

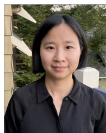
# Building complex speech acts

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# Acknowledgements

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# The Austinian approach

Using speech-related **verbs** of English, Austin classified speech acts into different categories.

- ▶ giving of verdicts
- ▶ exercising of power
- ▶ committing to causes or actions
- ▶ convincing others
- ▶ ...

This approach was criticized: lexical gaps, imperfect mapping, etc (Searle 1975)

## Small semantics, big pragmatics



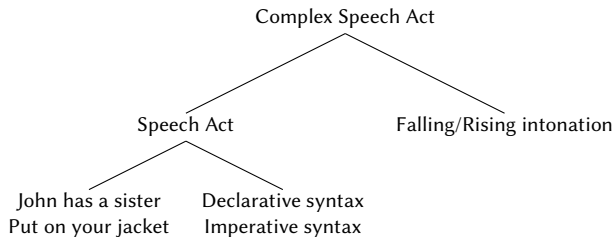
Where is the boundary? Is there even one?

# Neo-Austinian

Look at other **grammatical components** that serve as a window into the organization of speech acts.

- ▶ Intonation
- ▶ Modal particles
- ▶ Utterance final particles

# The intonation window



## Falling vs. rising

- ▶ Stronger (presence of) vs. weaker (absence of) commitment
- ▶ Implicit vs. explicit request of addressee input

Gunlogson (2001, 2008); Portner (2018); Rudin (2018); Jeong (2018); a.o.

## The particle window

Cantonese has around 35 - 50 particles marking speech acts (37 in a spoken corpus) (Law 1990):

Declarative: *gaa3*, *ge3*, *aa3*, *lo1* etc

- (1) Aaman sik haa *gaa3*.  
Aaman eat shrimp DEL  
'Aaman eats shrimp.'

Wh-question: *ne1*, *aa3*

- (2) Mingzai heoi-zo bin *ne1*?  
Mingzai go-ASP where WHQ  
'Where did Mingzai go?'

Polar question: *maa3*, *me1* (biased)

- (3) Aaman sik haa *maa3*?  
Aaman eat shrimp PQ  
'Does Aaman eat shrimp?'

Most cannot occur in embedded clauses.

# Hierarchical organization

Over 100 particle clusters:

- (4) Aaman sik haa gaa3 wo3.  
Aaman eat shrimp DEL  
'Aaman eats shrimp, I'm reminding you.'
- (5) Aaman sik haa gaa3 le1.  
Aaman eat shrimp DEL  
'Aaman eats shrimp. Trust me.'
- (6) Aaman sik haa gaa3 me1?  
Aaman eat shrimp DEL  
'Aaman eats shrimp? Is that really true?'
- (7) Aaman sik haa gaa3 ho2?  
Aaman eat shrimp DEL  
'Aaman eats shrimp. Would you agree?'
- (8) Aaman sik haa gaa3 me1 ho?  
Aaman eat shrimp DEL  
'Aaman eats shrimp? Is that really true? Would you ask, too?'



Observation 1:  
Shifty declarative

## Declarative commitment

- (9) Aaman sik haa gaa3.  
Aaman eat shrimp DEL  
'Aaman eats shrimp.' very strong
- (10) Aaman sik haa gaa3 wo1.  
Aaman eat shrimp DEL WO  
'Aaman eats shrimp. You wouldn't know.' very strong
- (11) Aaman sik haa gaa3 ho2?  
Aaman eat shrimp DEL HO  
'Aaman eats shrimp. Would you agree?' quite strong
- (12) Aaman sik haa gaa3 me1?  
Aaman eat shrimp DEL HO  
'Aaman eats shrimp? I don't believe it.' non-existent

## Declarative strengthening?

Aaman eats shrimp *gaa3*

$$\text{del}(p)(s) := \lambda c \lambda c'. \text{DC}_c^s \cup \{p\} = \text{DC}_{c'}^s$$

if **evidence**<sub>c'</sub>(p)(s) >  $\sigma$ , else # (undefined)

- ▶ Weak *gaa* occurs with *me1*:  $\sigma > \mathbf{low}$
- ▶ Strong *gaa* occurs elsewhere:  $\sigma > \mathbf{high}$

But, there is no intermediate strength *gaa3*. Instead, another particle is used:

(13) Aaman sik haa **gwaa3**.

