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Concord as Syntactic Agreement: Evidence from Intervention Effects

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1. Introduction

➢ Concord

- Concord and compositionality
  - Doubling phenomenon: there is **more than one** linguistic material on the surface, whereas these materials have the **same** semantic contribution
  - E.g. Negative Concord (NC)

(1) Negative concord in Italian
Gianni ***non*** *ha visto* ***niente.*** (two negative expressions)
Gianni not has seen n-thing
'Gianni hasn't seen anything.' (one semantic negation)
(Giannakidou & Zeijlstra 2017:7)

  - Why does it matter? – the compositionality problem
  - Syntax-semantics mapping

- Concord among **quantificational** elements (to be distinguished from nominal concord)
  - Negation (Labov 1972, Haegeman & Zanuttini 1996, Zeijlstra 2004, *i.a.*)
  - Modals (Geurts and Huitink 2006, Zeijlstra 2008)
  - Focus (Simpson & Wu 2002, Narrog 2016, Kishimoto 016)
  - Exclusive operator "only" (Y. Lee 2005, Hole 2013, 2017, Quek & Hirsch 2017, Erlewine 2017)
  - Existential quantifiers: German indefinite *irgendein* (Kratzer & Shimoyama 2002, Kratzer 2005)
  - Interrogative concord: multiple *wh*-questions (Kratzer 2005), *wh*-concord (Kinjo & Oseki 2016)
  - **Universal quantifiers**?[1]

- The nature of concord
  - **Semantic approach**: NC as NPI/indefinite licensing (Ladusaw 1992), absorption (De Swart & Sag 2002) or universal quantifiers scoping over negation (Giannakidou 2000)
  - **Syntactic approach**: NC as Syntactic agreement (e.g. Zeijlstra 2004, 2008)

➢ Universal verbal suffix *-can* in Cantonese

- Marks universal quantification (Tang 2015, P. Lee 2017)

(2) *Aaming jam-**can** naai, go-tou zau tung.*
Ming drink-CAN milk CL-stomach then ache
'Whenever Ming drank milk, his tummy felt odd.'

[1] Dong (2009) and C. Tsai (2015) suggest that *mei … dou* "every … all" in Mandarin is an instance of UC. This suggestion however should be carefully considered. See the residue for discussion.

- Co-occurs with other universal quantifiers (UQs)

(3) *Aaming* ***mui-ci*** *jam-**can*** *naai*, *go-tou* *zau* *tung*.
Ming every-time drink-CAN milk CL-stomach then ache
'Every time Ming drank milk, his tummy felt odd.'

- Demonstrates locality
  - Impenetrability
  - Intervention effects

➢ Goals
- To show that Cantonese verbal suffix *-can* is a universal concord (UC) element
- To argue for a syntactic agreement account for UC
  - *-can* is merely an agreement marker and is semantically vacuous
- To provide novel evidence from intervention effects for syntactic approach to concord

➢ Roadmap
- §2: *-Can* as a UC element
- §3: Proposal: syntactic agreement
- §4: Arguments from locality
- §5: Implications & residue

2. A paradigm of universal concord in Cantonese

➢ Working definition for universal concord:

(4) *Unviersal Concord:* Two or more universal elements yield one semantic universal quantification.
(Following Zeijlstra (2004)'s definition for NC)

➢ The data
- (i) *-can* marks universal quantification
  - Universal quantification over events/ situations (Tang 2015, P. Lee 2017)

(5) *Aaming* *jam-**can*** *naai*, *go-tou* *zau* *tung*.
Ming drink-CAN milk CL-stomach then ache
'Whenever Ming drank milk, his tummy felt odd.'

(6) ∀e [DRINK(milk)(Ming)(e) → ∃e'[ACHE(Ming's stomach)(e')]] (only illustrative)
(for every event *e* such that *e* is a milk-drinking event of Ming, there is an event *e′* such that *e′* is an ache event of Ming's stomach (i.e. a stomachache event of Ming)) (following Rothstein 1995)

- Incompatible with existential event quantifier *jau jat-ci* 'there is once …'

(7) *Aaming* ***jau*** ***jat-ci*** *jam-zo* *naai*, *go-tou* *zau* *tung*.
Ming have one-time drink-PFV milk CL-stomach then ache
'There was once that Ming drank milk and his tummy felt odd.'

