Universal concord as syntactic agreement

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1 Introduction

One focus in the Minimalist Program is the syntax-semantics interface, which concerns how syntactic objects are mapped onto the meaning component. Concord among quantificational elements represents a case of apparent syntax-semantics mismatch and therefore has drawn considerable interests. For example, in negative concord like (1), there are two negative expressions on the surface but the sentence meaning is interpreted as if there is only one negation (Labov 1972, Haegeman and Zanuttini 1991, Zeijlstra 2004, i.a.). This apparent mismatch is problematic from a view that sentence meanings are composed from their building blocks (i.e. the Principle of Compositionality, Frege 1892) and poses a challenge to the syntax-semantics mapping.

(1) Negative concord: doubling negative expressions with one logical negation

Gianni non ha visto niente. (Italian, Giannakidou and Zeijlstra 2017:7)

‘Gianni hasn’t seen anything.’; Not: ‘Gianni hasn’t seen nothing.’

Empirically, concord is found cross-linguistically among various kinds of quantificational elements, including modals (Geurts and Huitink 2006, Zeijlstra 2007), focus operator ‘only’ (Quek and Hirsch 2017, Sun 2021), distributive operators (Oh 2006, Rushiti 2019), wh-elements (Kratzer 2005, Kinjo and Oseki 2016), existential quantifiers (Kratzer and Shimoyama 2002, Kratzer 2005), etc. However, little has been said to whether universal quantifiers also allow such concord patterns (for rare exceptions, see Dong 2009, Tsai 2015).

Providing novel evidence from Cantonese, this paper argues that universal concord is attested and offers a syntactic agreement account. In Cantonese, the verbal suffix -can is linked to a universal reading similar to ‘every time/ whenever’ and has been argued to be a universal quantifier over events/situations (Tang 2015, Lee 2017), as in (2a)-(2b).

1 Notably, doubling is allowed for -can with other universal quantifiers, as exemplified in (2c). Importantly, (2c) shares the same truth condition with the other two sentences, i.e. they are true if and only if Ming’s tummy feels odd every time he drinks milk. Doubling of -can with universal quantifiers instantiates a case of universal concord.

(2) Universal concord in Cantonese: doubling of -can with universal quantifiers

a. Aaming [can] jam naai, go tou zau tung. Ming drink-CAN milk go stomach then ache
   ‘Every time/ whenever Ming drinks milk, his tummy feels odd.’

b. Aaming mui-ci jam naai, go tou zau tung. Ming every-time drink milk go stomach then ache
   ‘Every time Ming drinks milk, his tummy feels odd.’

c. Aaming mui-ci jam [can] naai, go tou zau tung. Ming every-time drink-CAN milk go stomach then ache
   ‘Every time Ming drinks milk, his tummy feels odd.’

Departing from Tang (2015) and Lee (2017), I argue that -can is a concord element that agrees with a universal quantifier. Specifically, I propose that -can bears an uninterpretable universal feature [u∀] which needs to be valued by an interpretable counterpart [i∀] on a universal quantifier like mui-ci ‘every time’ through Agree in Narrow Syntax. The feature on -can is deleted before

1Abbreviations: 1,2,3=first, second, third person respectively; CL=classifier; COP=copula; LOC=locative marker; MOD=modification marker; NEG=negation; PERF=perfective aspect marker; PL=plural; SFP=sentence-final particle; SG=singular; TOP=topic marker.
Transfer to the Logical Form (LF), and thus is not mapped onto logical universal quantification in semantics. In other words, -can is semantically vacuous and is not a quantifier at all. It is the genuine universal quantifier mui-ci that is mapped onto universal quantification. Hence, the composition of truth-conditional meaning in doubling cases like (2c) proceeds just as (2b) where -can is absent. Under this approach, there is no syntax-semantics mismatch in the doubling cases. For cases where no overt universal quantifier is present (=2a), I suggest that there is a covert necessity operator (OP) which contributes the universal force and agrees with -can.

This study has two implications. On the empirical side, that universal concord is attested in Cantonese extends the landscape of concord to universal elements and enriches the typology of concord. On the theoretical side, it provides further support to a syntactic agreement approach to concord. There has been a debate concerning whether concord is syntactic in nature (Zeijlstra 2004, 2008, Watanabe 2004, Haegeman and Lohndal 2010) or semantic in nature (Ladusaw 1992, Giannakidou 2000, de Swart and Sag 2002), where locality constraints are often taken to be a major argument for a syntactic approach. Minimality effects (also known as intervention effects), however, have not been extensively discussed in the literature (Haegeman and Lohndal 2010). This study explores how minimality effects may constitute crucial evidence for an agreement analysis and consequently support a syntactic approach to concord.

