

# Silent pauses and interjections as prosodic cues for direct speech

A cross-linguistic study on three language documentation corpora

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2021-12-17

6th Conference on Language Documentation and Linguistic Theory

# Introduction

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How are **silent pauses** and **interjections** employed cross-linguistically to mark direct speech?

## Background

- Expanding previous research on direct speech, prosody, and typology (Malibert and Vanhove 2015; Genetti 2011).
- Focus on monological, traditional narratives from small and endangered languages
- Reusing existing oral language documentation corpora from DoReCo (Seifart, Paschen, and Stave 2021).
- Reproducible science: open access corpora and algorithms.
- Withing the QUEST project (Aznar and Seifart 2020)
- Still work in progress

## Introduction: Direct speech

### Definition

"[...] the purpose of speech reporting is to convey what another speaker said, either in one's own words or by reporting the same words that were used by that speaker." (Coulmas 1986, p.1)

- is a form of speech reporting, often opposed to indirect speech,
- is a construction, in which the speaker performs a sequence of their speech as someone else's speech (Tannen 1986).

## Introduction: Hypotheses about pauses

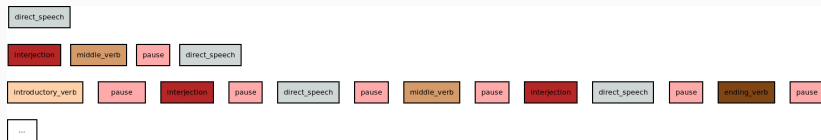
- Silent pauses are systematically employed cross-linguistically to set off direct speech from surrounding discourse.
- Position of silent pauses within the direct speech will vary according to basic word order.
- Speech verbs precede direct speech in VO languages vs. follow it in OV language
- Pauses marking transition to/from direct speech in position where there is **no** speech verb (Malibert and Vanhove 2015)
- *he said "Hi" [pause] and left vs. arriving [pause] "Hi" he said*

## Introduction: Hypotheses about interjections

- Interjections (including vocatives) are systematically employed to mark direct speech events cross-linguistically:
  - They often mark the beginning of direct speech  
*He said, "Hey [pause] what are you doing?"*
  - There are often silent pauses, and/or speech verbs, after interjections in this position  
*"Grandpa," the child asked [pause], "where is Vanuatu?"*

# Introduction: The Direct Speech Sequence

Direct speech sequences vary from a simple construction to an highly complex combinations of speech verbs, silent pauses, and interjections:



**Figure 1:** Levels of complexity of Direct Speech Sequences

## Data: Three languages from three continents



### Three languages from different

- Nisvai (nisv1234); Austronesian/Oceanic; **SVO** (Aznar 2021)
- Beja (beja1238); Afro-Asiatic/Cushitic; **SOV** (Vanhove 2021)
- Bora (bora1263); Boran; **OSV** (Seifart 2021)



## Data: Overview of corpora used here

Corpora	Text ID	Length (sec.)	Interpausal units	Speaker sex
Beja	1	63.623	26	m
	2	204.334	89	m
	3	328.094	160	m
	4	162.228	83	m
	5	501.424	221	f
	6	406.382	165	m
	7	69.419	33	m
	8	326.912	128	m
	9	75.240	36	m
	<b>Total</b>	<b>2136 (36 min)</b>	<b>941</b>	
Bora	1	1531.543	523	m
	2	441.452	194	f
	3	1874.459	870	m
	4	715.784	215	f
		<b>Total</b>	<b>4563 (76 min)</b>	<b>1802</b>
Nisvai	1	454.920	146	f
	2	383.927	90	m
	3	799.337	244	m
	4	331.345	111	m
	5	382.309	134	m
	6	677.572	209	m
		<b>Total</b>	<b>2574 (43 min)</b>	<b>608</b>

## Data: Examples of direct speech

### Example

Nisvai, T1.2013.47

<i>Ga=kal</i>	<i>pause</i>	<i>Po ka Vavu,</i>	<i>hana</i>	<i>van</i>	
3SG=dire	—	INTER_grandfather	1SG	go	
<i>cab-cab</i>		<i>mai</i>	<i>bum</i>	<i>ha!</i>	<i>pause</i>
to_be_wrong-RED		come	DESI	DEI	—

“he says: ” Oh grandfather, I took the wrong way !” ”

## Example

Bora, 43

<i>pause</i>	<i>ééé</i>	<i>pause</i>	<i>iiná</i>	<i>idatsó</i>	<i>tahdi</i>
—	yes	—	what	be_sad	grandfather
<i>úú-hañé-hi-ré</i>	<i>ú</i>	<i>cáánu-híjcyá-hi,</i>	<i>nee-be</i>	<i>tsíva</i>	
2SG-PL-PL-REST	2SG	grind-REP-PRED	say-M.SG	bring	
<i>o</i>	<i>cáánuki,</i>	<i>tsíva</i>	<i>o</i>	<i>wá-búru-jco-ki</i>	
1SG	grind-PURP	bring	1SG	hitting-sieve-MULT.TR-PURP	
<i>úú-maá</i>	<i>neé-be</i>				
2SG-SOC	say-M.SG				