(8) **Aaming* ***jau*** ***jat-ci*** *jam-**can*** *naai*, *go-tou* *zau* *tung*.
Ming have one-time drink-CAN milk CL-stomach then ache

- Universal quantification over individuals
- Also incompatible with existential quantifier *jau go* 'have one'

(9) [[$_{RC}$ *Aaming heoi-**can*** t_i] *ge gwokgaa*$_i$] *dou hou lyun.*
Ming go-CAN MOD country all very chaotic
'Every country Ming visited is in chaos.'

(10) ∀x [[COUNTRY(x) ∧ VISIT(x)(Ming)] → CHAOTIC(x)]
(For every *x* such that *x* is a country and Ming visited *x*, *x* is chaotic.)

- (ii) *-can* may co-occur with other universal quantifiers

(11) a. *Aaming **mui-ci** jam-**can** naai, go-tou zau tung.* (cf.(5))
Ming every-time drink-CAN milk CL-stomach then ache
'Every time Ming drank milk, his tummy felt odd.' (one universal quantification)

b. ***Zijiu** Aaming jam-**can** naai, go-tou zau tung.* (cf.(5))
only.if Ming drink-CAN milk CL-stomach then ache
'Whenever Ming drinks milk, his tummy will feel odd.' (one universal quantification)

(12) [***Mui-go*** [$_{RC}$ *Aaming heoi-**can*** t_i] *ge gwokgaa*$_i$] *dou hou lyun.* (cf.(9))
every-CL Ming go-CAN MOD country all very chaotic
'Every country Ming visited is in chaos.' (one universal quantification)

➢ Comparing *-can* with other UQs

- Both share (i) – marking universal quantification
  - BUT: UQs are selective in terms of semantic types, while *-can* is unselective
    i.e. ***mui-ci*** "every time" and ***zijiu*** "whenever" for events, ***mui-go*** "every-CL" for individuals
- Differ in (ii) - UQs targeting on the same restrictor / nuclear scope cannot co-occur
  - ***mui-ci*** "every time" vs. ***zijiu*** "whenever"

(13) ****Zijiu** Aaming **mui-ci** jam naai, go-tou zau tung.*
only.if Ming every.time drink milk CL-stomach then ache
Int.: 'Every time Ming drank milk, his tummy felt odd.'

(14) a. *[$_{CP}$ $UQ_{<v>}$ … $UQ_{<v>}$] b. ^{OK}[$_{CP}$ $UQ_{<v>}$ … *-can*]

- ***mui-go*** "every-CL" vs. ***mui-ci*** "every time" / ***zijiu*** "whenever"

(15) *[***Mui-go*** [$_{RC}$ *Aaming **mui-ci** heoi* t_i] *ge gwokgaa*$_i$] *dou hou lyun.*
every-CL Ming every-time go MOD country all very chaotic
Int.: 'Every country Ming visited is in chaos.'

(16) a. *[$_{DP}$ $UQ_{<e>}$ [$_{RC}$ … $UQ_{<v>}$] …] b. ^{OK}[$_{DP}$ $UQ_{<e>}$ [$_{RC}$ … *-can*] …]

➢ *-Can* is a UC element:

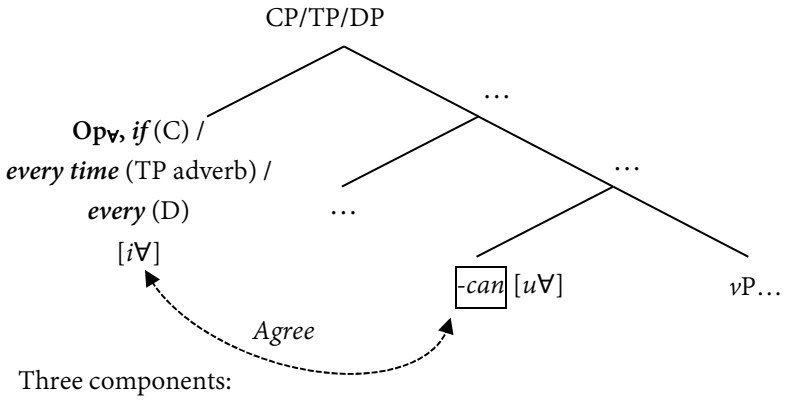
(17) Generalization on universal concord of *-can*
a. **Obligatoriness**: whenever *-can* occurs, the sentence must have one universal quantification, regardless of whether other overt UQ is present.
b. **Redundancy**: only one universal quantification in sentences containing both *-can* and another UQ.