This paper is organized as follows. Section 2 presents the paradigm of universal concord in Cantonese in detail. Section 3 spells out the proposal of syntactic agreement and argues for the lack of quantificational force on -can. Section 4 explores the consequences of minimality effects and locality constraints on a syntactic agreement approach. Section 5 concludes with discussions on other potential candidates of universal concord.

## 2 Universal concord in Cantonese

The section provides further properties of universal concord in Cantonese. Consider sentences with only -can first. These sentences always come with a universal reading. Put differently, -can always occurs in sentences with a universal quantificational tripartite structure, specifically in the restrictor clauses. For instance, (2a) (repeated in (3a)) expresses universal quantification over events with the semantic value in (3b), following the semantics for *every time* in Rothstein (1995). (3b) reads as: for every event e, if e is a Ming-drinking-milk event, there exists an event e' such that e' is a Ming's-stomach-aching event and e' is mapped onto e by a matching function M.

(3) a. Aaming jam[-can] naai, go tou zau tung. Ming drink-CAN milk CL stomach then ache ‘Every time/ whenever Ming drinks milk, his tummy feels odd.’
   b. \[\forall e[[\text{DRINK}(e) \land \text{AG}(e) = \text{Ming} \land \text{TH}(e) = \text{milk}] \rightarrow \exists e' [\text{ACHE}(e') \land \text{TH}(e') = \text{Ming's stomach} \land M(e') = e]]\]

The tests in (4) show that a universal reading is obligatory in -can sentences:

(4) Obligatory universal reading
   a. *Lack of quantificational variability effects:*
      \[\text{[Aaming jam[-can] naai] go tou } \{\text{dou/ gang/ *gaan-m-zung/ *honang}\} \text{ tung.} \]
      Ming drink-CAN milk CL st. DOU/ must/ sometimes/ be.possible ache ‘Every time Ming drinks milk, his tummy feels odd.’
      Not: ‘If Ming drinks milk, his tummy sometimes/may feel(s) odd.’
   b. *Incompatibility with existential quantifiers:*
      *\[\text{[Aaming jau jat-ci jam[-can] naai] go tou zau tung.} \]
      Ming have one-time drink-CAN milk CL stomach then ache Int.: ‘There was once that Ming drank milk and his tummy felt odd.’
   c. ‘Almost’ test:
      \[\text{Caa-m-do [Aaming jam[-can] naai] go tou dou tung.} \]
      almost Ming drink-CAN milk CL stomach DOU ache ‘Almost every time Ming drinks milk, his tummy feels odd.’
First, the restrictor clauses with -can differ from if-clauses in not allowing quantificational variability effects. In (4a), while a distributor dou or a necessity modal may occur in the second clause, adverbs of quantification like ‘sometimes’ or a possibility modal cannot occur to yield an existential reading. 2 Second, -can clauses are also incompatible with an existential quantifier over events like jau jat-ci ‘there is once’ in (4b). Third, caa-m-do ‘almost’ modification, as a diagnostic for universal quantifiers (see Giannakidou 1998 for discussions), is allowed for -can clauses in (4c). They all point to a close relation between -can and universal quantification.

Furthermore, sentences with -can may also convey universal quantification over individuals when -can is embedded in a relative clause of a complex NP. (5) means that for every individual x, if x is a country and there exists an event of Ming visiting x, x is chaotic. Again, the complex NP containing -can is incompatible with an existential quantifier over individuals like jau go ‘some’.