Aaman eat shrimp PROBABLY

'Aaman eats shrimp.'

intermediate

Observation 2:  
Addressee attitude in declarative clusters

## Declarative clusters

- (14) Aaman sik haa gaa3.  
Aaman eat shrimp DEL  
'Aaman eats shrimp.'
- (15) Aaman sik haa gaa3 wo1.  
Aaman eat shrimp DEL  
'Aaman eats shrimp. You wouldn't know.'
- (16) Aaman sik haa gaa3 le2.  
Aaman eat shrimp DEL  
'Aaman eats shrimp. Trust me!'
- (17) Aaman sik haa gaa3 lo1.  
Aaman eat shrimp DEL  
'Aaman eats shrimp, obviously.'

Declarative clusters seem to involve addressee attitude towards the content.

# CG management operators?

Repp (2011) suggests the presence of similar modal particles in German responsible for managing the common ground:

[force operator [MP [proposition]]]

Dissimilarities:

- ▶ Resistance to embedding
- ▶ Position  
[[[proposition] force operator] Del-modifier]

## Observation 3: Speech-act level questions

(collaborative work with Diti Bhadra and Haoze Li)

## Declarative + *ho*2

The particle *ho* combines with a **declarative** and yields a **question**.

- (18) Aaman sik haa    *gaa ho*?  
Aaman eat shrimp DEL HO  
'Aaman eats shrimp. Right?'

Possible responses:

- (19) a. Hai aa.  
right DEL  
'Right.'
- b. Mhai aa.  
no DEL  
'No.'



# Declarative + *ho2* preserves speaker commitment

Declarative + *ho* differs from a regular polar question in the preservation of the commitment associated with *gaa3* (Lam 2014).

Context:

When approaching a stranger to fill out a survey:



(20) Nei jau sigaan *maa*?  
you have time PQ  
'Do you have time?'

(21) #Nei jau sigaan *gaa ho*?  
you have time DEL HO  
'You have time. Right?'

## Declarative + me1 + ho2 has no speaker commitment

Context: Ada said Aaman eats shrimp. You were surprised to hear that and turned to your friend Beth (infelicitous if directed to Ada):

- (22) Aaman sik haa    *gaa3 me1 ho2?*  
Aaman eat shrimp DEL RQ HO  
'Aaman eat shrimp? I don't believe it. Would you agree with me?'

Agreement with the rhetorical question is unmarked:

- (23) Hai lo4.  
yes LO  
'Right, I doubt that, too.'

Agreement with assertion/content is marked:

- (24) ??Hai aa3.  
yes ASSERT  
'Yes, he does.'

Takeaway: *ho2* does not operate on content, but something bigger!

## WhQ-*ho*

*Ho* may also attach to a *wh*-question and turn it into another question.

- (25) Mingzai heoi-zo bin    *ne1 ho?*  
Mingzai go-ASP where WHQ HO2  
'Where did Mingzai go? (Would you ask the same question?)'

Possible responses:

- (26) Keoi heoi-zo paaklam.  
he go-ASP Berlin  
'He went to Berlin.'
- (27) Hai lo4. (#Keoi heoi-zo paaklam).  
right LO he go-ASP Berlin  
'Right. (#He went to Berlin.)'

If *ho2* actually operates on something bigger, we should expect...

# Answer to Q expected

Speaker believes that Addressee can answer the question:



Storyboard credit: UBC Syntax of Speech Acts Lab

(28) Keoi gong matje **ne**?  
he say what WHQ  
'What did he say?'

(29) #Keoi gong matje **ne ho**?  
he say what WHQ HO  
'What did he say? Do you  
wonder the same thing?'

# Answer to Q not expected

Speaker believes that Addressee may NOT be able to answer the question:



Storyboard credit: UBC Syntax of Speech Acts Lab

(30) #Keoi gong matje **ne**?  
he say what WHQ  
'What did he say?'

(31) Keoi gong matje **ne ho**?  
he say what WHQ HO  
'What did he say? Do you  
wonder the same thing?'

## Interm summary

Lesson from *ho2*: there are operations on what looks like speech acts.

Our goal: generalize this to understand all particle clusters.

# Making sense of conversations

Why do people engage in conversations?

- ▶ To work towards achieving **shared** goals (Grice 1975, a.o.)
- ▶ To grow common ground, i.e., **shared** propositions (Stalnaker 1978, a.o.)

## Approaching ‘sharedness’: content-level

- ▶ constitutive rules / social norms (Lewis 1975, a.o.)
- ▶ grammatical view (Beyssade and Marandin 2006, Heim et al. 2016)
  - ▶ Speaker-oriented component
  - ▶ Addressee-oriented component

SOC and AOC both directly operate on **content** and may introduce **different** speech act types.

