



The Pragmatics of Prosody, the Prosody of Pragmatics

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1. Introduction

The relationship between prosody and pragmatics is relatively clear for speakers of a language although is often difficult to explain in practical terms to non-native speakers.



The way an utterance is pronounced belongs to the realm of prosody and the acoustic analysis of prosody can be very complex to assess individual differences between speakers in terms of sex, age, emotional state, dialectal origin, etc...



Various syntactic rules seem to be properly constrained only if one refers to pragmatic conditions; and similarly for matters of stress and intonation' (Levinson 1983: 36).



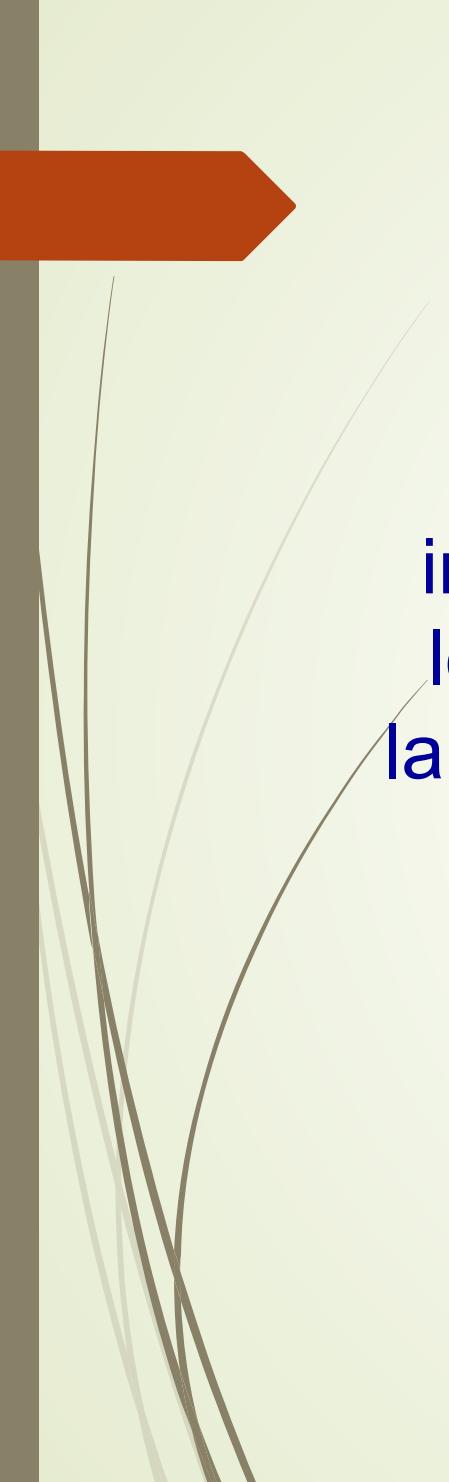
Prosodic pragmatics intends to identify the intentions with which utterances are pronounced to differentiate between the features of the *individual speaker* and those that knit the web of meaning contrasts at the *language level*.



Corpus Pragmatics has an essential role in the description of prosody at a contrastive level to go beyond individual features.



Prosody is a complex linguistic system
that interacts with grammatical,
pragmatic and affective levels of
language description (Halliday 1994;
Snow and Balog 2002).



The system of prosody and the interaction between intonational and lexico-grammatical form varies from language to language (Bolinger, 1978; Cruz-Ferreira 1987; Ladd, 1996)



Speakers with reduced vowels in their function words tend to process these words differently from content words

If some speakers of English use syllable-based rhythm, it is possible that they may process the language in a fundamentally different way from those with more stress-based rhythm.



The understanding and interpretation of the pragmatic meaning of spoken discourse largely depends on the choice of intonation patterns (cf. Pierrehumbert and Hirschberg, 1990; Couper-Kühlen and Selting, 1996; Brazil, 1997; Wichmann 2000; Romero-Trillo 2012).



This variation often leads to difficulties
in the acquisition of L2 intonation,
mainly due to the unsatisfactory
overuse of a very limited variety of
patterns in the foreign language
(Ramirez Verdugo 2003)



Any slight change in prosody, which initially may appear to be insignificant, implies some changes in the semantics and pragmatics of the final message as perceived by interlocutors (Kelm 1995)



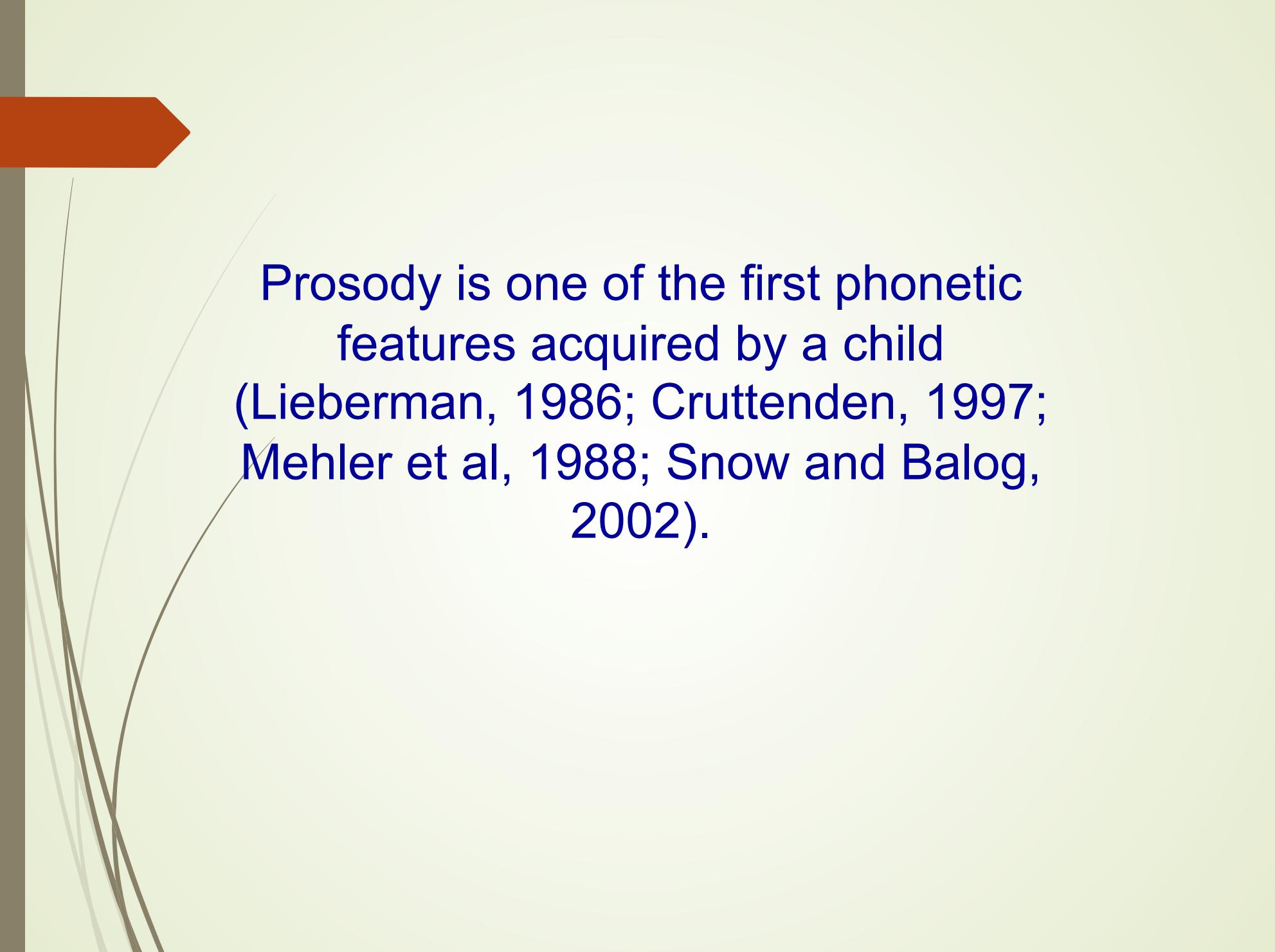
While mistakes in the pronunciation of segmental sounds are generally overlooked at, deviant prosodic patterns may affect comprehension negatively and provoke pragmatic consequences on the spoken discourse (cf. Anderson-Hsieh, Johnson and Koeler, 1992, and Derwing and Munro, 1997).



Prosody is one of the elements that
mainly contribute to pragmatic
fossilisation in non-native speakers of
English
(Romero-Trillo 2002)



It is essential to identify the specific prosodic features that can affect L2 development, as in the case of Spanish
(Gutiérrez 2013)



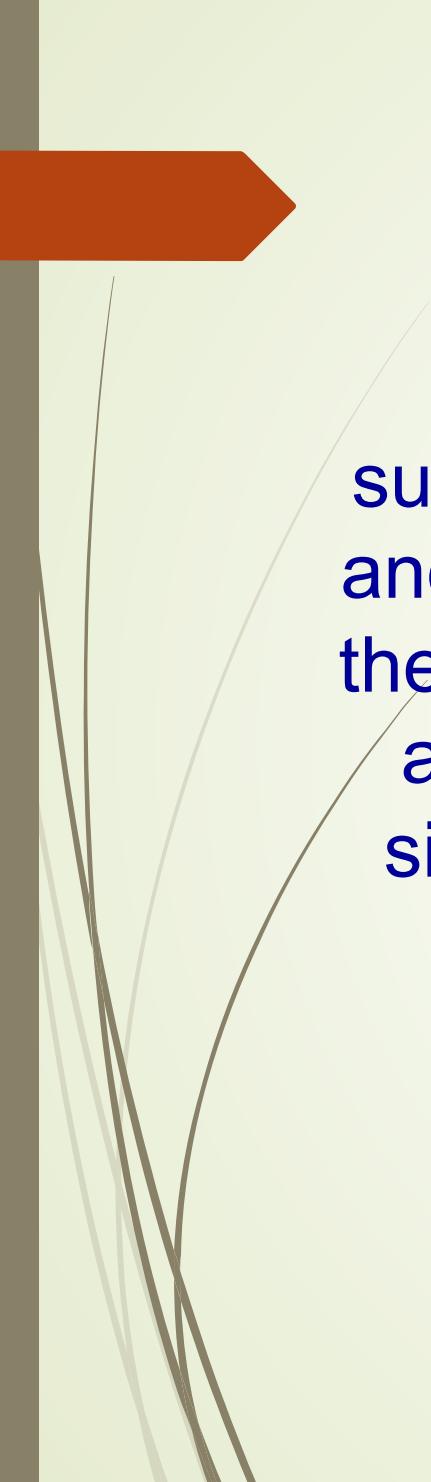
Prosody is one of the first phonetic features acquired by a child (Lieberman, 1986; Cruttenden, 1997; Mehler et al, 1988; Snow and Balog, 2002).



In first stages of language acquisition children mostly rely on prosodic prompts. In later stages, after syntactic, semantic and pragmatic competence, prosody becomes subconscious and automatic to the message
(Berkovits, 1980)



Native speakers are able to process lexical and contextual information and automatically select the most appropriate prosodic pattern to express the intended communicative purpose. Their prosodic choice is determined by prior knowledge and experience of a specific linguistic message in a particular context
(cf. Flege and Liu 2001)



Non-native speakers often lack sufficient exposure to, experience in and knowledge of the L2 as to select the most adequate intonation pattern associated to particular linguistic, situational and pragmatic contexts
(Romero-Trillo 2015).



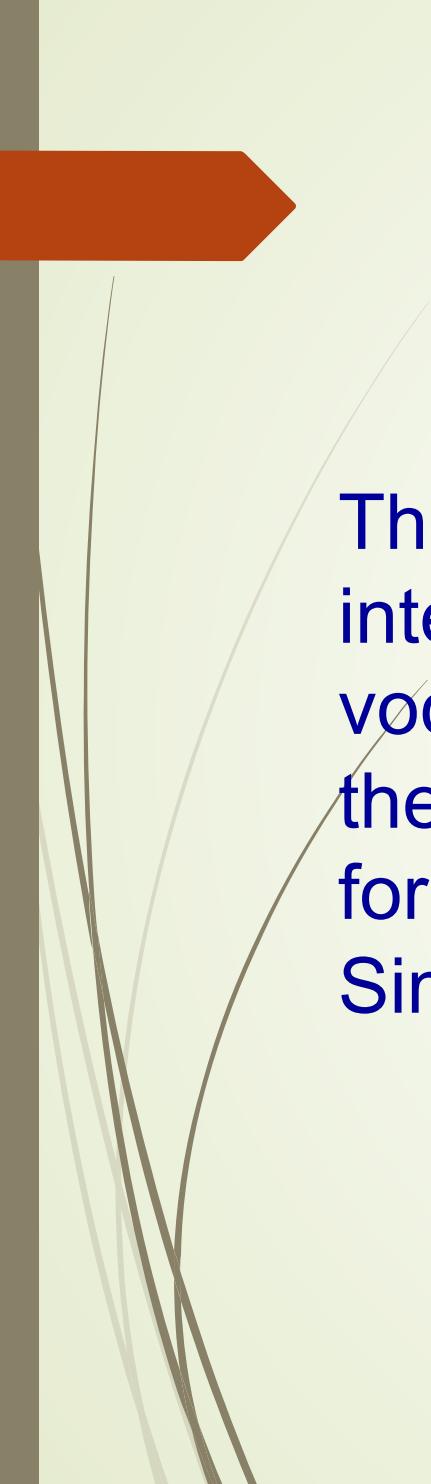
L1 intonation functions as a source of pragmatic hypotheses for L2 intonation. Non-native speakers tend to generalize certain prosodic choices to contexts which would require different realizations



2. The development of pragmatic prosody

At birth, children are born with only the most rudimentary communicative skills: they are limited to signaling biological wants, needs and emotions.

This is not true communication until they develop *intentionality*



The transition from preintentional to intentional communication is observed vocally with babbling forms that build the foundation for early meaningful forms (Vihman, Macken, Miller, Simmons, & Miller, 1985)



Non-verbal characteristics of this transition include the onset of pointing and other communicative gestures, the use of eye gaze to establish joint attention, and other behaviors.

Intonation contrasts play a critical role in conveying pragmatic meaning (Snow & Balog, 2002).



An experiment: Balog and Roberts (2004) studied the development of discourse timing during the second year (12 – 23 months) by examining utterance relatedness to the preceding maternal utterance.

- 
- Related utterances*: joint attention (eye gaze or other nonverbal signals) within a 4.25 second timeframe.
 - Unrelated utterances*: lack of joint attention and after the 4.25 second timeframe.

- 
- Kent and Murray (1982) determined that the predominant contour pattern for 3-12 months old babies of English as an L1 was falling intonation.

- 
- English productions are characterized by predominantly falling contours (75%), while French is characterized by more rising contours.
 - This has repercussions in adult French speakers of English.

- 
- Snow (2006) provided evidence for prelinguistic to linguistic shift in intonation production.
 - 60 children between 6 and 24 months learning English: intonation development followed the following pattern:

- 
- Intonation patterns produced by the youngest babies (6 – 9 months) were similar to those produced by the older babies (18 – 24 months).
 - This is an indication of system reorganization as babies move from pre-intentional to intentional communication.



Conclusions:

1. While prosodic features are produced very early in life, they undergo a developmental process similar to that of segmental features over the course of the first few years of life.



2. There is not a universal linguistic use of prosody, rather a universal reflexive use of prosodic features that slowly acclimate to the ambient language environment as babies move from preintentional to intentional communication.



3. The acoustics of prosody

Prosody refers to the suprasegmental aspects of speech production and includes perceptual features of pitch, length, and loudness.



