







The KIParla corpus of Spoken Italian

LingCor2024

25/07/2024

Caterina Mauri & Eleonora Zucchini with

Silvia Ballarè (Bologna), Eugenio Goria, Massimo Cerruti, Beatrice Bernasconi (Torino)

^{*} The research leading to these results has received funding from Project "DiverSIta-Diversity in spoken Italian", prot. P2022RFR8T, CUP J53D23017320001, funded by EU in NextGenerationEU plan through the Italian "Bando Prin 2022 - D.D. 1409 del 14-09-2022"

Overview

- 1. Corpus design and implementation
- 2. The modules
- 3. Using the corpus: perspectives and examples
- 4. Next steps and future challenges



Overview

- 1. Corpus design and implementation
- 2. The modules
- 3. Using the corpus: perspectives and examples
- 4. Next steps and future challenges



Design of the KIParla corpus enterprise!

The KIParla corpus aims to offer:

✓ freely accessible corpus

transcripts aligned with audio files







www.kiparla.it

- ✓ transparent metadata system

 both wrt the communicative situations and the speakers involved

 Transparent metadata

 **Transparent metadat
- ✓ search interface based on an international standard

 NoSketchEngine, offering advanced search functions: KWIC, frequency lists, etc.
- ✓ modular, incremental, replicable infrastructure

 allowing for the expansion of the corpus over time through a modular structure



(Mauri et al. 2019)

Design of the KIParla corpus enterprise!

The KIParla corpus aims to offer:

✓ freely accessible corpus transcripts aligned with audio files







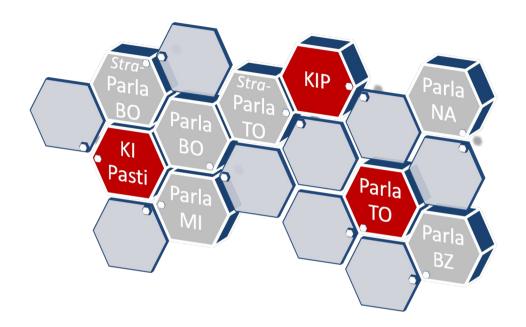
www.kiparla.it

- √ transparent metadata system both wrt the communicative situations and the speakers involved
- ✓ search interface based on an international standard NoSketchEngine, offering advanced search functions: KWIC, frequency lists, etc.
- √ modular, incremental, replicable infrastructure allowing for the expansion of the corpus over time through a modular structure



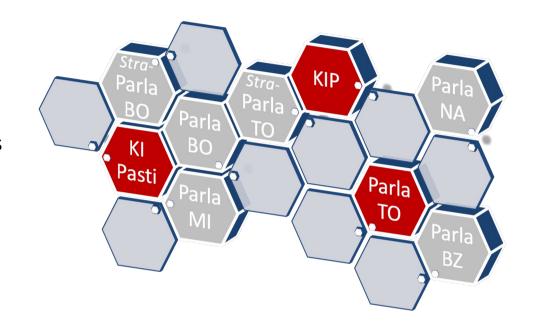
(Mauri et al. 2019)

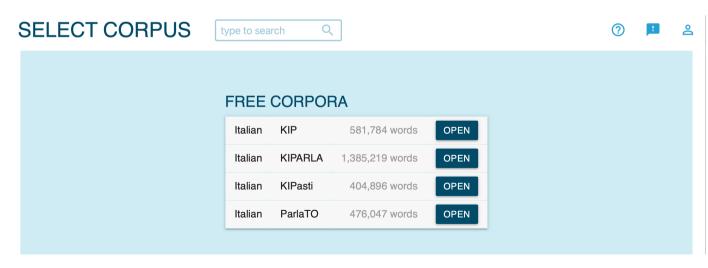
> Modularity: internal division into independent modules





- ➤ **Modularity:** internal division into independent modules
 - ✓ possibility of consulting each module separately or all modules together;

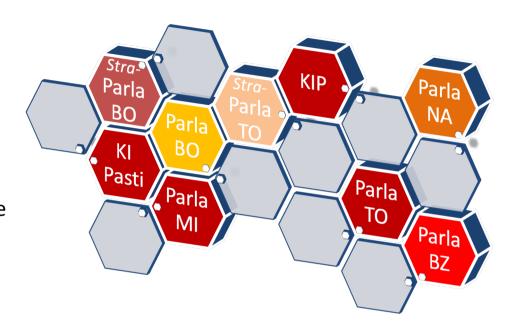






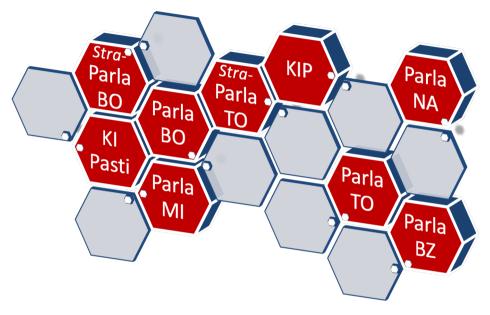


> Incrementality: possibility to add new modules over time





> Incrementality: possibility to add new modules over time

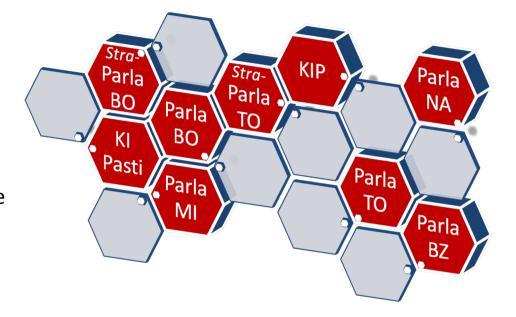




Such a dynamic nature makes the KIParla corpus suitable to document spoken language over time.

