

Pero, Bueno, Pues

TESTING NEW METHODOLOGICAL APPROACHES FOR
THE IDENTIFICATION AND DISAMBIGUATION OF
DISCOURSE MARKERS IN SPOKEN SPANISH

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About me



Honours thesis: *Cuantificación de la armonía vocálica en español andaluz oriental*

Master's thesis (work in progress): *Discourse markers: For the speaker or for the hearer?*



OUTLINE

- 1. Introduction**
What are DMs? Why study them?
- 2. Previous taxonomies**
- 3. This study**
- 4. Methods**
- 5. Results**
- 6. Conclusions**

1. Introduction

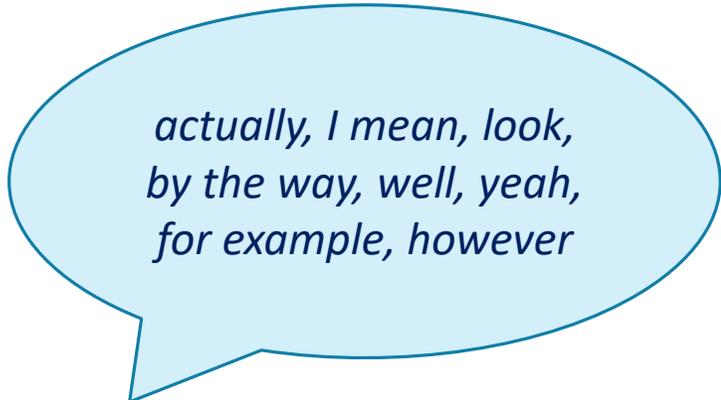
But actually, what are discourse markers ?

“sequentially dependent elements which bracket units of talk” – Schiffrin 1987: 31

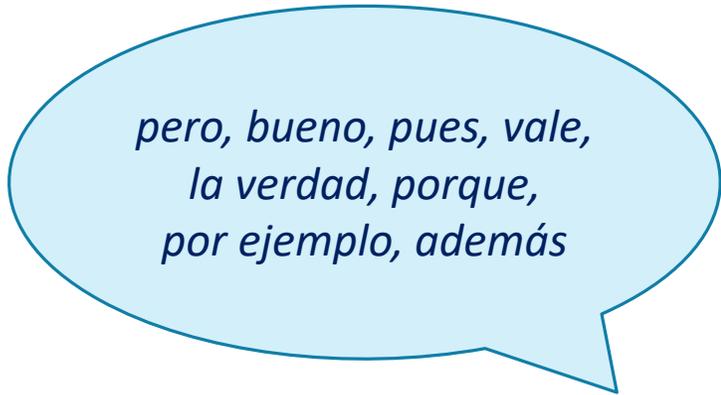
“a class of expressions, each of which signals how the speaker intends the basic message that follows to relate to prior discourse” – Fraser 1990: 387

“A [discourse marker] is a phonologically short item that is not syntactically connected to the rest of the clause (i.e., is parenthetical), and has little or no referential meaning but serves pragmatic or procedural purposes”

– Brinton 2008: 1

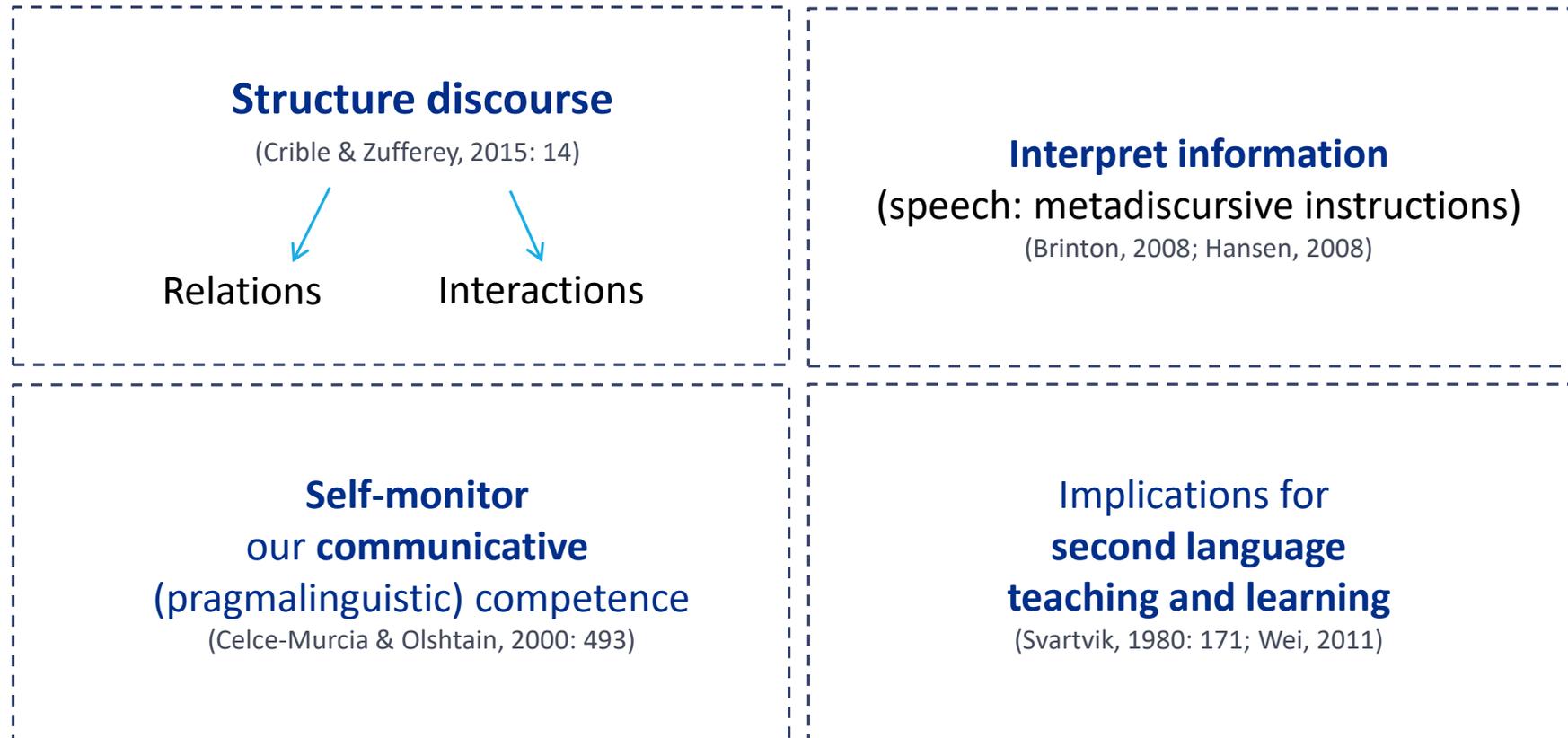


*actually, I mean, look,
by the way, well, yeah,
for example, however*

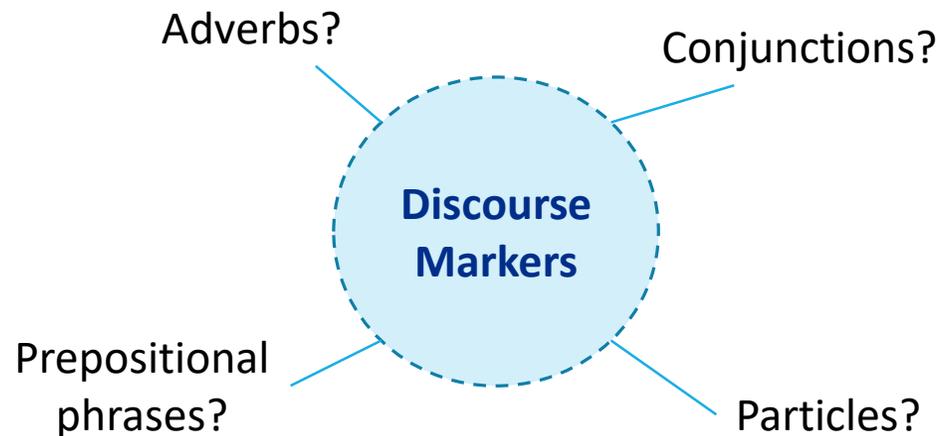


*pero, bueno, pues, vale,
la verdad, porque,
por ejemplo, además*

What do DMs do? Why study them?