- (17a) → *-can* is a universal element (in the sense that it is linked to universal reading)
  (17b) → *-can* together with other universal elements with yield one universal quantification
  =(4) working definition for UC

3. Universal concord as syntactic agreement

➢ The proposal

(18)



- Three components:
- (i) *-Can* is a *concord* element (i.e. agreement marker) carrying an *uninterpretable universal feature* [*u*∀], instead of a true UQ. Since [*u*∀] is uninterpretable, *-can* is semantically vacuous and cannot be mapped onto a logical universal quantifier in LF. (*cf.* [+Univ] in Beghelli & Stowell 1997)
  → accounts for (17b) redundancy
- (ii) A true UQ carries an *interpretable universal feature* [*i*∀] and is mapped onto a logical universal quantifier in LF. The [*i*∀] must establish Agree relation with [*u*∀] on *-can* and delete the [*u*∀] for the interface to interpret.
  → accounts for (17a) obligatoriness
  - Also assume that Agree may go *upward*, i.e. the Probe is c-commanded by the Goal (Wurmbrand 2011, Zeijlstra 2012, Bjorkman & Zeijlstra 2019, *i.a.*).[2]
- (iii) CP domain may have a sentential covert necessity operator.

➢ An argument for (i): uninterpretable universal feature ([u∀])

- 'Almost' test
  - *Caa-m-do* 'almost' can only be followed by quantificational elements.

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

  - *Caa-m-do* 'almost' can be followed by genuine UQ *mui-ci* "every time", but not by *-can*. Hence, *-can* carries no quantificational force. This supports the uninterpretability of the universal feature on *-can*.[3]

[2] Upward Agree has been applied in various empirical domains: negative concord (Zeijlstra 2004, 2008b, 2012, Haegeman & Lohndal 2010), inflection doubling (Wurmbrand 2012a,b, 2014, Bjorkman 2016), (Strict) NPI licensing (den Dikken 2006, Chierchia 2013), anaphor binding (Reuland 2006, Hicks 2009), semantic agreement (Smith 2015), sequence of tense (Zeijlstra 2012), case assignment (Wurmbrand 2012c), polarity licensing (Polarity mismatches under ellipsis) (Merchant 2011), obligatory control (Wurmbrand 2011), existential concord (Krazter & Shimoyama 2002, Kratzer 2005), and phi-agreement as well (Bjorkman & Zeijlstra 2019). Also see Neeleman and van de Koot (2002), Adger (2003), von Stechow (2003, 2004, 2005, 2009), Baker (2008), Hicks (2009) and Grønn and von Stechow (2011).

[3] One may question whether 'almost' can be licensed within -can-clauses, preceding Op∀ (=a below). The answer is not. This is independently ruled out by the fact that *caa-m-do* 'almost' is an adverb at TP/AspP (Tang 2009), lower than the Op∀ at CP (=b).

a. *Hypothetical configuration:*
*[$_{CP}$ [$_{TP}$ *keoi* ***caa-m-do*** **Op∀** *daa-can gei* … (embedded 'almost')
3SG almost play-CAN video.game

b. *[$_{CP}$ **Op∀** [$_{TP}$ *keoi* ***caa-m-do*** *daa-can gei* … (embedded 'almost')
3SG almost play-CAN video.game

(20) a. [*keoi* ***caa-m-do*** *mui-ci* *daa* *gei*] *ne*, *aamaa* *dou* *wui* *faatnau*
3SG almost every-time play video.game TOP mum all will become.mad
'Almost every time he played video games, his mum got angry.'

b. *[*keoi* ***caa-m-do*** *daa-can* *gei*] *ne*, *aamaa* *dou* *wui* *faatnau*
3SG almost play-CAN video.game TOP mum all will become.mad

(21) a. [*keoi* ***caa-m-do*** *mui-ci* *daa-can* *gei*] *ne*, *aamaa* *dou* *wui* *faatnau*
3SG almost every-time play-CAN video.game TOP mum all will become.mad
'Almost every time he played video games, his mum got angry.'

b. *[*keoi* *mui-ci* ***caa-m-do*** *daa-can* *gei*] *ne*, *aamaa* *dou* *wui* *faatnau*
3SG every-time almost play-CAN video.game TOP mum all will become.mad

➢ Arguments for (iii): covert necessity operator ($Op_{\forall}$)

- Independently motivated by donkey sentences (bare conditionals) in Chinese
  - *Wh*-nominals in Chinese bear no inherent quantificational force (Aoun & Li 1993, Tsai 1994, 1999, Cheng 1994). They co-vary and are bound by a same operator, ∀x.