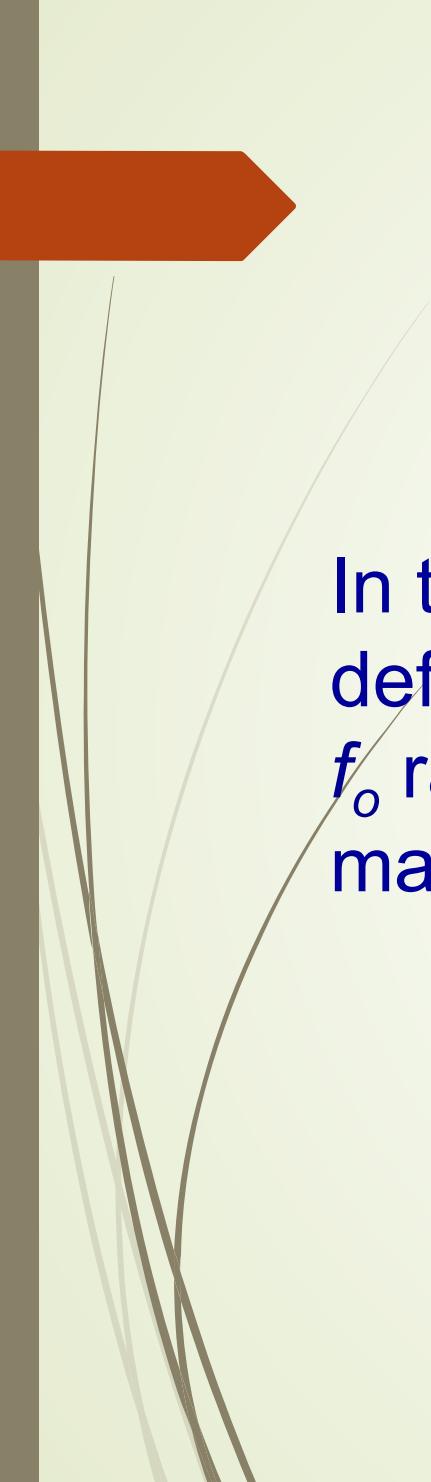
Prosody refers to the suprasegmental aspects of speech production and includes *perceptual* features of

- pitch
- length
- loudness



The *acoustic* correlates to these perceptual features are

- Pitch: fundamental frequency (f_o)
- Length: duration
- Loudness/Intensity: amplitude

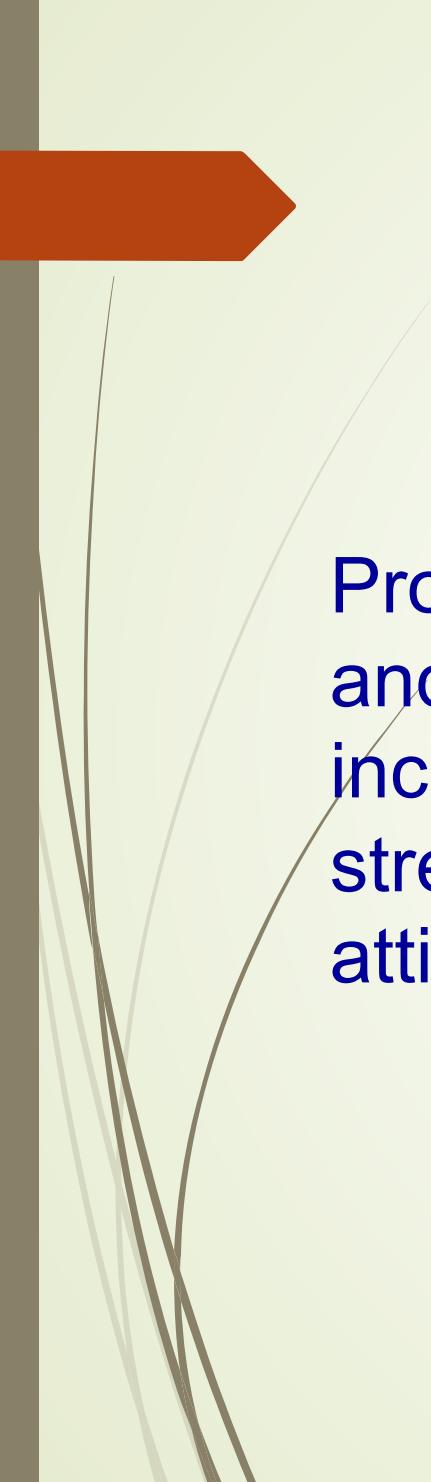


In terms of pitch, intonation can be defined categorically by contour shape, f_o range, mean f_o , minimum and maximum f_o



Duration measures related to intonation
are likely to include:

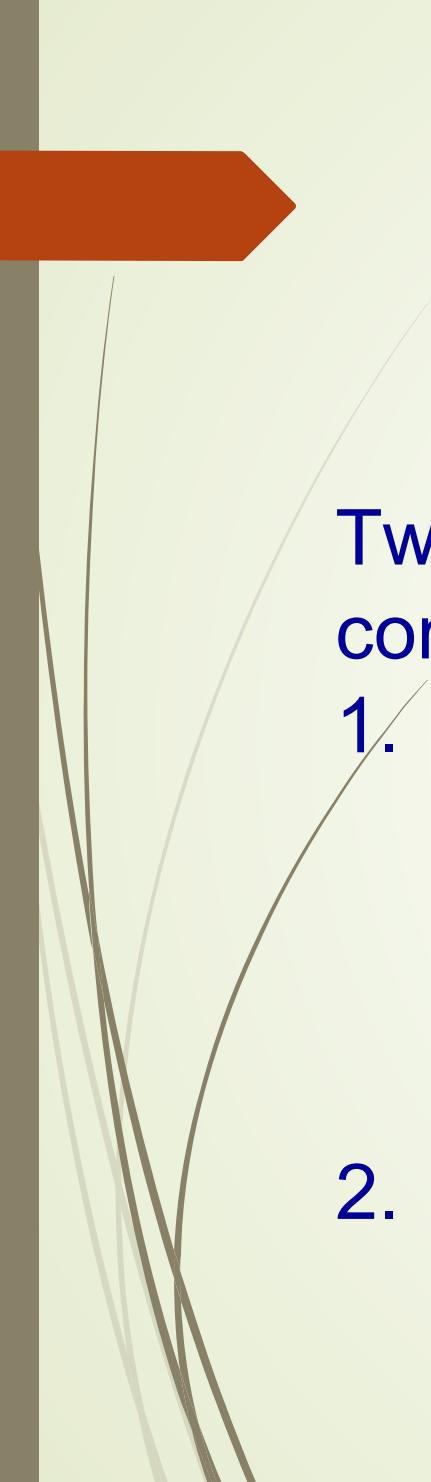
- speaking rate
- final syllable lengthening
- pause duration
- rate of pitch change



Prosodic features overlap segments and serve a variety of purposes, including: contrastive stress, lexical stress, pragmatic intent, emotion, attitude, etc.



Before acoustic analysis is undertaken, the theoretical framework that guides a researcher's approach to prosody should be carefully considered because that framework will guide important decisions for how acoustic analyses are implemented.



Two competing theories of intonation in the context of pragmatic communication:

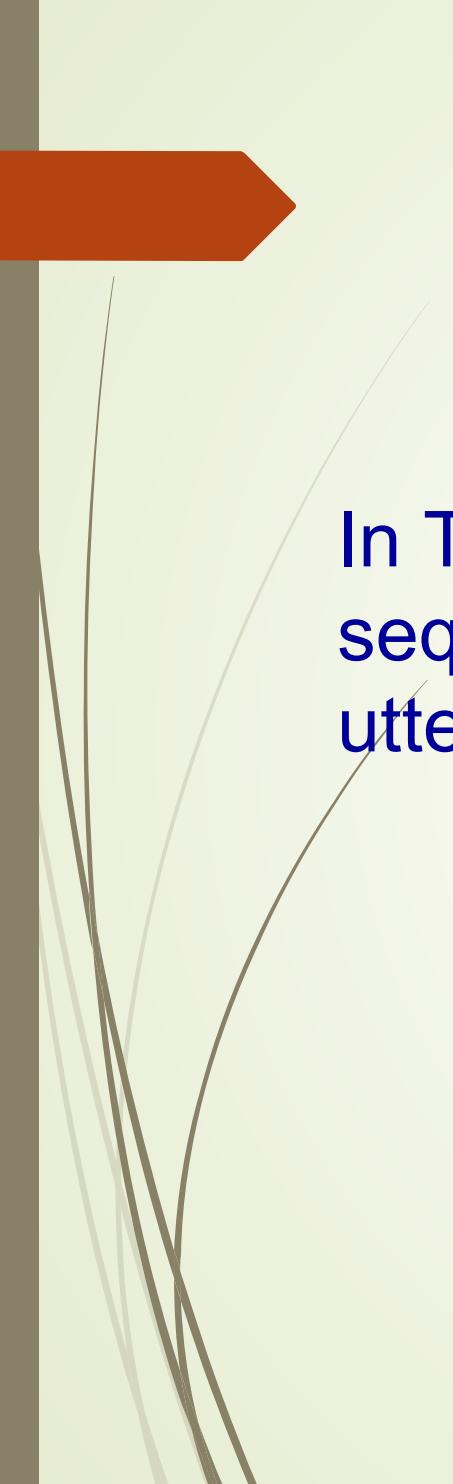
1. Tone and Break Indices system (ToBI; Beckman & Ayers 1994; Pierrehumbert 1980; Pierrehumbert & Hirschberg 1990), based upon autosegmental theory of intonation
2. Nuclear tone theory (Cruttenden 1997)



1. ToBI

Autosegmental approaches view intonation as a sequence of:

- high and low pitch accents (marked as H and L),
- phrasal accents (marked as -)
- edge tones (marked as %).



In ToBI the tonal tier represents the sequence of pitch changes across the utterance.



The break index tier marks word boundaries:

1. Within the middle of the phrase,
2. Accented words not at an edge boundary
3. Phrasal tones
4. Boundary tones



2. Nuclear Tone theory

The nuclear tone theory focuses on the nuclear accent of an utterance (Cruttenden 1997).

Utterances consist of one or more intonation groups, defined by clausal boundaries.

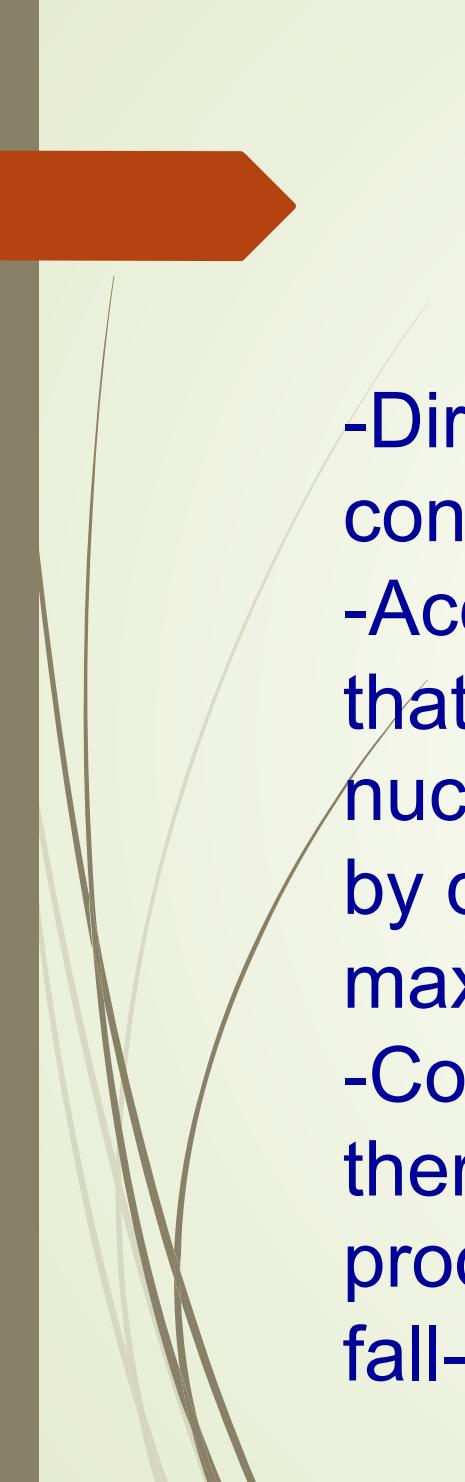


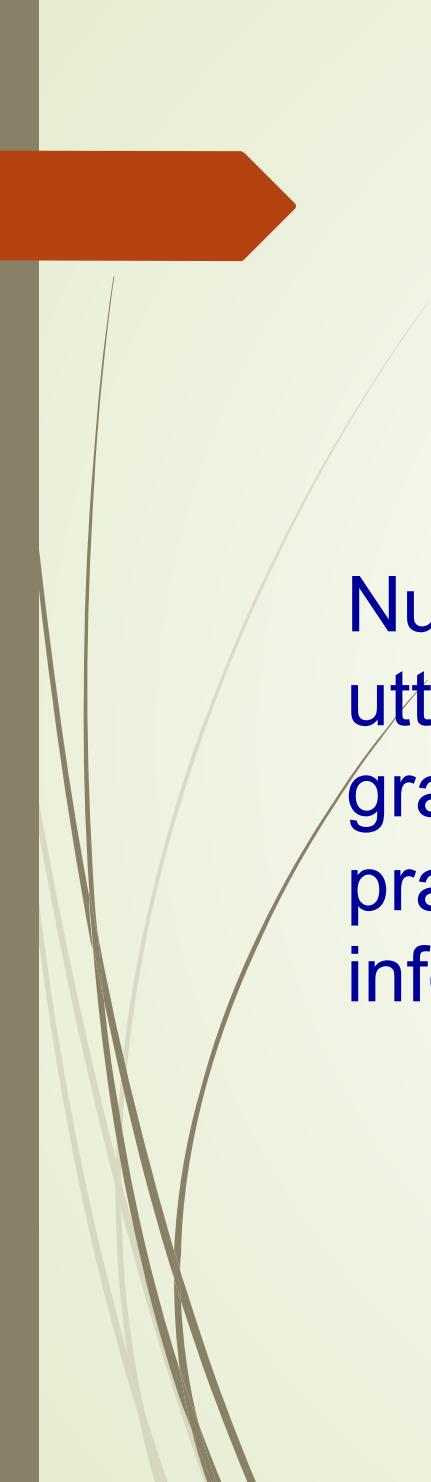
Each intonation group has a nuclear accent, which is the primary stress syllable (Crystal 1986; Vanderslice & Ladefoged 1972) within the tone group generally produced toward the right edge of that tone group.



The nuclear tone begins at the nuclear accent or the syllable in which there is primary stress and continues to the final boundary of the tone group.

- The tonal factors that are measured are direction
- accent range
- complexity of the contour

- 
- Direction: primary direction of the contour: falling, level or rising.
 - Accent range: amount of pitch change that occurs during production of the nuclear tone. Accent range is calculated by determining the minimum and maximum pitch points for the contour.
 - Contour complexity refers to whether there is a change in direction during the production of the contours (e.g., rise-fall-rise).



Nuclear tone is the place in the utterance where the most salient grammatical (e.g., boundary) and pragmatic (e.g., attitude, intention, etc.) information is carried.



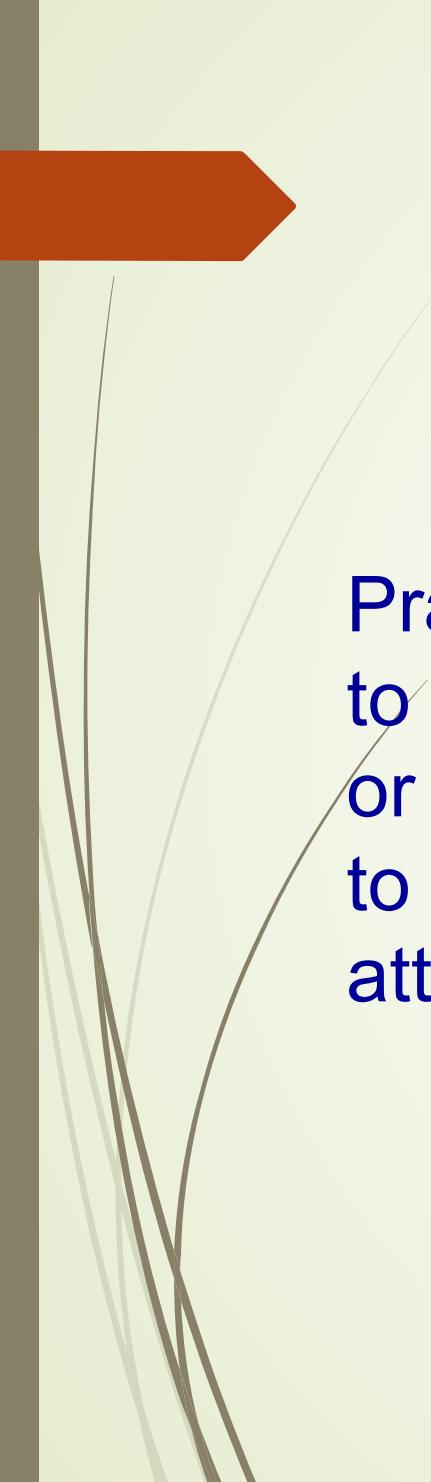
Boundaries are strongly cued by phrase final lengthening of the nuclear tone (Snow & Balog 2002).

Contour direction of the nuclear tone is very important as it is in this part of an utterance that English speakers convey intentionality and attitude.



Intentionality is differentiated with falling and rising contours:

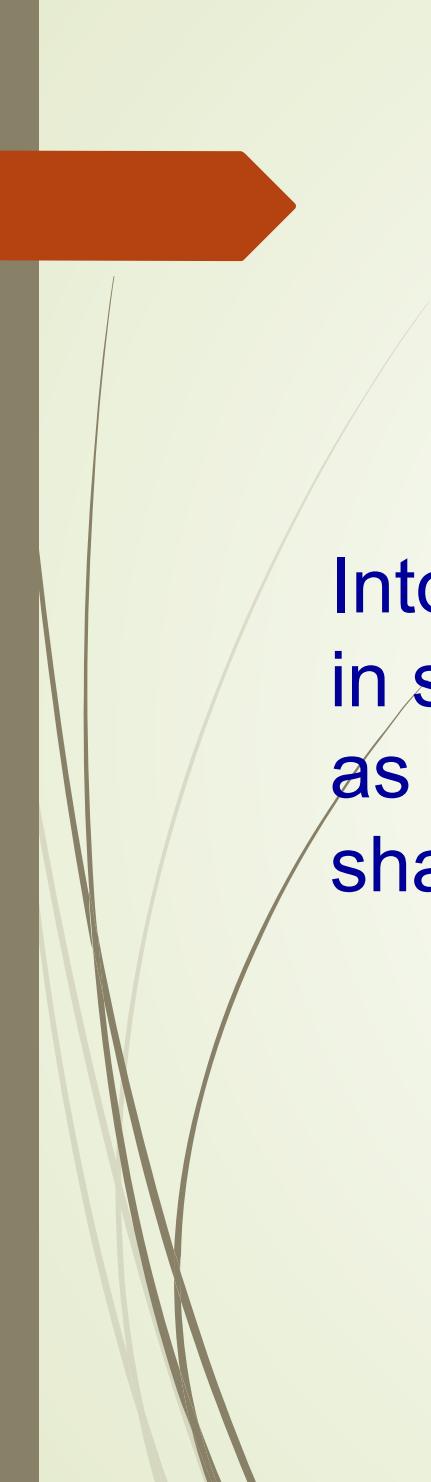
- Falls used for statements, commands, requests, wh-questions and
- Rises used for yes/no questions.



Pragmatic description: rises are thought to convey the attitude of less certainty or more openness and falls are thought to convey more certainty or closed attitudes (Cruttenden 1981).



Prosody is the result of the systemic
(and simultaneous) realisation of
stress, rhythm and intonation.
Intonation, plays a particularly important
role in pragmatics function.
(Halliday 1970; Romero-Trillo 2013)



Intonation relates to the pitch patterns in speech and includes measures such as mean pitch, pitch range, and contour shape.



Halliday (1967/1970) adheres to nuclear tone theory, in which tone unit is basis of analysis.