So... What is the issue?



Because of the **formal heterogeneity** of DMs, authors usually struggle to **categorize** them

Crible and Zufferey (2015: 15)

« It has become standard in any overview article or chapter on DMs to state that reaching agreement on what *makes* a DM is as good as impossible, be it alone on terminological matters »

- Degand, Cornillie, Pietrandrea (2013: 5)

I mean, issues?

Pragmatic markers

Brinton 1996; González 2005

Discourse markers

Lenk 1998; Schiffrin 1987

Discourse particles

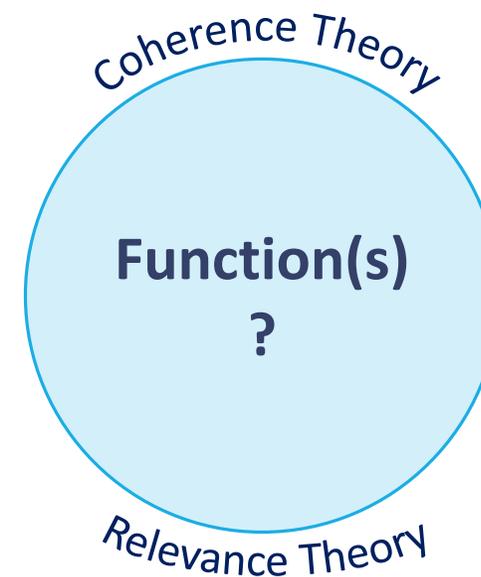
Pragmatic expressions



Modal particles

Discourse operators

Discourse connectives



Rouchota 1996
Blakemore 1987

DMs in the literature

FUNCIONES DISCURSIVAS Y PROSODIA DEL MARCADOR *ENTONCES**

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1. INTRODUCCIÓN

Desde el punto de vista del Análisis del Discurso, una de las propiedades del adverbio *entonces* (muy frecuente en el discurso oral conversacional), que es común a otras unidades lingüísticas como *pues*, *bueno*, *bien*, *pero*, *y*, *así*, etc., llamadas comúnmente desde esta perspectiva de análisis *conectores*, *marcadores* u *operadores*, entre otras denominaciones, es su polifuncionalidad, es decir, su capacidad para desempeñar

The screenshot shows a dictionary entry for 'a decir verdad' from the 'diccionario de partículas discursivas del español'. It includes a table with two columns: 'SE ENCUENTRA EN' and 'A QUÉ SE REFIERE'. The table lists various contexts where the phrase is used, such as 'en la segunda época', 'cómo ha actuado Joe Louis Walker', and 'cómo se presenta como una verdad frente a la suposición'. Below the table, there are sections for 'MÁS EJEMPLOS' and 'TRANSCRIPCIÓN AL FOLIO'.

SE ENCUENTRA EN	A QUÉ SE REFIERE
en la segunda época	a decir verdad, es de justo reconocerle una notable mejora en su derecho
cómo ha actuado Joe Louis Walker?	[continúa hablando con mel en derecho como en otras ocasiones]

Need for an open-class definition and categorisation!

2. Previous taxonomies

Penn Discourse Tree Bank 2.0 (Prasad et al. 2008)

- Wall Street Journal (WSJ) corpus
- 40,000+ discourse relations
- **Discourse connectives** (*because, after, so, when, if, but, however*)

Writing-based

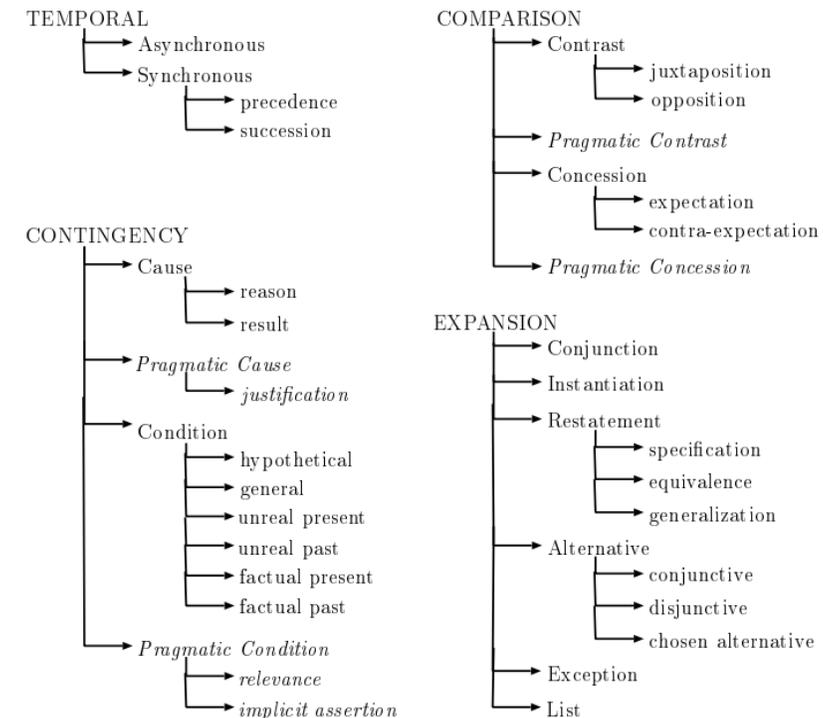


Figure 1: Hierarchy of sense tags

González (2005)

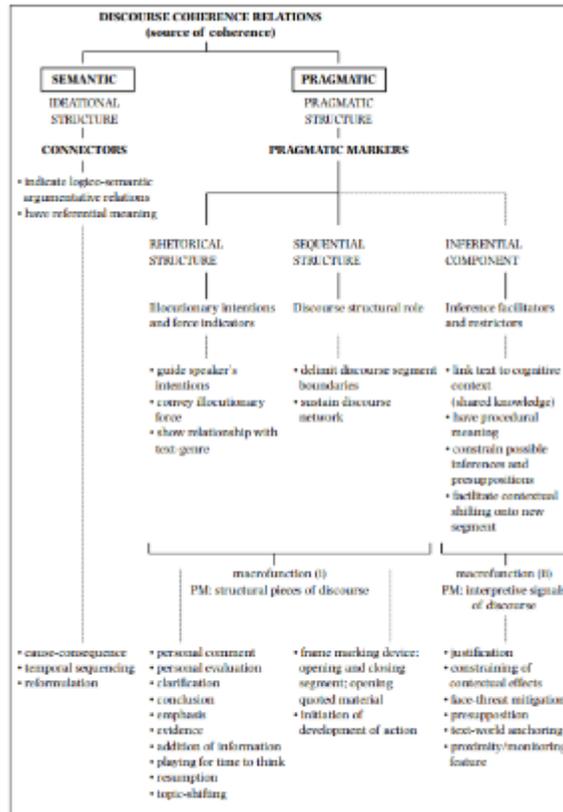


FIGURE 1. Proposal of the distributive of pragmatic markers in the discourse structure components; embedding of functions of markers found in the narratives analysed

- CON resultative marker. Introduces a consequence of previous proposition or act.
 - REF reformulative marker. Reformulates previous proposition, usually by paraphrasing it.
 - SEQ temporal marker that introduces a sequential order of events.
- Rhetorical structure:
- ADD addition marker. Adds more detailed information that the narrator considers is relevant for the account. Expands, explains and/or supports previous proposition or information.
 - CLA clarification marker. Clarifies previous discourse, sometimes by means of examples.
 - CLU concluding marker. Introduces important fact to bear in mind or take into consideration. Works as rounding off tool.
 - COM marker that introduces a personal comment or remark that is not directly related to the events but that is considered relevant by the narrator for the full understanding of the story. Usually found in external evaluation.
 - DEL marker that delays, puts off information, playing for time to think (staller. Stenström, 1994).
 - EMP emphazier. Reinforces propositional value of the utterance or previous pragmatic function.
 - EVA evaluator. Introduces evaluation or comment from narrator directly related to the events taking place. Usually found in internal evaluation.
 - EVI evidential. Marker that makes a fact or a situation salient. Highlights the illocutionary force of the utterance or discourse segment. Indicates that the information provided is highly relevant for the interpretation of the story.
 - REC marker that recovers or regains argumentative thread or line of thought, usually interrupted by a narrative segment.
 - TOP topic shifter.

