Modality in the nominal domain: expressing ignorance in indefinites

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Contents

1 Introduction

Cross-linguistically, epistemic modals encode the speakers' knowledge/belief.

(1) a. John **may** be at home.

  b. It is **unlikely** that John is at home.

But there appears to be no modal expression that is dedicated to express speakers' lack of knowledge/ignorance, i.e. it is expressed analytically.

(2) **I don't know** whether John is at home.
  (cf. I don't know that John is at home.)

In the nominal domain, the division of labor is more fine-grained. Definite articles, pronouns and proper names commonly entail speakers' knowledge on the referent.

(3) a. **This** person is at home.

  b. **My** son is at home.

  c. **John** is at home.

Indefinite articles, at least in English, *underspecify* speakers' knowledge, i.e. it is compatible with both knowledge and ignorance.

(4) a. **A/some** person is at home. It's John/ I don't know who.

  b. **A certain** person is at home. It's John/ I don't know who.   (Abusch and Rooth 1997)

Additionally, in some languages, there are expressions that obligatorily encode an ignorance component in a nominal expression.

Take Spanish as an example (applying the *namely*-test, Dayal 1997):

(5) #María se casó   con [**algún** estudiante del   departamento de lingüística]: en concreto con Pedro
     María SE married with ALGÚN student   of.the department   of linguistics: namely   with Petro
     'María married a linguistics student, namely Pedro.'   (Alonso-Ovalle and Menéndez-Benito 2010, p.2)

 ... as opposed to English *a/some*:

(6) ᴼᴷMary married [**a/some** linguistics student], namely, Peter.

This talk focuses on how languages bundle an existential claim and an ignorance inference in nominal expressions, which are often regarded as **epistemic indefinites** (EIs, Alonso-Ovalle and Menéndez-Benito (2015)).

The plan for today: to discuss three aspects on the study of epistemic indefinites and their cross-linguistic variations.
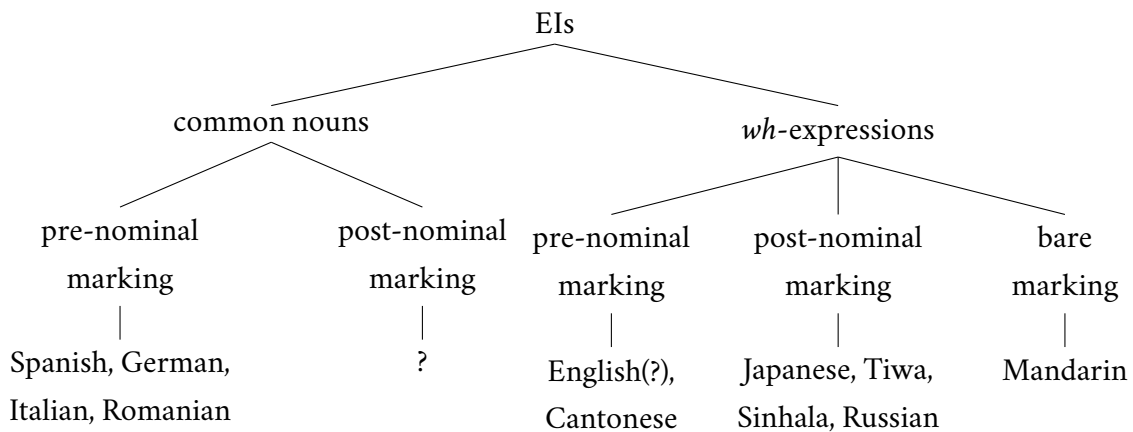
(7)   a.   §1: the morphological makeup of EIs

      b.   §2: the properties of the ignorance component

      c.   §3: the source of the ignorance component (and a sketch of my analysis on Cantonese EIs)

I make special reference to Cantonese and show how Cantonese may contribute to the study of EIs.

2   The morphological makeup of EIs

Across languages, the ignorance component is encoded via different morpho-syntatic means.