Intonation is the systemic result of

- Tonality
- Tonicity
- Tone



Halliday's (1967/1970) model:

Primary tones

- Tone 1: falling \
- Tone 2: rising /
- Tone 3: level-(rise) =(/)
- Tone 4: (rise)-fall-rise \V
- Tone 5: (fall)-rise-fall ^\
- Compound tones 13 and 53



Addition of Tone 0 (Romero-Trillo 2001)

*“so [@:m] be^cause [i] _it`ll . I mean the
^mVarks/”.*



Nuclear Tone Theory is the most appropriate for the study of the relationship between pragmatics and intonation in English

The Nuclear Theory has adapted the quantitative acoustic measurements of prosody to a distinct qualitative classification that identifies the basic contours of English intonation with the functions that they realise.



Finding the best methodology

Researchers must define whether intonation is to be measured across the whole utterance (multi-syllables) or on a smaller portion of the utterance (e.g., the nuclear tone).



This methodology is supported by terminology:

Register defines the overall pitch height of an utterance.

Key defines the pitch change that occurs over an entire utterance

Accent range defines pitch change over a smaller, more specific portion of the utterance.



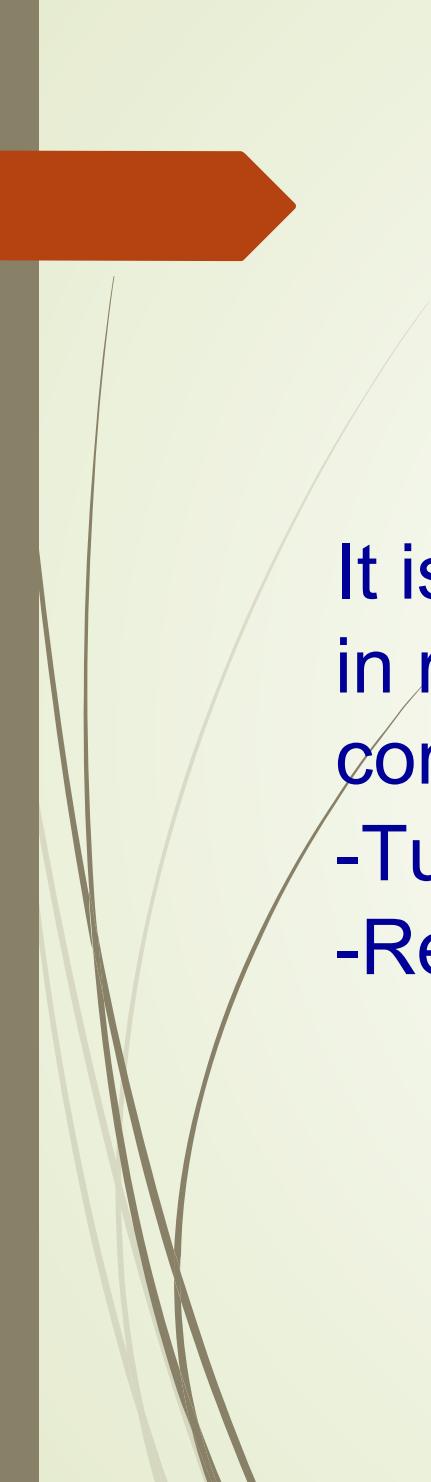
Golden rules in cross-linguistic intonation pragmatics:

1. How and where intonation is measured may vary depending on the languages being compared.
2. Researchers must define the relationship between prosodic features and pragmatic language use for the languages under study.



4. Prosodic Pragmatics in context

Prosody must be studied in relation to social actions, rather than being linked to context-free notions of grammar, meaning and function.



It is important to study prosodic pragmatics in real life contexts and in the analysis of conversation:

- Turn-taking and interactional alignment
- Realisation of pragmatic functions



Prosody plays a role in the implementation of many actions, especially in turn projection.

Turn projection is accomplished by additional interactional cues besides prosody



Couper-Kuhlen (2012) finds preferences for specific intonation patterns for individual actions.

- Preference for rises on topic proffers (63%) and next-turn repair initiators (62%)
- Preference for falling intonation on follow-up questions (55%)
- Falls on news receipts and newmarks (65%).



Prosodic orientation (Szczepek Reed 2009): participants' prosodic display of awareness of other speakers' prosody, e.g., prosodic matching, whereby a next speaker employs the same prosodic pattern as an immediately prior speaker.



Prosodic orientation typically co-occurs with acknowledgements, answers to questions, seconds in opening and closing sequences and other turns in next position



DA:

next is NIgel HIBbits;
who lives in PRESTwich.

<<h> ↑HI `NI:GE,>

<<h> ↑HI `DA:VE,>

NI:

DA: <<all> how ARE ya.>

(0.25)

NI:

.hh

nOt too BAD,

DA: GOOD to speak to you agAIn,

DA:

(0.23)

a:nd we have ANN,
who lives in GORton.

who's FIRST.=
and then of COURSE,
.h

After our two callers we do have RAchel
back again.

.h

ANN.

HI.

(0.26)

AN: <<breathy> HELL: 'O:>

DA: <<breathy> HELL: 'O:>

<<h> how ARE you Ann,>



Prosodic alignment frequently occurs during collaborative turn sequences, during which it is part of an interactional strategy to design a next speaker's contribution as being part of a turn begun by an immediately prior speaker.

- 
- 1 PA: but you CA:N use quality meat
[for SAUSages.]
 - 2 BA: [VEAL actually,
 - 3 RO: Oh you no you you CA:N,
 - 4 and and they DO:,
 - 5 [in in GERmany ↑And switzerland,
 - 6 PA: [but the but the ma↑JOrity of
sAUsage:s,
 - 7 A::RE,
 - 8 [()
 - 9 BA: [↑RUbbish.

5. On the nature of Pragmatic Markers

Pragmatic markers can be defined as elements of language that have modified their original linguistic status and have adopted a cognitive function that weaves the net of discourse between the addresser, the addressee, and the context of a given message.

Romero-Trillo 2001

► Lexical items and lexical composites undergo a discourse grammaticalisation process: the more frequently used the less transparent is its original meaning (Romero-Trillo 2001)

One of the main features of pragmatic markers: Intersubstitutability

A: And then we are visiting Madrid

B: mhm/(good)

A: unless we run out of money

B: well.... in that case you can always use your credit card (you know).

- 
- ▶ Pragmatic markers have three variables that determine their function in speech:
 1. The prosodic contour
 2. The position in the tone group
 3. Their role in adaptive management

(Romero-Trillo 2015a, 2015b)

- Acategorical items: those markers that do not have an original grammatical ascription, e.g. [@:m], m, mhmm, etc.
- Lexical items: those markers whose original category is that of lexical items, e.g. listen, well, good, fine, etc.
- Lexical composites: those markers that are phrases composed of minimally one lexical item, e.g. I mean, you know, the thing is, etc.

(Romero-Trillo 2001)

The discursive perspective:

Study of the markers within the structure of discourse units as a dynamic process, e.g. Schiffрин (1987), Watts (1989), Romero-Trillo (2001), Aijmer (2002), Torgersen et al. (2011), Buysse (2012), or Vaez Dalili and Vahid Dastjerdi (2013).

The pragmatic perspective

Study of the relationship between pragmatic markers and intended meaning, e.g. Brinton (1996), Blakemore (2002), Fischer (2006), Aijmer and Simon-Vandenbergen (2006), Norrick (2009), Romero-Trillo (2012a), or Blakemore and Gallai (2014)



Adaptive management perspective

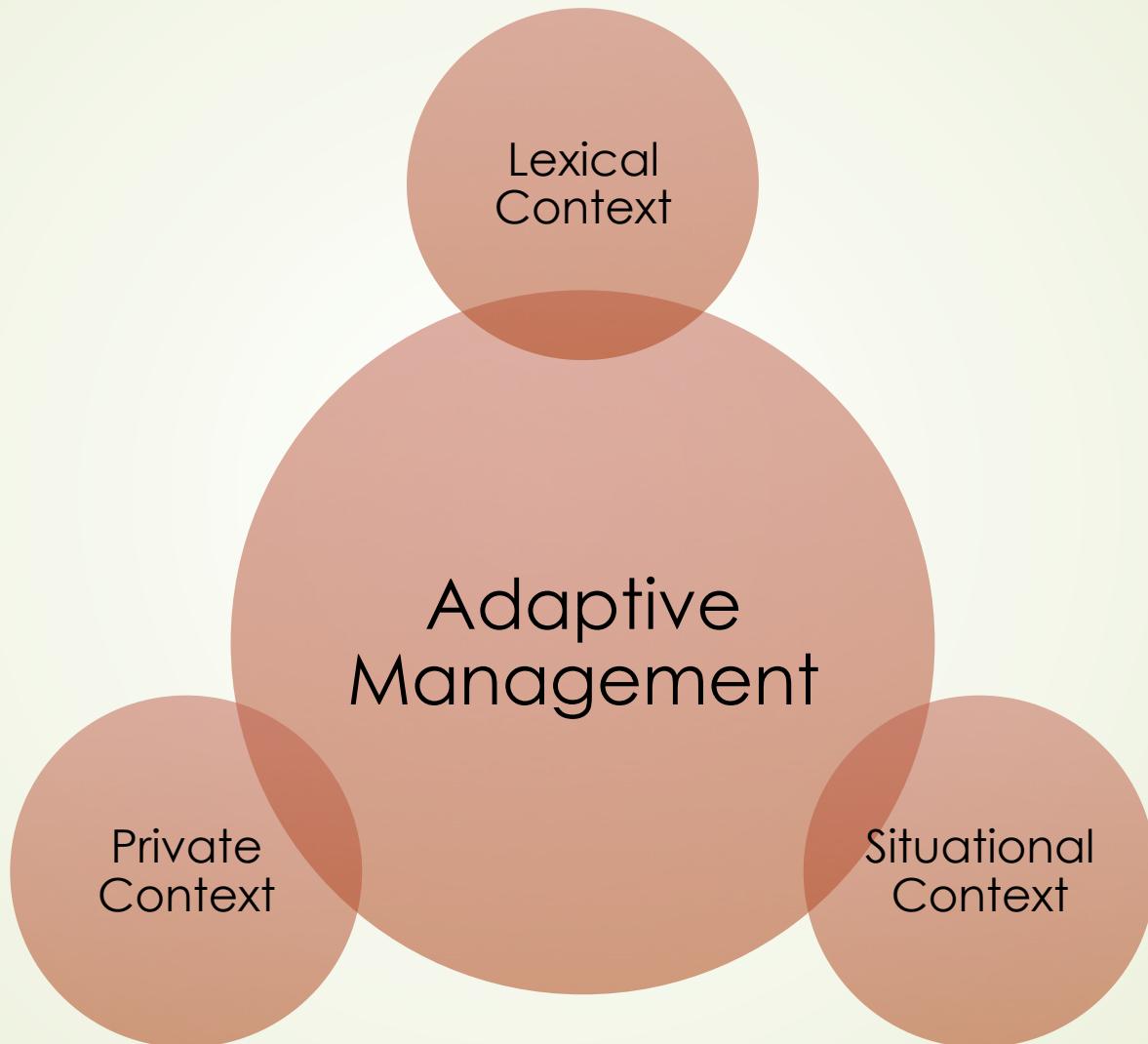
Romero-Trillo (2007) proposed this third approach to describe how meaning is construed at different cognitive levels, and as a heuristics to understand the behaviour of pragmatic markers in liaison with contextual factors.



The study of pragmatic markers has drawn the attention of scholars in recent decades due to their multifunctional nature, their role in the pragmatic development of conversation and their pervasiveness in speech.



Adaptive Management



The three essential features of pragmatic markers

- The transformation of propositional meaning
- The communicative dimension between addresser and addressee
- The role of context in the process of adaptive management in discourse.

Prosody is an the essential component to understand the relationship of:

- pauses and pragmatic markers (Romero-Trillo 1994),
- the description of markers as prototypical elements subjected to discourse variation (Romero-Trillo 2001),
- pragmatic competence and pragmatic fossilization in language learners (Romero-Trillo 2002a).

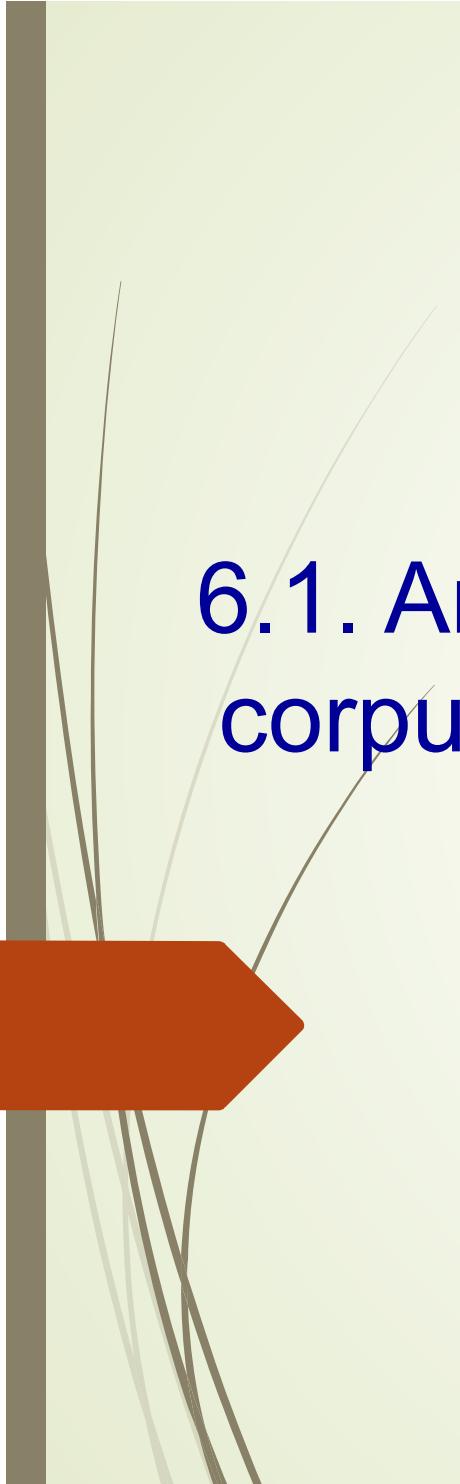


Adaptive Management is “the capacity of a speaker to adapt the grammatical, lexical and pragmatic parameters of discourse through a series of remedial elements and through a principled process, in order to comply with the demands of a new cognitive stage in a conversation via a cognitive standardized process” (Romero-Trillo 2007: 83)

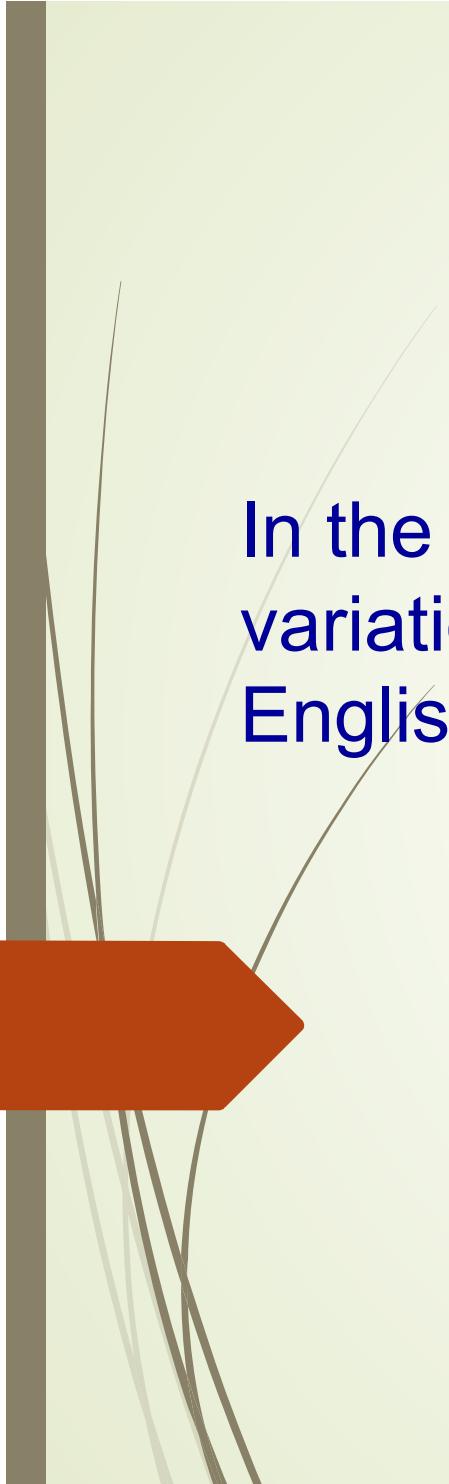
Prosody is essential in conversation structure, to understand the role of the pragmatic markers as turn-starters (Romero-Trillo 2015), or to scaffold the socio-cognitive relationship between language and context through “pragmatic punting” (Romero-Trillo 2014)

6. Current research on Prosody and Pragmatic Markers

- 6.1. Analysis of tone and position in a corpus of native speakers of English**
- 6.2. Comparison of feedback realisation by native and non-native speakers of English**
- 6.3. Endocentric and exocentric Pragmatic Markers**