- English and Catalan corpus of 40 oral narratives (20-20)
- Pragmatic markers and discourse coherence relations (*anyway, I mean, well, so...*)
 - 168 markers in English
 - 433 markers in Catalan

Speech-based

Martín Zorraquino & Portolés (1999)

Speech & Writing

MARCADORES CONVERSACIONALES
(‘CONVERSATIONAL MARKERS’)

- Evidencia/Certeza (Confirmation/Manifestation of certainty – Epistemic modality)
- Aceptación (Agreement – Deontic modality)
- Alteridad (‘Otherness’ - Monitoring the relationship with the interlocutor)
- Metadiscursivos (Metadiscursive function, structure the conversation)

OPERADORES ARGUMENTATIVOS
(‘ARGUMENTATIVE OPERATORS’)

- De resfuerzo argumentativo (Reinforce a previously formulated argument, e.g. de hecho ‘in fact’)
- De concreción (Present an example)

REFORMULADORES
(‘REFORMULATION MARKERS’)

- Explicativos (Reformulation/specification)
- De rectificación (Correct a previous formulation)
- De distanciamiento (Convey the irrelevance of a previous formulation)
- Recapitulativos (Recapitulate previous information or present a conclusion)

CONECTORES
(‘CONNECTORS’)

- Aditivos (Addition)
- Consecutivos (Consequence)
- Contraargumentativos (Contrast)

ESTRUCTURADORES DE LA
INFORMACIÓN
(‘INFORMATION ORGANIZERS’)

- Comentadores (Topic-shifting)
- Ordenadores (Ordering)
- Digresores (Digression)

Why worry about reliability & replicability?



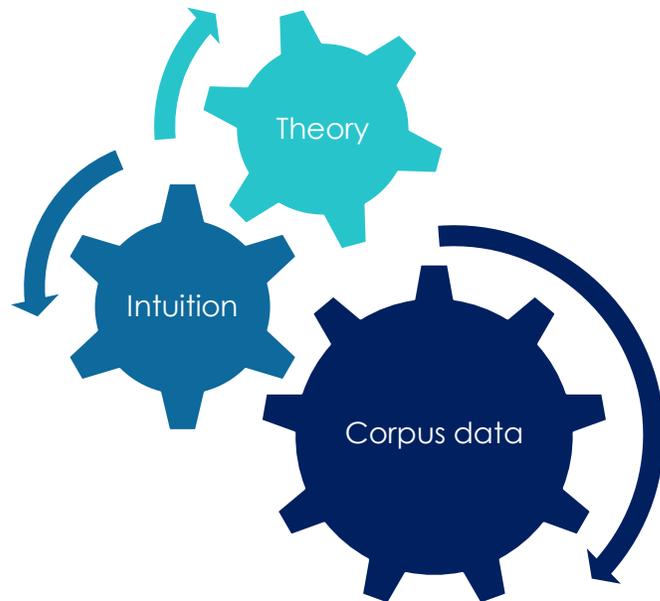
QUALITY & EXCHANGE OF RESEARCH

In this particular context...

- Implicit or underspecified information
- Subjectivity = Interpretation = Low inter-rater agreement scores

(Spooren & Degand 2010)

Crible (2014); Crible & Degand (2015)



1. Critical review of the literature and selection of the most **recurrent and relevant criteria** for DM identification
2. Intuitive selection of DM candidate tokens in a balanced **bilingual corpus** (FR-EN) and confrontation of identified criteria with description in context - *Which criteria are stronger or weaker predictors of DM membership?*
3. Elaboration of a **definition** and **coding scheme**
4. **Annotation experiments and revision of the scheme for replicability**

Crible's (2017:106) definition

“DMs are a grammatically heterogeneous, multifunctional type of pragmatic markers, hence constraining the inferential mechanisms of interpretation. Their specificity is to function on a metadiscursive level as procedural cues to situate the host unit in a co-built representation of on-going discourse”

“I claim that any categorical definition is only useful insofar as it is endorsed by an empirical model of identification and annotation”

Crible (2017:106-107)

SYNTACTIC FEATURES

DMs are optional

DMs are relatively mobile in the utterance

DMs belong to diverse grammatical classes

DMs have a fixed form as a result of grammaticalisation and high-frequency use

DMs have a variable scope

The host unit must be autonomous both syntactically and semantically



Interjections, question tags

FUNCTIONAL FEATURES

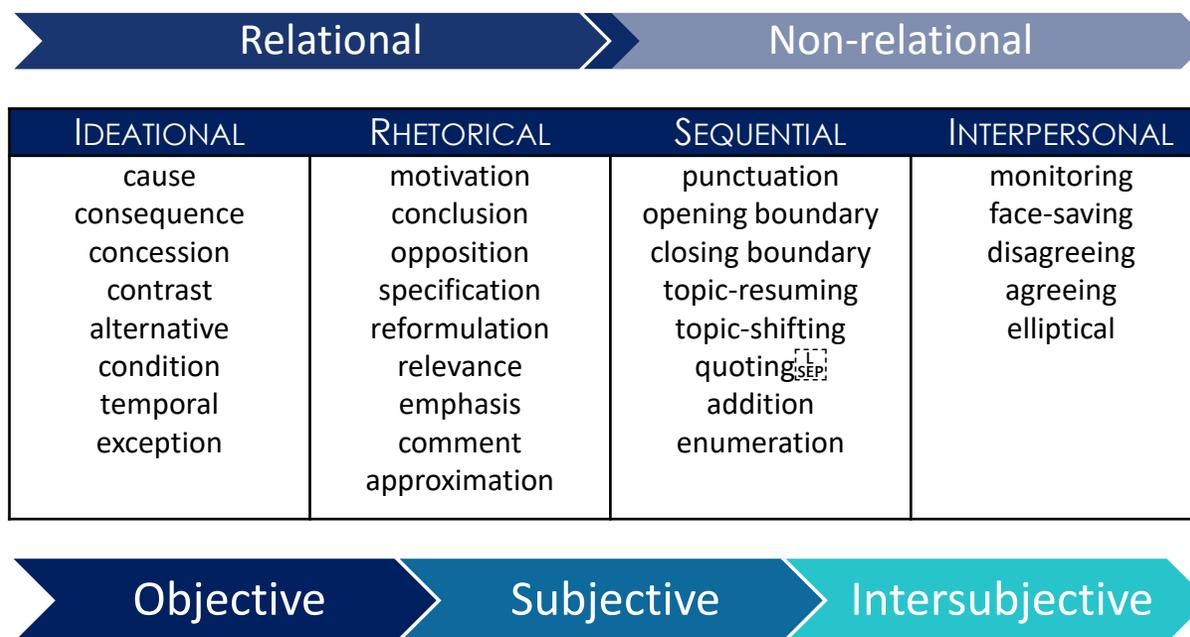
DMs have a procedural meaning

DMs are multifunctional

A single member can perform different functions in different contexts
(i.e. DMs are polyfunctional)