(32) Quest<sub>s</sub>(you pass the salt) + To-do<sub>a</sub>(pass the salt)

The Cantonese challenge:

(33) Aaman sik haa    **gaa3 me1 ho2?**

Aaman eat shrimp DEL RQ HO

‘Aaman eat shrimp? I don’t believe it. Would you agree with me?’



## Approaching 'sharedness': speech-act level

No looking back (strong compositionality):

Content → speech act-level object → speech act level object

force

force modification

# Speech act anchoring

- ▶ Speech acts need to be anchored to discourse participants (Gunlogson 2001)

$\mathbf{del}(p)(\text{SPK}) = \text{chat.history } 1 \rightsquigarrow \text{chat.history } 2$

- ▶ Unanchored speech acts are from functions from discourse participants to speech acts (modeled as context change potentials)

$\mathbf{del}(p) = \lambda x \lambda c \lambda c'. DC_c^x \cup \{p\} = DC_{c'}^x$ , if  $\mathbf{source}'_c(x)(p)$ ,  
else  $c = c'$

Type  $e \rightarrow T$

- ▶ basic force operators like *gaa3* and *ne1* yield **unanchored speech acts** (USAs).

# Speech act anchoring

USA:

$\mathbf{del}(p) = \lambda x \lambda c \lambda c'. DC_c^x \cup \{p\} = DC_{c'}^x$ , if  $\mathbf{source}_{c'}(x)(p)$ ,  
else  $c = c'$

Two ways of anchoring USAs:

- ▶ discourse participant values (type  $e$ ) (Gunlogson 2001)
- ▶ anchoring functions (type  $e \rightarrow T \rightarrow T$ ), which are force modifiers

(34) Aaman sik haa    **gaa3 wo1**.  
Aaman eat shrimp DEL WO  
'Aaman eats shrimp. You wouldn't know.'

A bit more details

# Basic discourse structure

Context:

- ▶ A context  $c$  is a tuple consisting at least two sets of discourse commitments (Gunlogson 2001; Farkas and Bruce 2010, a.o.):
  - ▶ Speaker discourse commitments:  $DC_c^s$
  - ▶ Addressee discourse commitments:  $DC_c^a$



**Spk** has said:  $\{p_1, p_2, \dots\}$

**Add** has said:  $\{q_1, q_2, \dots\}$

Common ground (Stalnaker 1978; Lewis 1979):

$CG_c = \cap \{DC_c^x \mid x \text{ is a discourse participant in } c\}$

*ho2*: Felicitous performance of the same act type

# Informal schema



**Spk**

I can claim/ask **S**

+

Can you claim/ask **S**



**Add**

$$\mathbf{ho2}_{s,a} := \lambda A. \lambda c \lambda c'. A(a)(c)(c') = \text{☺} \vee A(a)(c)(c') = \text{☹}$$

if  $A(s)(c)(c') = \text{☺}$

## Declarative + ho2

Aaman eats shrimp gaa3 ho2.

$A$

$\mathbf{del}(p) := \lambda x \lambda c \lambda c'. DC_c^x \cup \{p\} = DC_{c'}^x$ , if  $\mathbf{source}_{c'}(x)(p)$ , else  $c = c'$

$\mathbf{ho2}_{s,a} := \lambda A. \lambda c \lambda c'. A(a)(c)(c') = \text{☺} \vee A(a)(c)(c') = \text{☹}$

if  $A(s)(c)(c') = \text{☺}$

$\mathbf{del}(p)\text{-ho2}_{s,a} := \lambda c \lambda c'. (DC_c^a \cup \{p\} = DC_{c'}^a \wedge \mathbf{source}_{c'}(x)(p))$

$\vee c = c'$

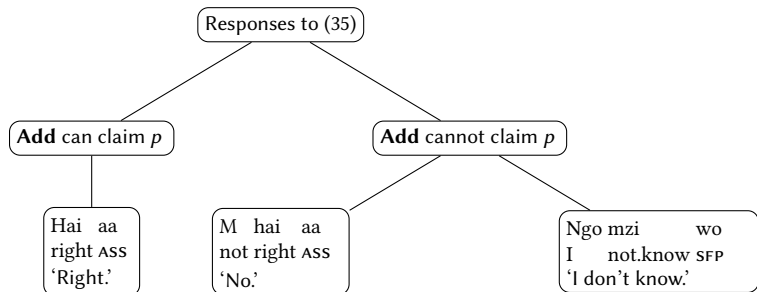
In plain words:

Is it felicitous for you to perform the **declarative** act, given that it is felicitous for me?



## Responding to declarative + *ho2*

- (35) Aaman sik haa *gaa3 ho2*?  
Aaman eat schrimp ASS. HO  
'Aaman eats schrimp. Right?'