(22) ***Shei*** *xian lai*, ***shei*** *xian chi* (Mandarin, Cheng & Huang 1996:127)
who first come who first eat
'If *x* comes first, *x* eats first.'

(23) ∀x (x comes first → x eats first)

- Presence of $Op_{\forall}$ in *-can*-clauses: 'almost' test
  - *-Can*-clause follows *caa-m-do* legitimately, showing that the clause carries quantificational force. The force can only come from a covert $Op_{\forall}$.

(24) ***Caa-m-do*** *ne*, [$Op_{\forall}$ *keoi* *ceot-can* *gaai*] *zau* *wui* *dit* *cin* (matrix 'almost')
almost TOP 3SG go-CAN out then will fall money
'It is almost the case that every time he went out, he lost money.'

- Presence of $Op_{\forall}$ in *-can*-clauses: aspectual verb raising test
  - *Hoici* 'begin' can be raised across a subject iff the subject is quantificational (T. Lee 2019a,b; also see Szabolcsi 2009 for a similar use of 'begin' in Hungarian)

(25) ***Hoici*** [*cyunbou* *jan* *dou*/**Aaming* [t *haau-dou* *hou* *singzik*]] (T. Lee 2019a:3)
begin every person all Ming get-able good result
'It begins to be the case that everybody/*Ming is getting good results.'

  - The *-can*-clause licenses the raising of *hoici* in (26), suggesting a quantificational nature of the *-can*-clause. This can only be attributed to a covert $Op_{\forall}$.

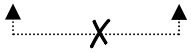
(26) ***Hoici*** [[$Op_{\forall}$ *keoi* *daa-can* *gei*] [*aamaa* [t *zau* *wui* *faatnau*]]]
begin 3SG play-CAN video.game mum then will become.mad
'It begins to be the case that every time he played video games, his mum got angry.'

4. Locality in universal concord (i.e. arguments for (ii))

➢ Intervention effects (IEs)

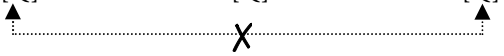
- Agree relation, as a syntactic dependency, is subject to intervention locality.
  - Here I adopt Rizzi's (2001, 2004) feature-based Relativized Minimality (RM) to formulate intervention.
  - A set of quantificational elements carrying a superfeature [Q]:
    Quantificational: *wh*, neg, measure, focus … [Q]
    (Note: *measure* refers to frequency adverbs like 'often')
  - A relation formed by two Q-elements X and Y is not in a minimal configuration if there is a Z such that Z carries [Q] and Z intervenes between X and Y (i.e. commands Y but not X). → IEs

(27) X … Z … Y
[Q] … [Q] … [Q]

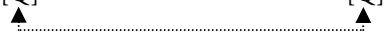


  - The [u∀] on *-can* agrees with [i∀] on UQs. Assume that [∀] is a quantificational feature under the superfeature [Q]. The Agree relation of *-can* is predicted to be disrupted by intervening [Q] elements (e.g. negation, focus), but to survive with non-[Q] elements.

(28) Prediction (I): *[… $UQ_{[i\forall]}$ … {neg/ focus/ measure etc.} … [*-can*$_{[u\forall]}$ …
[Q] [Q] [Q]



(29) Prediction (II): [… $UQ_{[i\forall]}$ … {non-interveners} … [*-can*$_{[u\forall]}$ …
[Q] [Q]



- [Q] interveners in Chinese
  - [Q] elements act as an intervener to *why*-questions and A-not-A questions, both arguably involve operator movement or agreement with a question operator (Huang 1982a, 1991, Aoun & Li 1993).
  - Interveners: [Q] quantificational elements
    1. Existential and universal quantifiers, e.g. "everyone" (for Cantonese see Law 2001; for Mandarin see Wu 1997)
    2. Negation "not" (Soh 2005)
    3. Adverbs of quantification, e.g. "often" (for Cantonese see Law 2001; for Mandarin see Soh 2005)
    4. Modals, e.g. "must" (Tsai & Yang 2015)
    5. Focus operators, e.g. "only" (Soh 2005)
    6. *Why*-adverbial (for A-not-A questions)
  - Non-interveners: non-quantificational elements
    1. Locatives, e.g. "on the subway" (Ernst 1994)
    2. Temporals, e.g. "today" (Ernst 1994)
    3. *Wh*-nominals, e.g. "who" (Huang 1982b)