A single member can perform different functions simultaneously in the
same context (i.e. DMs can be polysemous)

Crible (2014)



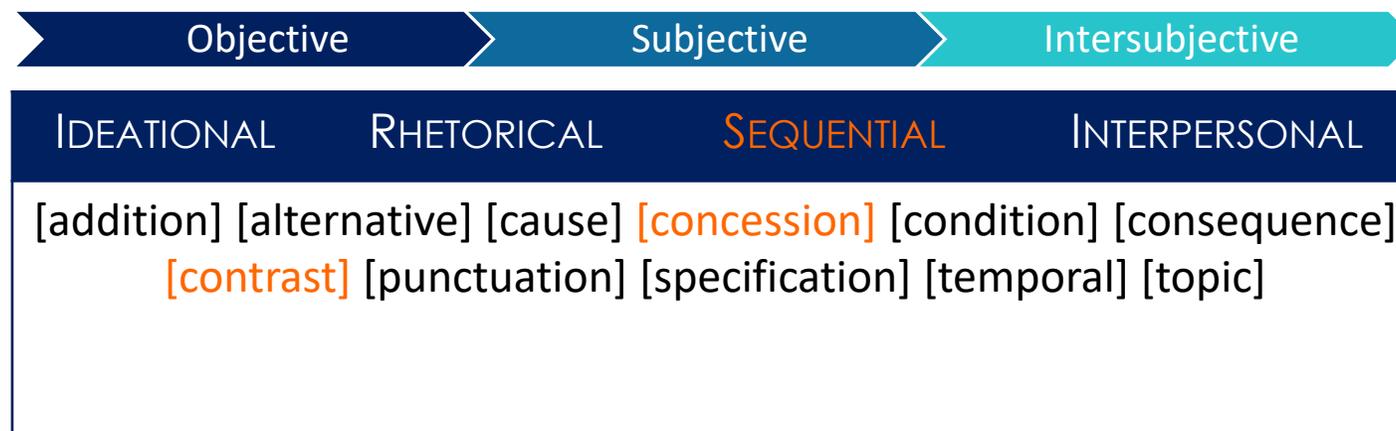
How to improve reliability?

- ✓ **Make categories independent**
- ✓ **Reduce number of categories**

Bite-size procedural steps

(Spooren & Degand 2010)

Crible & Degand (2017b)



W S

French and English
(Crible & Zufferey 2015)

S

French, English & Polish
(Crible & Degand 2017b)

Belgian French SL
(Gabbaró-López 2017)

3. This study

Why (yet) another study?

✓ ~~Make categories independent~~

✓ ~~Reduce number of categories~~

? **Bite-size procedural steps**



Research question

Will the use of Crible and Degand's (2017b) **revised version** of Crible's (2017) taxonomy in combination with a **step-wise annotation protocol** allow for the **consistent disambiguation** of discourse markers in a selected sample of **spoken peninsular Spanish**?

4. Methods

Corpus data

Sample from the spoken Spanish component of the Backbone corpora

- 4 face-to-face interviews, each between 2 adult speakers of peninsular Spanish
- 2 males (interviewees), 3 females (1 interviewer + 2 interviewees)
- Audio available for annotation

CORPUS SAMPLE	NUMBER OF WORD TOKENS	LENGTH (IN MINUTES)
Interview 1* (bb_es008_rosa)	1159	5:12
Interview 2* (bb_es0012_alejandropena)	1221	6:26
Interview 3 (bb_es0021_irene)	2325	14:05
Interview 4 (bb_es005_santiago)	3618	16:41
TOTAL	8323	42:24

Annotation : 3 steps

Software: EXMARaLDA (Schmidt & Wörner, 2012)

- **Step 1:** chronological manual annotation of DMs according to the functional definition (no closed list)
- **Step 2:** chronological manual annotation of domains and then functions, or vice-versa
- **Step 3:** chronological manual annotation of domains and then functions, or vice-versa (same identified DMs) at a 2-3 weeks' interval

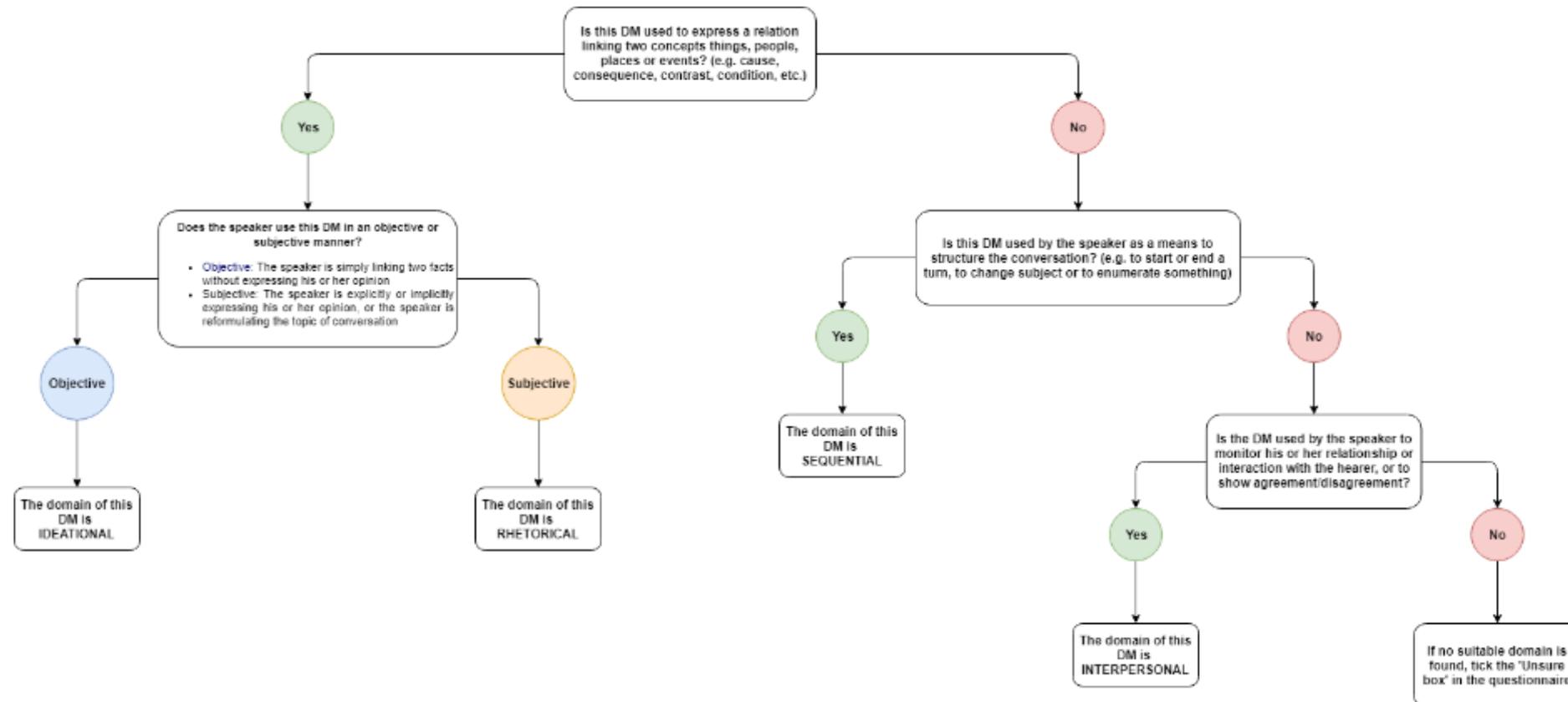
No double-tagging

00:00 00:01 00:02 00:03 00:04 00:05 00:06

1
^ [] ^ [] ^ [] ^ [] ^ []
⏪ ⏩ ⏸ ⏹

	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368
TXT	sí	de	universidad	no —	es	una	suerte.	María: ¿	Y	qué	faceta	te	llena	más,	la	investigación	o	la
MARÍA [words]									Y	qué	faceta	te	llena	más,	la	investigación	o	la
MARÍA [DM]									Y									o
MARÍA [DM Domain]									SEQ									IDE
MARÍA [DM Function]									TOPIC									ALT
SANTIAGO [words]	sí	de	universidad	no —	es	una	suerte.											
SANTIAGO [DM]				no														
SANTIAGO [DM Domain]				RHE														
SANTIAGO [DM Function]				SPE														
[Comments]																		

Annotation of domains



Annotation of functions

FUNCTIONS

Instructions

Try to mentally take the annotated DM out of the highlighted sentence to answer the following questions. Do keep the original DM in mind during your interpretation, as to preserve the meaning of the sentence.

