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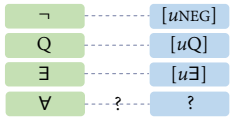
Concord as Syntactic Agreement: Evidence from Intervention Effects

Ka-Fai Yip
Yale University
✉ *kafai.yip@yale.edu*

Yale

1. Background & research questions

- Quantifier Concord
  - Negative Concord (Zeijlstra 2004)
  - Interrogative Concord (*wh*-movement)
  - Existential Concord (Kratzer 2005)
  - **Universal Concord?**



- Research questions
  - *Do natural languages have Universal Concord?* (Yes)
  - *What is the nature of the concord relation?* (Agree)

2. Data: a puzzle of *-can* and ∀

- Cantonese verbal suffix *-can* (P. Lee 2017: affixal quantifier)
  - Only occurs in contexts with universal reading.
  - Can co-occur with universal quantifiers.

(1) *Aaming (cici / *jau jat ci) jam-can naai] dou toutung*
Ming every.time have one time drink-CAN milk DOU stomachache
'Every time Ming drank milk, his tummy felt odd.' / *'There was once…'

(2) [(*mui go* / **jau gei go*) *keoi heoi-can ge gwokgaa*] *dou jau siwai*
every CL have several CL 3SG go-CAN GE country DOU have protest
'For every country he went, there were protests.'/ *'For some of the countries…'

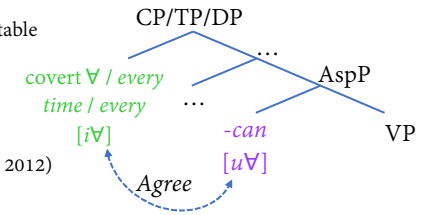
- The problem of treating *-can* as a universal quantifier:
  - Vacuous quantification bans co-occurrence with ∀s:

(3) *[*mui go keoi cici heoi ge gwokgaa*] *dou jau siwai*
every CL 3SG every.time go-CAN GE country DOU have protest

- The problem of treating *-can* as a variable:
  - Ungrammaticality of *-can* in existential contexts cannot be explained.
- A successful proposal should capture the occurrence of ∀s and the non-occurrence of ∃s in *-can* clauses.

3. Syntactic proposal: [∀] Agree

- Agree with [∀] features
  - *-can* bears an uninterpretable universal feature [*u*∀];
  - Universal quantifiers bear an interpretable counterpart [*i*∀];
  - Upward Agree. (Zeijlstra 2012)



- Resolving the paradox:
  - [u∀] on *-can* must be checked by [i∀] on quantifiers → delete [u∀] before reaching LF → *-can* is not regarded as a quantifier → occurrence of ∀s
  - [u∀] on *-can* cannot be checked by [i∃] → non-occurrence of ∃s

4.1. An argument on [u∀]

- 'Almost' test
  - The constituent following *almost* must have quantificational force:

(4) *keoi* [$_{PP}$ *tung* [*caa-m-do* { ***gogo jan*** / ****keoidei*** }]] *dou king-dou gai*
3SG with almost every person / they DOU talk-able chat
'He can chat with almost everyone/*them.'

  - *-Can* does *not* have any quantificational force, contrast with *every time*:

(5) [*keoi caa-m-do* { ***cici*** [iA] ***daa gei*** / ****daa-can*** [uA] ***gei*** } *ne, aamaa dou wui faatnau*
3SG almost every.time play video.game / play-CAN video.game TOP mum DOU will become.mad
'Almost every time he played video games, his mum got angry.'

4.2. Arguments on covert ∀

- 'Almost' test
  - *-Can* clauses *have* quantificational force

(6) *Caa-m-do ne,* ∀ *keoi ceot-can gaai zau wui dit cin*
almost TOP 3SG go-CAN out then will fall money
'It is almost the case that every time he went out, he lost money.'

- Aspectual verb raising (T. Lee *to appear*)
  - May occur before subjects iff the subjects are quantificational:

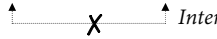
(7) *hoici* { ***cyunbou jan dou*** / ****Aaming*** } *haau-dou hou singzik*
begin every person DOU / Ming get-able good result
'It begins to be the case that everybody/*Ming is getting good results.'