6.1. Analysis of tone and position in a corpus of native speakers of English



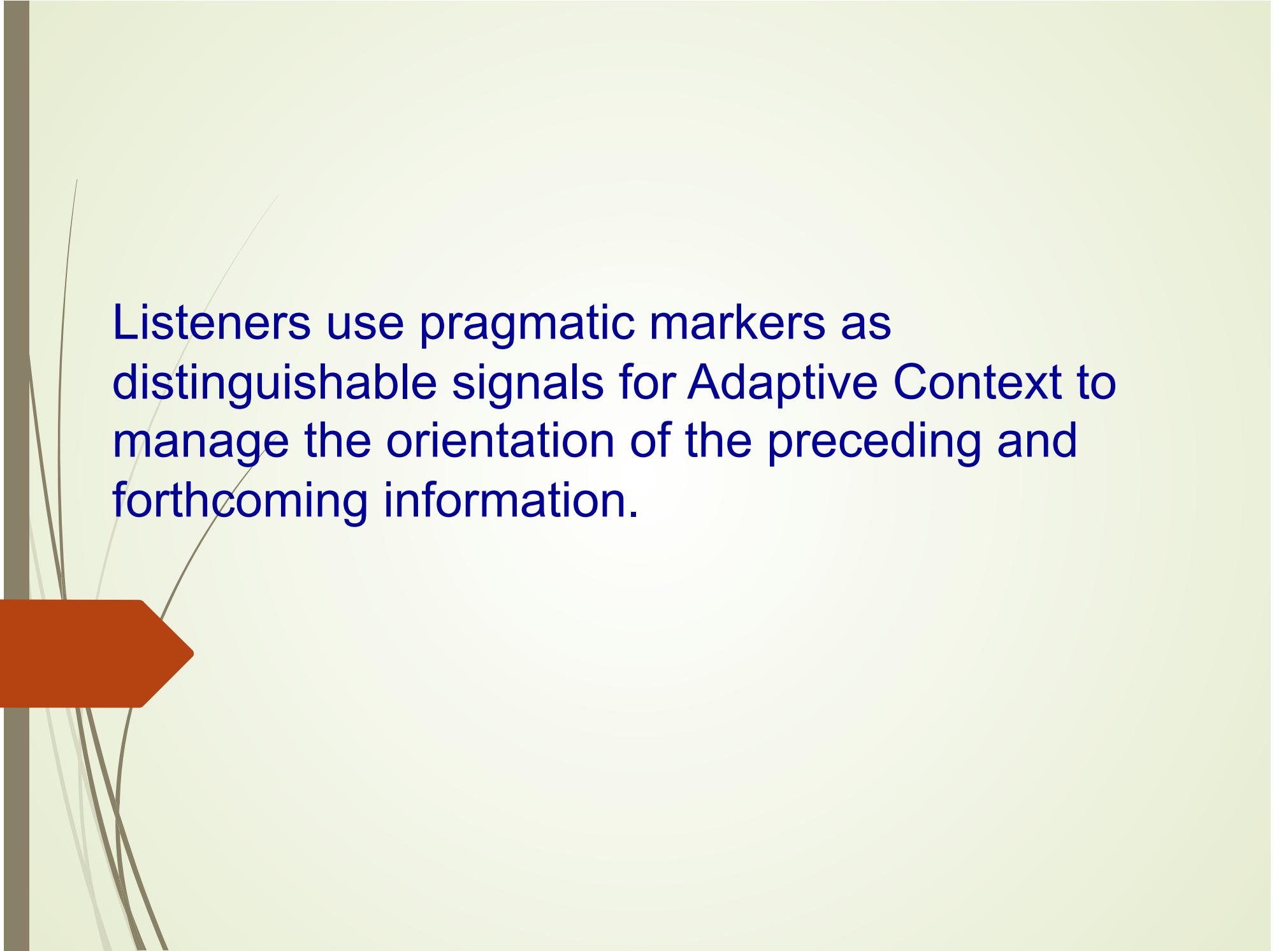
In the present study I will show the use of tone variation and position of pragmatic markers in English native speaker conversation.

Tone is possibly the most salient feature of intonation and the most clearly related to the basic meanings of communication: questions, statements, commands or vagueness.

In the case of pragmatic markers, it is very interesting to notice how our auditory perception reacts positively to the presence or absence of these pitch movements.

Position of pragmatic markers in the Tone Unit.

Why do speakers choose to use a pragmatic marker in the beginning, in the middle or at the end of a Tone Unit? Why can pragmatic markers appear as the unique and, therefore, stressed elements in a Tone Unit.



Listeners use pragmatic markers as distinguishable signals for Adaptive Context to manage the orientation of the preceding and forthcoming information.

Four possible positions in the Tone Unit:

1. Initial position has an orienting function and links the previous with the forthcoming information
2. Middle position helps the interpretation of the surrounding information
3. Final position serves to liaise the current stance of the speaker with the following unit.
4. Unique: when the pragmatic marker is the only element and behaves as any other grammatical or lexical element with tonicity values in speech (Romero-Trillo 2001).

London-Lund Corpus (Svartvik and Quirk, 1980)
Prosodically annotated transcription of face-to-face
conversations between English native speakers,
with a total of 50,000 words.



The transcription of the corpus includes the following features: Tone Unit segments and boundaries, the location of the tonic in the Tone Unit, the direction of the nuclear tone, varying lengths of pauses, and varying degrees of stress.

The transcription indicates other features like degrees of loudness and tempo (e.g. allegro, clipped, drawled), modifications in voice quality (pitch range, rhythm and tension), and some paralinguistic features.

Overlap is also indicated in the utterances of speakers.

Analysis of the pragmatic markers:

well

you know

I mean

classified according to their tone (0,1,2,3,4,5),
and their position (initial, middle, final or unique)

These three elements appear as pragmatic
markers in the majority of the cases in the corpus,
compared with their ‘canonical use’ (Romero-Trillo
2002b)

	Pragmatic Marker	Non-Pragmatic Marker	TOTAL
Well	442	60	502
You know	405	28	433
I mean	131	10	141

Chi-square test to test the significance in the use of the three elements as pragmatic markers compared with their canonical use. The result is statistically significant:

$\chi^2 = 9.25$; d.f. = 2; p=0.01

Cramer's V value=0.09

Analysis of Specificity Index (Romero-Trillo 2001) to check functional significance.

The specificity index indicates the specialization of the realization of a given function by pragmatic marker.

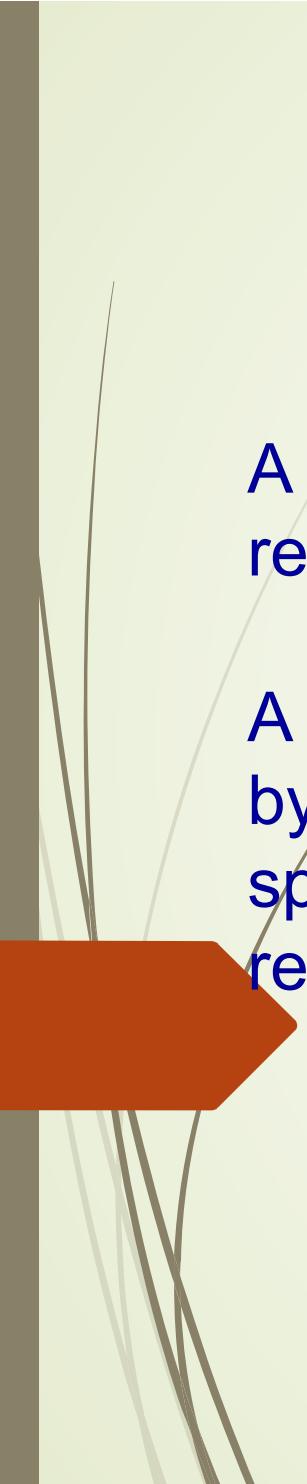
The rationale for this calculation is based upon the hypothesis that the higher the frequency with which an element realizes a single function, the higher its specificity.

No. of functions realized by the pragmatic marker

$$1 - \frac{\text{No. of functions realized by the pragmatic marker}}{\text{Overall presence of the pragmatic marker}}$$

The specificity Index ranges from 0 to 1, where 1 indicates the highest specificity and 0 the lowest.

The specificity index answers the following question: how can I be certain that a certain element prototypically realizes a certain function?



A high specificity index shows that a function can be realized by that particular element in most cases.

A low specificity indicates that the functions realized by an element are very diverse and, therefore, the speaker cannot be certain if a given function can be realized in most cases.

In the analysis of the relationship between the 11 functions realized by pragmatic markers in the London-Lund Corpus described in Romero-Trillo (2001: 535-539), the three selected elements were at the top of the specificity index out of the 52 pragmatic markers under analysis (Romero-Trillo 2001: 545):

- You know: 1.00
- You see: 0.99
- Well: 0.99



Description of tones (*Halliday 1967, 1970*)

Tone 1: falling

Tone 2: rising

Tone 3: level-rise

Tone 4: rise-fall-rise

Tone 5: fall-rise-fall

Tones 13 and 53: compound tones

(1+3 and 5+3)

Tone 0: (*Romero-Trillo 2001*)



Analysis of Tones

The pragmatic marker “well” appears 442 times in the corpus, and it is realized with the six tones, as the examples below indicate:

Tone 0

A 11 be[^]cause I !have to adv=ise# . /

A 21 ((a)) ^couple of people who are !d\oing [dhi: @] /

B 11 **well** ^what you :d\o# /

B 12 ^is to - - ^this is sort of be:tween the :tw\o of /

B 12 _us#

Tone 1

A 11 *^y=eah#*

/

A 11 ^=I {^s=ee#}# -

/

A 11 ^w\ell# .

/

A 11 [@:m . dhi dhi] the " ^{\{ \backslash other thing \}} \is you s/ee# /

A 11 that . ^if . you !h\aven't _got _time#

Tone 2

A 11 1*^not. W\est* Italy# . /

B 11 1^w/ell# /

B 11 1^Rome was sug:g\ested# . /

B 11 1and ^I !p\ersonally would go for R/ome# /

B 11 1[m?@ @:m] ^Mallet for some reason is :fighting

Tone 3

B 11 2 or ^s\enior_lecturer# --- /

B 11 2 ^I thought it was r\[eader# --- /

A 11 2 ^w=ell# /

A 11 2 he " ^certainly can't be ((r\[eader]))# - /

A 12 2 ^[@:] ^otherwise they :wouldn't be :asking for .

Tone 4

- B 11 ^just_needs_more !!m\oney# /
B 11 ^that's /all# /
B 11 ^w\\ell# - /
B 21 ^((lot of 'people)) 'have to /
A 11 *^y\es#*

Tone 5

A 11 ^should there not :b\b/e one# -- /

a 20 why. /

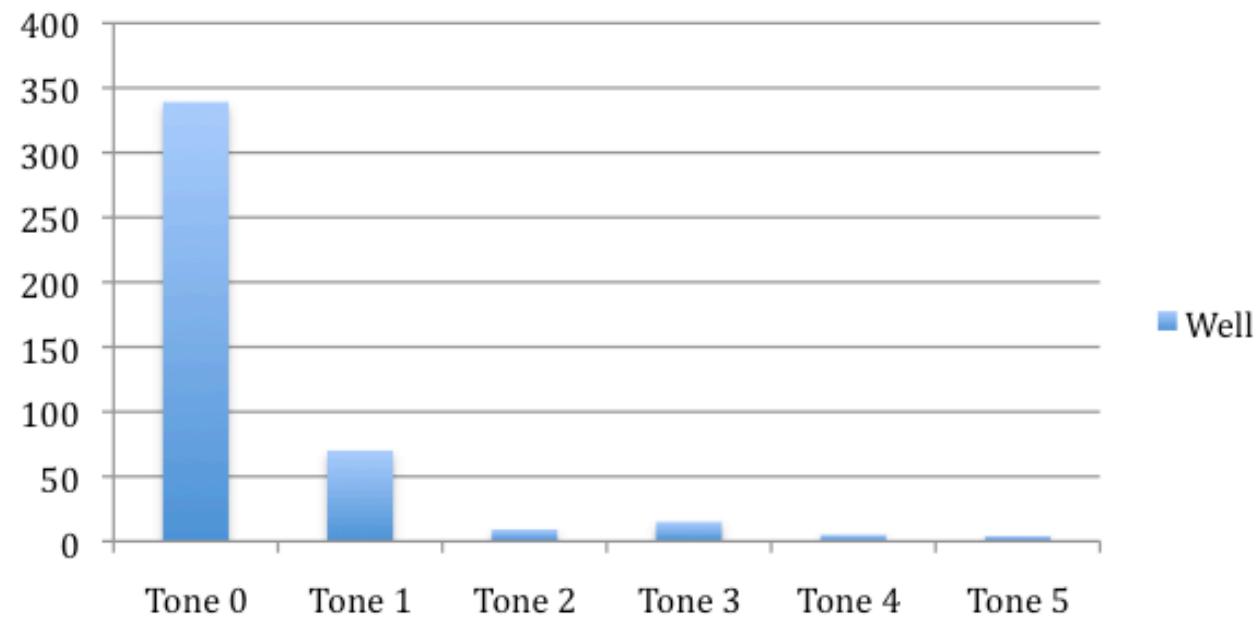
A 11 ^w/\ell\#\/. /

A 11 I ^mean they're !f\oreigners# /

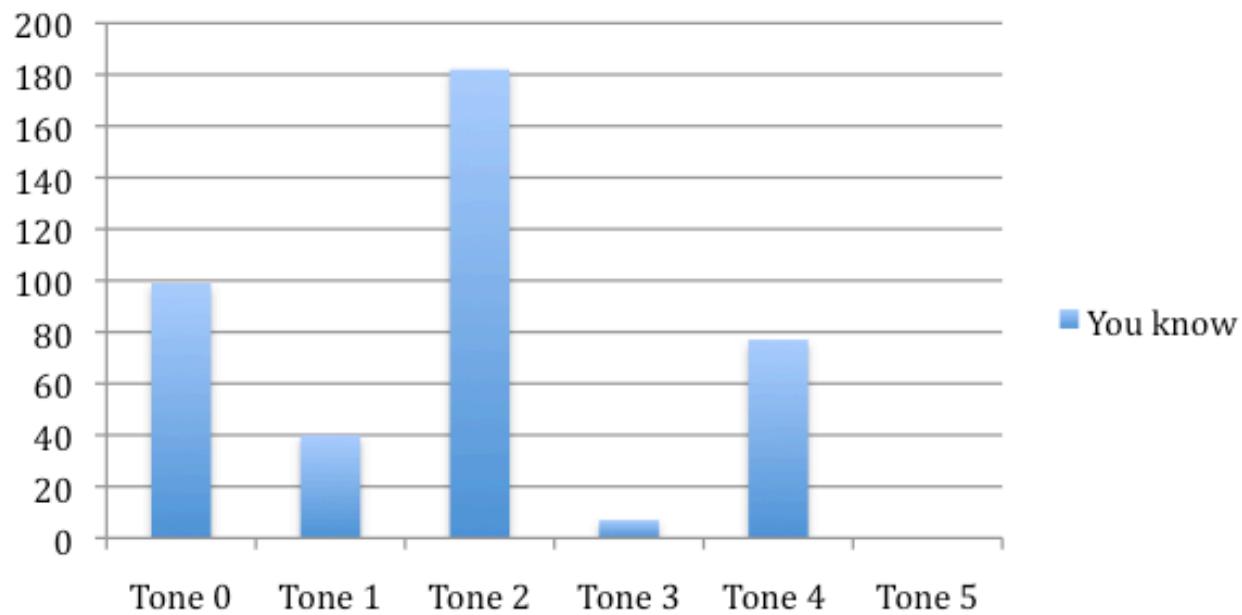
B 20 (- laughs)