Please note: 'Segment 1' and 'Segment 2' refer to the units of talk situated on either side of the isolated Discourse Marker (henceforth 'DM').

- 1. Can you replace the original DM by *además* [Eng.: *in addition*], AND/OR does the original DM introduce new information?**
 - Yes, then the function of this DM is ADDITION. You have finished analysing the function of the DM.
 - No. Proceed to question 2.

- 2. Can you paraphrase the original sentence as follows: '(either) [segment 1] OR [segment 2]'?**
 - Yes, then the function of this DM is ALTERNATIVE. You have finished analysing the function of the DM.
 - No. Proceed to question 3.

- 3. Can you use *because*, *due to* or *if* to connect the segments?**
 - Because* or *due to*, then the function of this DM is CAUSAL. You have finished analysing the function of the DM.
 - If*, then the function of this DM is CONDITIONAL. You have finished analysing the function of the DM.
 - If neither can be used, proceed to question 4.

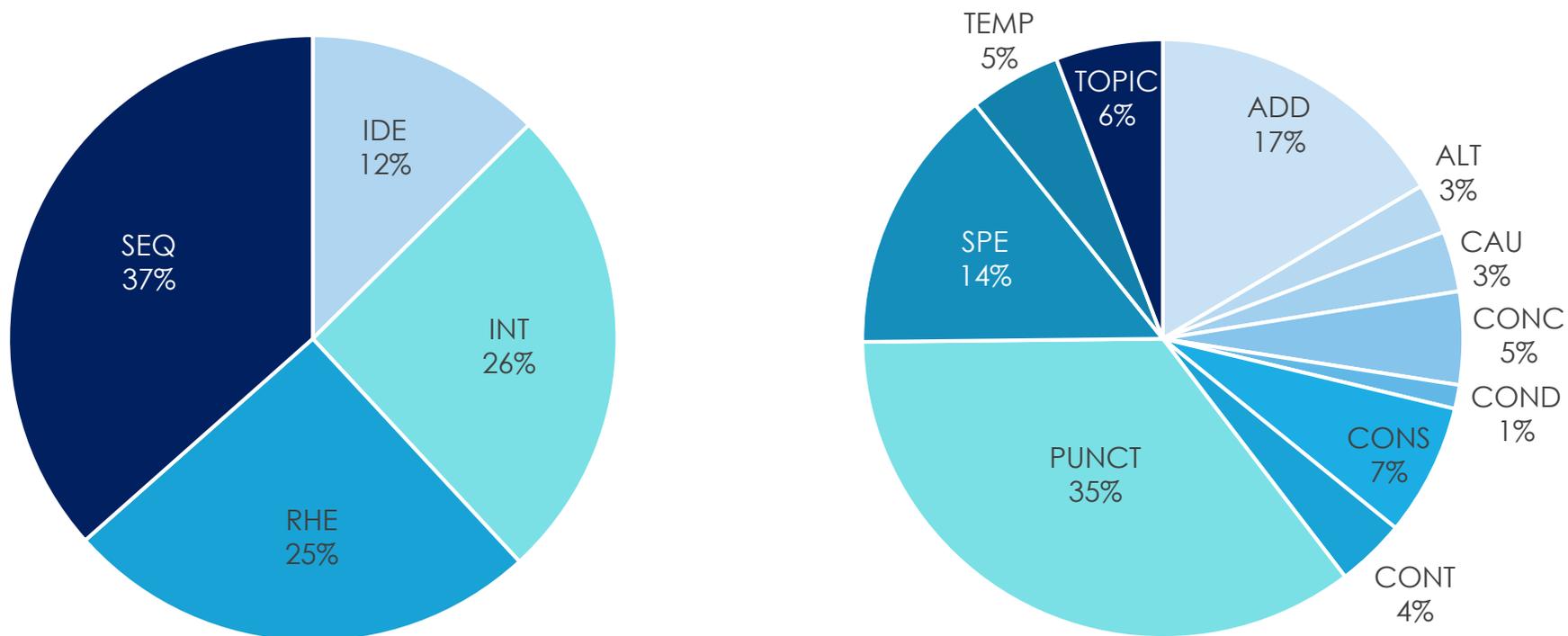
Substitution and paraphrasing tests
inspired by Scholman et al. (2016)

5. Results

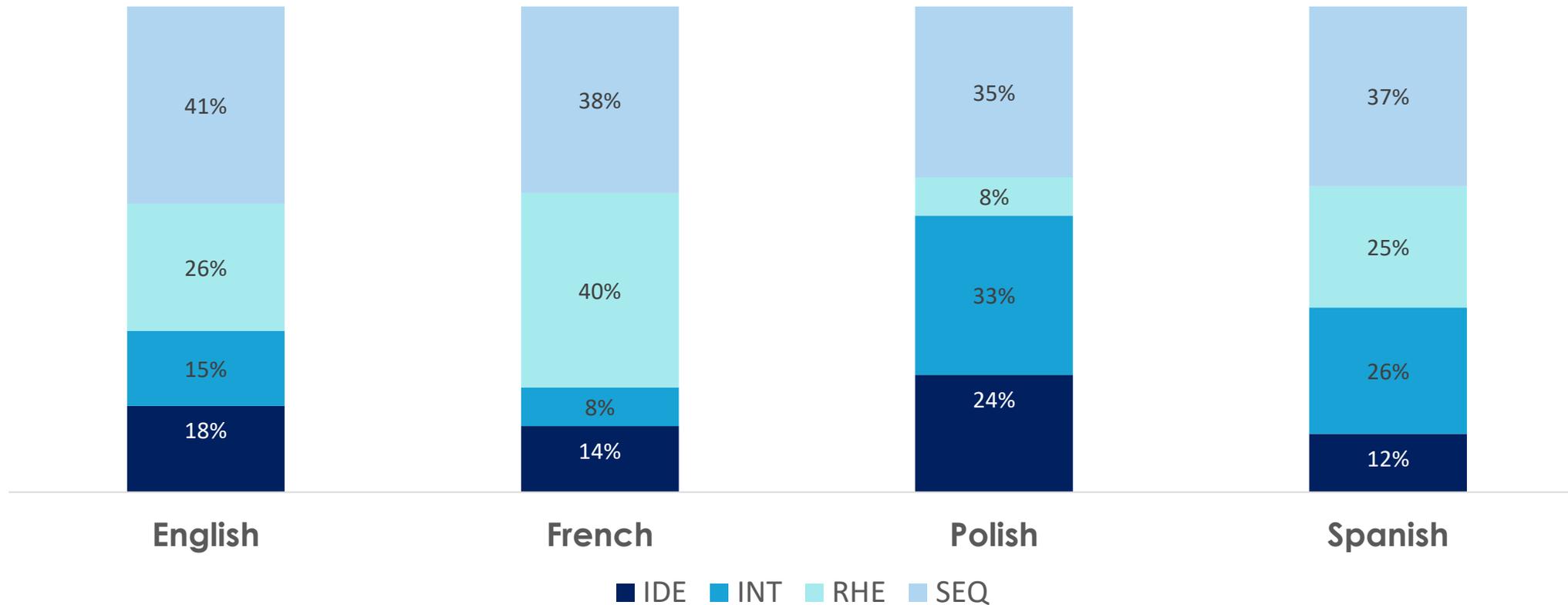
Identified DMs

CORPUS SAMPLE	TOTAL NUMBER OF WORD TOKENS	TOTAL NUMBER OF DM TOKENS	PROPORTION OF DMs
Interview 1 (bb_es008_rosa)	1159	79	6.81%
Interview 2 (bb_es0012_alejand ropeña)	1221	127	10.40%
Interview 3 (bb_es0021_irene)	2325	184	7.91%
Interview 4 (bb_es005_santiago)	3618	347	9.59%
TOTAL	8323	737	8.85%