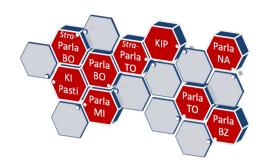


> Incrementality: possibility to add new modules over time









Modules are small/medium sized corpora

- √ built for different, often complementary purposes
- √ data from different geographical areas, types of interaction and types of communities
- > while maintaining substantial underlying comparability in structure and accessibility.

The **comparability** and at the same time the **specificity** of each module are what can make the KIParla corpus **representative of spoken Italian over time**:



The vision:

the more modules are added

the more dimensions of variation can be explored



Collection and transcription: it takes a village!



2018 - today: more than 100 students (from the universities of Bologna and Turin) participated in the construction of the KIParla corpus. Internships, BA theses, MA theses...



Training and supervision



Frequent updates and weekly meetings



Organization and coordination

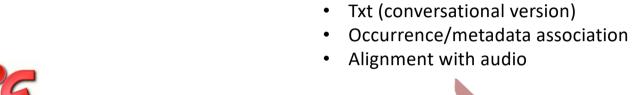
- > Transcription by means of ELAN, simplified Jefferson (2004) for conversational aspects
- **Pseudonymization:** deletion of sensitive data from the transcript and audio track.



,	Rising intonation	<ciao></ciao>	Pronunciation (slower)
•	Descending intonation	[hello]	Overlaps between speakers
:	Prolonged sound	(hello)	Text difficult to understand
(.)	Short break	XXX	Unintelligible text
>ciao<	Pronunciation (faster)	((laughs))	Nonverbal behavior



Publication of data and accessibility



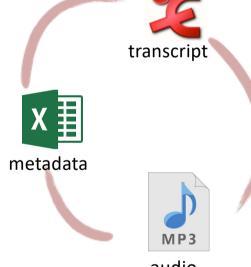
scripts in python

• XML

Txt (orthographic version)

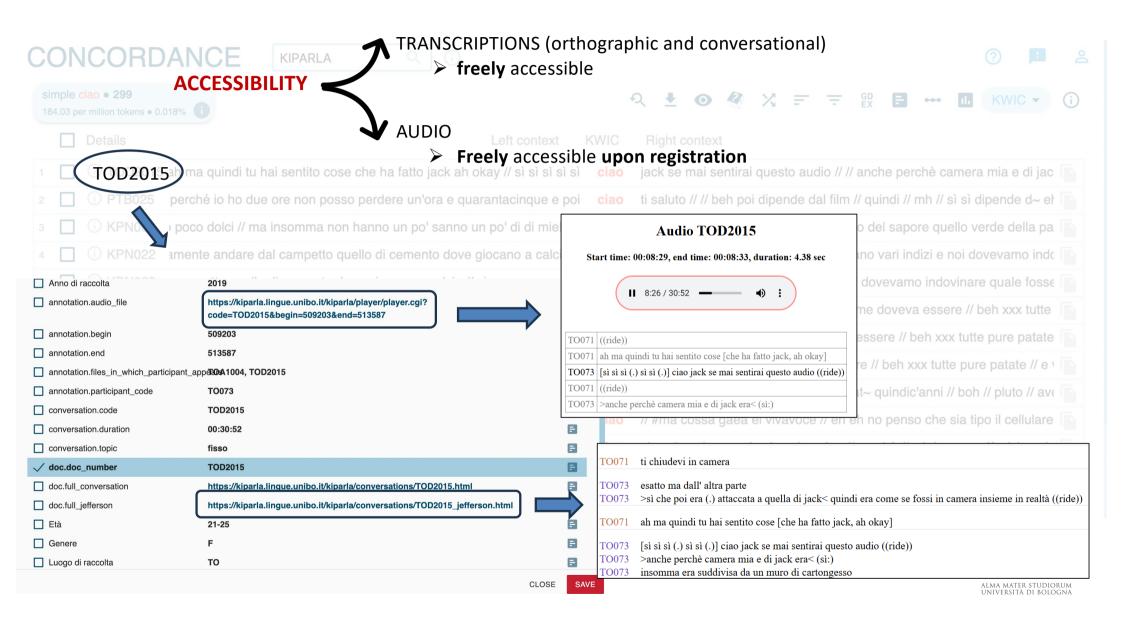
- International standard
- Advanced functionality
- Open source





audio





Overview

- 1. Corpus design and implementation
- 2. The modules
- 3. Using the corpus: some case studies
- 4. Next steps and future challenges



Corpus design: the KIP module

KIP module

• 273 educated speakers recorded in a university setting

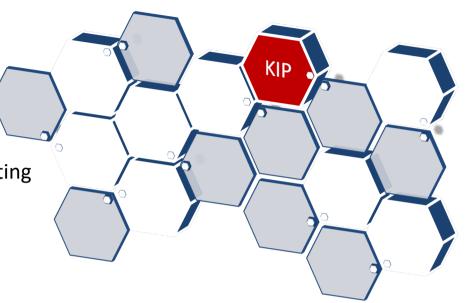
→ Observation of register and regional variation.