Tone realisation

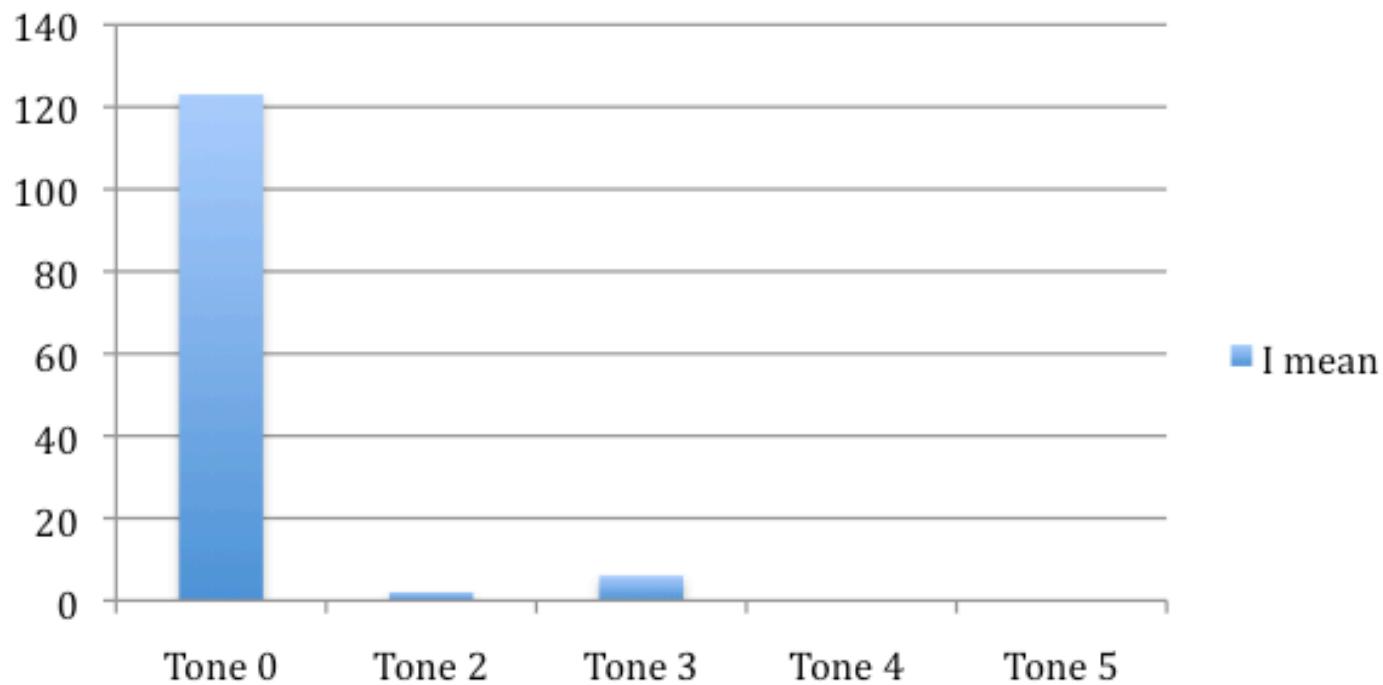
Well



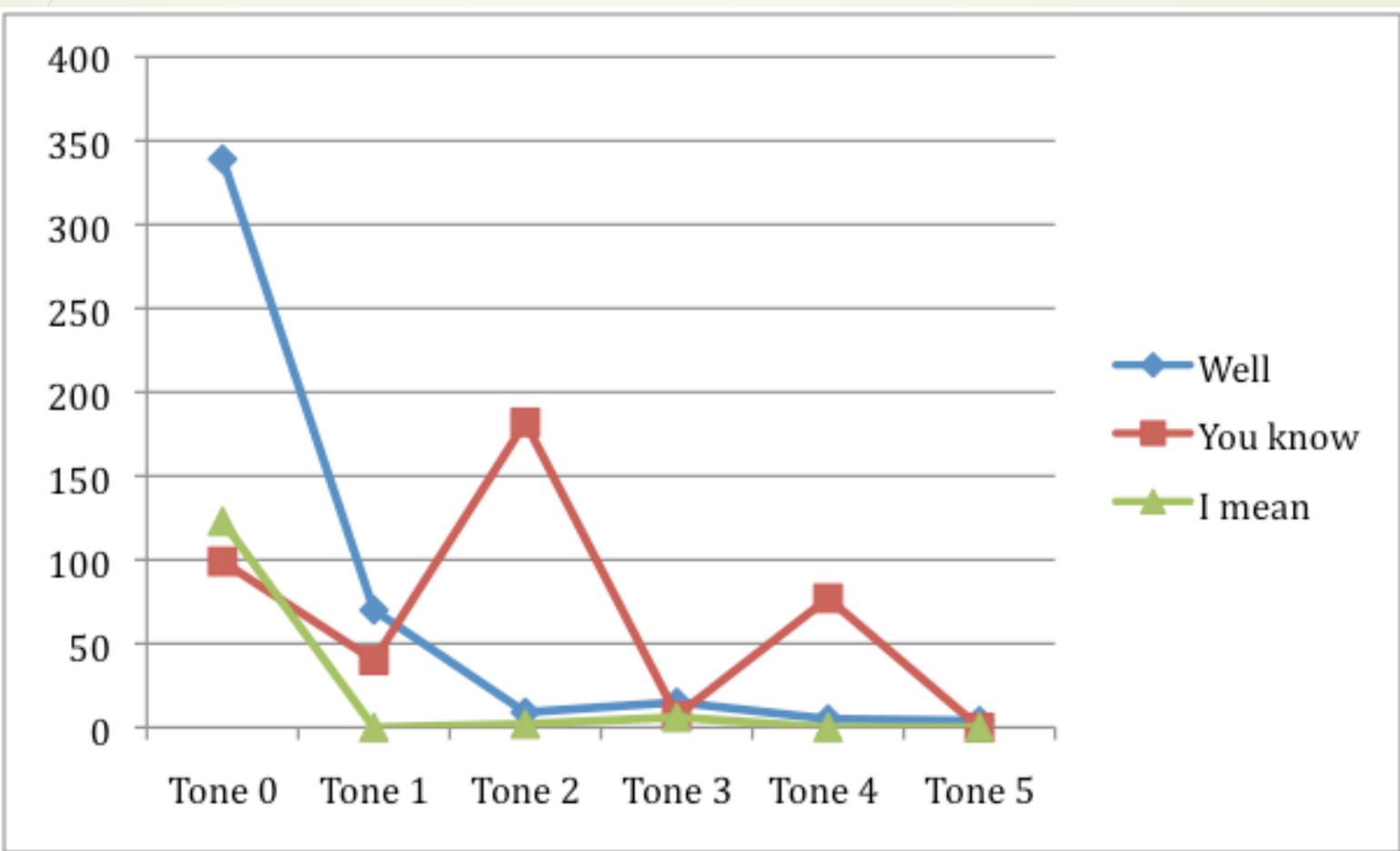
You know

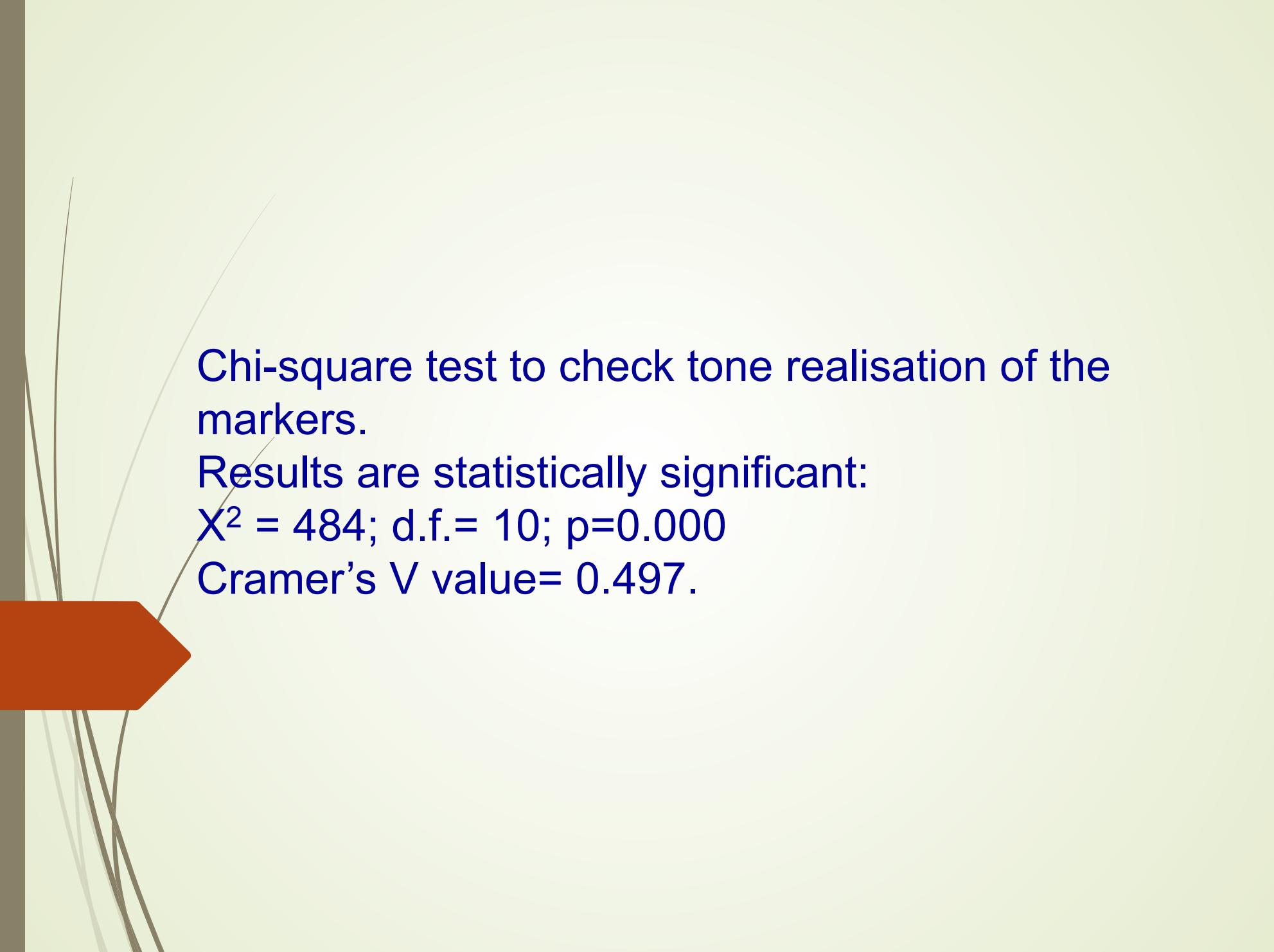


I mean



Results





Chi-square test to check tone realisation of the markers.

Results are statistically significant:

$\chi^2 = 484$; d.f.= 10; p=0.000

Cramer's V value= 0.497.



Tone realisation at the start of the turn

	Tone 0	Tone 1	Tone 3	Tone 4	TOTAL
WELL	139	19	4	3	165
YOU KNOW	2	0	0	0	2
I MEAN	1	0	2	0	3
TOTAL	142	19	6	3	170

Start of the turn is significantly realised by tone 0
 $\chi^2 = 36.2$; d.f. = 6; p = 0.000;
Cramer's V value=0.32

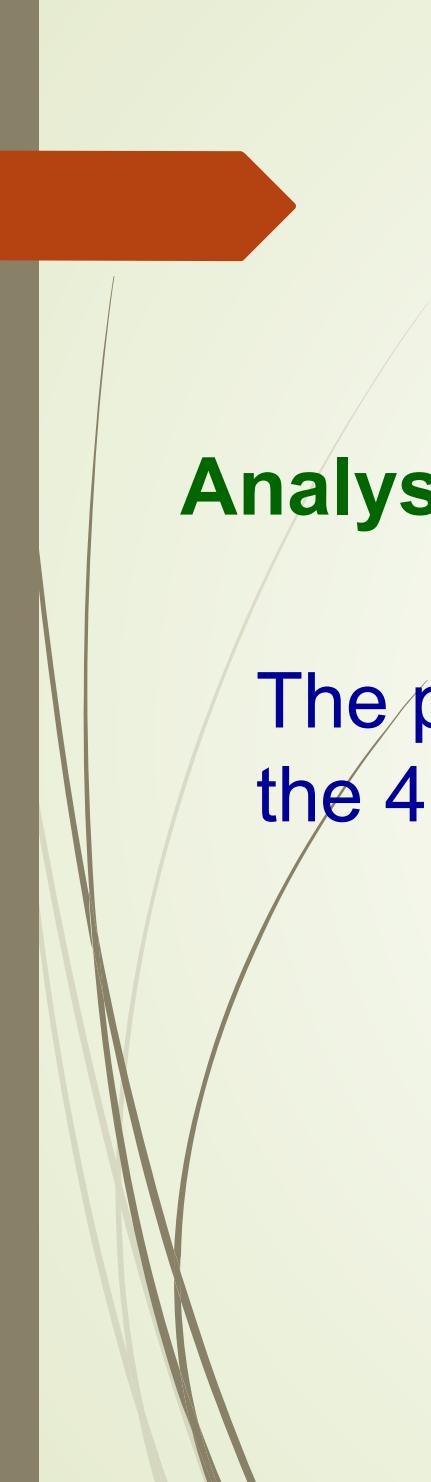
Conclusions:

Pragmatic markers have specialised tone realisations

There is a clear preference for Tone 0 in the markers

There is a clear preference for Tone 0 in turn initial position.

Confirmation of the importance of intonation contours as distinct factors in the study and classification of the pragmatic markers



Analysis of Position

The pragmatic marker “well” can appear in the 4 positions: unique, initial, middle, final



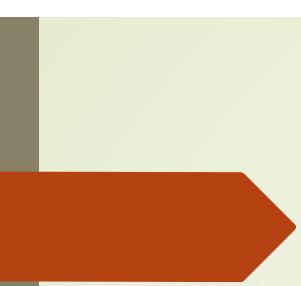
Initial position

- B 11 I ^mean a !man coming from well say from . :Batley /
B 11 to :Br\ighton# /
B 11 ((well then)) there`d ^be a !r\eason probably# /
B 11 ((for)) . ^wanting to make !th\at ch/ange# /
B 11 *^w\ouldn't there#*



Middle position

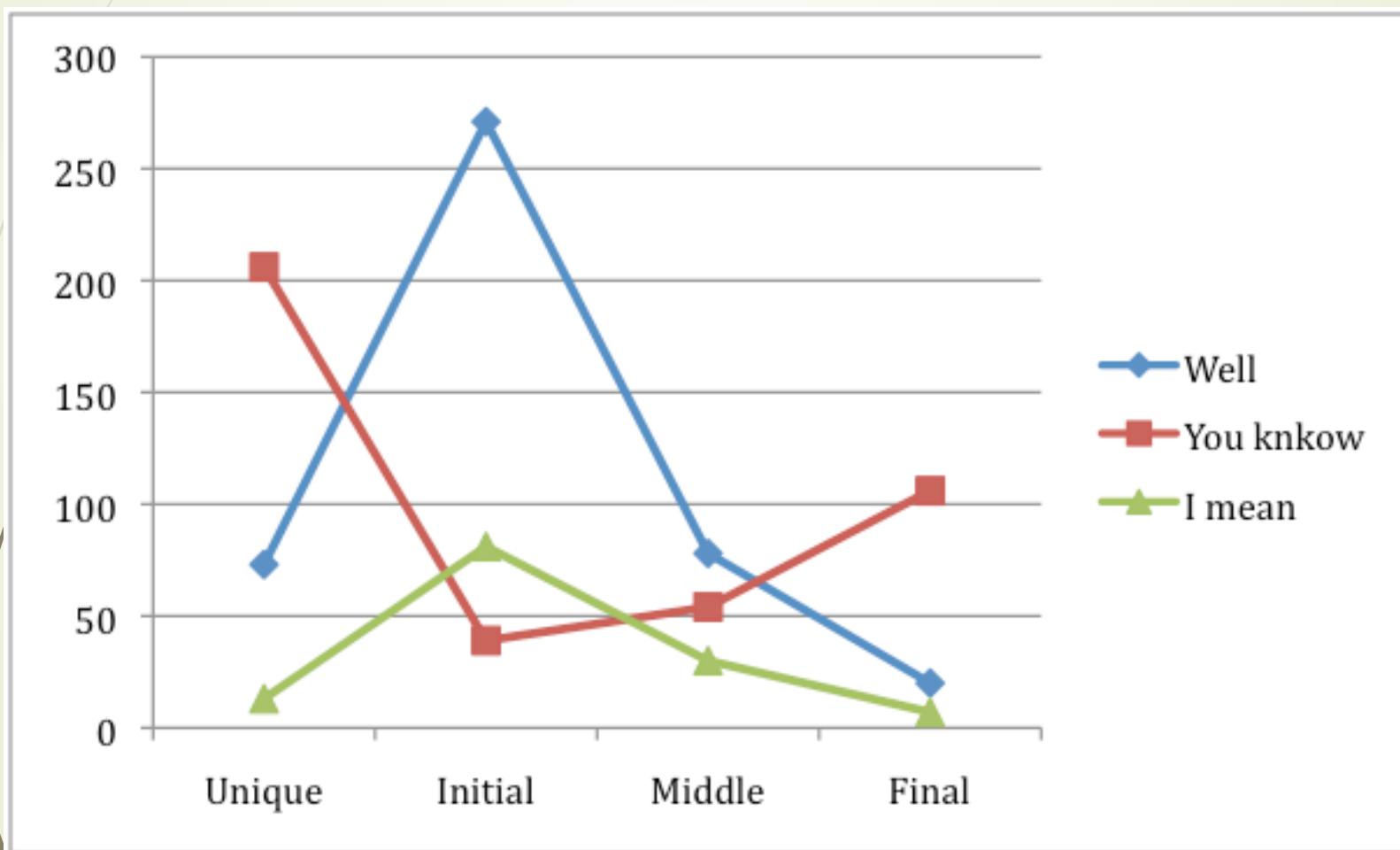
- B 11 for ^half a cr/own# -- /
B 12 ((^oh well are)) . are they ^all !!r\ight# /
B 11 ((he said)) ^well ((he said)) I supp/ose _so# /
- B 11 ((I mean)) do you ^guaran"!t\ee them# /
B 11 he said ^oh n/\o#



Final position

- A 11 they ^can't - _make !!r\efferences you s/ee# /
b 20 no . /
A 12 be^cause [@:m] - ^w\ell# /
A 11 ^\obviously# /
A 11 ^television is :something which :goes !p\ast#

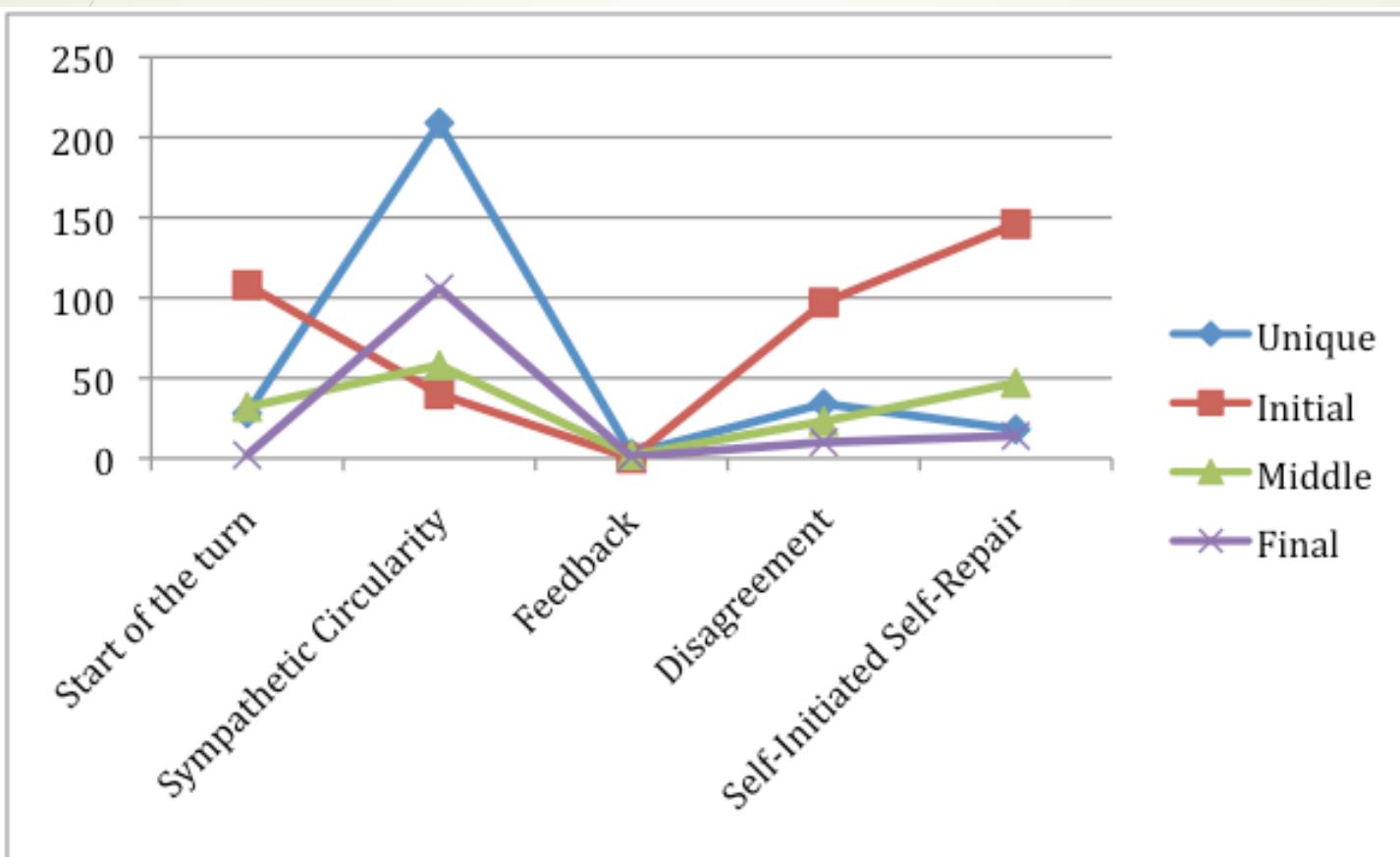
Global distribution in the corpus





Chi-square test shows that the different positions of the markers in the tone group are statistically significant:
 $\chi^2 = 333.9199$; d.f.=6; $p < 0.00001$;
Cramer's V value= 0.41