- Intervention effects on *-can*
  - [Q] elements → prediction (I) is borne out

(30) Quantifiers

[*Zijiu* ***jau jan*** *man*(*-*can*)*je*] *keoi zau baan fan.*
only.if have person ask-CAN stuff 3SG then pretend sleep
'If someone asks him for something, he will pretend to be asleep.'

(31) Negation

Keoi [*mui-ci* ***mou*** *daai*(*-*can*) *syu*] *dou wui bei jan naau.* [4]
3SG every-time not.have bring-CAN book all will get person scold
'Every time he hadn't brought the book, he got scolded.'

(32) Adverbs of quantification

[*Mui-go* [$_{RC}$ *Aaming* ***gingsoeng*** *heoi*(*-*can*) t_i] *ge gwokgaa*$_i$] *dou hou lyun.*
every-CL Ming often go-CAN MOD country all very chaotic
'Every country Ming has often visited is in chaos.'

(33) Modals

Keoi [*mui-ci* ***jinggoi*** *heoi zou*(*-*can*) *je go-zan*] *zau mou-zo jing.*
3SG every-time should go do-CAN stuff that-moment then not.have-PFV shadow
'Every time when he should go to work, he disappears.'

(34) Focus operators

[*mui-ci* ***dak*** *keoi jung*(*-*can*)*gaan-fong go-zan*] *dou hou zing.*
every-time only 3SG use-CAN CL-room that-moment all very quiet
'Every time that he was the only person who was using the room, the room was quiet.'

(35) *Why*-adverbial

*[*Zijiu keoi* ***dimgaai*** *fan*(*-*can*) *gaau*] *lousi zau wui naau*?
only.if 3SG why sleep-CAN nap teacher then will scold
Int.: 'For which reason *x* such that the teacher will scold at him if he sleeps for *x*?'

(← But *why* cannot occur in adjunct islands in the first place. Since the ungrammaticality can be explained otherwise, this test is simply not applicable.)

- Non-[Q] elements → prediction (II) is borne out

(36) Locatives

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

(37) Temporals

[*Zijiu* ***ziuzou*** *jam*(*-*can*) *naai*] *zau touting.*
only.if morning drink-CAN milk then stomachache
'Once (I) drinks milk in the morning, my tummy will feel odd.'

(38) *Wh*-nominals

a. [*Zijiu* ***bingo*** *fan*(*-*can*) *gaau*] *lousi zau wui naau*? (interrogative *wh*)
only.if who sleep-CAN nap teacher then will scold
'Who is the person that teacher will scold at him if he sleeps?'

b. [*mouleon* ***bingo*** *lai*(*-*can*)] *keoi dou naau.* (universal *wh*)
no.matter who come-CAN 3SG all scold
'He scolds at whoever comes.'

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[4] *Cf.*: lexical negation *m-gin* "lose, (lit.) not-see". Here, the negation is on the lexical level but not on the syntactic level, which can be seen from its inability to license NPI. Hence, the negation is located below *-can* and no intervention effects are triggered.

c. **keoi m-gin jamho je.*
3SG NEG-see any thing Int.: "He loses anything."

d. [*Keoi* ***mui-ci*** *m-gin-can je], dou haam-dou catcoi.*
3SG every-time NEG-see-CAN thing all cry-RESULT colorful
"Every time he loses something, he will wail as hard as he can."