✓ Data collected in Bologna and Turin (2016-2019)

✓ **Different communicative contexts**: 121 interactions

√ TOT: ca. 70 hrs, 660,000 tokens

	Relationship between participants	Moderator	Topic
Free conversation	Symmetrical	Absent	Free
Semi-structured interview	Symmetrical	Present	Fixed
Office hours	Asymmetrical	Absent	Free
Exams	Asymmetrical	Absent	Free
Lessons	Asymmetrical	Present	Fixed







Corpus design: the KIPasti module

KIPasti module

63 dinner-table conversations all over Italy

→ Observation of the vernacular, diastratic and regional variation.



√ 147 Speakers with different social characterization (ages, education degree, occupation)

✓ One context: dinner-table conversations, thus shared background, informal and friendly register

√ TOT: ca. 42 hrs, 487,000 tokens

	Data collection
Northern Italy	46%
Central Italy	16%
Southern Italy	38%







Corpus design: the ParlaTO module

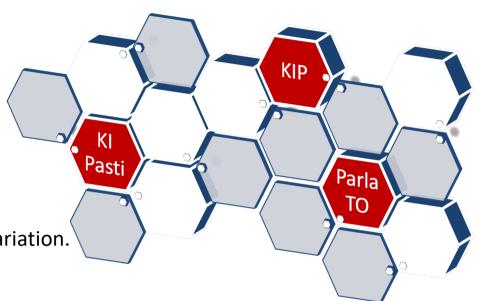
ParlaTO module

• Language spoken in the metropolitan city of Turin

→ Observation of the vernacular, diastratic and regional variation.

- ✓ Data collected in Turin (2019)
- √ 88 Speakers with different social characterization (ages, education degree, occupation)
- ✓ One context: 67 semi-structured interviews
- √ TOT: ca. 50 hrs, 560,000 tokens

	Age groups
Young	$18 \le x \le 30$ years old
Adults	$30 < x \le 60$ years old
Seniors	60 < x ≤ 89 years old







Corpus design: the ParlaBO module

ParlaBO module

Language spoken in the metropolitan city of Bologna

→ Observation of the vernacular, diastratic and regional variation.

- ✓ Data collected in Bologna (2022-2024)
- √ 158 Speakers with different social characterization (ages, education degree, occupation)
- ✓ One context: 86 semi-structured interviews
- √ TOT: ca. 66 hrs, 650,000 tokens

	Data collection
$18 \le x \le 30$ years old	30%
$30 < x \le 60$ years old	36%
60 < x ≤ 89 years old	34%

✓ Data collection completed

Parla BO

Pasti

At the moment, we are transcribing (98%)



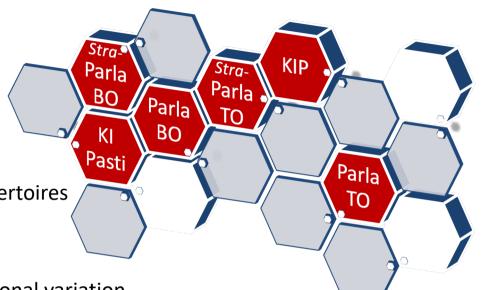
Parla



Corpus design: Stra-Parla BO/TO modules

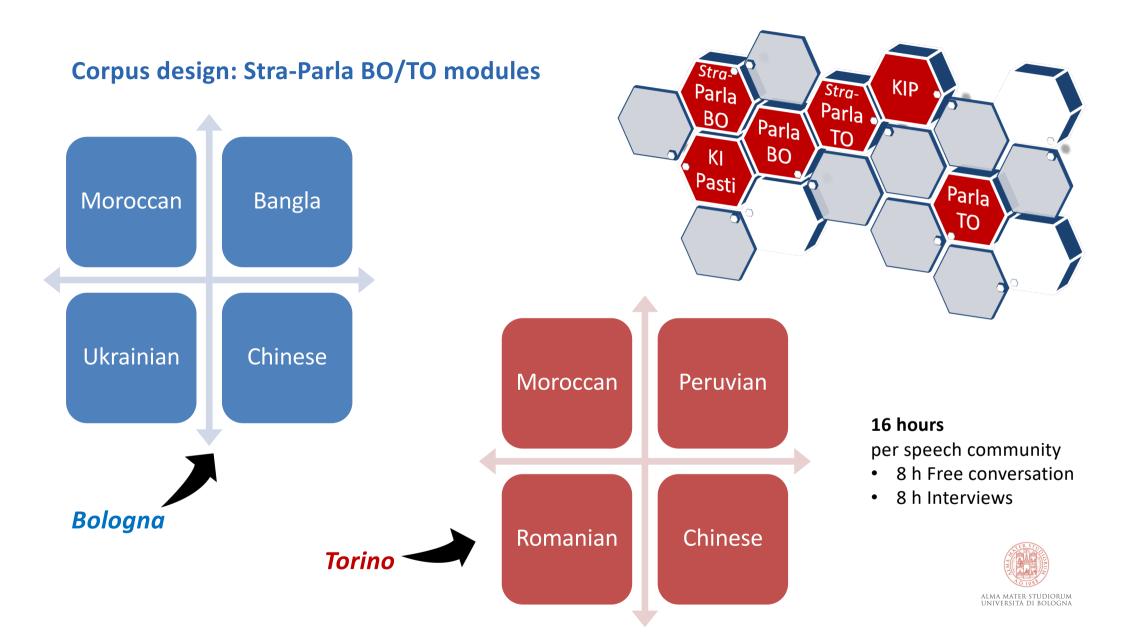
Next steps: Stra-ParlaBO and Stra-ParlaTO modules