Position of markers with different functions



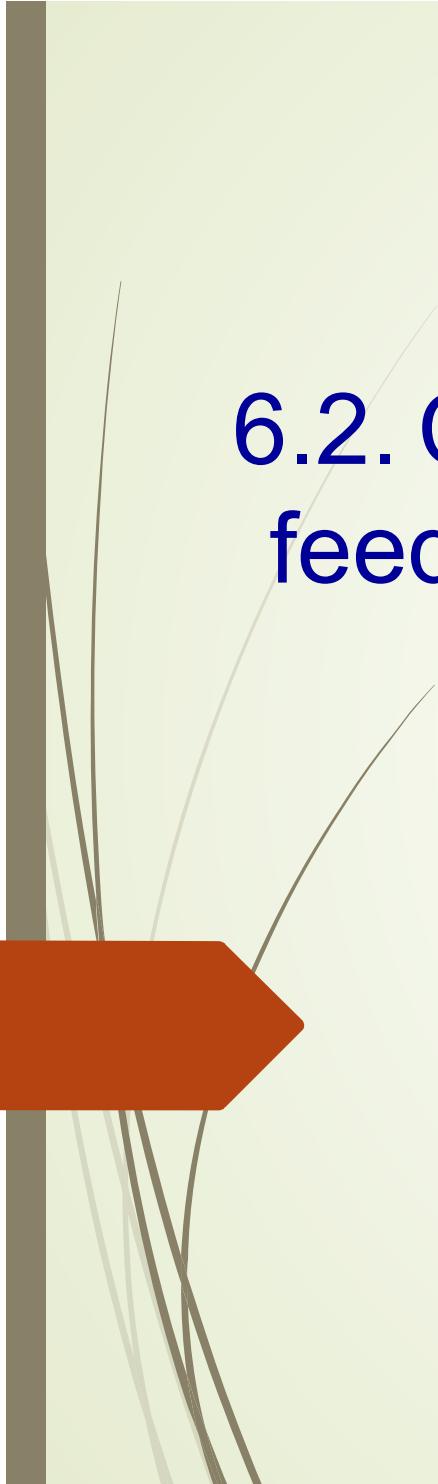


Global position of markers at the start of the turn

Start of the turn

	Unique	Initial	Middle	Final	TOTAL
Well	24	107	32	2	165
You know	1	1	0	0	2
I mean	3	0	0	0	3
TOTAL	28	108	32	2	170

Start of the turn is significantly realised by ‘well’
Chi-square test: $X^2 = 17.5$; d.f.= 6; p= 0.008;
Cramer’s V value= 0.22



6.2. Comparison of the realisation of feedback by native and non-native speakers of English



Feedback can be defined as the use of 'linguistic elements to show that the listener is following the ideas expressed in the message' (Romero-Trillo 2001: 536).



Feedback is essential to maintain the cognitive rhythm of a conversation without disruption.



Data description: *Louvain International Database of Spoken English Interlanguage (LINDSEI)*
Interviewers: native speakers of English.

Recording procedure:

- warming-up activity,
- informal discussion on a personal experience
- picture description.

The Spanish section: 50 interviews
(84,749 words)



Description of the sub-corpus:

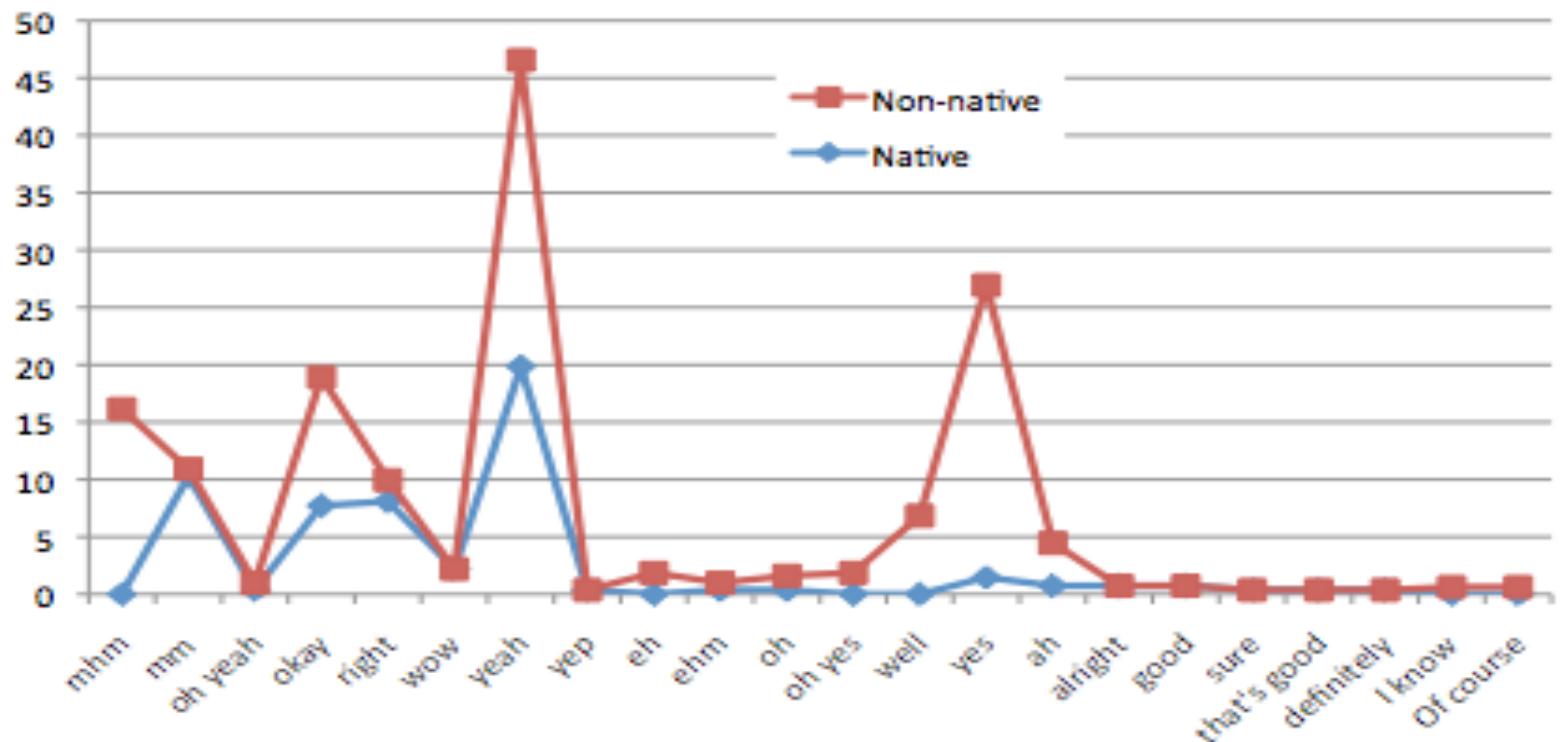
5 conversations between native and non-native female speakers of English (university students)



Description of the Pragmatic Markers in the corpus

- Native Pragmatic Markers= 272
- Non-native Pragmatic Markers= 161

Realisation of Pragmatic Markers





Acoustic Analysis

(Praat 6.0.16)



Description of tones (*Halliday 1967, 1970*)

Tone 1: falling

Tone 2: rising

Tone 3: level-rise

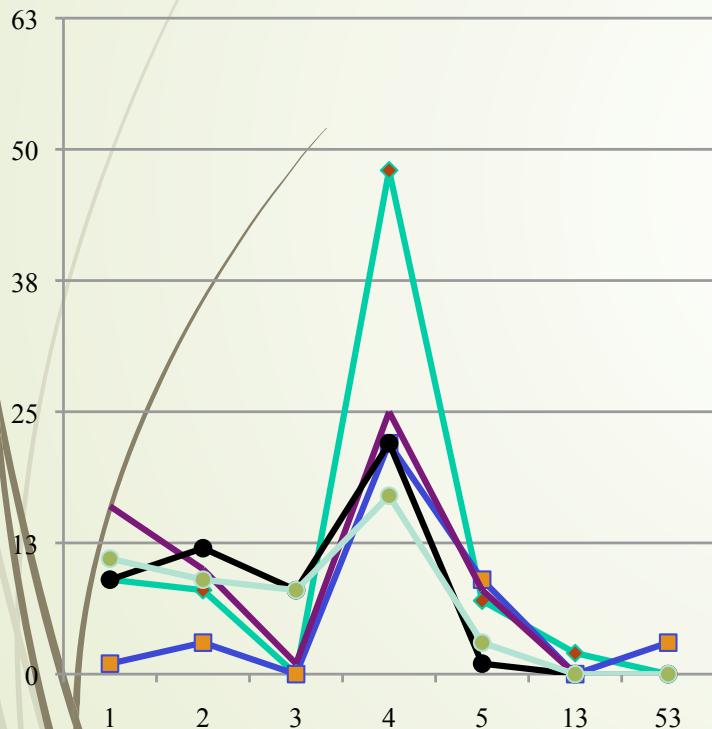
Tone 4: rise-fall-rise

Tone 5: fall-rise-fall

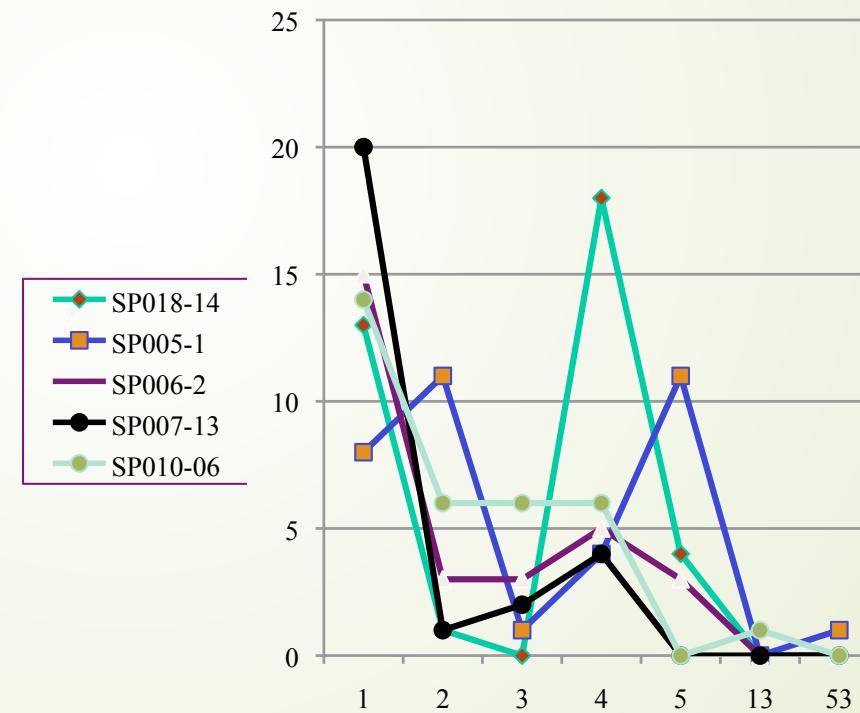
Tones 13 and 53: compound tones
(1+3 and 5+3)

Tone Realisation

Natives



Non-Natives





Hypothesis 1

Non-native speakers are more assertive in their use of feedback than native speakers



Data analysis

Initial pitch:

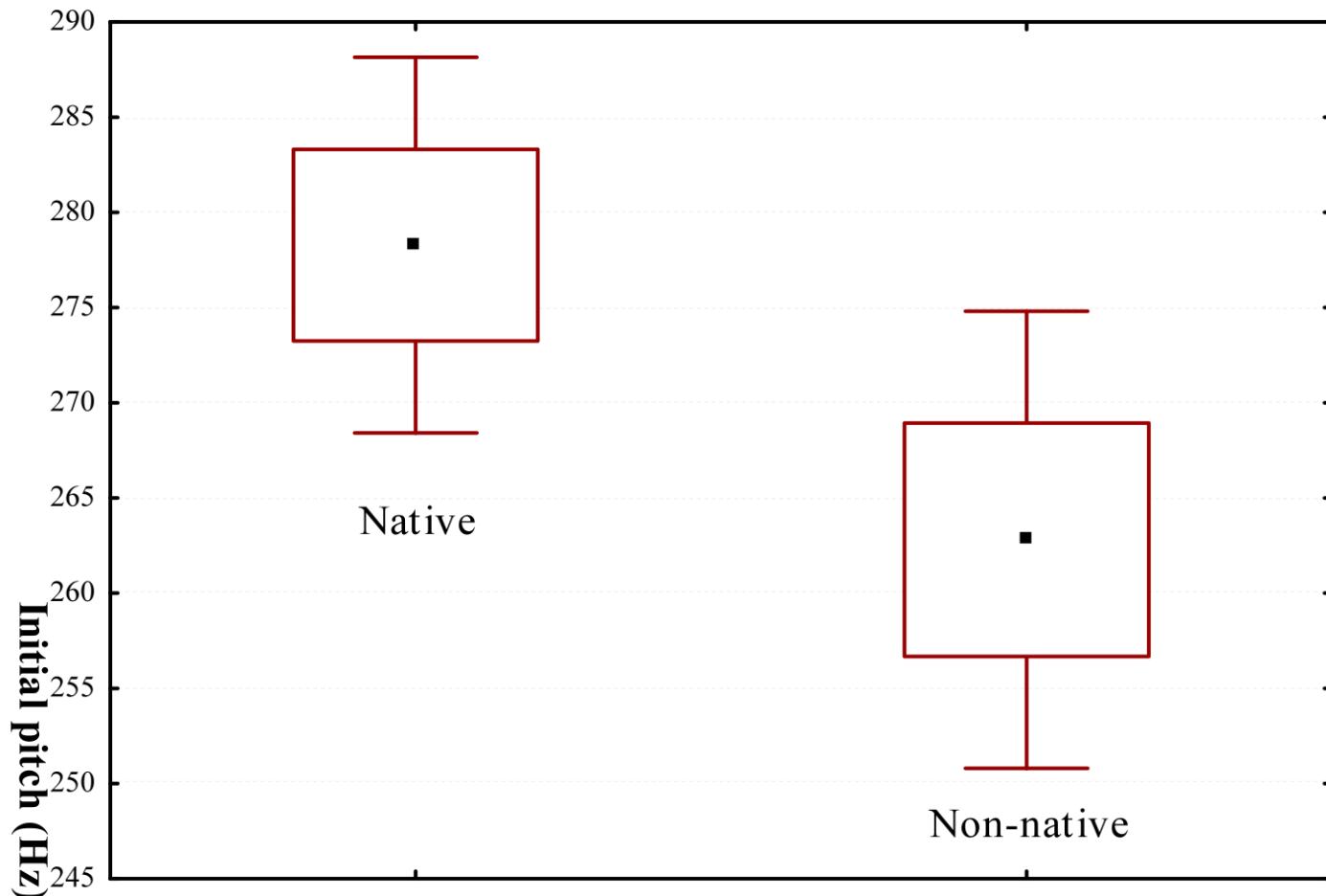
Mean for Pragmatic Markers in Feedback

- native speakers: 277.88 Hz
- non-native speakers: 262.80 Hz

T-test has an almost significant result
between both groups ($t=1.73$; $p=0.060$)