Functional distribution

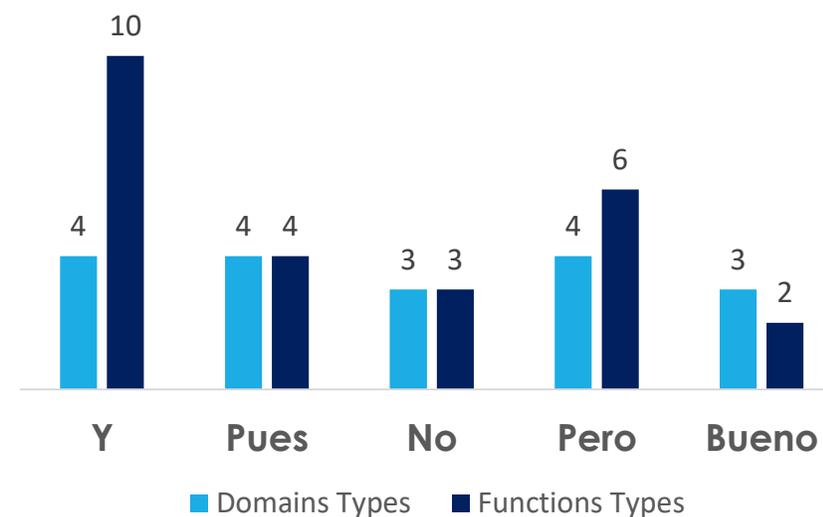


Results in context of Crible & Degand (2017b)

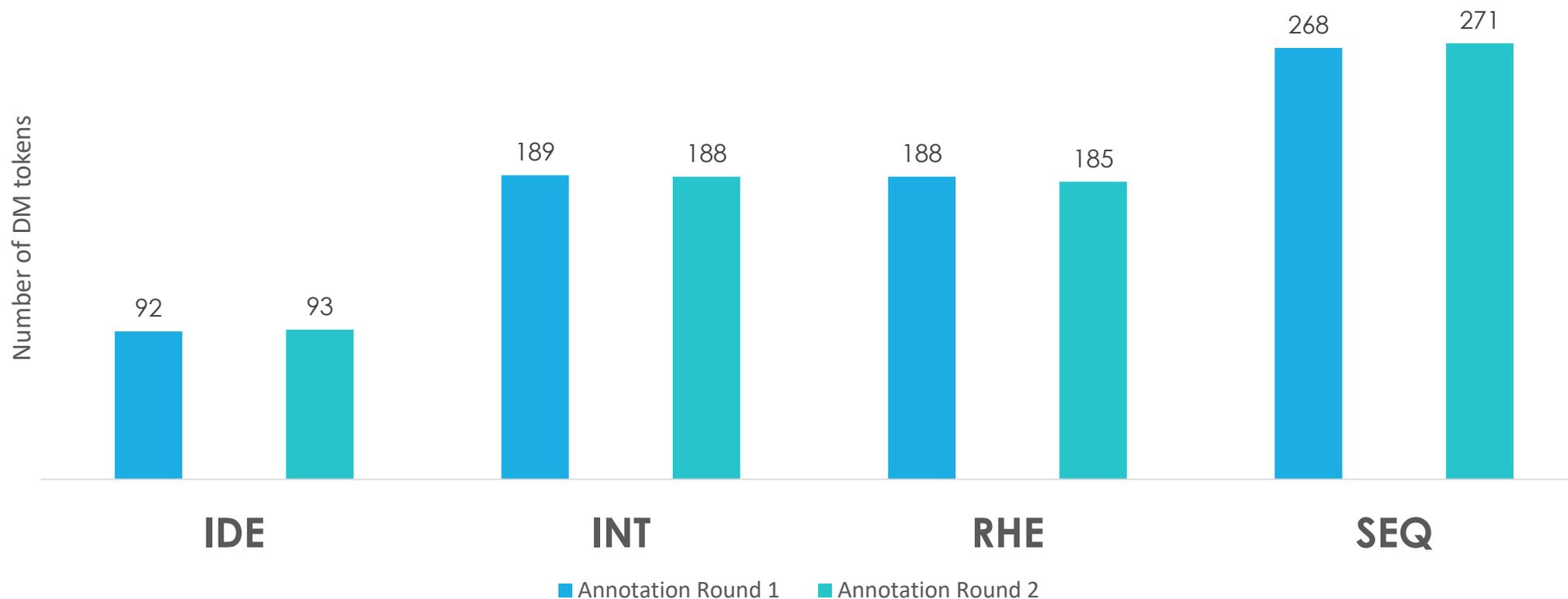


Formal distribution

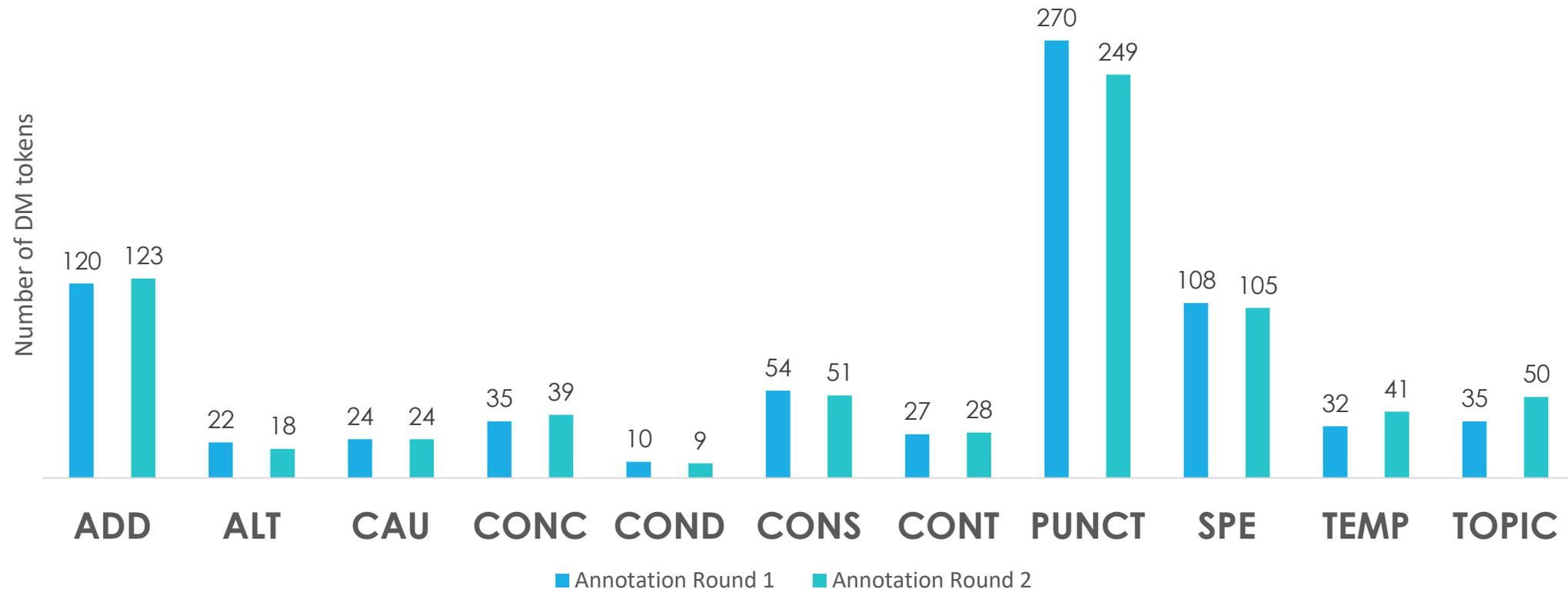
RANK	DM TYPE	NUMBER OF OCCURRENCES	PROPORTION OF THE OVERALL NUMBER OF DM TOKENS (737)
1	y	177	24.1%
2	pues	77	10.4%
3	no	48	6.5%
4	pero	44	6.0%
5	bueno	42	5.7%
6	entonces	30	4.1%
7	es decir	21	2.8%
8	o	21	2.8%
9	por ejemplo	21	2.8%
10	Porque	20	2.7%
TOTAL		501	68.0%