 Italian spoken within communities of foreign-origin speakers with complex multilingual repertoires

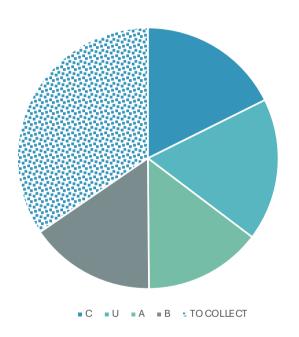


- → Observation of the learners' varieties, diastratic and regional variation.
 - ✓ Data collected in Bologna and Turin (2024 ongoing)
 - ✓ Speakers with multilingual repertoires, different social characterization and origin
 - ✓ Two contexts: semi-structured interview, free conversation
 - **✓** EXPECTED: ca. 128 hrs, 1,250,000 tokens

Data collection in progress!



Stra-ParlaBO: where are we?

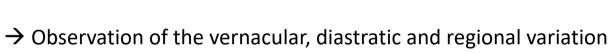


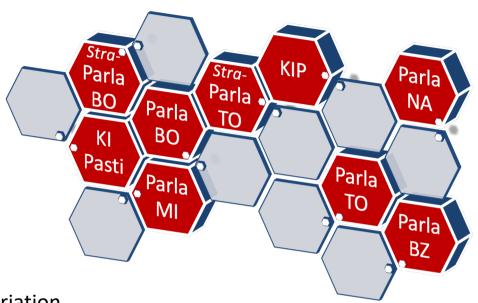
Speech community	Interviews	Free conversation	Total
Chinese	9:04:20	2:13:39	11:17:59
Ukranian	9:48:30	1:29:03	11:17:22
Moroccan Arabic	8:32:34	0:46:42	9:19:16
Bangla	9:58:16	0	9:58:16
Total	37:23:40	4:29:24	41:53:04

Corpus design: ongoing collaborations

Next steps: ParlaBZ, ParlaNA, ParlaMI modules

- Italian spoken in **Bozen** (Daniela Veronesi),
- Italian spoken in Naples (Margherita di Salvo),
- Italian spoken in Milan (Federica da Milano)





Work in progress!



KIParla corpus: size

KIParla Corpus (25/07/24)		✓ KIP ✓ ParlaTO
		✓ KIPasti
Hours	152:50:25	
Informants	489	
Tokens	1,439,271	

KIParla Corpus (30/11/25)			
Expected			
Hours	343:00:00		
Expected			
Informants	900		
Expected TOT			
Tokens	3,300,000		

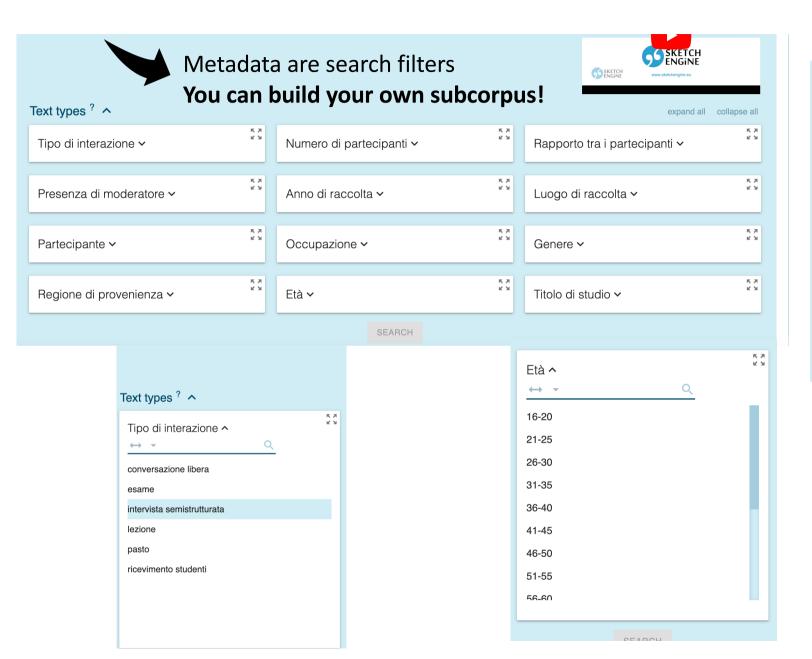
- ✓ KIP
- ✓ ParlaTO
- √ KIPasti
- ✓ ParlaBO
- ✓ ParlaBZ
- ✓ ParlaNA
- ✓ Stra-ParlaBO
- √ Stra-ParlaTO