Initial pitch

■ Mean □ Mean \pm SE ┤ Mean \pm 1,96*SE



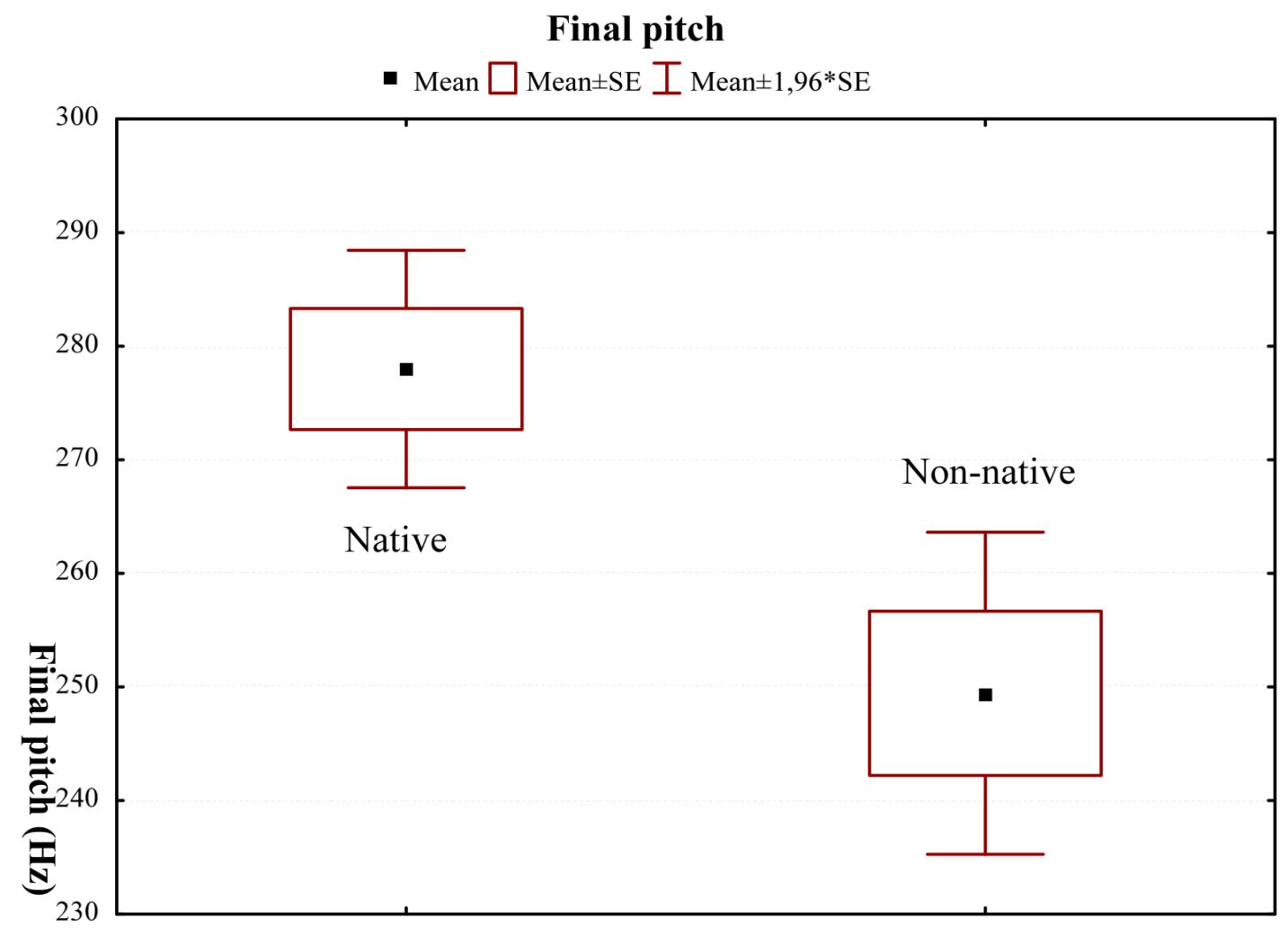


Final pitch:

Mean for Pragmatic Markers in Feedback

- native speakers: 277.98 Hz
- non-native speakers: 249.44 Hz

T-test shows a significant difference
($t= 3.19$; $p=0.001$)





Results

Difference in the pitch level in the use of Pragmatic Markers in the native and non-native group.

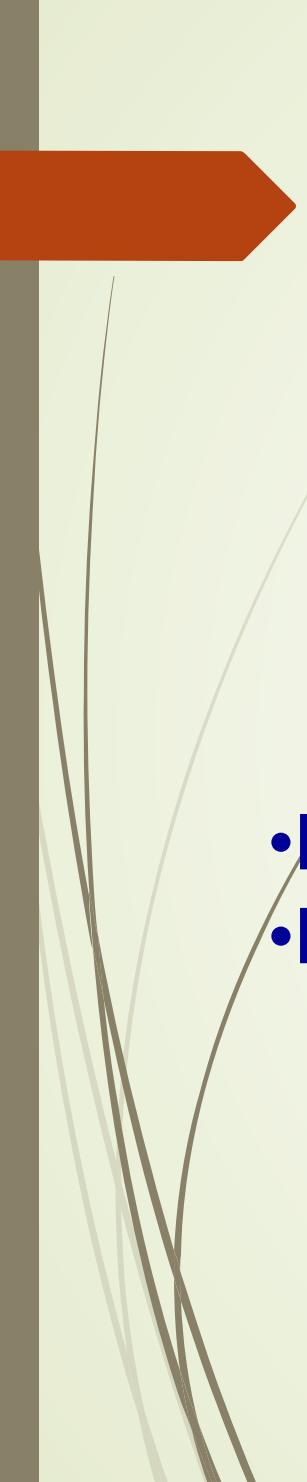
The final pitch is higher in the case of the native group with very significant results.

This is possibly the reason why non-native speakers are perceived to be more assertive in use of feedback than native speakers with a prosodic pattern similar to statements.



Hypothesis 2

The acoustic difference in the initial and final pitch values in both groups imply a blurring of the qualitative value of the tones for non-native speakers.

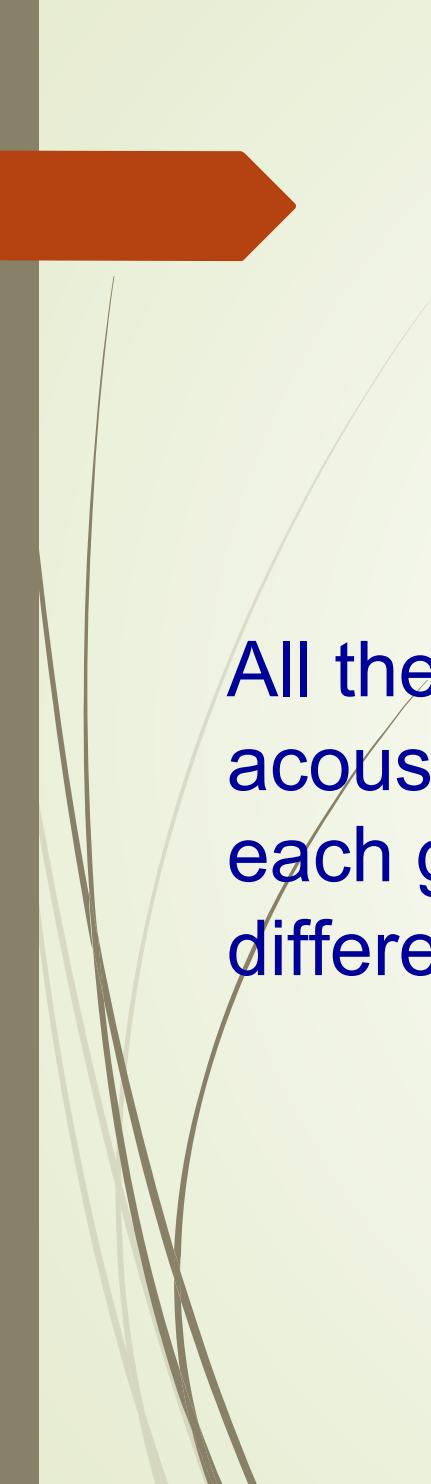


Analysis of pitch range, i.e. variation between initial and final pitch measures

Results in both groups are very similar:

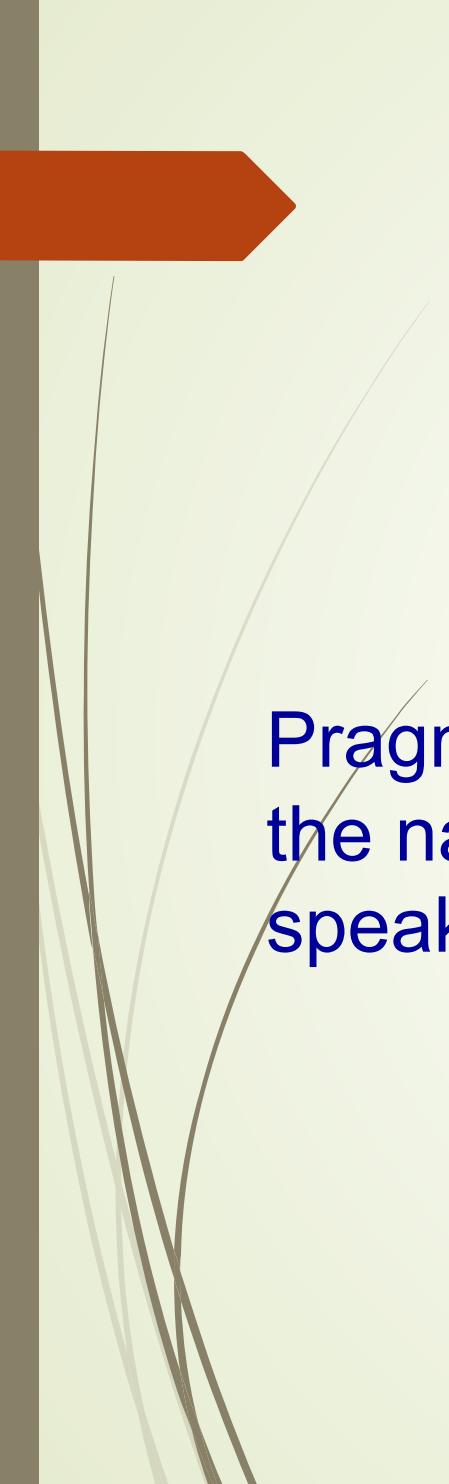
- Native speakers:** mean value 65.74 Hz
- Non-native speakers:** mean value 66.18 Hz

Non-significant statistical differences
 $t=0.17$; $p=0.95$



Results

All the tone contours (rise, fall, etc...) are acoustically differentiated and proportional in each group, and the tones can be audibly differentiated in the non-native speakers.



Hypothesis 3

Pragmatic Markers have a longer duration in the native speakers than in the non-native speakers.



Data Analysis

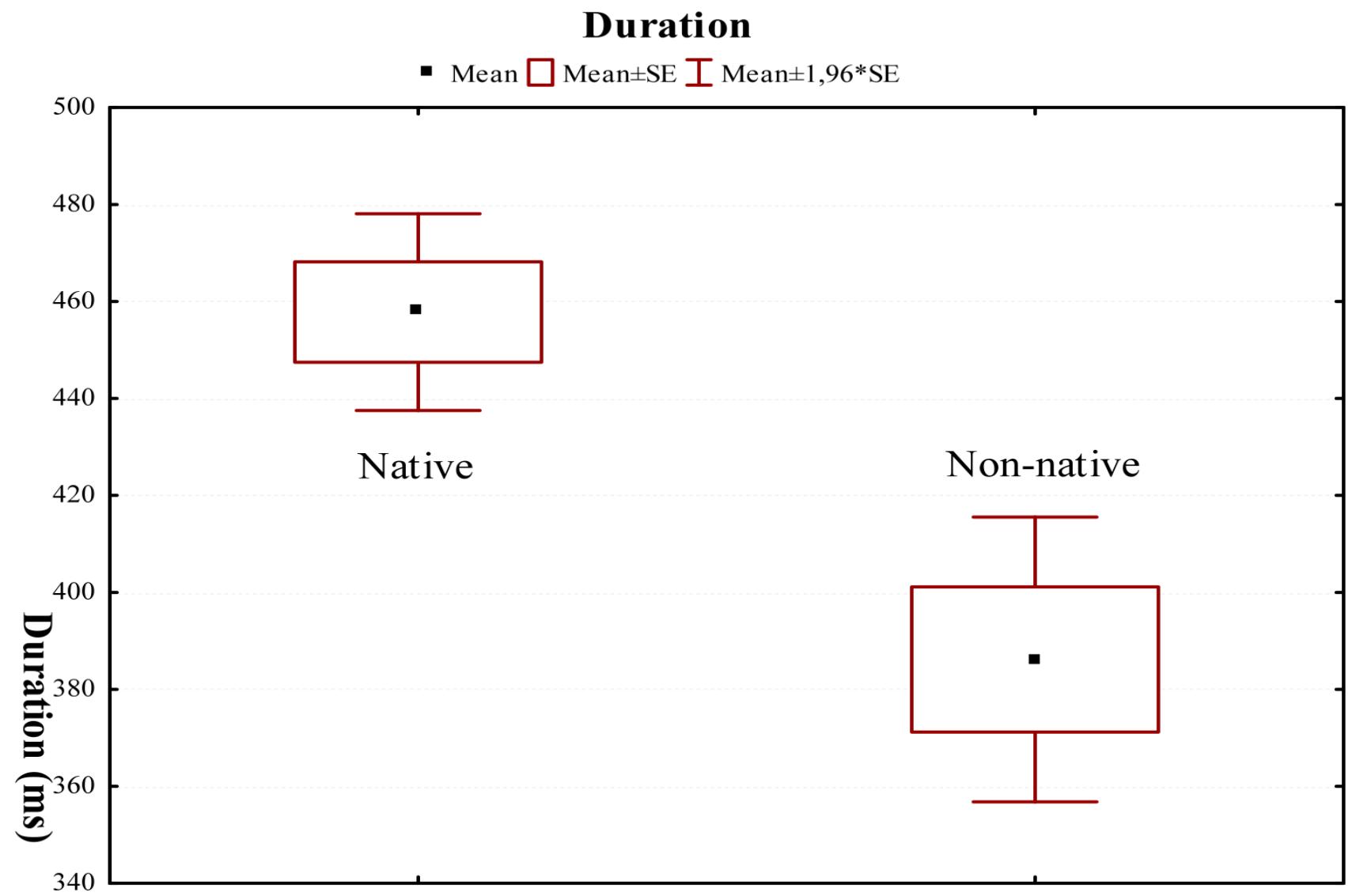
Native speakers:

mean duration 457.81 ms

Non-native speakers:

mean duration 386.16 ms

T-test shows a significant statistical result
 $t=2.78; p=0.005$





Results

The duration of the pragmatic markers is longer
in the native than in the non-native speakers



Conclusions

1. Native speakers use longer and higher pitched Pragmatic Markers in comparison with non-natives
2. Feedback may result pragmatically unclear as pitch and duration deviate from the typical native use
3. Non-native speakers' prosodic use of feedback is similar to statements
4. Pragmatic markers are key elements to understand pragmatic fossilisation

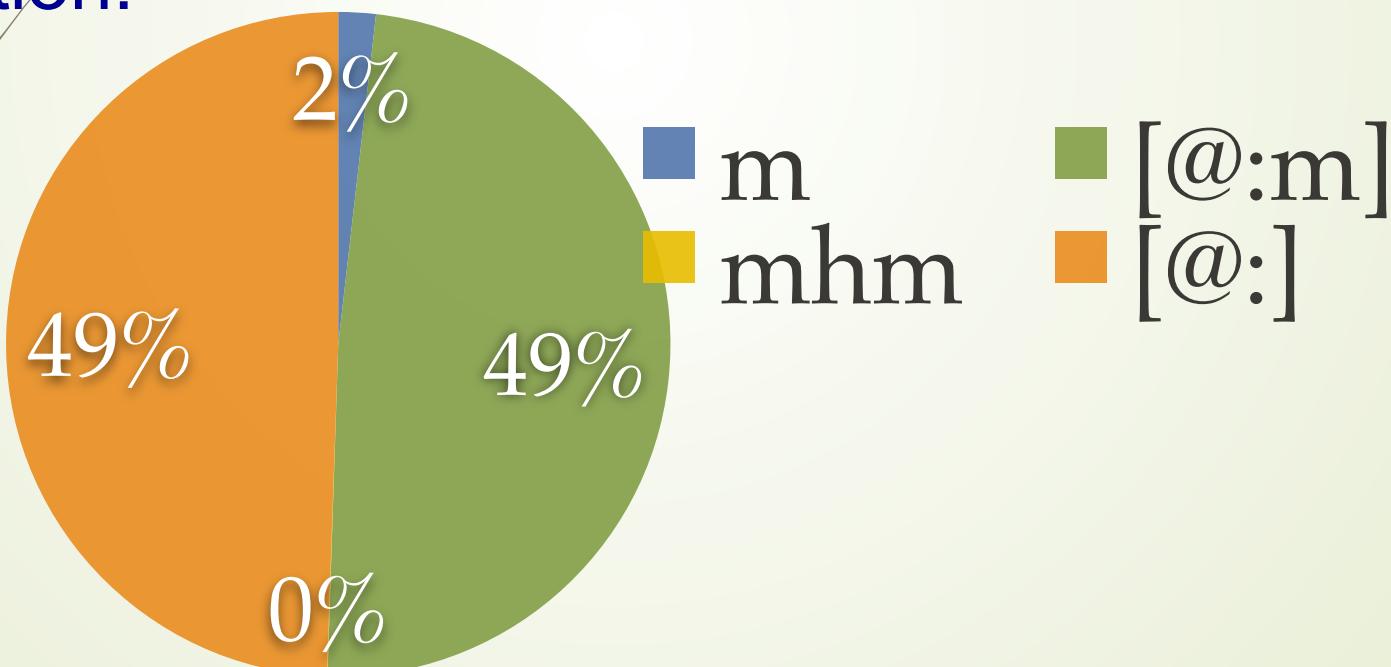
6.3. Pragmatic markers realising endocentric and exocentric functions

Adaptive management and pragmatic markers:

- ‘Endocentric function’: it orients the addressee to previously agreed common ground with the addresser.-
 - ‘Exocentric function’: it orients the addressee towards an alternative meaning outside the speaker-hearer cognitive agreed realm.
- (Romero-Trillo 2015c)

A categorical markers realising the endocentric function

In the overall computation of this function in the spoken section of the London-Lund Corpus (50,000 words), the 5,098 acategorical pragmatic markers have an endocentric function with the following distribution:



Example 1: inside a turn

1 1 50 7910 1 2 A 14 *[dhi] the ^other the ^other the ^other* the
^other/

1 1 50 7910 1 1 A 14 man# . /

1 1 50 7920 1 1 A 12 [@:m] - ((who ^[rou?] 3 to 4 sylls)) I
^th\ought# /

1 1 51 7930 1 1 A 11 was ^going to get you :w\ild# - /

1 1 51 7940 1 1 A 11 was ^P\otter# - -

Example 2: inside a turn

1 1 4 500 1 1 B 11 ^you give* them the :\\ot {^you s=ee#}#
. /

1 1 4 510 1 1 B 11 ^that`s the **p/oint#** /

1 1 4 520 1 1 B 11 ((and)) ^make sure that there`s :sV
omething# /

1 1 4 530 1 1 B 11 [@:] ^fairly :c\\losely rel/ated# /

1 1 4 540 1 1 A 11 *^=[m]#*

Example 5: across turns

1 1 5 710 1 2 A 11 [@:m] - - De^laney`s the Ca:n\adian . st/
udent /

1 1 5 710 1 1 A 11 {re^m/ember#}# /

1 1 5 720 1 1 A 11 ^last y/ear# /

1 1 5 730 1 1 B 11 ^[mh/m]# /

1 1 5 740 1 1 A 11 [@:] he ^should have had his . dissertation
\\in# /

1 1 5 750 1 1 A 11 ((at the)) be^ginning of M\\ay# .