Round 1 vs. Round 2: Domains



Round 1 vs. Round 2 : Functions

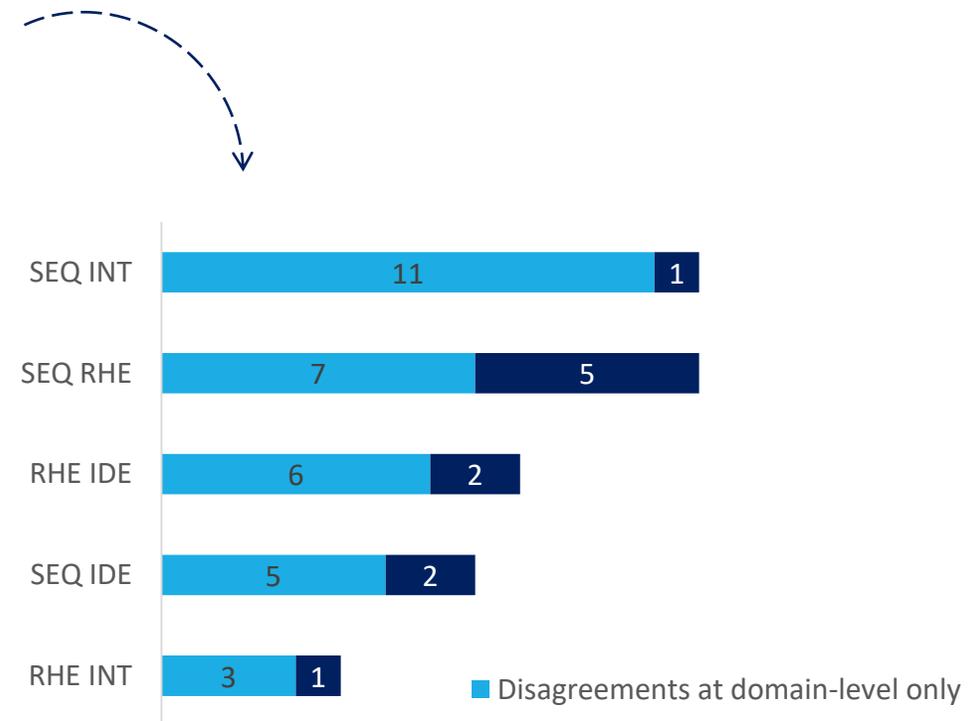


Intra-rater agreement

CORPUS SAMPLE	NUMBER OF SELECTED DM TOKENS	DOMAINS		FUNCTIONS	
		NUMBER OF DISAGREEMENTS	AGREEMENT SCORE	NUMBER OF DISAGREEMENTS	AGREEMENT SCORE
Interview 1 (bb_es008_rosa)	50	7	86%	7	86%
Interview 2 (bb_es0012_alejandropena)	50	17	66%	6	88%
Interview 3 (bb_es0021_irene)	50	10	80%	8	84%
Interview 4 (bb_es005_santiago)	50	9	82%	4	92%
Total	200	43	78.5%	25	87.5%

Disagreement analysis: Domains

DISAGREEMENT PAIR	NUMBER OF OCCURRENCES	PROPORTION OF OVERALL NUMBER OF DOMAIN DISAGREEMENTS
Sequential-Interpersonal	12	27.9%
Sequential-Rhetorical	12	27.9%
Rhetorical-Ideational	8	18.6%
Sequential-Ideational	7	16.3%
Rhetorical-Interpersonal	4	9.3%
TOTAL	43	100.0%



Example

[...] Y un día normal de mi vida (short pause) **la verdad es que** acabo de empezar y, más o menos, no hay una rutina diaria así muy normal, la verdad [...]

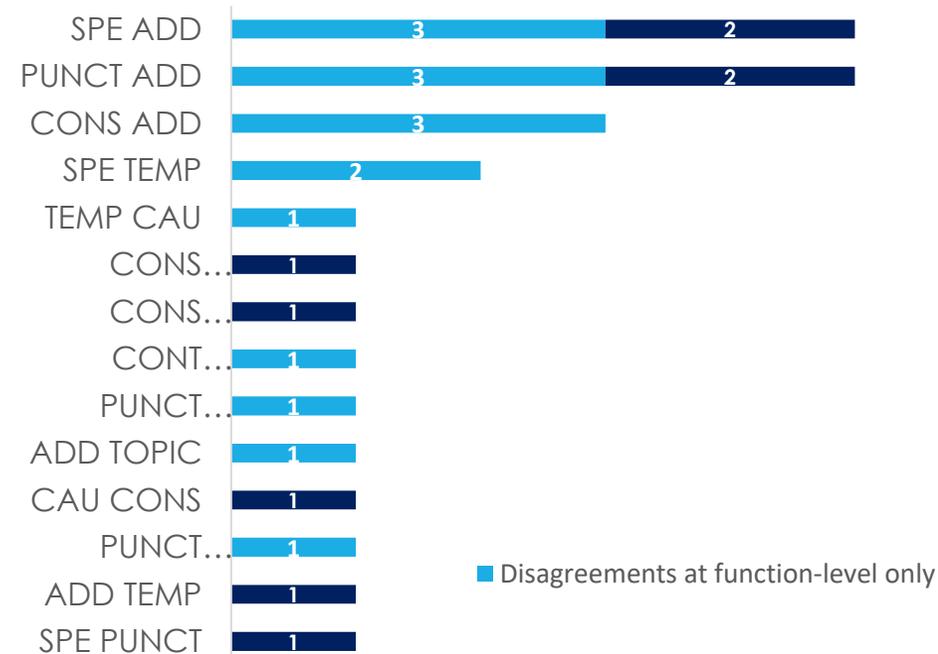
(bb_es0021_irene – 00:42.25)



*[...] And regarding how a normal day of my life goes about (short pause) **well, you know**, I just started in this new job and I don't really have a normal routine like you described [...]*

Disagreement analysis: Functions

DISAGREEMENT PAIR	NUMBER OF OCCURRENCES	PROPORTION OF OVERALL NUMBER OF FUNCTION DISAGREEMENTS
Specification-Addition	5	20.0%
Punctuation-Addition	5	20.0%
Consequence-Addition	3	12.0%
Specification-Temporal	2	8.0%
Temporal-Causal	1	4.0%
Consequence-Punctuation	1	4.0%
Consequence-Contrast	1	4.0%
Contrast-Concession	1	4.0%
Punctuation-Topic-shifting	1	4.0%
Addition-Topic-shifting	1	4.0%
Causal-Consequence	1	4.0%
Punctuation-Contrast	1	4.0%
Addition-Temporal	1	4.0%
Specification-Punctuation	1	4.0%
TOTAL	25	100.0%



Example

[...] mi padre es empresario, tiene una empresa de transporte (short pause) **y, bueno**, pues siempre me ha gustado mucho el mundo de la empresa [...]