Overview

- 1. Corpus design and implementation
- 2. The modules
- 3. Using the corpus: perspectives and examples
- 4. Next steps and future challenges

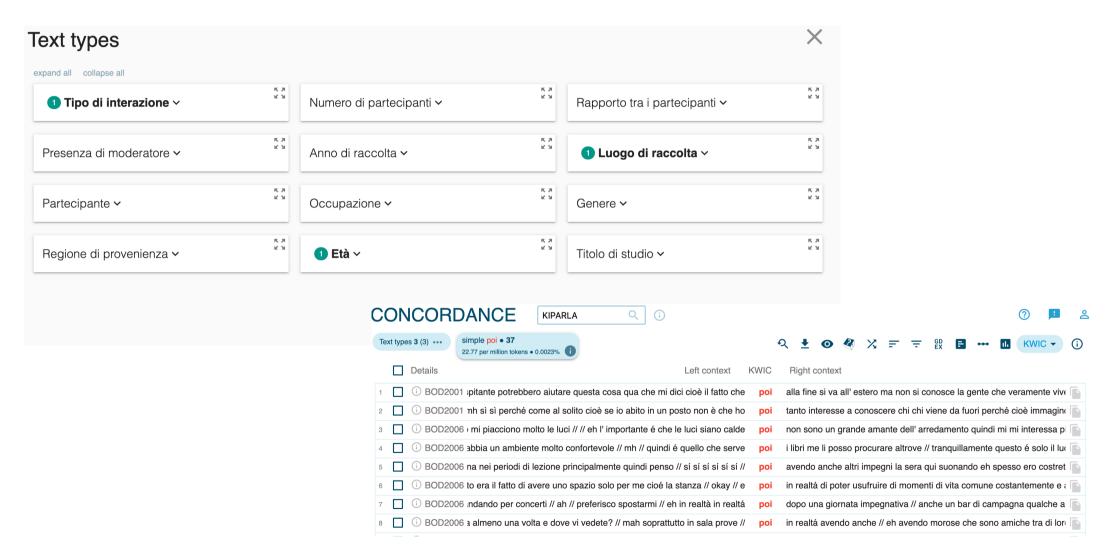








Metadata are search filters You can build your own subcorpus!



(1) Register variation: per cui lit. 'for which'





(1) Register variation: per cui lit. 'for which'

- ✓ Per cui has undergone a grammaticalization process:
 - from Relative oblique construction 'for which' (REL)

(1) KIP, TOD1014

TO068: quindi vi chiederei // eh vabbè mh innanzitutto il motivo per cui avete deciso di frequentare questo corso



So I will ask you // first of all
The reason for which you have chosen to attend thi course

Metadata TO068

Origin: Sicily (Italy)

Age: 36-40 Degree: PhD

Occupation: Professionals



(1) Register variation: per cui lit. 'for which'

✓ Per cui has undergone a grammaticalization process:

- from Relative oblique construction 'for which' (REL)

CONCORDANCE

(1) KIP, TOD1014

TO068: quindi vi chiederei // eh vabbè mh innanzitutto il motivo per cui avete deciso di freguentare questo corso

So I will ask you // first of all The reason for which you have chosen to attend thi course

- to Conclusive Connective 'therefore' (CONN)

(2) ParlaTO, PTD012

TOR001: certo certo

TOI068: per cui diciamo che sì

boh non so dimmi che cosa vuoi che ti racconto

sure sure

so let's say that yes

boh I don't know tell me what you want me to tell you

Metadata TO068

Origin: Sicily (Italy)

Age: 36-40 Degree: PhD

Occupation: Professionals

Metadata TOI068

Origin: Lazio (Italy)

Age: 46-50

Degree: University degree Occupation: Professionals

(Ballarè & Mauri 2024)

(1) Register variation: per cui

Non relativizing *per cui* is nowadays accepted but mainly associated to informal and spoken interactions

1879

Tommaseo:

It shall not be used

Dizionario *della lingua italiana*: *Per cui* a modo d'avverbio, in senso di *Per la qual cosa, Dunque*, non è da dire.

1969

Battaglia:

this use is not correct

- *Per cui:* con valore di neutro, nel significato di per la qual cosa, per ciò, per questo (ma non è uso corretto).

Guarini, 80: Questa rimembranza / ... / è quasi un agitar fiaccola al vento, / per cui, quanto l'incendio / sempre s'avanza, tanto / a l'agitata fiamma ella si strugge.

2008

Treccani:

especially used in spoken language

"spesso per cui è usato, spec. nel linguaggio parlato, col valore della congiunzione conclusiva e perciò."

2024

Sabatini & Coletti:

it does not suit technical-formal writings



"Sicché, perciò. Frequente nel parlato e nelle scritture di livello stilistico medio, non si addice alle scritture di carattere tecnico-formale"





(1) Register variation: per cui

KIP: spontaneus conversations, semi-structured interviews, office hours, lessons, exams;
 ParlaTO: semi-structured interviews;
 KIPasti: dinner-table conversations;

Rapporto tra i partecipanti ^ Formal register
TOT: 361.702 tokens
simmetrico
Informal register

TOT: 1.339.021 tokens



(1) Register variation: per cui

	REL	CONN	тот.
Informal register	30 (35,3%)	55 (64,7%)	85
Formal register	70 (20,2%)	277 (79,8%)	347

The Fisher exact test statistic value is 0.0041. The result is **significant** at p < .01.