Summary

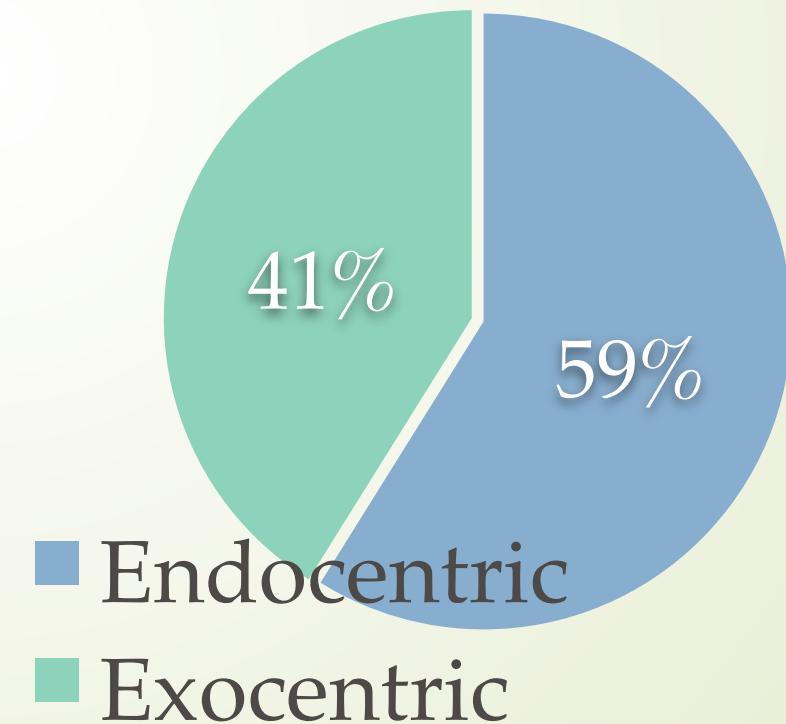
A categorical pragmatic markers typically realise the endocentric function with tone 0, in most cases following a turn with a rising tone.



**Lexical items and composites as
endocentric and exocentric markers:
well, you know, I mean**

Endocentric function: 580 markers

Exocentric function: 405 markers



Example of endocentric function

1 1 13 2090 1 1 B 11 [@] ^I shall g=et# /
1 1 13 2100 1 1 B 11 [:@] ^scripts from :ten assistant ex:\aminers# /
1 1 13 2110 1 1 B 11 which will ^mean . a !couple of days` w\ork# /
1 1 13 2120 1 2 B 11 ^I shall !get those on about the :eighth or ((the))/
1 1 13 2120 1 1 B 11 ":ninth of Jul/y# . /
1 1 13 2130 1 2 B 11 ((^well they`ll be)) !\out of the _way qu/ickly /
1 1 13 2130 1 1 B 11 {"you s/ee#}#
1 1 14 2150 1 1 A 11 *^y\eah#* - /

Endocentric

400

300

200

100

Tone 0

Tone 1

Tone 2

Tone 3

Tone 4

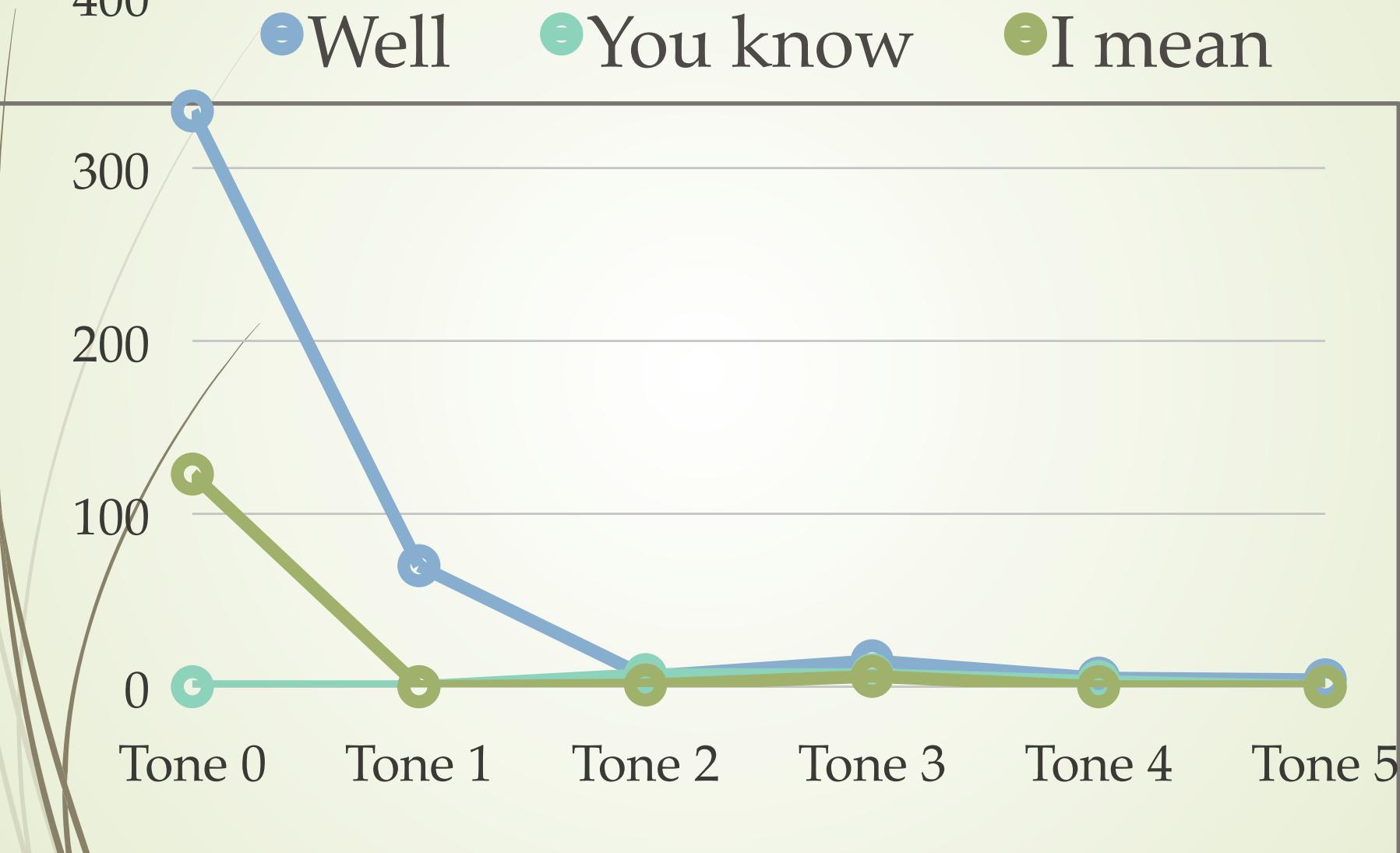
Tone 5

Well

You know

I mean

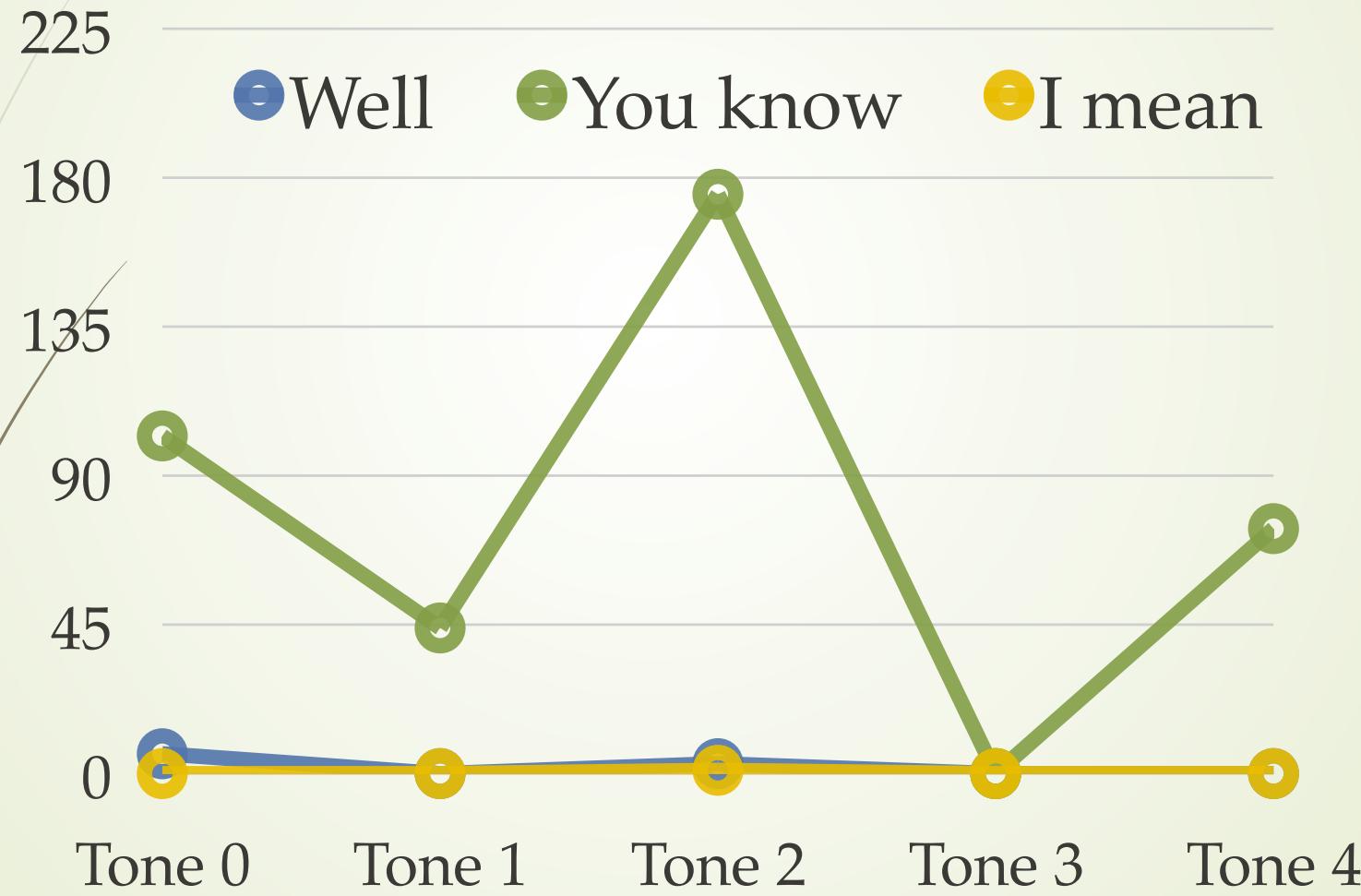
0



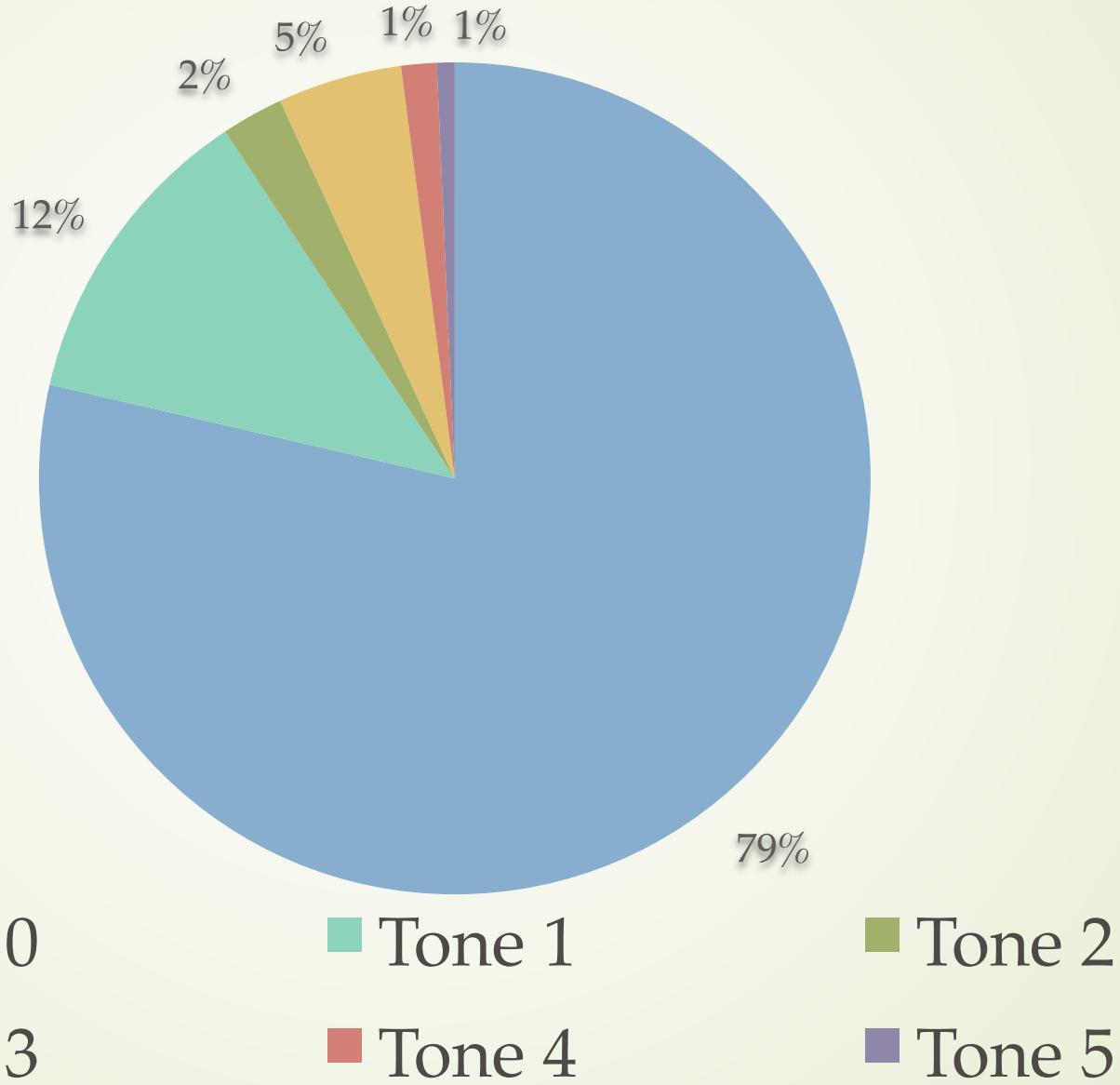
Example of Exocentric function

1 2a 2011960 1 1 A	11 2^well it's a :long !p\eriod#	/
1 2a 2011970 1 1 A	11 2^ you kn/ow#	/
1 2a 2011980 1 1 B	11 2^y\es# -	/
1 2a 2011990 1 1 A	11 2you ^kn=ow#	/
1 2a 2012000 1 1 A	11 2[i] it's it's it's ^f\ine#	/
1 2a 2012010 1 1 A	11 2to ^get the likes of :S\ealyham#	

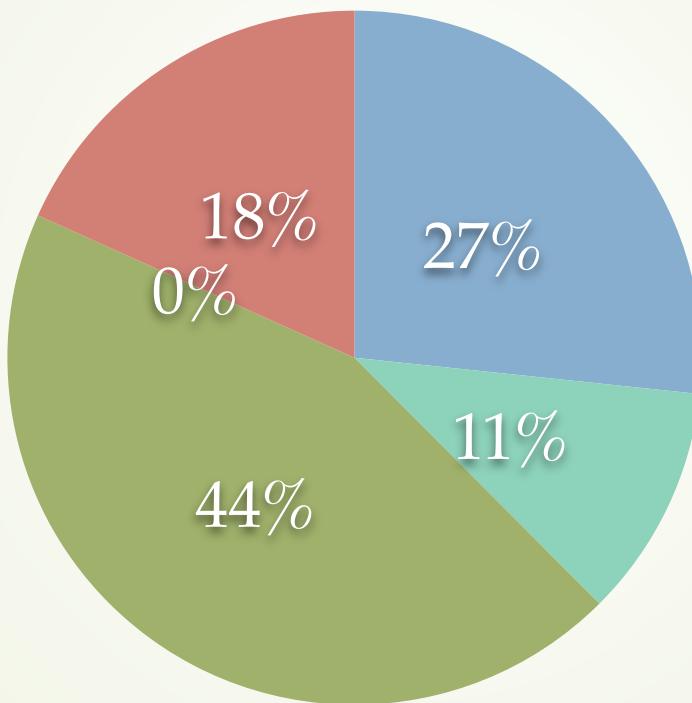
Exocentric



Endocentric



Exocentric



Tone 0

Tone 1

Tone 2

Tone 3

Tone 4

Tone distribution of endocentric and exocentric pragmatic markers shows a statistically significant difference

Chi-square test= 429; d.f.=5; p=0.000

Cramer's V test=0.66

Endocentric function is mainly realised with Tone 0 in all categories of pragmatic markers: acategorical, lexical and lexical composites

Exocentric pragmatic markers are mainly realised with Tone 2.

Conclusion:

**Prosody needs to be implemented in
pragmatics research.**



Thank you

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