““Yes, How so, grandfather, you will grind coca by yourself?”, he said, ”Bring it to me, so I can grind it, bring it so I can sieve it for you”, he said”

## Example

Beja, **BEJ\_MV\_NARR\_08\_drunkard\_052**

*pause*

*abi=ja*

— self=POSS.1PL.NOM

*w=aj=ison*

DEF.SG.M=hand=POSS.1SG.ABL

*gig-is-n=hok*

*ni-jadnde*

*pause*

leave-CAUS-FUT.PL=OBJ.2SG 1PL-say.IPFV —

“We alone, with our own hands, will make you leave”, he says,  
they said.’

# Methods

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## Methods

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- Jupyter: notebook software for repeatable science (Kluyver et al. 2016),
- DoReCo provides manually corrected time-alignment of words and identification of silent pauses (Paschen et al. 2020) (Bora, Beja),
- Creating a database out of comparable corpora using Corpora2corpus and Multitool<sup>1</sup>,
- Specific annotation scheme for marking components of the sequences and testing our hypothesis.

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<sup>1</sup>Developed by F. Delafontaine, see [github.com/DoReCo/multitool](https://github.com/DoReCo/multitool)

## Annotation for testing our hypothesis

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- <<begin\_sequence>>: beginning of the direct speech sequence,
- <<end\_sequence>>: end of the direct speech sequence,
- {{: beginning of direct speech,
- }}: end of direct speech,
- [[iv:verb]]: an introductory verb, before direct speech,
- [[ev:verb]]: an ending verb, after direct speech,
- [[mv:verb]]: speech verb in the middle of direct speech,
- [[inter:interjection]]: interjection (**including vocatives, various particles, etc.**),
- [[qu:quotative]]: quotative morpheme.

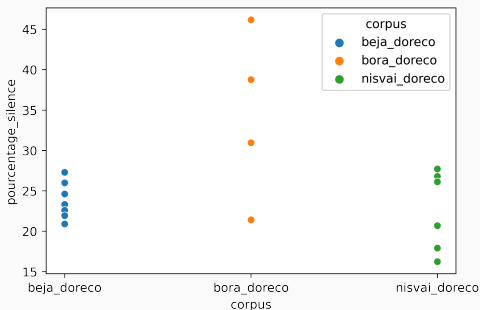
Silent pauses are inferred from the position within interpausal units.

# Results

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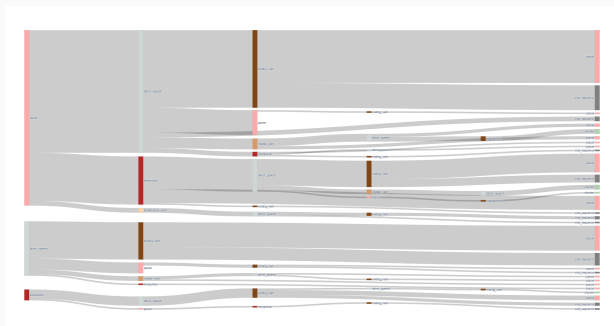
## Silent pauses



**Figure 2:** Percentage of silence in the different texts

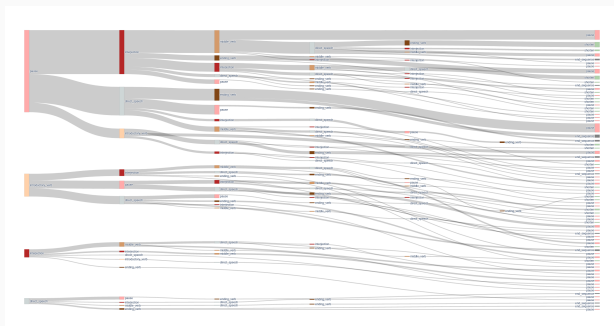
The sum of all silent pauses represent from 16% to 46% of the narratives in our corpora.

# Direct Speech Sequences in Beja (SOV)



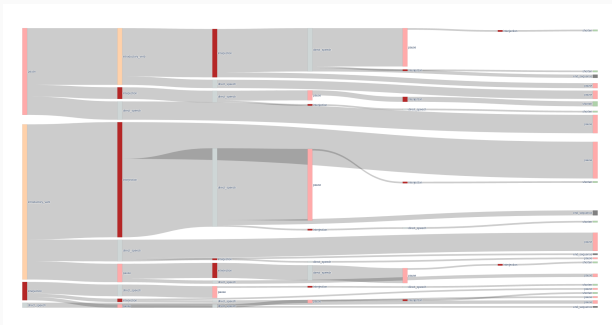
Observations	Occurrences	Preceded by a pause	Followed by a pause
sequence	155		
direct speech	156	79 (51%)	28 (18%)
interjection	43	32	12
intro verb	3		0
middle verb	13		3
ending verb	111		68