(bb_es0012_alejandropena – 00:29:66)



*[...] my father is a businessman, he has a transport/shipping company (short pause) **and, well**, actually I've always been attracted to the business world [...]*

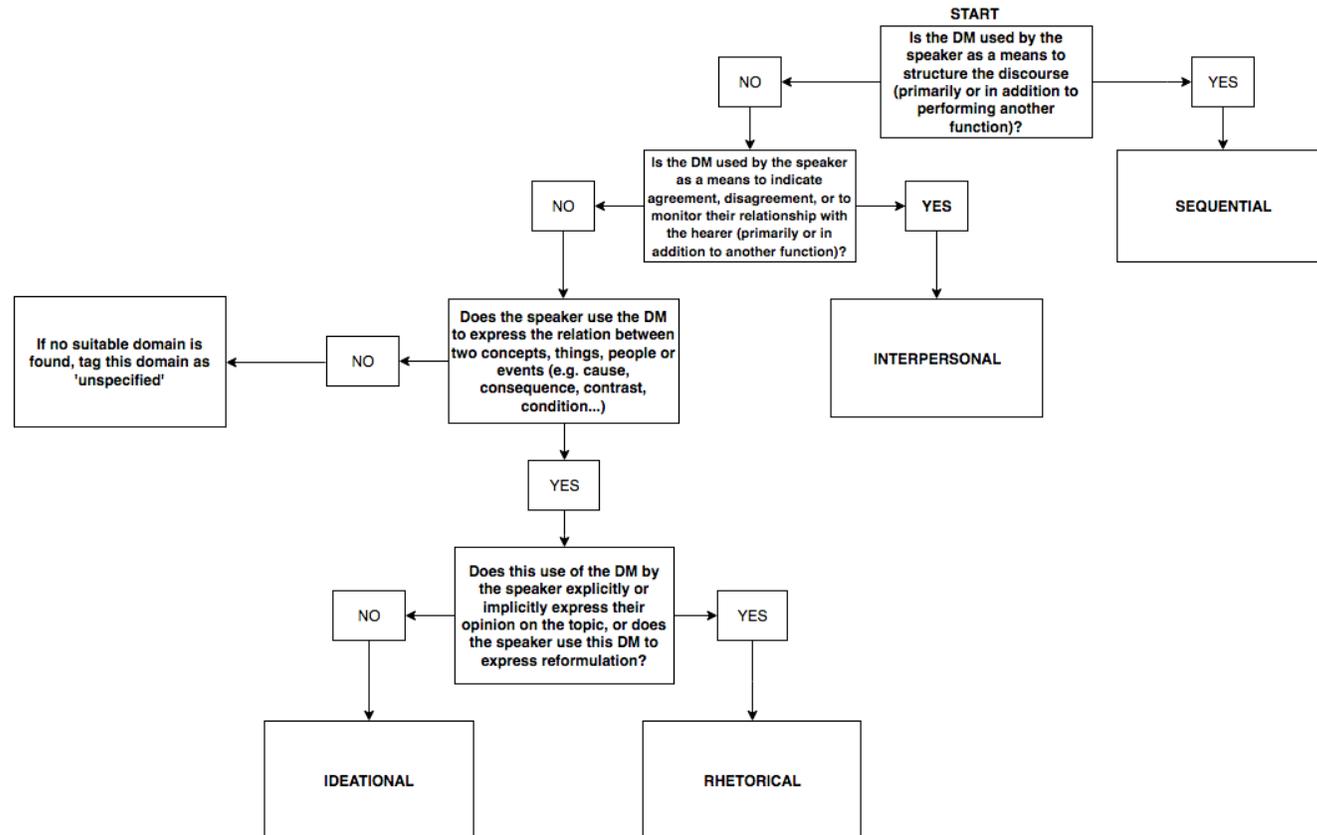
Discussion

- **Function disambiguation is quite consistent**
 - SEQ domain = less reliable due to new combinations (Crible & Degand 2017b)
 - Agreement concentrated over 'Objective' end of continuum
 - Less cognitively 'costly' to annotate?

- **Domain annotation is (a little bit) less consistent**
 - More variation in high-frequency, polyfunctional DM 'y'
 - ADD vs. SPE vs. ALT?
 - Difficult to identify functions in multi-DM sequences
 - *'Pero, bueno, pues, la verdad es que'*

- **Strong vs. weak DMs?**

Suggestions?



Train,
Hierarchise
&
Systematise
Reformulation?

Suggestions?

8. Can you replace the original DM by ‘such as’, ‘like’, ‘for example’ AND/OR does the original DM introduce new or more information on the topic discussed by the speaker and the hearer?

- Yes, then the function of this DM is SPECIFICATION. You have finished analysing the function of this DM.
- No. Proceed to question 8.

***UPDATED: 8. Can you replace the original DM by ‘such as’, ‘like’, ‘for example’ AND/OR does the original DM express reformulation (can you substitute it with ‘in other words’, ‘in short’ for example)?**

- Yes, then the function of this DM is SPECIFICATION. You have finished analysing the function of this DM.
- No. Proceed to question 8.

6. Conclusion

Conclusion

“Further operationalization to enhance the replicability of the functional taxonomy is particularly needed, along with intra-annotator reliability to check for consistency during the annotation process.”

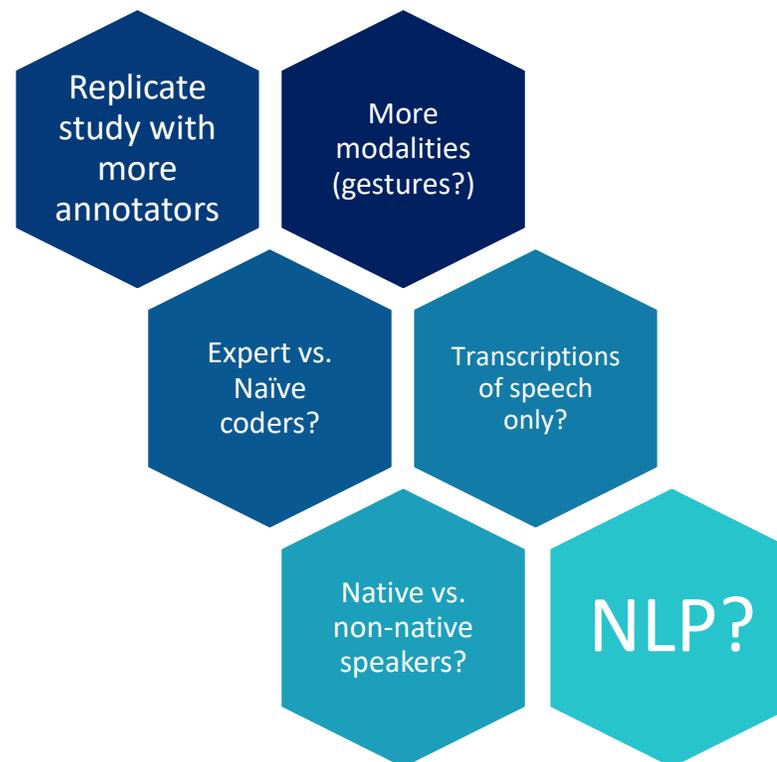
– Crible & Degand (2017a)

Step-wise protocol = Higher agreement
(to be tested in larger inter-annotator studies)

Crible’s (2017) Taxonomy = applicable to
spoken peninsular Spanish

Raise awareness about
methodological practices?

Future perspectives (Bolly & Crible 2015; Crible & Zufferey 2015, Zufferey & Popescu-Belis 2004)



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THANK YOU FOR YOUR ATTENTION!

ANY QUESTIONS?



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