(8)   Different types of EIs, based on their morphological makeup

```
                                    EIs
                    _____|_____
                   |                                 |
             common nouns                      wh-expressions
           _____|_____              _____|_____
          |             |            |          |          |
      pre-nominal   post-nominal  pre-nominal post-nominal bare
       marking       marking       marking    marking    marking
          |             |             |          |          |
      Spanish, German,    ?        English(?),  Japanese, Tiwa,  Mandarin
      Italian, Romanian             Cantonese   Sinhala, Russian
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(9)   English: syntactic amalgams
      Mary married [**I don't know** which linguistics student], (#namely Peter).

(10)   Cantonese: *m* 'not' + *zi* 'know'
       Aaming tai-zo   [**mzi** bin-bun   syu], (#zikhai Hunglaumung)
       Aaming read-PERF MZI which-CL book namely Dream.of.the.red.chamber
       'Aaming read some book, namely, *Dream of the Red Chamber*. '

(11)   Japanese: the question particle *ka*
       nomimono-o [nani-**ka**] watasi-ni kudasai. (#Coola-o   onegaisimasu)
       drink-ACC   what-KA me-DAT   give   Coke-ACC please
       'Give me some drink. Coke please.'   (Kaneko 2011)

(12)   Mandarin: bare marking
        Gouxiong zheng he   [shei] — #jiushi Lisi — shuohua.
        Gouxiong now   with who — namely Lisi — talk
        'Gouxiong is talking to some person or other — namely Lisi.'   (**Liu:2019**)

Note that for languages that employ *wh*-expressions, it is possible to express ignorance over adverbials and disjunction (data in Cantonese, same for Japanese and potentially for Tiwa):

(13) a. Aaming houci { **mzi** dimjoeng/ houfaaigam } zenghou-zo gaa-ce
          Aaming seem   MZI how   rapidly   fix-PERF   CL-car
          'Aaming seems to have { somehow/ rapidly} fixed the car.'

      b. Aaming camjat   { **mzi** dimgaai/ janwai ze   syu } lai-zo
          Aaming yesterday   MZI why   because borrow book   come-PERF
          'Aaming came yesterday { for some reason/ for book-borrowing }.'

(14) a. Aaming maai-zo **mzi** [NP syu   ding bouzi]
          Aaming buy-PERF MZI   book or   newspaper
          'Aaming bought some book or newspaper.'

      b. Aaming zoeng ni-bun syu   **mzi** [VP fong-zo hai toi   ding daai-zo-faan   hokhaau]
          Aaming to   this-CL book MZI   put-PERF on table or   bring-PERF-back school
          'Aaming, regarding this book, either put (it) on the table or brought (it) back to school.'

3   The properties of the ignorance component

3.1   The content of ignorance: what the speaker does not know

❶ Partial ignorance vs. total ignorance:

(15)   The Hide-and-Seek scenario (modified from Alonso-Ovalle and Menéndez-Benito (2010))
        María, Juan, and Pedro are playing hide-and-seek in their country house. Juan is hiding.

        a. *Partial ignorane context*: Pedro thinks that Juan could be in the bathroom or the bedroom,
            but for sure not in the kitchen.

        b. *Total ignorance context*: Pedro thinks that Juan could be in any room.

(16)   Cantonese: [OK]Partial ignorance; [OK]Total ignorance (same for Spanish, German and Italian)
        Juan jatding hai uk   japmin ge [**mzi** bin-gaan fong]
        Juan must   in house inside GE MZI   which-CL room
        'Juan must be inside some room in the house.'

(17) Romanian: ^{OK}Partial ignorance; [*]Total ignorance

Juan trebuie să   fie în [**vreo** cameră] din   casă

Juan must   subj be in VREUN room   of-the house

'Juan must be in some room of the house.'

❷ (Non-)specific unknowns/ (anti-)variation: whether the EI is compatible with a singleton domain

(18) The Dancing-Professor Scenario (adopted from Alonso-Ovalle and Menéndez-Benito 2010)

L and P are visiting the Math department. They don't know anything about the people working there, and they haven't seen any of them before. They suddenly see an individual, who can be inferred to be a professor, frantically dancing on his desk.

