Expressing ignorance beyond the nominal domain in Japanese: a comparative view

**Background:** Epistemic indefinites (EI, Alonso-Ovalle & Menéndez-Benito 2015) expresses speaker’s ignorance (or epistemic uncertainty inference) and are observed cross-linguistically. Most discussion has been on Indo-European languages, with notable exceptions in Japanese *wh-ka* (i.e. Kratzer & Shimoyama 2002, Sudo 2010 and Kaneko 2011). However, attention is largely devoted to the nominal domain (e.g. *dare-ka ‘who-ka’, nani-ka ‘what-ka’*).

**Goals:** To broaden the empirical coverage and contributes to the theorizing of the study of the ignorance component in natural languages. In particular, this paper (i) examines the overlooked sequence *wh*-adverbials + *ka* in Japanese, which I call *Epistemic Adverbials* (EA); (ii) supports Alonso-Ovalle & Shimoyama’s (2014) argument for the Ignorance Implicature Approach to derive the source of ignorance, against the Lack of Relevant Identification Approach (Sudo 2010; Aloni & Port 2015); (iii) contrasts Japanese EA with Cantonese EA, suggesting a typological difference in the source of ignorance.

(i) **Observation:** (1) shows some examples of EA where -*ka* is combined with non-nominal *wh*-phrases. Unlike EI, they disallow following post-positions. Similar to EI, the infelicitous continuation of (1) in (2) are diagnostic of speaker’s ignorance, as (2) suggests speaker’s knowledge. (2) becomes felicitous if we replace the EAs in (1) with *aru-riyuu-de* ‘for a reason,’ *aru-houhou-de* ‘in a way’ and *aru-jiten-de* ‘at one time’ which does not suggest speaker’s ignorance. EA is not reported in languages like German, Spanish and Romanian, where EI is attested. Unlike other EI markers which are determiners/quantifiers (e.g. German *irgendein* and Spanish *algún*), -*ka* in Japanese originates from a (question) particle.

(ii) **An implicature approach:** The ignorance component can be cancelled, and (3) is a felicitous continuation of (1). It *disappears* in downward-entailing environments (=4a) and some upward-entailing environments (=4b) (following AO & S 2014). It is subject to the *anti-singleton constraint* (=5) (contra Sudo 2010), which implies speaker’s ignorance on the truth of a more informative proposition. Also, it is not necessarily speaker-oriented (=6). The ignorance may be directed to the attitude holder. These properties are hallmarks of a conversational (quantity) implicature (AO & MB 2010; Kaneko 2011; AO & S 2014).

(iii) **Comparing with Cantonese:** EA (also EI) in Cantonese is in the form of *m-zi + wh* ‘not-know wh,’ (=7), which similarly cannot be continued by the Cantonese counterpart of (2). In other aspects, Cantonese EA is largely a mirror image of Japanese EA. The ignorance component cannot be cancelled (=8). It remains in any upward-/ downward-entailing or modalized environments (=9). Cantonese EA is compatible with a singleton set (=10). Its acceptability can be explained under the Aloni & Port’s (2015) approach, where the speaker can only describe the period (i.e. hottest) but not name it (e.g. July). Also, it must be speaker-oriented (=11), suggesting the ignorance associated with EA in Cantonese is conventional.

**Discussions:** (a) A comparative view on EA suggests a typological difference in the source of ignorance. While the ignorance of the Japanese EA is derived from *conversational implicature* (like Spanish *algún*, AO & MB 2010), that of the Cantonese EA is a conventional *meaning* of *m-zi* (or presupposition, like French *quelque*, Tovena & Jayez 2006). (b) Morphology of EA appears to play a role here: -*ka* as an existential particle vs. *m-zi* as a combination of negation and predicate. Little attention has been paid to the morphology of EI/ EA in the enterprise. (c) The semantics of Japanese EA can be captured under existing proposals for EI (AO & MB 2010 and Kaneko 2011), if we apply an event-theoretic analysis to adverbials. (12) gives an example for *itsu-ka* ‘when-ka, where *f* is an anti-singleton subset selection function.
(1) Ken-wa {naze-ka/ douyatte-ka/ itsu-ka} (*-de/ -ni) ie-ni kaetta
Ken-TOP why-ka/ how-ka/ when-ka by/ to home-to returned
‘Ken returned to home {for some reason/ by some way/ at some time}.’

(2) …# tsukari, {tsukareta-kara/ kuruma-de/ hachiji-ni} ie-ni kaetta
name-ly was.tired-because/ car-by/ 8pm-at home-to returned
‘That is, Ken returned to home (because he was tired/ by car/ at 8pm).’

(3) …jitsu-wa {naze/ douyatte/ itsu} da-ka wakaru yo [cancellation]
in.fact-TOP why/ how/ when COP-KA know PRT
‘…In fact, I know {why/ how/ when} (he returned to home).’

(4) a. Ken-wa itsu-ka modotte kuru nodewanai [downward-entailing envir.]
Ken-TOP when-ka return come it.is.not.the.case
‘It is not the case that Ken will be back at any time.’
↝ ‘Ken will not be back anymore.’

b. [Scenario: You are the secretary of a school and you are looking at the schedule which
clearly states the (various) returning dates of all the teachers.] (due to AO & S 2014)
dono-sensei-mo itsu-ka gakkou-ni modotte kuru [upward-entailing envir.]
which-teacher-MO when-ka school-to return come
‘Every teacher will return to school at some time.’

(5) *Ken-wa itsu-ka ichiban atsui toki-ni Karuizawa-ni ryokoushita [anti-singleton]
Ken-TOP when-ka most hot time-at Karuizawa-to travelled
Intended: ‘Ken travelled to Karuizawa at some hottest period.’

(6) Ken-wa itsu-ka Furansu-e itki-tai to omotteiru [not necessarily speaker-oriented]
Ken-TOP when-ka France-to go-want that thinking
‘Ken thinks that he wants to go to France at some time (unknown to OKhim/ OKme).’

(7) Aaming {m-zi dimgai/ m-zi dimjoeng/ m-zi geisi} faan-zo ukkei
Aaming M-ZI why/ M-ZI how/ M-ZI when returned home
‘Aaming returned to home {for some reason/ by some way/ at some time}.’

(8) # …keisak, ngo zi {dimgai/ dimjoeng/ geisi} [cancellation]
in.fact I know why/ how/ when
‘…In fact, I know {why/ how/ when} (he returned to home).’

(9) bingo lousi dou wui m-zi geisi faan-faan hokhaau [upward-entailing envir.]
which teacher all will M-ZI when return-back school # under Scenario 4b
‘Every teacher will return to school at some time (I don’t know when).’

(10) Aaming m-zi geisi zeoi jit gozan heoi-zo Hingzenzak leoihan [singleton]
Aaming M-ZI when most hot that.time went Karuizawa travel
‘Aaming travelled to Karuizawa at some hottest period (I can’t name the month).’

(11) Aaming lam-zyu m-zi geisi heoi Faakgwok [speaker-oriented]
Aaming thinking M-ZI when go France
‘Aaming is thinking to go to France at some time (unknown to *him/ OKme)

(12) \[\text{[itsu-ka]} \equiv \lambda f : \text{<etet,etet>} \cdot \lambda P : \text{<et>} \cdot \lambda x : \text{ANTI-SINGLETON}(f). \exists e. [P(e, x) ^ \text{AT}(e, f\text{<TIME>})] \]
(where \text{TIME} is any contextually salient set of times)