(5) a. [(*jau have go)CL [RC Aaming heoi[-can] t1] ge gwokgaa] (dou) hou lyun. ‘Every* some country which Ming visited is in chaos.’
   b. ∀x[[COUNTRY(x) ∧ ∃e[VISIT(e) ∧ AG(e) = Ming ∧ TH(e) = x]] → CHAOTIC(x)]

Now consider cases with doubling. We have seen that -can may co-occur with a universal quantifier like mui-ci ‘every time’ without affecting the truth conditions. (6) gives two more universal quantifiers zijiu ‘(lit.) only if, whenever’ (over possible worlds) and mui-go ‘every’ (over individuals). Unlike -can, however, other universal quantifiers cannot occur together while preserving the truth conditions. In (6), replacing -can with another universal quantifier simply makes the sentences crash:

(6) Doubling of universal quantifiers (UQs)

a. OK[CP UQ . . . -can] vs. *[CP UQ . . . UQ]:
   [Zijiu Aaming (*mui-ci) jam[-can] naai], go tou zau tung.
   only if Ming every-time drink-CAN milk CL stomach then ache
   ‘Whenever (*every time) Ming drinks milk, his tummy feels odd.’

b. OK[DP UQ [RC . . . -can]] vs. *[DP UQ [RC . . . UQ]]:
   every-CL Ming every-time go-CAN MOD country DOU very chaotic
   ‘Every country which (*every time) Ming visited is in chaos.’

Taking stock, universal concord with -can has two major properties, namely obligatory universal reading and doubling with other universal quantifiers, generalized below:

(7) Generalization of universal concord with -can

a. Obligatoriness: Sentences with -can always come with universal quantification.

b. Doubling: -Can may co-occur with a universal quantifier without changing the truth condition of a sentence.

3 Universal concord as syntactic agreement

This section outlines the proposal of universal concord as syntactic agreement, diagrammed below:

(8) CP/TP/DP

C: OP,/

TP adverb: mui-ci ‘only if’
D: mui-go ‘every time’

[∀v] -can

Agree

vP ...

2The nature of dou in Chinese is debatable and interested readers may refer to Xiang (2020) and references therein. For simplicity, I assume dou as a distributive operator. Also note that Dong (2009) and Tsai (2015) argue dou and mei ‘every’ in Mandarin to be a case of universal concord, which will be addressed in Section 5.
The proposal contains two components. The first component is the featural set-up. I propose that -can bears an uninterpretable universal feature [ui]; and that genuine universal quantifiers bear an interpretable universal feature [u\(^i\)], including ziji ‘only if’, mui-ci ‘every time’, mui-go ‘every’, and a covert necessity operator (OP\(_c\)), to be discussed below. This universal feature is comparable with the one proposed by Beghelli and Stowell (1997) ([\(+\text{Univ}\)]). The second component is the Agree relation between -can and a universal quantifier following from the featural set-up: the uninterpretable [ui] on -can needs to deleted before Tranfer to the Logical Form (LF) for Full Interpretation, which is achieved by valuation by an interpretable counterpart through Agree.

The generalization in (7) falls out naturally from this proposal. Since -can must agree with a universal quantifier to delete the uninterpretable [ui], sentences with -can always have a universal quantifier (which may be overt or covert) that is mapped onto universal quantification in the LF (i.e. obligatoriness). This also explains why -can may occur together with other universal quantifiers without changing the truth conditions (i.e. doubling). The feature on -can is deleted before entering the LF and thus -can is never mapped onto universal quantification. That is, -can is semantically vacuous and is not a quantifier at all, and hence has no effect on the truth conditions.

The rest of this section presents arguments for the lack of quantificational force on -can (=Section 3.1) and for the existence of the covert necessity operator (=Section 3.2).

### 3.1 The lack of quantificational force on -can

One piece of evidence for the lack of quantificational force on -can comes from the ‘almost’ test (Giannakidou 1998). In (9a), caa-m-do ‘almost’ modification is allowed for a genuine universal quantifier mui-ci ‘every time’. In contrast, ‘almost’ is not allowed for -can in (9b), showing that -can does not carry universal quantificational force. Note that if ‘almost’ immediately precedes and directly modifies mui-ci, -can is compatible with ‘almost’ in (9c). Hence, the failure of ‘almost’ modification in (9b) is solely due to the lack of universal force on -can.

(9) ‘Almost’ test
a. [keoi caa-m-do mui-ci daa gei] ne, aamaa dou wui faatnau
   3SG almost every-time play video.game TOP mum DOU will become.mad
   ‘Almost every time he plays video games, his mum gets angry.’

b. *[keoi caa-m-do daa [-can] gei] ne, aamaa dou wui faatnau
   3SG almost play-CAN video.game TOP mum DOU will become.mad
   Int.: ‘Almost every time he plays video games, his mum gets angry.’

c. [keoi caa-m-do mui-ci (*caa-m-do) daa [-can] gei] ne, aamaa dou wui faatnau
   3SG almost every-t. almost play-CAN v.g. TOP mum DOU will b.mad
   ‘Almost every time he plays video games, his mum gets angry.’