1. 'Right'  $\rightsquigarrow$  **Add** can perform the same declaration.
2. 'No'  $\rightsquigarrow$  **Add** cannot perform the same declaration.
3. 'I don't know'  $\rightsquigarrow$  **Add** does not have enough evidence.

## Question + ho2

**quest**( $Q$ ) :=  $\lambda x \lambda c \lambda c' . \exists p \in Q : CG_c \cup \{p\} = CG_{c'}$   
if  $\forall p \in Q : \neg \mathbf{source}_{c'}(x)(p)$ ,  
else,  $c = c'$

Type:  $((st)t)(eT)$

**ho2** $_{s,a}$  :=  $\lambda A . \lambda c \lambda c' . A(a)(c)(c') = \text{☺} \vee A(a)(c)(c') = \text{☹}$   
if  $A(s)(c)(c') = \text{☺}$

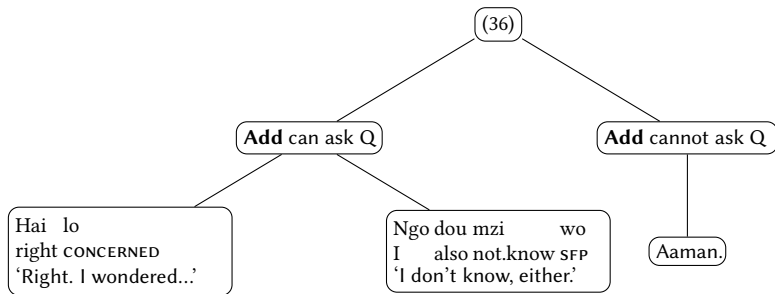
**quest**( $Q$ )-**ho2** $_{s,a}$  :=  $\lambda c \lambda c' . \left( \begin{array}{c} \exists p \in Q : CG_c \cup \{p\} = CG_{c'} \\ \wedge \\ \forall p \in Q : \neg \mathbf{source}_{c'}(a)(p) \end{array} \right) \vee c = c'$   
if  $\left( \begin{array}{c} \exists p \in Q : CG_c \cup \{p\} = CG_{c'} \\ \wedge \\ \forall p \in Q : \neg \mathbf{source}_{c'}(s)(p) \end{array} \right)$ , else  $c = c'$

In plain words:

Is it felicitous for you to perform the **question** act, given that it is felicitous for me?

## Responding to question + *ho2*

- (36) Bingo sik haa **ne ho?**  
who eat schrimp WHQ HO  
'Who eats shrimp? Would you ask, too?'



1. **'Right'**  $\rightsquigarrow$  **Add** doesn't know the answer to Q
2. **'I don't know, either'**  $\rightsquigarrow$  **Add** doesn't know the answer to Q
3. **'Aaman'**  $\rightsquigarrow$  **Add** knows the answer to Q

## Addressee attitude in declarative clusters

## Recall: declarative clusters

- (37) Aaman sik haa gaa3.  
Aaman eat shrimp DEL  
'Aaman eats shrimp.'
- (38) Aaman sik haa gaa3 wo1.  
Aaman eat shrimp DEL  
'Aaman eats shrimp. You wouldn't know.'
- (39) Aaman sik haa gaa3 le2.  
Aaman eat shrimp DEL  
'Aaman eats shrimp. Trust me!'
- (40) Aaman sik haa gaa3 lo1.  
Aaman eat shrimp DEL  
'Aaman eats shrimp, obviously.'

Declarative modifiers seem to involve addressee attitude towards a semantic content

## Symmetric vs. asymmetric anchoring

Aaman eats shrimp gaa3 wo1.

$$A := \lambda x \lambda c \lambda c'. \overbrace{DC_c^x \cup \{p\}}^A = DC_{c'}^x$$

if **source**<sub>c'</sub>(p)(x), else, c = c'

Asymmetric anchoring:

$$wo1/le2_{s,a}(A) := \lambda c \lambda c'. A(s)(c)(c') = \text{☺}$$

if  $A(a)(c)(c') = \text{☹}$

'I'm performing the declarative act, given that you can't.'

Symmetric anchoring:

$$lo1_{s,a}(A) := \lambda c \lambda c'. A(s)(c)(c') = \text{☺}$$

if  $A(a)(c)(c') = \text{☹}$

'I'm performing the declarative act, given that you also can.'