# Direct Speech Sequences in Bora (OSV)



Observations	Occurrences	Preceded by a pause	Followed by a pause
sequence	162		
direct speech	128	45 (38%)	42 (35%)
interjection	120	65	9
intro verb	45		15
middle verb	72		28
ending verb	60		36

# Direct Speech Sequences in Nisvai (SVO)



Observations	Occurrences	Preceded by a pause	Followed by a pause
sequence	159		
direct speech	137	15 (11%)	123 (90%)
interjection	139	24	28
intro verb	127		11
middle verb	0		0
ending verb	0		0

## Summary position of silent pauses and speech verb

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- Nisvai: strict VO, speech verb almost always before direct speech, pause almost always after
- Beja: strict OV, speech verb almost always after direct speech, pause almost always before
- Bora: OV-preference, speech verb slightly more often after direct speech, pause slightly more often before

## Summary: Interjections

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- Majority of direct speech event include interjections in Nisvai and Bora, one third in Beja (annotation issue?)
- Interjections are used by all languages at the beginning of direct speech.
- Few interjections are used at the end as all.
- All languages use interjections to mark turn-taking between characters in a dialogue.

## Coordination of Pauses with Interjections

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In all three languages, pauses are associated with interjections. There are variations in the pause's positions regarding direct speech depending on the language:

- In Nisvai, pauses are both before (17%) and after (20%).
- In Beja, pause are far more present before (74%) and after (28%).
- In Bora, pause are both before (54%) and after (7%).

### **Within the variety of direct speech sequences,**

we see that:

- Cross-linguistic differences regarding pause before vs. after direct speech, related to basic word order of the language.
- Interjections in direct speech are almost systematically the first word in direct speech in all three observed corpora.
- Pauses can occur before and after the interjections in the three corpora (there is an interplay with middle verbs in Bora).



# Outlook

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- More corpora soon ready to add to analysis for broader cross-linguistic coverage.
- Further developing the visualisation of the sequence.
- Using this workflow to study other tests other kind of linguistic sequences.

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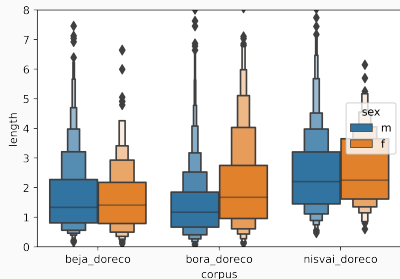
## **Slides for discussions**

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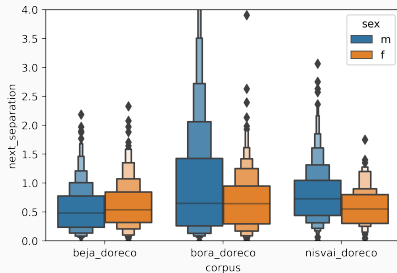
## Limits' acknowledgements

- Language documentation corpora cannot be treated as sample, they are not representative of language use. They are representation of language events, and should be treated as data.
- Impacts of the social characteristics of the speaker are hard to evaluate yet.

## Interpausal Units & Silent Pauses



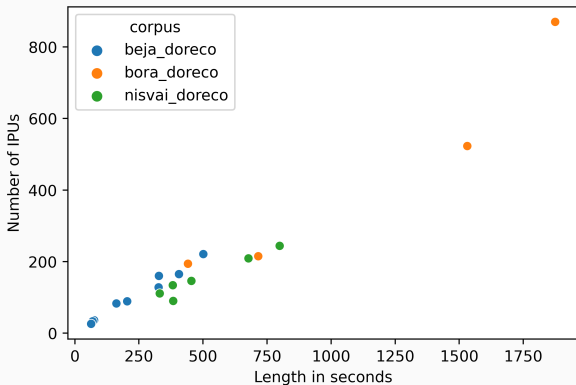
**Figure 3:** Interpausal unit length depending on the corpus



**Figure 4:** Interpausal unit length depending on the corpus

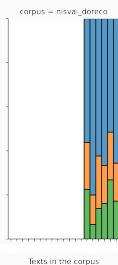
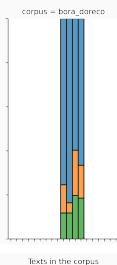
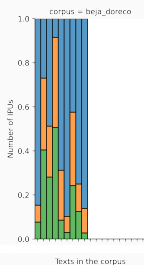
Observations regarding the different corpora: Nisvai hasn't been fully processed within DoReCo.

## Text's length and number of interpausal units/silent pause



- The length of interpausal units and silent pauses are not varying so much that it would affect the correlation.
- Knowing one allows an approximate guess of the other: useful for project management (when transcribing).

# Direct Speech as a recurring phenomena in narratives



DSvsProse  
0  
1  
Full

	Bora	Beja	Nisvai
0	68.423973	61.955367	65.631692
1	14.594895	21.997875	22.912206
Full	16.981132	16.046759	11.456103

In Beowulf, direct speech represents 70% of the whole text (Louviot 2016).