Another argument is from the scopal behavior of -can. In an embedding structure like (10), the universal quantifier always takes wide scope over the whole structure and quantifies over the forcing events in the upper clause rather than the talking events in the lower clause. While mui-ci ‘every time’ can only occur in the upper clause for surface scope, -can may occur in both upper and lower clauses. Crucially, even when -can is attached to the lower verb ‘talk’, the universal quantification still has wide scope over the higher verb ‘force’. In other words, the position of -can is not indicative of the universal scope. This apparent scopal mismatch can be explained if -can does not bear quantificational force at all, and it is the covert necessity operator that is responsible for the universal force and scope in (10b). We turn to this covert necessity operator in the next subsection.

(10) Scopal mismatch
a. Ngo [(mui-ci) bik keoi [(*mui-ci) king gai]], keoi zau zing-saai. (∀ >force)
   1SG every-time force 3SG every-time talk chat 3SG then quiet-ALL
   ‘Every time I forced him to talk (with me), he became silent.’

b. Ngo [bik([-can]) keoi [king([-can]) gai]], keoi zau zing-saai. (∀ >force)
   1SG force 3SG talk-CAN chat 3SG then quiet-ALL
   ‘Every time I forced him to talk (with me), he became silent.’
3.2 The covert necessity operator

Following Cheng and Huang (1996), Kratzer and Shimoyama (2002), and Kratzer (2005), I suggest that there is a covert necessity operator (OP_ ) at the CP level which contributes universal quantification in sentences with -can only. This covert OP_ is independently motivated by bare conditionals in Mandarin, where two wh-indefinites are bound by a null universal quantifier and co-vary in (11). Notably, the OP_ is high enough to bind the wh-indefinites in both clauses, presumably at CP.

  who first come who first eat
  ‘If x comes first, x eats first.’
  b. ∀[COME.FIRST(x) → EAT.FIRST(x)]

This sentential covert OP_ can also be found in Cantonese, as in the bare conditional in (12).

(12) OP_ [bingo lai sin, (zau) bingo sik sin],
  who come first then who eat first
  ‘If x comes first, x eats first.’

The presence of the covert OP_ in -can sentences can be confirmed by ‘almost’ modification when ‘almost’ is placed before the whole -can clause, as discussed in Section 2 (cf. (4c)). Since the OP_ is always high in the structure, a lower post-subject ‘almost’ in (9b) above would not be able to modify the OP_ (nor it could modify -can), resulting in ungrammaticality.

One additional support for the OP_ comes from the distribution of aspectual verbs. Cantonese aspectual verbs like hoici ‘begin’ may exceptionally move to a clause-initial position, but only if there is a quantificational element on the movement path (Lee 2019), as illustrated by the contrast between a universal quantifier and a non-quantificational definite DP on the topic position in (13):

(13) Hoici, [{cyunbou jan/ *ni go jan} Aaming (dou) [t_i hou jansoeng]].
  begin every person this CL person Ming DOU very praise
  ‘It begins to be the case that Ming praises everyone/ *this person.’ (Lee 2021:4)

Notably, the movement of hoici may also be licensed by crossing a -can clause, as shown in (14). This supports the presence of a quantificational element in -can clauses, i.e. the covert OP_.

(14) Hoici, [[OP_ keoi daa -can] gei] aamaa [t_i zau wui faatnau ].
  begin 3SG play-CAN video/game mum then will become.mad
  ‘It begins to be the case that every time he plays video games, his mum gets angry.’

4 Minimality and locality in universal concord

The previous section proposes that universal concord is essentially syntactic agreement between -can and universal quantifiers. Universal concord is thus predicted to obey constraints on minimality and locality, two characteristic features of syntactic dependencies. The following two subsections will show that both predictions on minimality and locality are borne out, respectively.