(19) The speaker: ✔ ostension; ✘ naming/description

    a.   taihaa! [**mzi** bin-go   gaausau] hai toi   soengmin tiumou

        look   MZI which-CL professor at   table top   dance

        '(Pointing at the professor) Look! Some professor is dancing on the table!'

    b.   #¡Mira! [**algún** profesor] está bailando encima de la   mesa!

        Look ALGÙN professor is   dancing on   of the table

        '(Pointing at the professor) Look! Some professor is dancing on the table!'

                                     (Alonso-Ovalle and Menéndez-Benito 2010)

(Note that this raises further questions on what counts as "knowing the referent", or successful identification (e.g. by ostension, by naming or by description). I will return to this issue shortly.

More examples on Cantonese EIs' compatibility with a singleton domain:

(20) a.   The speaker: ✔ description; ✘ naming/ostension

       Aaming zinghai dak **mzi** bin-bun   syu   soeng maai

       Aaming only   only MZI which-CL book want buy

       'Aaming has only one book that (he) wants to buy.'

    b.   The speaker: ✔ naming; ✘ ostension/descprtion

       Aaming tai-zo   **mzi** bin-bun   giuzou Hunglaumung   ge syu

       Aaming read-PERF MZI which-CL titled   Dream.of.the.Red.Chamber GE book

       'Aaming read some book titled *Dream of the Red Chamber*.'

Cf. an example from Spanish (Alonso-Ovalle and Menéndez-Benito 2010):

(21) The speaker: ✔ description; ✘ naming/ostension

   #Juan compró **algún** libro que resultó ser el más caro de la libreriía.

   Juan bought ALGÚN book that happened to.be the most expensive in the bookstore

   'Juan bought a book that happened to be the most expensive one in the store.'

❸ Knowledge as discourse/context-dependent:

While Cantonese EIs do not distinguish different methods of identification, **Italian EIs** show an interesting hierarchy of ostension>naming>description (Aloni and Port 2015).

If identification via **ostension** is successful, it is infelicitous to claim ignorance because one cannot identify the referent via **naming**.

(22) The speaker: ✔ naming; ✘ ostension   *at a workshop*

   Devo incontrare **un qualche** professore. Si chiama John Smith, ma non so che aspetto abbia.

   'I have to meet some professor. His name is John Smith, but I don't know what he looks like.'

(23) The speaker: ✔ ostension; ✘ naming   *watching a soccer match*

   ??Guarda! **Un qualche** giocatore si è fatto male. Sai chi è?

   'Look! Some player got injured. Do you know who he is?'

(Note that the German EIs are felicitous in both cases. So do Cantonese EIs.)

If identification via **naming** is successful, it is infelicitous to claim ignorance because one cannot identify the referent via **description**.

(24) The speaker: ✔ description; ✘ naming

   Devo incontrare **un qualche** professore. È il capo del dipartimento, ma non so come si chiama.

   'I have to meet some professor. He is the Head of the Department, but I don't know his name.'

(25) The speaker: ✔ naming; ✘ description

   ??C'è qui **un qualche** rappresentante farmaceutico per te. Si chiama Schulz. Posso farlo entrare?

   'There is some pharma rep for you. His name is Schulz. Can I let him in?'

(Note that the German EIs are felicitous in both cases. So do Cantonese EIs.)

On the other hand, in **Sinhala**, different epistemic markers *specify* different types of failures of identification (Slade 2015).

(26) a. The speaker: ✔ ostension; ✘ naming/description

     {Kau **də**/ #Kauru **hari**} mese uda natanava.

     Who DƏ Who HARI table on dance.pres.

     'Someone is dancing on the table.'

   b. The speaker: ✔ naming; ✘ ostension/description

Ranjit namin {#kau **dɘ**/ kauru **hari**} Chitra.ta hambavuna⁻
Ranjit named who Dɘ who HARI Chitra.dat meet.past
'Chitra met someone named Ranjit.'

(27) a. **dɘ** expresses ignorance over naming/description.

b. **hari** expresses ignorance over ostension/description.

(Again, Cantonese EIs are compatible with both contexts.)

3.2 The nature of the ignorance: whether it is cancelable

The ignorance component of Cantonese EIs are not cancellable.