✓ CONNective uses of per cui are significantly more frequent in formal interactions!



Ballarè & Mauri 2024: **grammaticalization of** *per cui* as a connective can be analyzed as a multiphase change



Started as a change from below (stigmatized in the past)

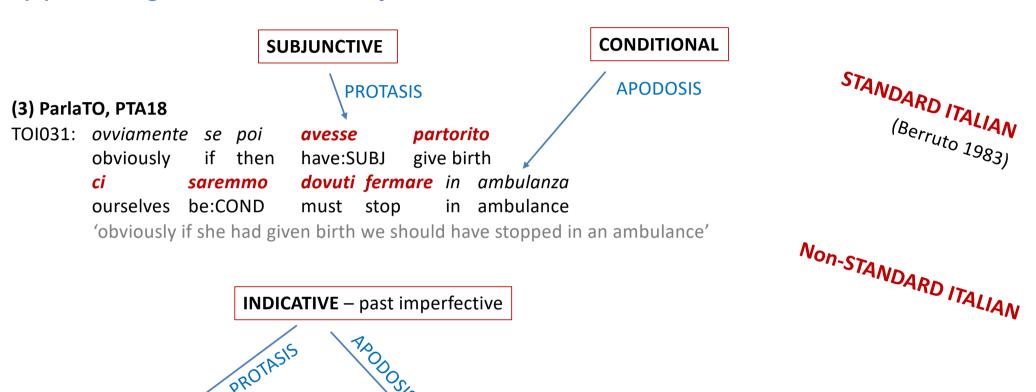


Continues as a change from above (in formal registers)



(Ballarè & Mauri 2024)

(2) Sociolinguistic variation: subjunctive vs. indicative in counterfactual conditionals



(4) ParlaTO, PTD006

TOI055: se non trovavo niente m' attaccavo al tram if not find:IND nothing myself hang:IND to tram

'if I had not found anything I could have sung for it'

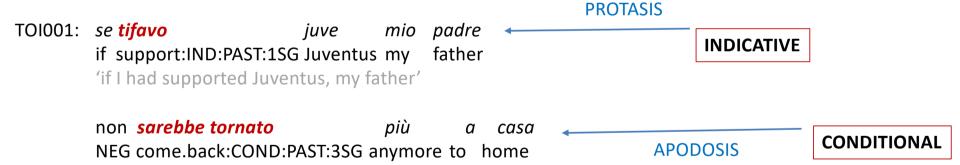
Mauri et al. 2023 Counterfactual conditionals: Linguistic variation in Italian and beyond

(2) Sociolinguistic variation: subjunctive vs. indicative in counterfactual conditionals

> SEVERAL non-STANDARD counterfactual constructions...



(5) ParlaTO, PTA001



'never have returned home'

Mauri et al. 2023 Counterfactual conditionals: Linguistic variation in Italian and beyond

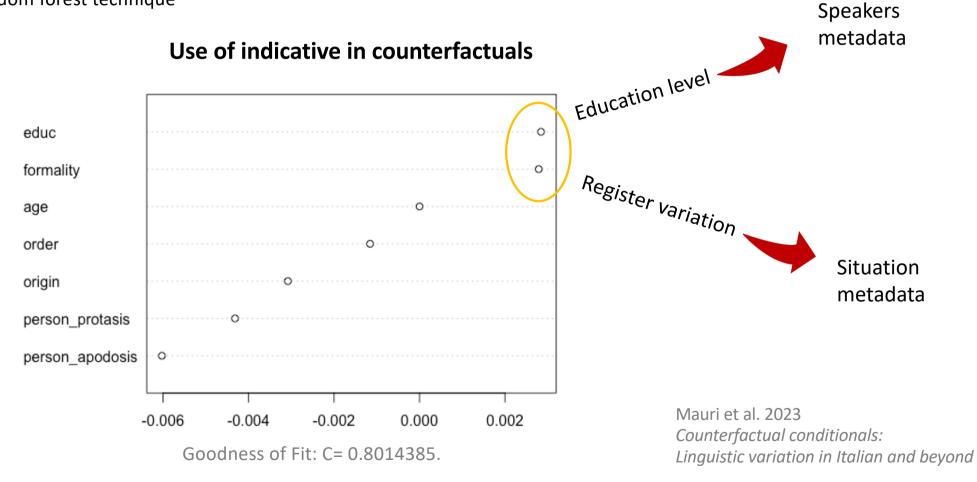
(2) Sociolinguistic variation: subjunctive vs. indicative in counterfactual conditionals

What is the actual > SEVERAL non-STANDARD counterfactual constructions... distribution of non-standard counterfactuals? (5) ParlaTO, PTA001 **PROTASIS** TOI001: se tifavo iuve mio padre **INDICATIVE** if support:IND:PAST:1SG Juventus my father 'if I had supported Juventus, my father' non sarebbe tornato più casa **CONDITIONAL APODOSIS** NEG come.back:COND:PAST:3SG anymore to home 'never have returned home'