Shifty declarative

## Recall: shifty declarative commitment

- (41) Aaman sik haa gaa3.  
Aaman eat shrimp DEL  
'Aaman eats shrimp.' very strong
- (42) Aaman sik haa gaa3 wo1.  
Aaman eat shrimp DEL WO  
'Aaman eats shrimp. You wouldn't know.' very strong
- (43) Aaman sik haa gaa3 ho2?  
Aaman eat shrimp DEL HO  
'Aaman eats shrimp. Would you agree?' quite strong
- (44) Aaman sik haa gaa3 me1?  
Aaman eat shrimp DEL HO  
'Aaman eats shrimp? I don't believe it.' non-existent



## ‘Cancelling’ declarative commitment

Aaman eats shrimp gaa3 me1.

$$A := \lambda x \lambda c \lambda c'. \overbrace{\text{DC}_c^x \cup \{p\}}^A = \text{DC}_{c'}^x \\ \text{if } \mathbf{source}_{c'}(p)(x), \text{ else } c = c'$$

$$me1_{s,a}(A) := \lambda c \lambda c'. A(a)(c)(c') = \text{☺} \vee A(s)(c)(c') = \text{☹} \\ \text{if } A(\mathbf{s})(c)(c') = \text{☹}$$

In plain words:

‘Can you perform the declarative act, given that I cannot?’

# Predictions

## Impossible combinations/contexts

- ▶ What's your name + ho2?
- ▶ aa3+ho2: addressee-directed speech acts
- ▶ imperative + ho2
- ▶ gaa3+wo3/le2+ho

## What is your name + \**ho2*?

*Ho2* is not compatible with questions that the addressee clearly may answer.

(45) #Nei jiu me meng ne ho?

you call what name Q HO

‘What’s your name? Do you wonder the same thing?’

Generally, the addressee knows his/her name. So, s/he can’t ask this question. Since only one answer is viable, this is a defective question.

## Addressee-directed question + \**ho2*

Questions with *aa3* or *maa3* are generally incompatible with *ho2*:

(46) #Keoi gong me aa ho?

he say what WHQ HO

‘What did he say? Do you wonder the same thing?’

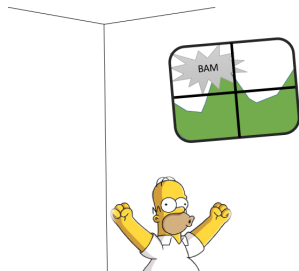
(47) #Keoi sik haa maa ho?

he eat sjrimp POLQ HO

‘Does he eat shrimp? Do you wonder the same thing?’

# Conditions on the addressee

## Self-directed questions: *ne*



- (48) Me seng *ne*?  
what noise WHQ  
'What noise is it?'

## Add-directed questions: *aa*



- (49) Me seng *aa*?  
what noise WHQ  
'What noise is it?'

# Addressee-directed questions

Addressee-directed questions (marked by *aa3*) + *ho2* says:

1. The speaker can ask ‘what noise is it’, because
  - ▶ I don’t know what noise it is;
  - ▶ I believe you know what noise it is. (*New!*)
2. Can the addressee ask ‘what noise is it’?
  - ▶ If the addressee can: s/he doesn’t know what noise it is and believes that s/he know what noise it is. (*contradiction!*)
  - ▶ Since only one answer is viable, this is a defective question.

## Imperative + \**ho2*

Imperatives are generally incompatible with *ho2*:

- (50) Mgeoi saan ceon ho?  
please close window HO  
'Please close the window. Right?'

# Imperatives

$c+$  IMP( $p$ )-HO says:

- ▶ I can issue a command to you to bring about  $p$ , because
  - ▶ I believe  $p$  is better than  $\neg p$ . (Lauer 2013, Starr, to appear)
  - ▶ I believe I'm more authoritative than you. (Kaufmann 2012)
- ▶ Can you issue a command to yourself to bring about  $p$ ?
  - ▶ If you can: you believe  $p$  is better than  $\neg p$  and you're more authoritative than yourself. (**contradiction**)
  - ▶ Again, since one of the answers is not viable, the question is defective.



Zooming out

## Missing combinations

Speech act anchoring predicts many different anchoring strategies. However, only a subset of the combinations are observed:

Declarative clusters involving *gaa3*:

Spk/Add	✓	X	✓ or X?
✓	lo1 (obviously)	wo3, le2	ho2
X	Not attested	Not attested	me1

Question clusters:

Spk/Add	✓	X	✓ or X?
✓	aa1	Not attested	ne1-ho2
X	Not attested	Not attested	Not attested

## Are there anchoring functions in English?

- ▶ Tag questions seem to involve content sharing rather than speech act-type sharing.

(51) Sue loves music, doesn't she?

- ▶ But the final rise could be ambiguous among a *me1* (speaker commitment absent), *ho2* (speaker commitment present), and something else (metalinguistic use).

(52) Sue loves music?

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