4.1 Minimality effects

I adopt Rizzi (2001, 2004)’s feature-based Relativized Minimality (RM) to formulate minimality. RM dictates that a dependency between X and Y is in a minimal configuration iff there is no Z such that Z carries the same feature with X and Y, and that Z c-commands Y and is c-commanded by X (i.e. intervenes between X & Y). Minimality/intervention effects arise if X and Y are not in a minimal configuration, as illustrated in (15). The relevant feature here is [Q_U], a super-feature shared by quantificational elements (e.g. negation [NEG] and focus [FOC] are covered by [Q_U]).


\[
\begin{array}{ccc}
X & \ldots & Z & \ldots & Y \\
[Q_U] & \ldots & [Q_U] & \ldots & [Q_U] \\
\end{array}
\]

\times

In Chinese (Cantonese and Mandarin), elements that carry the super-feature [QU] are quantifiers (e.g. existential quantifier ‘someone’), negation, focus operators (e.g. ‘only’), modals (e.g. ‘must’), and adverbs of quantification (e.g. ‘often’). Their [QU]-feature is independently motivated by the minimality effects they triggered on two syntactic dependencies, A-not-A questions and why-questions (Wu 1997, Law 2001, Soh 2005, Tsai and Yang 2015). Note that this set of elements is language-specific. For instance, while all the wh-elements in English carry [QU], only wh-adverbs (‘why’ and ‘how’) carry [QU] in Chinese. Wh-nominals like ‘who’ are variables and do not bear [QU] in Chinese (Tsai 1994, 1999). Other examples of elements without [QU] include locative adverbials (e.g. ‘on the subway’) and temporal adverbials (e.g. ‘today’) (Ernst 1994).

Assuming that the universal feature [v] is a quantificational feature, the set of [QU] elements mentioned above is predicted to induce minimality effects to universal concord. Precisely, they will disrupt the agreement between -can and universal quantifiers and cannot intervene between them. Non-quantificational elements, in contrast, do not bear [QU] and should be able to occur in between them. This prediction is schematized in (16). 3

(16) Prediction from RM: elements with [QU]-feature cannot intervene between a UQ and -can

a. * ... UQ[\{v\}] ... quantifiers/ negation/ focus/ modals/ Q-adv[QU] ... -can[\{v\}] ... 

b. ... UQ[\{v\}] ... locatives/temporals/ wh-nominals[\{\}] ... -can[\{v\}] ...

First, this prediction is borne out for quantifiers. In (17), both existential quantifier and negative quantifier cannot occur in between -can and the universal quantifier zijiu ‘only if’. Note that these quantifiers are semantically compatible with zijiu and are allowed if -can is removed, showing that the ungrammaticality is due to their disruption on the agreement of -can with zijiu.

(17) Minimality effects induced by quantifiers

Zijiu jau jan/ mou jan lai man[*-can] je keoi zau baan fan.  
only if have person no person come ask-CAN stuff 3SG then pretend sleep  
‘Whenever someone/no one asks him for something, he will pretend to be asleep.’

Second, negation also conforms to the prediction. (18) shows that an intervening negation between -can and mui-ci ‘every time’ is not possible. Again, negation is allowed if -can is absent.

(18) Minimality effects induced by negation

3SG every-time NEG.PERF bring-CAN book DOU will get person scold  
‘Every time he doesn’t bring the book, he will get scolded.’

Third, focus operators also induce minimality effects to universal concord, including exclusive focus operator zinghai/dak ‘only’, additive focus operator lin ‘even’, and contrastive focus operator hai ‘be’. (19) illustrates this with zinghai ‘only’ intervening between -can and mui-ci ‘every time’.

(19) Minimality effects induced by focus operators

[mui-ci zinghai keoi jung[*-can] gaan fong go-zan] gaan fong dou hou zing.  
every-time only 3SG use-CAN CL room that-mo. CL room DOU very quiet  
‘Every time he is the only person using the room, the room is quiet.’

Fourth, the prediction is borne out for modals as well. For example, a deontic modal jinggoi ‘should’ is not allowed between -can and mui-ci ‘every time’ in (20), showing minimality effects. The same is true for epistemic modals and dynamic modals.

(20) Minimality effects induced by modals

3SG every-time should go do-CAN stuff that-mo. then have PERF shadow  
‘Every time when he should go to work, he disappears.’

3While A-not-A operator, ‘why’, and ‘how’ also carry [QU], they cannot occur in -can clauses due to independent reasons. As question operators, they are required to move (covertly) to the matrix CP, whereas -can is either in adjunct islands (=2a) or complex NP islands (=5) which block the operator movement.
Last but not least, adverbs of quantification also induce minimality effects, as shown in (21). ‘Gingsoeng ‘often’ cannot occur between -can in a relative clause and mui-go ‘every’.