(39) Intervention effects in universal concord

(Non-)interveners	Occurring in between UQ and *-can*	Examples
Quantifiers	*	(30)
Negation	*	(31)
Adverbs of quantification	*	(32)
Modals	*	(33)
Focus operators	*	(34)
Why-adverbial	(Not applicable)	(35)
Locatives	OK	(36)
Temporals	OK	(37)
Wh-nominals	OK	(38)

- IEs have not been extensively discussed in the literature of concord.
  - Rare exception: NC in West Flemish (Haegeman & Lohndal 2010)
  - Only negative quantifiers and universal quantifiers are discussed.
- BUT some of the IEs are also found in semantic NPI licensing (Haegeman & Zanuttini 1996, Guerzoni 2006)
- It is important that IEs must be examined exhaustively for a syntactic approach to concord. Under RM, any of the [Q] elements would act as an intervener to a syntactic [Q] dependency. That is, there must be no exceptions.
  - For semantic NPI licensing, exceptions could be found.
  - The necessity modal *jinggoi* "should" in Cantonese, although is a [Q] element (evidenced by its IEs on why-questions and A-not-A question), does not induce any IE to the NPI *jamho* "any".

(40) *a. *Keoi jinggoi **dimgaai** sik zinzaa-je?* (*why*-question)
3SG should why eat fried-food
Int.: 'For which reason x, such that he should eat fried food for x?'
*b. *Keoi jinggoi **sik-m-sik** zinzaa-je?* (A-not-A question)
3SG should eat-not-eat fried-food
Int.: 'should he eat junk food?'

(41) *Ngo *(**m**-)gokdak [keoi jinggoi sik jamho zinzaa-je]* (RM violation)
1SG NEG-think 3SG should eat any fried-food
'I don't think he should eat any junk food.'

- However, as we have seen in (33), *jinggoi* "should" does induce IEs on *-can*. This contrast favors a syntactic agreement approach over a semantic licensing approach to *-can*.
- This contrast also imposes a challenge for Sio (2019)'s proposal that *-can* is a free choice item whose event variable is bound by an iota operator or a necessity operator.

➢ Impenetrability

- I adopt the view that Agree relation is subject to phase impenetrability condition (PIC).

(42) $[_{ZP}$ Z … $[_{XP}$ X … $[_{HP}$ α [H YP]]]]; where Z and H are phasal heads
a. PIC1 (Chomsky 2000) dictates that YP is not visible to operations in both XP and ZP
b. PIC2 (Chomsky 2001) dictates that YP is visible to operations in XP, but not in ZP

- Negative concord obeys PIC2
  - NC is clause-bounded (Zeijlstra 2004, 2008). Assuming that CP and *v*P are both phases, there are three phasal boundaries between the matrix negation and the embedded n-word in (42). The locality effect could easily be captured by either PIC1 or PIC2.

(43) **Gianni* ***non*** *ha* [$_{vP}$ *detto* [$_{CP}$ *che* *a* [$_{vP}$ *achato(?)* ***niente***]]] [Italian]
Gianni NEG has said that has bought n-thing
'John didn't say that he bought anything' (adapted from Zeijlstra 2008:43)

  - Subjunctive clauses may allow NC. But as suggested by Zeijlstra (2008) citing Quer (1998) and Giorgi (2004), they only induce weak locality effects.

(44) ***Dudo*** [$_{subjunctive}$ *que* *vayan* [$_{vP}$ *a encontar* ***nada***]] [Spanish]
Doubt.1SG that will.3PL.SUBJ find n-thing
'I doubt they will find anything' (adapted from Zeijlstra 2008:43)

  - In Phase theory, subjunctive clauses may be regarded as non-phases or weak phases. But even if the clause boundary is not a phase, the embedded *v*P is still a phase. That is, the matrix negation (induced by "doubt") and the embedded n-word is separated by a phase boundary. By PIC1, the n-word is not visible to "doubt" (in matrix VP), whereas by PIC2, it is visible to "doubt".
  - This suggests that NC obeys PIC2 instead of PIC1.

- The Agree relation between -can and UQs obeys PIC2
  - Assume *-can* is higher than *v*P.[5]

(45) **Ngo* ***mui-ci***$_{[i\forall]}$ [$_{vP}$ *gong* [$_{CP}$ *waa* *keoi* *king-**can***$_{[u\forall]}$ *gai*], *keoi* *zau* *sauseng*
**Agree*
1SG every.time say COMP 3SG talk-CAN chat 3SG then shut.up
Int.: 'Every time I said that he had a chat, he became silent.'

(46) *Ngo* ***mui-ci***$_{[i\forall]}$ [$_{vP}$ *bik* *keoi* [$_{TP}$ *king-**can***$_{[u\forall]}$ *gai*], *keoi* *zau* *sauseng*[6]
Agree
1SG every.time force 3SG talk-CAN chat 3SG then shut.up
'Every time I forced him to talk (with me), he became silent.'

