others [13],[2],[14], have proposed a "discourse paragraph," "paratone" or "center of interest" and have assumed that these units larger than sentences have semantic unity. Van Dijk [10:177] defines *episodes* as "coherent sequences of sentences of a discourse, linguistically marked for beginning and/or end, and further defined in terms of some kind of 'thematic unity'--for instance, in terms of identical participants, time, location or global event or action."

However, as Schuetze-Coburn <u>et al.</u> [6:230-31] point out, it is possible that the declination units identified by (3) are merely the result of a speaker's physiological needs or diminishing breath supply. In order to show that the episodes in "Bread" are also discourse units, a procedure for identifying the structure of a narrative was adapted from chapter 2 of Polanyi [11]. First, the underlying complete and incomplete propositions were identified. Based on the identified descriptions and events, each episode was assigned one or more overt or implied topic sentences or topics which generalized the information in the original propositions. For example, the sentence, "N usually checked the coal bin alone," is the topic sentence for the four propositions in (6) which are found in Episode V.

(6) N (usually) enters small door in coal bin.

N looks in coal bin.

N is usually alone.

N usually checks amount of coal.

In addition to the episodes, there are larger prosodic units in "Bread" identified either by extended pauses (three seconds and longer), salient discourse markers (such as "well anyhow") or explicit reference to the structure of the discourse, such as the entire episodes, P and FF. The boundaries of these major divisions are marked with the symbol +++ in (7) and assigned roman numerals and names.

Following Polanyi [11], durative-descriptive propositions are labelled <DD> mainline story event propositions <e1, e2>, and negative events <-e>. Discourse markers and episodes functioning only as discourse operators are classified as operators <o>. Boundaries marked by salient discourse markers or extended pauses are marked by three pluses (+++). The resulting structure of the full narrative is (7):

## (7) A. <0>A prison guard's life **I.Orientation**

B. <0> Fifteen years

C. <DD> N, the narrator, has friendly prisoner stories.

D. <DD> N has stories about their troubles and lives.

E. <DD> N also has stories about unfriendly prisoners. ++(3.0)

## F. <o> a Puerto Rican II.<u>Protagonist</u> ++(4.4)

G. <DD> Prison bread was terrible.III.Bread

H. <DD> N couldn't eat the prison bread.

I.. <DD> Prison lunch was cheap and easy.

I' <DD> N liked bread, but not prison bread.

J. <DD> N carried his lunch from home with sandwiches.

K. <DD> The only good prison meal was Irish stew made by prison cook.

L. <DD> Inmates told N when Irish stew was planned. ++(7.5)

IV. N's Kindness

M. <DD> When there was Irish stew N gave prisoners his home lunch.

N. <DD> Inmates wanted N's bread from home.

O. <DD> N gave N's extra bread to inmates.

P. <0> The bread and the Puerto Rican (PR) are related. ++ (4.0)

 $\mathbf{5}$ 

#### V. Complication

Q. <e1> N couldn't give home bread to the PR prisoner.

R. <e3> The PR threatened N.

S. <-e> N didn't hear the threat.

<o> The next day N.worked from 4 to 12.

T. <DD> N checked the coal bin first.

U. <DD> Prisoners knew that N checked coal bin first.

V. <DD> N usually checked coal bin alone.

W. <e4-8> A friendly prisoner warned N.

X. <irrealis> N should not have gone alone.

Y. <irrealis> The PR could have been killed.

<DD> N hadn't done anything to hurt the PR. AA.<e11> N entered the coal bin.

BB.<e16> N picked up a shovel in the coal bin.

CC.<e17> The PR approached N with a prison knife. +++ (3.7)

#### VI. <u>Suspension</u>

DD.<DD> Jailhouse knives are broken off bedsprings. EE.<DD> Jailhouse knives are made in the machine shop. FF.<o> Jailhouse knives are dangerous. +++ VII. <u>Resolution</u> GG.<e18> The PR threatened N. HH.<e20> The PR didn't see the shovel. II.<e21> The PR and N fought. JJ.<e22> N knocked the PR down with the shovel. KK.<DD> The PR was unconscious. LL. N called for help. MM. The PR was punished. +++

## VIII. <u>Coda</u>

NN. The PR didn't return.

OO. Such things happen in prison.

Except for two of the episodes, S and Y, the episodes in "Bread" are consistent with van Dijk's [10] definition of episode. Although some details and events are omitted in (7), the listing of the topic sentences includes all of the essential information and events of the story.

Episode O is a potential counterexample since it appears to violate the unity of a single location. However, because the narrator is talking about a typical pattern of behavior rather than actual events, it is not a real counterexample. However, Episodes S and Y are genuine counterexamples, and episode boundaries are expected at lines #96 and #132. Some of the boundary cues are present. At the end of #95 there is a long pause; line #96 begins with a discourse marker and a shift in register (as well as in time). Similarly, line #131 ends with a long pause and low pitch. Line 132 begins with *but uh* and is preceded by a 1.3 second pause. In both cases, there is reason to suspect a boundary even though no boundary was identified by (3). With more data, it may be possible to refine the algorithm

so that the boundaries which probably occur before lines #96 and #132 are identified.