(21) Minimality effects induced by adverbs of quantification

\[\text{[Mui-go [rc Aaming gingsoeng heoi[-can] i] ge gwokgaa,] dou hou lyn.} \]
\[\text{every-CL Ming often go-CAN MOD country DOU very chaotic} \]

‘Every country Ming has often visited is in chaos.’

We have seen from the above that quantificational elements with [QU] induce minimality effects to universal concord. Non-quantificational elements, in contrast, lack such a feature and the agreement of -can with universal quantifiers remains in a minimal configuration even when these elements are present. (22) confirms this prediction for locative adverbials, temporal adverbials, and wh-nominals:

(22) No minimality effects induced by non-quantificational elements

a. [Mui-ci hai deitit-dou king[-can] dinwaa] dou bei jan naau. (loc.adv.)

\[\text{every-time at subway-LOC talk-CAN telephone DOU get person scold} \]

‘Every time (I) has a call on the subway, I get scolded.’

b. [Zijiu ziuou jum[-can] naai] zau toutung. (temporal adverbials)

\[\text{only-if morning drink-CAN milk then stomachache} \]

‘Whenever (I) drink milk in the morning, my tummy feel odd.’

c. [Zijiu bingo fan[-can] gauu] louisi zau wui naau? (wh-nominals)

\[\text{only-if who sleep-CAN nap teacher then will scold} \]

‘Who is the person that teacher will scold at him whenever he sleeps?’

In short, universal concord with -can is subject to minimality, and hence supports the syntactic agreement analysis. Table 1 summarises the minimality effects in universal concord.

<table>
<thead>
<tr>
<th>Intervening elements</th>
<th>With [QU]-feature?</th>
<th>Minimality effects?</th>
<th>Examples</th>
</tr>
</thead>
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<tr>
<td>Quantifiers</td>
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<td>YES</td>
<td>(17)</td>
</tr>
<tr>
<td>Negation</td>
<td>YES</td>
<td>YES</td>
<td>(18)</td>
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<tr>
<td>Focus operators</td>
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<td>YES</td>
<td>(19)</td>
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<td>Modals</td>
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<td>YES</td>
<td>(20)</td>
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<tr>
<td>Adverbs of quantification</td>
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<td>YES</td>
<td>(21)</td>
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<tr>
<td>Wh-nominals</td>
<td>NO</td>
<td>NO</td>
<td>(22c)</td>
</tr>
</tbody>
</table>

Table 1: Minimality effects in universal concord

4.2 Locality constraints

Locality is another important feature of syntactic dependencies. In the Minimalist Program, locality is captured by the notion phase, which is a domain that determines the point of Transfer to interfaces and regulates the accessibility of materials within the domain. Typical phases include CP, vP and DP. Following the Phase Impenetrability Condition (PIC) in Chomsky (2001), the complement of a phase is not accessible to syntactic operations beyond a higher phase head, formalized below:

(23) Phase Impenetrability Condition (PIC) (Chomsky 2001)

\[\text{[ZP ... Z [XP X ... [HP α [H YP]]]];} \]

where Z and H are phase heads, and YP is visible to operations in XP but not ZP.

In the case of universal concord, the PIC predicts that the agreement of -can in YP with universal quantifiers is only possible if they are not separated by a higher phase head Z in (23). In other words, -can becomes inaccessible to a universal quantifier across two phasal boundaries (or more precisely, across two phase heads). (24) provides two predicted licit and illicit configurations:
(24) Prediction from PIC: -can cannot agree with a UQ across two phasal boundaries

a. \( \text{UQ}_{[\text{P}]} [\text{phase}1 \ldots [\text{can}_{[\text{U}]} \ldots [\text{phase}2 \ldots \ldots \ldots [\text{U}]}] \ldots \ldots \ldots \ldots \ldots [\text{phase}3 \ldots [\text{can}_{[\text{U}]} \ldots [\text{phase}4]}] \ldots [\text{U}]} \)

b. \( \text{UQ}_{[\text{P}]} [\text{phase}1 \ldots [\text{can}_{[\text{U}]} [\text{phase}2 \ldots [\text{U}]}} \)

This prediction is borne out in (25). In (a), -can is embedded in the finite CP complement of ‘say’ and agrees with mui-ci ‘every time’ in the upper clause across the lower CP and the upper vP boundaries. The agreement, however, violates the PIC by crossing two phasal boundaries and is banned. On the other hand, both (b) and (c) observes the PIC and agreement is possible. In (b), -can is embedded in the non-finite TP complement of ‘force’ (cf. Huang 2017), agreeing with mui-ci across the lower TP and vP boundaries. Since TP is not a phase, the agreement is licit. In (c), -can agrees with mui-go ‘every’ across the CP boundary of a relative clause, which obeys the PIC since only one phasal boundaries (or phase head) is crossed.