(28) Cantonese: not cancellable (hence not calculable)
#Aaming tai-zo **mzi** bin-bun syu, ji ngo zidou hai bin-bun
Aaming read-PERF MZI which-CL book, and I know be which-CL
'Aaming read some book, and I know which (book it is).'

(29) Japanese: cancellable
Ken-wa [dare-**ka**] gengogaku-no gakusei-to kekkonshita. jitsuwa dare-da-ka shitteru.
Ken-TOP who-KA linguistics-GEN student-with married in.fact who-COP-Q know
'Ken married a linguistics student. In fact, (I) know who it is.'

(Alonso-Ovalle and Shimoyama 2014, p.14)

3.3 Interaction, part 1: whether it interacts with intensional operators

Cantonese EIs take obligatory wide intensional scope over intensional operators (e.g. attitude verbs and modals). The ignorance component is retained when embedded (i.e. it is *projective*).

(30) Wide scope over attitude verbs
Aafan soeng tong **mzi** bin-go jisang jitfan
Aafan want with MZI which-CL doctor marry
'Aafan wants to marry to some doctor ... '
(i) ✔ ... they know each other for two years.   scopally specific
(ii) ✗ ... but she does not know any doctor.   scopally non-specific
The same applies to deontic modals as well:

(31)   Wide scope over deontic modals

    Aafan jatdingjiu tong **mzi** bin-go   naamjan gitfan
    Aafan must   with MZI which-CL man   marry

    a. ✔ 'There is some man that Aafan must marry to.'   scopally specific

    b. ✘ 'Aafan must marry to a man (whoever he is).'   free choice

   It also outscopes the illocutionary force (cf. Dawson 2020).

(32)   a.   Aaming jau-mou   gin   **mzi** Lei lousi ding Wong lousi?
           Aaming have-not.have meet MZI Ms Lee   or   Ms Wong
           'Did Aaming see Ms Lee or Ms Wong?"
           ➜ the speaker knows that Aaming wanted to see a particular person, but they can't remember whether it was Ms Lee or Ms Wong. What the speaker wants to know is whether Aaming met that particular person.

    b.   heoi gin   **mzi** Lei lousi ding Wong lousi laa1
           go   meet MZI Ms Lee   or   Ms Wong SFP
           'Go and see Ms Lee or Ms Wong!'
           ➜ The addressee needs to go and talk with a particular teacher, but the speaker can't remember whether that teacher is Ms Lee or Ms Wong. The speaker commands the addressee to go and talk with whoever it is they need to.

   A brief comparison with other languages:

- EIs in German, Italian and Czech display non-uniform scope interaction with different intensional operators (Aloni and Port 2015; Šimík 2014);
- Obligatory wide scope indefinites are also attested in St'át'imcets (Matthewson 1999) and Tiwa (*-khi*, Dawson 2018), but Cantonese EIs can take *narrow* quantificational scope (see below).

3.4   Interaction, part 2: whether it interacts with quantifiers

Cantonese EIs can scope above or below the universal quantifier.

(33)   a.   mui-go   hoksaang dou hok-gwo [**mzi** bin-zung auzau   jyujin]
           every-CL student   all   learn-EXP MZI which-CL European language
           'Every student has learned some European language.'

    b.   Wide: $\exists y[\text{an-unknown-European-language}(y) \land \forall x[\text{student}(x) \rightarrow \text{learned}(x,y)]]$

    c.   Narrow: $\forall x[\text{student}(x) \rightarrow \exists y[\text{an-}\underline{\text{unknown}}\text{-European-language}(y) \land \text{learned}(x,y)]]$

(34)   Cross-linguistic variations:

    a.   Japanese *wh-ka*: wide or narrow

    b.   Russian *wh+nibud'*: narrow only

    c.   Tiwa *wh+khi*: wide only

Crucially, when interpreted narrowly, **the ignorance component is distributed** over 'every':
➜ For each student, s/he has learned some language unknown to the speaker.
    Another example that favors a narrow scope reading:

(35)   a.   mui-sau 80nindoi coetman ge go   dou hai goipin   zi   **mzi** bin-sau   jatman-go
        every-CL eighties   famous   GE song all   be   rearrange from MZI which-CL Japanese-song
        'Every famous song in the eighties is rearranged from some Japanese song.'

    b.   #Wide: $\exists y[\text{an-unknown-Jap.-song}(y) \wedge \forall x[\text{a-famous-song}(x) \rightarrow \text{be.rearranged.from}(x,y)]]$