> Mauri et al. 2023 Counterfactual conditionals: Linguistic variation in Italian and beyond

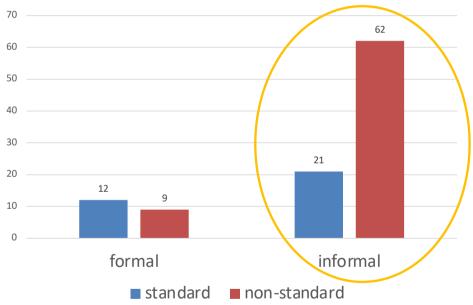
(2) Sociolinguistic variation: subjunctive vs. indicative in counterfactual conditionals

> Random forest technique

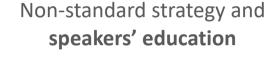


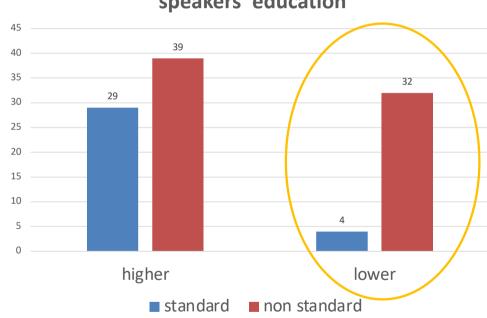
(2) Sociolinguistic variation: subjunctive vs. indicative in counterfactual conditionals





According to the Fisher exact test, the result is significant at p < .01**, with p = < 0.0082, N = 104.





According to the Fisher exact test, the result is significant at p < .001***, with p=< 0.0009, N=104.

ALMA MATER STUDIORUM Jniversità di Bologna

(3) Investigating speakers' positioning and category (co-)construction

(6) ParlaBO, PBC007

Arrival of the allied troops in Romagna, during WWII

BOI019: eh sai l'inghi- l'inghilterra era una potenza anche::

nel nel in i:ndia dalle parti infatti lì [c'erano degli india:ni c'era

m- marocchini c'era tutta gente così]

✓ List of examples

✓ Deixis

> Stereotypes!!

Ad hoc category

[IMMIGRANTS]

you know England was a power also

in the area of India, so there were also Indians

Moroccans, people like that

Metadata BOI019

Region of birth: Emilia-Romagna

Age: 91-95

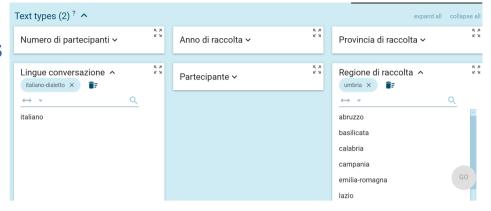
Education: Diploma Occupation: Retired





Mauri et al. 2022: ad hoc categorization and positioning

(4) Investigating geographical variation and dialects





(7) KIPasti, KPC009

PKP089: [°ma° diec']euro se vai a mangia' da qualche parte (.) ma **magni de brutto** eh: , (.) cioè: ((ride))

PKP088: ((ride))

PKP089: #[eh so' ita] so' ita a paghe': (.) >gli ho fatto< no: da:i pago io: perchè se no pagate sempre voi (.) m'avete fatto veni' a ce:na (.) a pranzo e:h

PKP088: [mh.]

PKP089: (#30' ita a paghe' citti:. (.) ((respiro)) [QUANTO]?

#: code-switching

Use of vernacular and dialect

with ten euros if you go eat somewhere you eat a lot I mean ((laughs)) ((laughs))

so I went to pay and I said this is on me because you always pay, I've come for lunch I've come for dinner

so i went to pay, people ((breaths loudly) how much?

Metadata PKP089

Origin: Umbria (Italy)

Age: 21-25

Degree: Vocational training

Occupation: Craft and related trades worker

(5) Investigating jargon

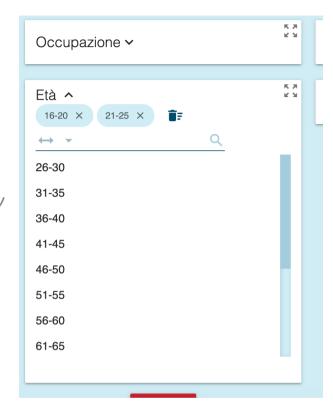
(8) KIPasti, KPN022

PKP070: beh i pulotti possono arrivare lo ste[sso] well the police may come anyway

PKP076: [mh]mh quello sì yes that's true

PKP075 i? the?

PKP070 pulotti the police



Metadata PKP070

Origin: Veneto (Italy)

Age: 21-25

Degree: High school

Occupation: University student

Metada PKP076

Origin: Veneto (Italy)

Age: 56-60

Degree: Middle school
Occupation: Craft workers

Metadata PKP076

Origin: Veneto (Italy)

Age: 16-20

Degree: Middle school

Occupation: School student



(6) StraParlaBO: features of learners' varieties

Comparability with other varieties of Italian!

e.g. vernacular, non-standard

(9) SBIB002

PSB026: ehm una cliente venuto qua mic negozì lasciato una bici a:ART.F client come:PTCP.M.S here my shop left:PTCP.M.S a bike



\$: nonexistent word

(10) SBIB009

PSB058: ah poi diverso lavorare cercare lavorare difficile

PSB005: qui (.) o in bangladesh?