  - *-Can* clauses *have* quantificational force:

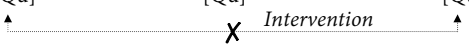
(8) *hoici* ∀ *keoi daa-can gei aamaa zau wui faatnau*
begin 3SG play-CAN video.game mum then will become.mad
'It begins to be the case that every time he played video games, his mum got angry.'

4.3. Arguments on Agree: Intervention effects

- Rizzi (2001, 2004): Feature-based Relativized Minimality
  - Locality condition on syntactic dependencies
  - Quantificational feature: *wh*, neg, measure, focus … [Qu]
  - *X … Z … Y (Z c-commands Y but not X)
    [Qu] [Qu] [Qu] (Z is of the same 'superfeature' as X)



- *[… ∀/*every time*$_{[iA]}$ … {**negation/ focus/ measure**}$_{[Q]}$ … [*-can*$_{[uA]}$ …
  [Qu] [Qu] [Qu]



(9) *keoi* [∀/ *cici* ***mou*** *daai*(**-can*) *syu*] *dou wui bei jan naau*
3SG every.time NEG bring-CAN book DOU will get person scold
'Every time he hadn't brought the book, he got scolded.'

(10) [∀/ *cici* ***dak*** *keoi jung*(**-can*) *gaan fong*] *dou hou zing*
every.time only 3SG use-CAN CL room DOU very quiet
'Every time that he was the only one who was using the room, the room was quiet.'

(11) *keoi* [***singjat***$_{[∀]}$/ ****jauzansi***$_{[∃]}$ *tai-can syu*] *dou fanzoek*
3SG always sometimes read-CAN book DOU fall.asleep
'He always/*sometimes falls asleep while reading books.'

- [… ∀/*every time*$_{[iA]}$ … {**temporals/ locatives/ *wh*-variables**} … [*-can*$_{[uA]}$ …
  [Qu] [Qu]

(12) [∀/ *cici* ***ziuzou*** *jam(-can) naai*] *dou toutung*
every.time morning drink-CAN milk DOU stomachache
'Every time (I) drank milk in the morning, my tummy felt odd.'

(13) [∀/ *cici* ***hai deitit-dou*** *king(-can) dinwaa*] *dou bei jan naau*
every.time at subway-LOC talk-CAN telephone DOU get person scold
'Every time (I) had a call on the subway, I got scolded.'

(14) [∀/ *mouleon* ***bingo*** *lai(-can)*] *keoi dou naau*
no.matter who come-CAN 3SG DOU scold
'He scolds at whoever comes.'

Note: Chinese nominal wh*s have no inherent quantificational force (Tsai 1994 a.m.o.)*

5. Concluding remarks

- Complete the picture of Quantifier Concord

Also consider: Mandarin mei … dou *as an instance of Universal Concord (Dong 2009), with* mei *carrying a uninterpretable quantifier feature. Yet,* mei … dou *has quantificational force. Treating* mei … dou *as [∀] Agree may weaken the notion of interpretability.*

- Beyond the nominal domain
  - Kratzer (2005): D-quantifiers can be concord elements
  - A(ffixal)-quantifiers can also be concord elements (e.g. *-can*)
  - How about A(dverbial)-quantifiers?

6. Selected references ● Dong, Hongyuan. 2009. Issues in the semantics of Mandarin questions. Doctoral Dissertation, Cornell University. ● Kratzer, Angelika. 2005. Indefinites and the operators they depend on: From Japanese to Salish. In Gregory Carlson and Francis Jeffry Pelletier, eds., *Reference and quantification: The Partee effect*, 113–142. Stanford, CA: CSLI Publications. ● Lee, Tommy Tsz-Ming. *To appear*. Head movement with semantic effects: Aspectual verb raising in Cantonese. In *Proceedings of LSA-93*. ● Rizzi, Luigi. 2004. Locality and left periphery. In Adriana Belletti, ed., *Structures and beyond: The cartography of syntactic structures*, 223-251. Oxford: Oxford University Press. ● Zeijlstra, Hedde. 2012. There is only one way to agree. *The Linguistic Review* 29(3): 491-539.