The algorithm in (3) is a first approximation based on limited data. Even though this algorithm twice fails to correctly identify episodes, it is successful enough to suggest that the task of identifying the boundaries of episodes in narrative is possible if both discourse markers and prosodic information are used. The episodes identified by (3) come close to reflecting the structure of the discourse and are not merely arbitrary breath groups. In the narrative, "Bread," not only are there overt cues to episode boundaries, but also identifiable boundaries of larger units; an extended pause (three or more seconds) or a salient discourse marker, such as *well anyway*" almost always signals these boundaries between units that Labov and Waletzky [15] call parts of the "normal form" of a narrative.

### 3. IMPLICATIONS FOR FURTHER RESEARCH

This preliminary procedure of identifying episode boundaries in a single narrative suggests a number of hypotheses to be tested against more data.

(8) a. Discourse markers followed by pause signal boundaries different from those not followed by pause.

b. Short pauses (.2 seconds or more), long pauses (1.0 second or more) and extended pauses (3.0 seconds or more) have different communicative functions in narration.

c. In narration, the domain of declination is the episode and not the clause or sentence.

If further evidence is found to support the hypothesis in (8), these may or may not hold for other speakers and other types of discourse. The hypothesis in (8c) is particularly interesting, since it challenges Pierrehumbert [16], who claims that declination is a strictly local phenomenom. The hypothesis supports the models proposed by Thorsen [17] and Garding [18], who claim that declination is a global rather than local phenomenom. This issue, particularly, merits further investigation.

#### Notes:

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<sup>2</sup>One second as the minimal "long pause" was based on the fact that one second is the median and the mode for all types of pauses for this speaker and is also the definition of long pause used by Brown and Yule [2] and Chafe [14].

#### REFERENCES

- 1. Lehiste, Ilse. "Sentence Boundaries and Paragraph Boundaries--Perceptual Evidence," *The Elements: A Parasession on Linguistic Units and Levels.* Chicago Linguistic Society, Chicago, 1979.
- Brown, Gillian and George Yule. Discourse Analysis. Cambridge University Press, Cambridge, 1983.
- Kumpf, Lorraine E. "The Use of Pitch Phenomena in the Structuring of Stories," Russell Tomlin (ed.) Coherence and Grounding in Discourse. John Benjamins, Amsterdam, 1987.
- Chafe, Wallace. "The Flow of Thought and the Flow of Language," Talmy Givon (ed.) Syntax and Semantics Volume 12: Discourse and Syntax. Academic Press, New York, 1979.
- Coulthard, Malcolm and David Brazil. "The Place of Intonation in the Description of Interaction," Deborah Tannen (ed.) Analyzing Discourse: Text and Talk. Washington, D.C.: Georgetown U. Press, 1982.
- Schuetze-Coburn, Stephan, Marian Shapley and Elizabeth Weber. "Units of Intonation in Discourse: A Comparison of Acoustic and Auditory Analyses," Language and Speech, 34 (3), 207-234, 1991.
- 7. Schiffrin, Deborah. Discourse Markers. Cambridge: Cambridge University Press, Cambridge, 1987.
- Polanyi, Livia and Laura Martin. "On the formal treatment of discourse particles: the case of Mocho la in narrative discourse." Unpublished paper, 1990.
- 9. Hirschberg and Litman. "Now let's talk about now: Identifying cue phrases intonationally," Proceedings of the 25th Annual Meeting of the Association for Computational Linguistics, 1987.
- van Dijk, Teun. "Episodes as Units of Discourse Analysis," Deborah Tannen (ed.) Analyzing Discourse: Text and Talk. Georgetown U. Press, Washington, D.C., 1981.
- 11. Polanyi, Livia. Telling the American Story: A Structural and Cultural Analysis of Conversational Storytelling. Ablex Publishers, Norwood, NJ, 1975.

- 12. Grimes, Joseph E. 1975. The Thread of Discourse, Mouton, The Hague, 1975.
- 13. Longacre, Robert E. The Grammar of Discourse. Plenum Press, New York, 1983.
- 14. Chafe, Wallace. "The Deployment of Consciousness in the Production of a Narrative," Wallace Chafe (ed.) *The Pear Stories.* Ablex, Norwood, NJ, 1980.
- 15. Labov, William and Joshua Waletzky. "Narrative Analysis: Oral Versions of Personal Experience," June Helm (ed.), Essays on the Verbal and Visual Arts: Proceedings of the 1966 Annual Spring Meeting of the American Ethnological Society. American Ethnological Society, Seattle, 1967.
- 16. Pierrehumbert, Janet. The Phonology and Phonetics of English Intonation. MIT Ph.D. dissertation, 1980.
- Thorsen, Nina. 'Two issues in the prosody of Standard Danish," A. Cutler and D.R. Ladd (eds.) Prosody: Models and Measurements. Springer-Verlag, Berlin, 1983.
- Garding, Eva. "A Generative Model of Intonation," A. Cutler and D.R. Ladd (eds.) Prosody: Models and Measurements. Springer-Verlag, Berlin, 1983.







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