PSB058: no: bangladesh tanti lavorare // tante lavoro c'è

PSB005: qui è più difficile?

PSB058: sì sì cercare difficile lavorare

però bangladesh lavorare (.) soldi di meno

then different work look for work:V hard

here or in Bangladesh?

no Bangladesh a lot work:V // many:F.P work:N there is

here it is harder?

yes yes look for hard work:V

but Bangladesh work (.) less money



✓ Topic-focus organization of syntax

✓ No clearcut distinction in PoS

✓ Existential constructions

✓ Verbal morphology and use

✓ Gender agreement and marking

Metadata PSB026; PSB058

Origin: Bangladesh

Mother tongue: Bangla

Age: 36-40; 16-20

Years spent in Italy: 14; 3

Degree: University; Middle school

Occupation: Sales worker;

Vocational training student

(7) StraParlaBO: code-switching I



(11) SBIC001

PSB002: ci- cina ci sono otto ((ride)) sistemi

China there are eight ((laughs)) systems

PSB001: ah sì that's right

PSB002: di:: >come si dice< di modo [modi] [e:] cucinare of how do you say that way ways of cooking

PSB001: [mhmh] [sì] yes

PSB002: # suan leba zhong shuofa well, eight ways

PSB001: # ah, bazhong wo yiwei ni shuo caixi eight ways, i thought you meant eight cuisines

PSB002: # dui caixi wo xiang shuo yes, cuisines I wanted to say

PSB001: s::ì yes

PSB002 #_dan caixi wo bu zhidao zenme qu fanyi ba but cuisines I don't know how to translate,

zhong shuofa yinggai ye buneng zheme eight ways, maybe you can't say it

PSB001: otto filoni di eight styles of

PSB005: mhmh mhmh

PSB001: cioè di cucina I mean of cooking

PSB005: okay okay

Participant and discourse-related code switching

- Focus on form

Language mediation

Metadata PSB001; PSB002

Origin: China

Mother tongue: Mandarine Chinese; Xiang

Age: 26-30; 31-35

Years spent in Italy: 4; 5

Degree: PhD; Bachelor's degree Occupation: Professionals; Student

(7) StraParlaBO: code-switching II

(12) SBIA013

PSB005: qual è la più bella la città più bella del marocco

PSB069: no no agadir

PSB005: okay

PSB069: la città grande

PSB067: # zwina agadir? // no per me no

PSB069: perché mh

PSB068: # ma 'mri mshit liha

PSB067: # min casablanca

PSB069: non è non è (.) no // non è abita (.) solo

PSB067: # wash kat 'ajbek agadir? zwina? hsen men casa?

PSB069: # batatan

PSB068: # ghadi nt'assab ((ride))

PSB066: ((ride))

PSB067: no no la più bella è casablanca

PSB005: okay

which city is the nicest in Morocco?

Agadir

okay

the big city

Agadir is nice? // I don't think so

because

I have never been there

from Casablanca

it is not it is not // it doesn't live, only

do you like Agadir? Is it better than Casablanca?

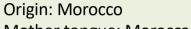
not at all

I am getting angry ((laughs))

((laughs)

the nicest is Casablanca

okav



Metadata PSB067; PS069

Mother tongue: Moroccan Arabic;

French

Age: 41-45; 46-50

Years spent in Italy: 21; 17

Degree: diploma

Occupation: Elementary occupations; unemployed



Participant-related code-switching





Overview

- 1. Corpus design and implementation
- 2. The modules
- 3. Using the corpus: some case studies
- 4. Next steps and future challenges



Guidelines for a Modular, Incremental, Replicable resource (MIR)

KIParla is the first Modular, Incremental, and Replicable resource of spoken Italian (MIR resource)

- ✓ All the methodological choices are being documented at every stage, in compliance with the FAIR principles (Wilkinson et al. 2016)
- ➤ MIR Guidelines: the whole protocol will be fully accessible and replicable also for other languages in and outside Europe (QuiénHabla? QuiParle? WerSpricht?...).





Next steps and future challenges

Computational developments:

- ✓ Semi-automatic transcription (?!?)
- ✓ Lemmatization
- ✓ PoS tagging
- ✓ UD Treebank of Spoken Italian, based on KIParla

Corpus expansion:

✓ New modules >> new collaborations

BOSCO, Cristina et al. 2020.

KIPoS @ EVALITA2020: Overview of the Task on KIParla Part of Speech Tagging In: EVALITA Evaluation of NLP and Speech Tools for Italian - December 17th, 2020: Proceedings of the Seventh Evaluation Campaign of Natural Language Processing and Speech Tools for Italian Final Workshop [online]. Turin: Accademia University Press, 2020. Available on the Internet: http://books.openedition.org/aaccademia/7743. ISBN: 9791280136329. DOI: https://doi.org/10.4000/ books.aaccademia.7743.



CONCORDANCE

KIPARLA