(25) Locality constraints of universal concord

a. PIC violation (24a) with vP and CP phasal boundaries:

\[ *\text{Ngo mui-ci [vP gong [CP waa keoi king [can gai], keoi zau sauseng.} \]
1SG every.time say C 3SG talk-CAN chat 3SG then shut.up
Int.: ‘Every time I said that he had a chat, he became silent.’

b. PIC compliance (24b) with a vP phasal boundary:

\[ \text{Ngo mui-ci [vP bik keoi [TP king [can gai], keoi zau sauseng.} \]
1SG every.time force 3SG talk-CAN chat 3SG then shut.up
‘Every time I forced him to talk (with me), he became silent.’

c. PIC compliance (24b) with a CP phasal boundary:

\[ \text{[Mui-go [CP=RC Aaming heoi [can ti] ge gwokgaa] dou hou lyun.} \]
every-CL Ming go-CAN MOD country DOU very chaotic
‘Every country Ming visited is in chaos.’

Before ending this section, it is instructive to see how the agreement of -can differs from a semantic dependency, NPI-licensing, with respect to minimality and locality. Jamho ‘any’ is an NPI in Cantonese that occurs in downward entailing contexts. Unlike -can, jamho may be licensed by negation with an intervening deontic modal in (26), violating RM:

(26) RM violation in NPI licensing

\[ \text{Ngo *[m]-gokdak [keoi jinggoi sik jamho zinzaa-je].} \]
1SG NEG-think 3SG should eat any fried-food
‘I don’t think he should eat any junk food.’

Long-distance NPI-licensing of jamho in (27) also violates the PIC by crossing two phasal boundaries DP and CP (also vP and CP boundaries in (26)). Note that (27) additionally violates island constraints, where jamho within a complex NP island is licensed by a matrix negation.

(27) PIC/island violation in NPI licensing

\[ \text{Ngo *(m)-zungji [dp [cp jamho zokgaa se] ge syu].} \]
1SG NEG-like any writer write MOD book
‘I don’t like books written by any writers (lit.: books which any writer writes).’

We now see that a semantic dependency like NPI-licensing contrasts with the agreement of -can that exhibits strict minimality and locality. This contrast also suggests that -can should not be treated as a free-choice item containing a variable licensed by an operator semantically, an alternative analysis proposed recently by Sio (2020).

5 Concluding remarks

To conclude, this paper instantiates a case of universal concord in Cantonese, where the verbal suffix -can may be doubled with an overt or covert universal quantifier. -Can is shown to be a concord element that lacks quantificational force. Providing crucial evidence from minimality and
locality, this paper motivates a syntactic agreement account to universal concord. Consequently, the empirical landscape of concord is broadened through attesting concord of universal quantifiers. Moreover, this study also offers additional support for a syntactic approach to concord by exploring minimality effects, a less discussed kind of evidence in the literature.

As a remark, Dong (2009) and Tsai (2015) also suggest a case of universal concord in Mandarin. It is well known that Mandarin D-quantifier *mei(-ge) ‘every’, when occurring in the subject position, requires the presence of the distributor *dou:

    every CL man DOU buy-PERF book
    ‘Everyone bought a book.’

Dong (2009) and Tsai (2015) argue that *mei is a concord marker that agrees with a universal quantifier. While it is attractive to treat *mei parallel to -can in Cantonese, *mei differs from -can in having quantificational force, as evidenced by the availability of ‘almost’ modification:

(29) Jihu mei ge ren dou mai-le shu.
    almost every CL man DOU buy-PERF book
    ‘Almost everyone bought a book.’

Hence, whether *mei qualifies a case of universal concord like -can or a different kind of concord is not immediately clear. A separate occasion, however, must be awaited for justifications and discussions.

References


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