

WHERE'S THE ANSWER : DIALOGUE ANNOTATION

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Motivation

• Research Context:

- "Coffee or Tea? Yes." [2] : Detecting incomprehension in dialogue
- "What's the answer?" [1]:
 - * Design a classification schema for questions and answers.
 - * Write an annotation guideline to manually annotate dialogues.
 - * Explore machine learning approaches to automate annotation.

• Objectives:

- Enrich the questions and answers classification schema.
- Investigate the interaction between questions and their answers.
- Design a more fined-grained annotation schema for multi-language annotation.

Classification

Questions and answers have their own form and their own function and we want to keep them separate.

• FORM

- Lexical item contained in the utterance
- Syntactic form

• FUNCTION

- Intention of the speaker

Question forms

Name	Tag	Examples
Yes-No	YN	Are you fine?
Wh	WH	What time is it?
Disjunctive inclusive	DQ_I	Are you a citizen of European Union or Switzerland? If yes, click here.
Disjunctive exclusive	DQ_E	Do you want tea or coffee?
Auxiliary deontic	AUX_D	Can you open the window?
Auxiliary epistemic	AUX_E	Can you survive all this?

Question Functions

Name	Tag	Description
Completion suggestion	CS	The speaker completes the turn of another speaker
Phatic	PHA	Phatic function
Ask confirmation	ASK_CONF	The speaker asks the truth value of a proposition or the hearer's engagement to an action
Ask feature	ASK_FEAT	The speaker asks for a feature
Ask to perform	ASK_PERF	The speaker asks to perform an act
Reported speech	RS	The speaker report someone's else question

References

- [1] A. Nourbakhsh M. A. Cruz Blandón G. Minnema. "what's the answer?" In: (2018).
 [2] M. Amblard M. Boritchev. "Coffee or tea? Yes." In: (2018).

Annotation schema

We want to understand how the combination between questions and answers works. To achieve this goal, we explore the notions of compatibility, mismatch and indirectness. Compatibility is the way questions and answers combine with each other.

Compatibility groups for YN and GIVE_CONF

Question type	Expected answers
YN	F _{O2} { YN,UNC,UNK }
ASK_CONF	F _{U2} { GIVE_CONF, GIVE_UNC, GIVE_UNK }

When the answer is not in the expected answer of the question, we define the notion of mismatch for both form and the function.

First annotation:

- Select a Question
 - QUESTION FORM
 - QUESTION FUNCTION
- Select an Answer
 - ANSWER FORM
 - ANSWER FUNCTION

Extended annotation:

- Select the QA Pair
 - MISMATCH OF FORM
 - MISMATCH OF FUNCTION
 - INDIRECT ANSWER
 - HAS DIALOGIC FUNCTION
 - HAS IMPLICATURE
 - NOT ANSWER

Text Segmentation

This algorithm represents the way we analyzed exchanges where

- A second question directly follows one already given answer
- Many questions are in a row