    c.   Narrow: $\forall x[\text{a-famous-song}(x) \rightarrow \exists y[\text{an-\underline{unknown}-Jap.-song}(y) \wedge \text{be.rearranged.from}(x,y)]]$

➜ For each famous song in the 80's, it is rearranged from some Japanese song unknown to the speaker.

    (As far as I know, this property of the ignorance component is not documented in other languages.)
    This contrasts with Japanese *-ka*, whose ignorance component disappears when interpreted narrowly.

(36)   Japanese
    Dono   kyooju-mo   dare-**ka** gakusee-to   odotteru.
    which professor-MO who-KA   student-with is.dancing
    'Every professor is dancing with some student.'   (Alonso-Ovalle and Shimoyama 2014)

    ➜ it is felicitously continued by a follow-up question by the hearer: 'Who is dancing with who?'

4   The source of the ignorance component

4.1   Existing approaches to the ignorance component

Since the ignorance component display non-uniform properties, various characterizations have been suggested for the ignorance component (cf. Alonso-Ovalle and Menéndez-Benito 2013).

    Two major families:

❶ Ignorance as a conversational implicature
❷ Ignorance as a result of a felicity condition or as a presupposition (non-Gricean approaches)

❶ Ignorance as a conversational implicature

    (a) <u>Ignorance as a quantity implicature</u>
        A marker that imposes an anti-singleton constraint on the domain of the nominal
        e.g. Spanish *algún* (Alonso-Ovalle and Menéndez-Benito 2010), Japanese *-ka* (Alonso-Ovalle and Shimoyama 2014)

    (b) <u>Ignorance as a manner implicature (*cf*. lexical blocking, McCawley 1978)</u>
        A marker that is in lexical competition with another expression
        e.g. Tiwa *-khi* (Dawson 2018), Russian *-to* (Geist 2008)

❷ Ignorance as a result of a felicity condition or as a presupposition (non-Gricean approaches)

    (c) <u>Ignorance as a felicitous shift in identification methods</u>
        A marker that trigger an obligatory shift in identification method
        e.g. German *irgendein*, Italian *un qualche* (Aloni and Port 2015), Czech *-si* (Šimík 2014), Sinhala *hari/də* (Slade 2015)

    (d) <u>Ignorance as intended referential vagueness</u>
        A marker that encodes anti-specificity
        e.g. French *un quelconque* (Jayez and Tovena 2006), Greek *-dhipote* (Giannakidou and Quer 2013)

4.2   How about Cantonese EIs?

Recall that the ignorance component of Cantonese EIs...

- allows both partial and total ignorance
- is compatible with a singleton domain
- does not distinguish different methods of identification
- is not cancellable or reinforceable;
- survives intensional operators (i.e. denoting "specific unkonwns")
- can scope below quantifiers and be distributed.

A sketch of the analysis:

- ⬚The nature⬚ : is **a conventional implicature** (Grice 1975; Potts 2005; Horn 2007), representing a third type of the ignorance component (different from ❶ and ❷);
- ⬚The source⬚ : it originates from the lexical meaning of *m-zi* 'not-know' and becomes a non-at-issue content due to **grammaticalization** of *m-zi* into **a choice function**.

4.2.1 Motivations for a conventional implicature approach

Adopting a general definition of conventional implicature, taken from Potts (2015), following Grice (1975) and Horn (2007),

(37) Meaning *p* is a *conventional implicature* of phrase S if, and only if:

    a.   *p* is a conventional (encoded) property of a lexical item or construction in S;

    b.   *p* is entailed by S; and,

    c.   *p*'s truth or falsity has no effect on the at-issue content of S.

The ignorance component of *mzi*-indefinites is obviously encoded by *mzi* and we have seen that it cannot be cancelled, satisfying (a) and (b).

Concerning (c) "*p*'s truth or falsity has no effect on the at-issue content of S", observe that the hearer can follow up by agreeing on the at-issue existential claim, while disputing the ignorance component:

(38) a.   Aaming tai-zo   [**mzi** bin-bun   syu]   =(10)
            Aaming read-PERF MZI   which-CL book
            'Aaming read some book (I don't know which).'