(47) [***Mui-go***$_{[i\forall]}$ [$_{CP=RC}$ *Aaming* *heoi-**can***$_{[u\forall]}$ t_i] *ge* *gwokgaa*$_i$] *dou* *hou* *lyun*
Agree
every-CL Ming go-CAN MOD country all very chaotic
'Every country Ming visited is in chaos.'

(48) ^{OK}UQ$_{[i\forall]}$ [$_{phase1(vP/CP)}$ …[-***can***$_{[u\forall]}$ … ((46)b and (47))
Agree

(49) *UQ$_{[i\forall]}$ [$_{phase2(vP)}$ …[$_{phase1(CP)}$ … [-***can***$_{[u\forall]}$ … ((46)a)
**Agree*

[5] This may be supported by the fact that no *v*P adverbials (e.g. "intentionally", "loudly") may co-occur with V-*can*. This could be interpreted as blockage of head movement of the verb to a projection outside *v*P (i.e. *-can*). This assumption is also consistent with Tang (2003)'s proposal that the syntactic position of quantificational affixes in Cantonese is higher than AspP, which is often assumed to be an extended projection of *v*P.

[6] One may question why the embedded control clause is TP instead of CP, which is a phase. Here, I follow Huang (2017) that the verb "force" in Chinese (*poshi* in Mandarin, *bik* in Cantonese) take a non-phasal tenseless complement, evidenced by experiential lowering, failure of *lian*-preposing and internal topicalization within the complement, and lack of embedded tense and modals. The crucial point here is that the complement of "force" is not a phase.

- Semantic NPI licensing of *jamho* "any" does not respect PIC2

(50) *Ngo* *(***m-**)*zungji* [$_{DP}$ [$_{CP}$ *jamho zokgaa se*] *ge syu*] (PIC2 violation)
1SG NEG-like any writer write MOD book
'I don't like books wrote by any writer.'

- The contrast between (45) and (50) supports a syntactic agreement approach to *-can.*

5. Concluding remarks

➢ Implications

- Universal concord is attested in Cantonese. The empirical gap is now filled.
- A new type of evidence, *intervention effects*, is offered to the syntactic agreement approach on concord.
  - Note that although IEs may also found in semantic NPI licensing, this argument is still valid for UC in Cantonese since (i) the set of interveners is independently motivated by other syntactic dependencies and (ii) the IEs are exhaustive in the sense that there is no exception, in contrast with semantic NPI licensing.
  - An extensive examination of IEs in other types of concord is needed.
- *-Can* agrees *upward*, which is an additional evidence to support *Upward Agree* (Zeijlstra 2012).
- Not only nominal domains but also *verbal domains* may have concord elements. Reconsideration can be made towards proposed A-quantifiers.

➢ Residue

- *Mei(ge) … dou* "every … all" in Mandarin
  - When *mei* "every" occurs in subject or topic DPs, adverb *dou* "all" is obligatory.

(51) ***Meige*** *ren* *(***dou)*** *mai-le shu.*
Every man all buy-Asp book
'Everyone bought a book.' (Lin 1998:219)

- Kratzer (2005) cites this example to show that the source of distributivity may come from an adverbial operator *dou* "all", but not the modifiers *mei* "every" in DPs. But she has been silent on whether this example qualifies as UC.
- Dong (2009), C. Tsai (2015) regard *mei … dou* as universal concord
- However, Dong (2009) explicitly states that *mei* does have quantification force, which is not the case for *-can*.
- Furthermore, postverbal *mei* in object DPs does not require the presence of *dou*. There are even examples that pre-verbal *mei* occurs without *dou* (data from Google search by Li 2014:223).

(52) *Shanghai quan-jing-tu, keyi kandao* ***mei-ge*** *xijie* (post-verbal *mei* in object DPs)
Shanghai whole-scene-map can see every-CL detail
'On the Shanghai full-scene map, one can see every detail.'

(53) *Ba* ***mei-ge*** *xijie diaozhuo cheng yishu* (pre-verbal *mei* in PPs)
BA every-CL detail carve become art
'carve every detail to make an art.'

- Whether *mei … dou* could be regarded as UC and analyzed as syntactic agreement should be carefully considered and requires further studies.

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