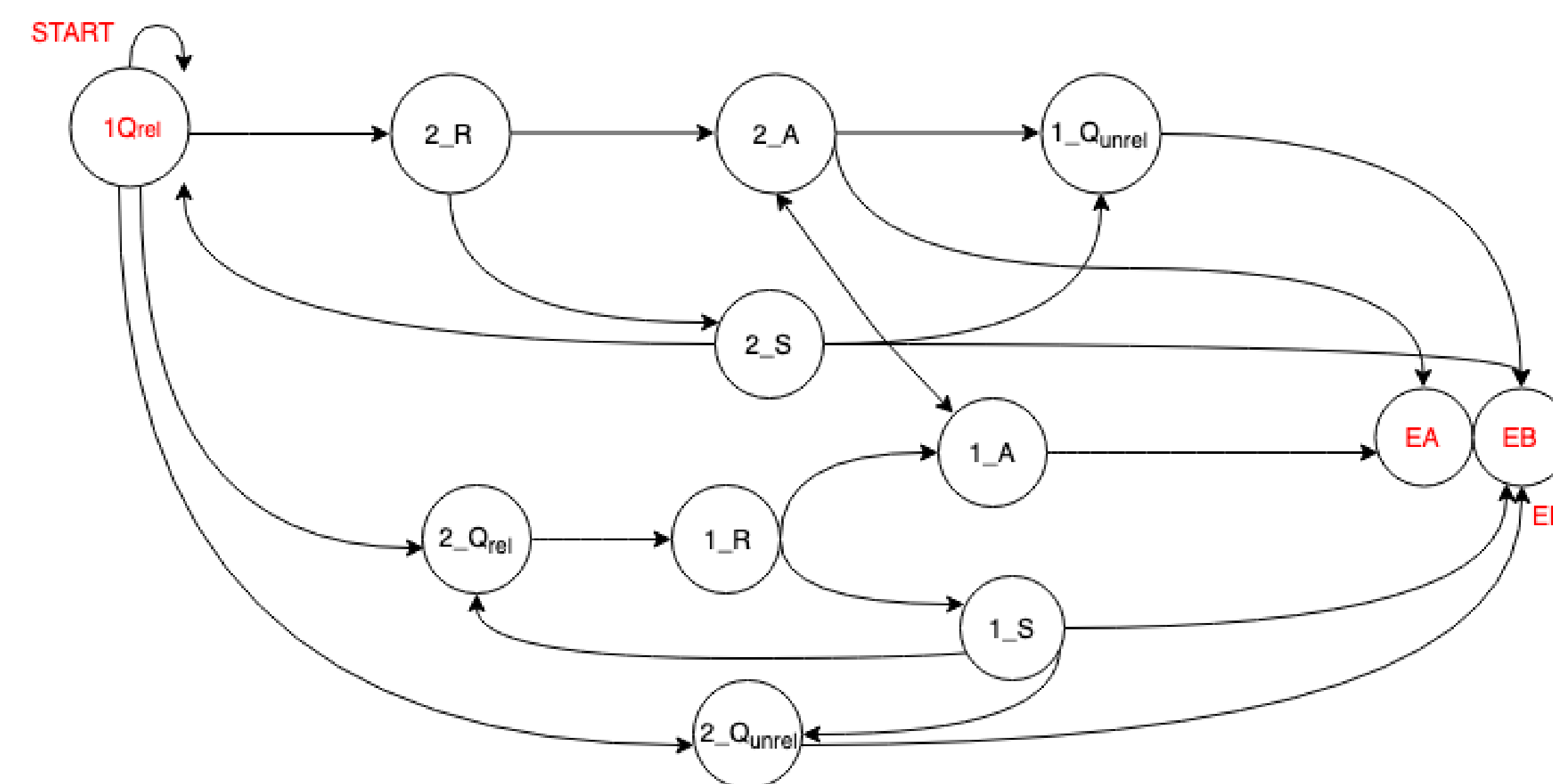


Fig. 1: Complex Exchange

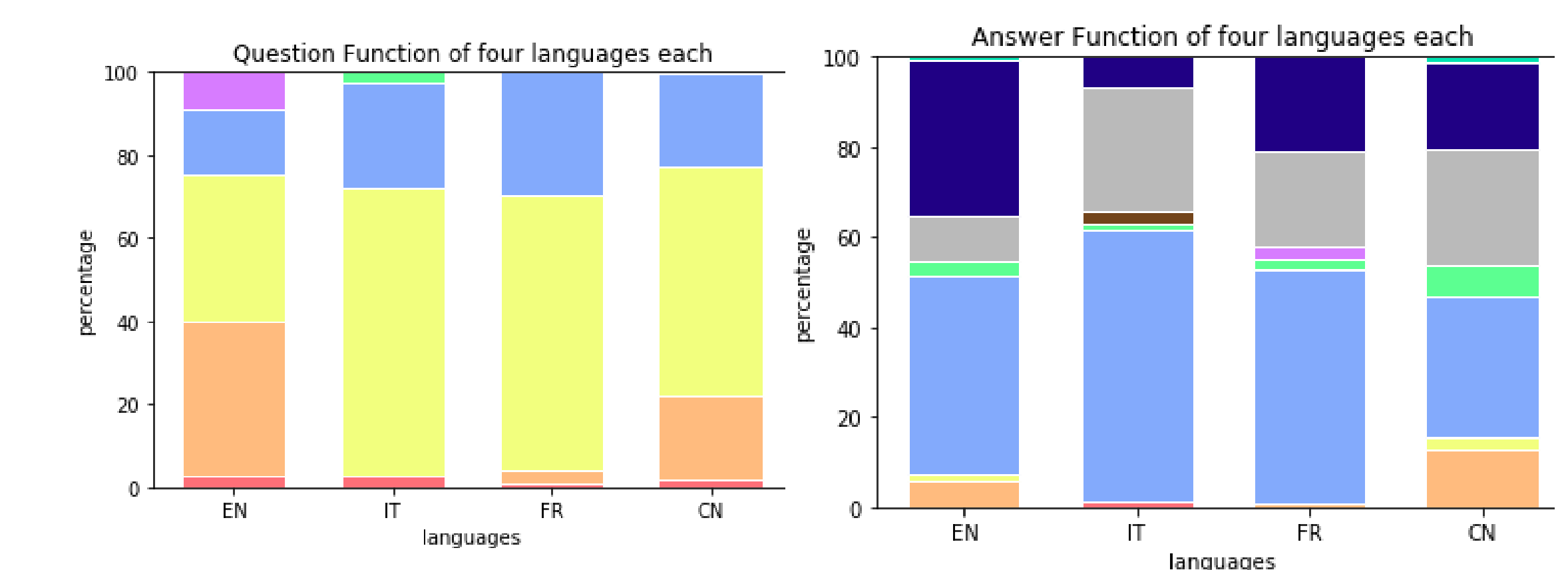
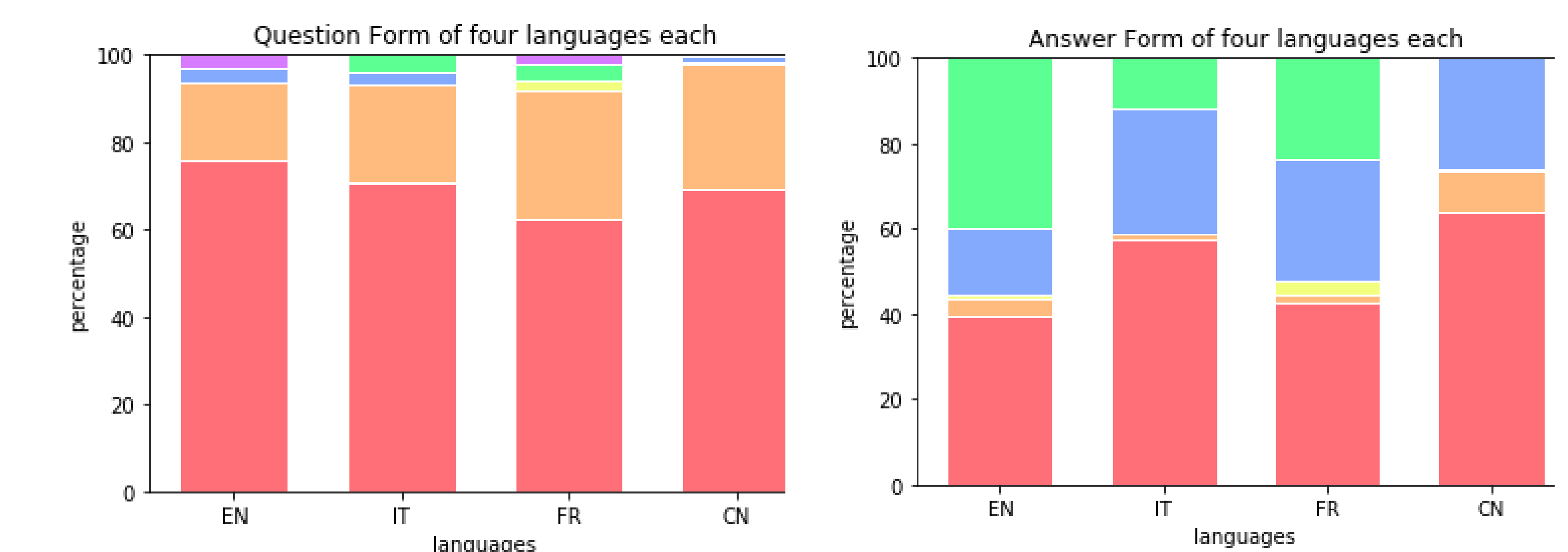
Results

Multilingual corpora used

	Corpus	Length	QA pairs	Spontaneous
Italian	API	14min	56	x
	CATAN	14min	34	x
French	TCOF	10min	66	x
	Valibel	10min	14	x
Chinese	PolyU	20min	22	x
	NCCU	140min	287	x

Agreement 2018-2019

	A B	B C	A C
question_type	0.92	0.92	0.88
answer_type	0.88	0.85	0.82
features	0.94	1	0.87



Future research

- Exploring other types of recurrent questions and answers
 - Rhetoric questions
 - Ironic questions and answers
- Formalizing and structuring our annotation schema in a better way
- Working on indirectness
 - Study other cases of implicatures.