    b.   hai aa3. batgwo nei jinggoi   zidou hai bin-bun   gaa3
           yes SFP but   you probably know be which-CL SFP
           'Yes, but you probably know which book it is.'

                                       (cf. Karttunen and Peters 1979; Potts 2005)

Note that (38b) is an infelicitous follow-up to (39).

(39) ngo **m-zi**   [Aaming tai-zo   bin-bun syu]   =(??)
     I   not-know Aaming read-PERF which-CL book
     'I don't know which book Aaming read.'

4.2.2 Motivations for a choice-functional analysis

Mzi-indefinties display 'exceptional wide scope', taking scope from within a syntactic island.

(40) mui-go hoksaang dou tengdou [hokhaau kwaidingjiu hok [**mzi** bin-zung jyujin]   ge siusik]
     every-CL student   all   heard   school   require   learn MZI which-CL language GE news
     'There is some language s.t. every student heard the news that the school requires (them) to learn it.'
     (A narrow scope reading is less salient but possible.)

 I therefore adopt a choice-functional approach to *mzi*-indefinites, following Kratzer (1998), Reinhart (1997), and Winter (1997).

4.2.3 Implementation

(41)   A multi-dimensional semantics of *mzi* (Karttunen and Peters 1979; Potts 2005)

    a.   *At-issue content*:

       ⟦mzi_i⟧^{g} = $\lambda P_{<e,t>}$. g(i)(P), where g(i) $\in$ D$_{\text{choice function } <<e,t>,e>}$

    b.   *Conventional implicature*:

       The speaker *doesn't know* (i.e. fails to identity in a relevant way) the referent chosen by the choice function.

An illustration: to derive the narrow scope reading of (42a), with the distributed ignorance component

(42)   a.   mui-go   hoksaang dou hok-gwo [**mzi** bin-zung auzau   jyujin]   =(33)
        every-CL student   all   learn-EXP MZI which-CL European language
        'Every student has learned some European language.'

    b.   Narrow: $\forall x[\text{student}(x) \rightarrow \exists y[\text{an-}\underline{\text{unknown}}\text{-European-language}(y) \wedge \text{learned}(x,y)]]$

Assuming that *wh*-expressions denote alternative sets (Kratzer and Shimoyama 2002; Beck 2006, i.a.),

(43)   a.   The internal structure of the *mzi*-indefinites:

       [$_{NP}$ *mzi* [$_{NP}$ which European.language]]

    b.   *At-issue-content*: ⟦mzi_i⟧^{g} (⟦which European.language⟧)   via (41a))
       = λX. g(i)(X) ({x: European.language(x) })   by Functional Application
       = g(i){x: European.language(x) }
       = g(i){Spanish, German, ... }

Here, I assume that the choice function is existentially bound at its base position (Winter 1997).

(44)   The meaning of (42a)

    a.   *At-issue-content*: $\forall x[\text{student}(x) \rightarrow \exists f [\text{learned}(x, f\{\text{Spanish, German, ... }\})]]$

    b.   *Conventional implicature*: The speaker doesn't know the referent chosen by f.

Since the ignorance component is associated with the choice function, it is distributed altogether.

5   Concluding remarks

The emergence of Cantonese EIs:

(45)   a.   **Lexicalization**: the negation *m-* and the predicate *zi* 'know' are lexicalized as one element.

     b.   **Grammaticalization**: the complex predicate *m-zi* 'not-know ' is grammaticalized as a functional adnominal element that denotes a choice function. The lexical meaning becomes non-at-issue content.

A similar pattern is observed with varieties of Japanese, where the question particle/interrogative complemntizer and the predicate *sira-n* 'know-not' develops into an epistemic marker.

(46)   Gifu dialect of Japanese

Ken-wa   [dare **ka-syan**]-to   kekkonsi-tot-ta kedo, (#boku-wa zituwa dare-da-ka   sit-to-ru).
Ken-TOP who KA-SYAN-with married   but   I-TOP   actually who-COP-KA know
'Ken married someone. In fact, I know who it is.'   (p.c. Teruyuki Mizuno)

(47)   Tokyo dialect of Japanese

Ken-wa   [dare-**ka**] gengogaku-no   gakusei-to   kekkonshita. jitsuwa dare-da-ka   shitteru.
Ken-TOP who-KA   linguistics-GEN student-with married   in.fact   who-COP-Q know
'Ken married a linguistics student. In fact, (I) know who it is.'

(Alonso-Ovalle and Shimoyama 2014, p.14)

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