

Clause types and speech acts in speech to children

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Introduction: Clause types and speech acts

Clause type	Canonical speech act	Example
Declarative	Assertion	1. Zoe kicked the ball.
Interrogative	Question	2. (a) Did Zoe kick the ball? (b) What did Zoe kick?
Imperative	Request	3. Kick the ball!

- 3 clause types are taken to be universal cross-linguistically (Sadock & Zwicky 1985, König & Siemund 2007).
- Each clause type has a canonical speech act
- Mismatches between clause type and speech act do occur:
 4. Declarative-Request
“You have to water the plants.”
 5. Interrogative-Request
“Can you walk over there and get the picture?”
 6. Declarative-Question
“You would like me to look for the pirate?”

Background: Acquiring clause types

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- Clause type identification early on would be useful for the acquisition of basic syntactic properties of one's language. (Pinker 1984, Pinker 1989, Gleitman 1990, Gleitman et al. 2005, Perkins 2019).
- A learner might incorrectly infer that her language has OSV word order (Perkins 2019) from (2b) or is pro-drop from (3).

Background: Acquiring clause types

- How do children learn which morphosyntactic properties are relevant clause typing?
- We know that children
 - a) are sensitive to speech act information
 - b) that they use evidence from statistical distributions in the input for acquisition
- ➔ Children could use observations about what morphosyntactic properties occur with which speech acts to learn the clause types of their language
- ➔ But there need to be few mismatches

Annotation procedure

- 15,243 annotated parent utterances from Providence portion of CHILDES (Demuth et al. 2006)
- 5 child;parent pairs audio/video recordings of play-time sessions between the ages of 1;00 and 3;07
- Each parent utterance coded for
 - ♦ Clause type
 - declarative: Zoe kicked the ball.
 - interrogative: Did Zoe kick the ball?/What did Zoe kick?
 - imperative: Kick the ball!
 - exclamative: What a beautiful day!
 - fragment (FRAG): *varies — lacks full clausal elements*
 - ♦ Speech act: assertion, question, request, exclamation
 - ♦ Various grammatical features of each utterance:
 - subject, modality, negation, rising intonation, attitude verb

Data: From the speech act perspective

Rate of clause type per speech act		Speech act			
		Assertion	Question	Request	Exclamation
Clause type	Declarative	97.4%	15.3%	13.8%	5%
	Interrogative	0.4%	69.2%	9%	5%
	Imperative	0	0	73.8%	52.5%
	Exclamative	0	0	0	32.5%
	Fragment	2%	15.4%	2.9%	5%
	Total	100%	100%	100%	100%

- Reliable signal across all speech acts
- Strongest signal from assertions to declaratives
- Variability in questions and requests explained by other formal features

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	Imperative	0	0	73.8%	52.5%
	Exclamative	0	0	0	32.5%
	Fragment	2%	15.4%	2.9%	5%
	Total	100%	100%	100%	100%

- Fragments assigned a speech act if they had a full VP/PredP
 - (i) Fragment-Assertion
“looks like it's flapping like a bird.”
 - (ii) Fragment-Question
“want me to try again?”
 - (iii) Fragment-Request
“careful with your rake.”
- Exclamations with imperative syntax:
 - (iv) “wow look at that twister!”

Data: From the clause type perspective

Rate of speech act per clause type		Clause type				
		Declarative	Interrogative	Imperative	Exclamative	Fragment
Speech act	Assertion	86%	0.9%	0	0	16.5%
	Question	8.4%	90.5%	0	0	72.8%
	Request	5.3%	8.3%	98.6%	0	10.2%
	Exclamation	0.03%	0.9%	1.3%	100%	0.3%
	Total	100%	100%	100%	100%	100%

- Children have mutually reinforcing information about the link between clause types and speech acts

Mismatches: Modals in requests

		Clause type	
		Declarative	Interrogative
Speech act	Assertion w/ modal	18.03%	13.04%
	Question w/ modal	5.02%	11.2%
	Request w/ modal	58.48%	75.09%

- Modals occur more often than expected in mismatches involving requests

Mismatches: Rising intonation in polar questions

Clause type	Example	Count (%)
Polar interrogative	Are you thirsty?	808 (48.5%)
Left Edge Ellipsis (Fragment)	a. Wanna go on your swing? b. You kissing that penguin	256 (15.3%)
Rising declarative ambiguous	You put Bob in the pilot?	242 (14.5%)
Rising declarative unambiguous	You're gonna hit it or throw it?	202 (12.1%)
Tags	a. We're not really going to the zoo, are we ? b. A dumptruck's on the tracks, huh ? c. You knew that one, right ?	157 (9.4%)
Total		1665 (100%)

- ➔ More than half of polar questions are made with non-interrogative syntax
- ➔ Non-interrogatives are marked by rising prosody
- ➔ Declarative syntax makes up a large part of the polar question data
- ➔ The learner needs to be sensitive to prosody
- ➔ Experimental work by Goodhue et. al. (2020) suggests that children understand RDs as questions by at least age ~3

Conclusion

- The question:
 - What kind of information is available to the child in learning the clause types of their language?
- The result:
 - The link between clause type and speech act is very stable in the input from both directions.
 - The variability there is predicted by other features: prosody for questions and by modals for requests.
- Open questions:
 - Prosody unifies polar interrogatives and rising declaratives — our annotation schema treats them both as ‘Questions.’ But a rising declarative cannot be used in every context that a polar interrogative is licensed.
 - Children have to make more fine-grained distinctions between rising declaratives and polar interrogatives. How and when children do this is not yet clear (see Goodhue et al. @ ELM).