# **S-3** Modal Questions and Point-of-View Shift in Korean and Japanese

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#### 1.1. Japanese modal hazu normally cannot appear in questions

- (1) a. Zimen-ga nureteiru hazu-da. ground-NOM be.wet hazu-COP "The ground must be wet."
  - b. Yamada-wa inai hazu-da.
    Yamada-TOP be.absent hazu-COP
    "Yamada must be absent."
- (2) a. ??Zimen-ga nureteiru hazu-desu-ka?ground-NOM be.wet hazu-COP-Q"The ground must be wet."
  - b. ??Yamada-wa inai hazu-desu-ka? Yamada-TOP be.absent hazu-COP-Q "Yamada must be absent."

Point of view shift in questions

- (3) a. He will be admitted to Rits. ('**I think** he will be...')
  - b. Will he be admitted to Rits? ('Do you think he will be...')

Point of view shift in will

Affirmative sentence: compatible with the knowledge of **the speaker** Interrogative sentence: compatible with the knowledge of **the hearer** 

The contrast (1)-(2) appeared to be accounted for in terms of the point of view shift. Takubo and Kim (2009) attempted to explain the contrast in (1)-(2) in terms of the point of view shift or the lack thereof, namely, by stipulating that epistemic necessity modals do not allow deictic shift. Below we will take a close look at *hazu* and give a principled account for their stipulation based on the lexical semantics of *hazu*.

## 1.2. "q-hazu" signals that q is a logical consequence of some sort

"the ground is wet- <i>hazu</i> " (=(1a))	"Yamada is absent- <i>hazu</i> " (=(1b))
if it rains, the ground is wet	if x's travel document has been submitted, x is absent
it rained	Yamada's travel document has been submitted
the ground is wet	Yamada is absent

"q-*hazu*" presupposes some set of propositions *P* that make *q* true.

In case of Modus Ponens, if p, q [*if p*, *q*] and [*p*] are presupposed *P*.

p q

#### 1.3. "q-hazu?" is ruled out because of contradiction

	"q-hazu?" still presupposes a set of propositions P that make q true	hazu
	"q-hazu?" ~ "q or $\neg$ q, which one is it?"	yes/no-Q
	¬q contradicts with what P entails, i.e. q	contradiction
e٠	" $\alpha$ -hazw?" is not a legitimate question	

Therefore: "q-hazu?" is not a legitimate question

#### 2.1. noda saves "q-hazu?"

(3)	a. ?	?Zimen-ga			
		ground-NOM	be.wet	hazu-COP-Q	
		"The ground m	nust be wet.'	1	
	b. ?	?Yamada-wa	inai	hazu-desu-ka?	
		Yamada-TOP	be.absent	hazu-COP-Q	
		"Yamada must	be absent."		(=(2))
(4)	a.	Zimen-ga	nureteiru	hazu- <b>nano</b> -desu-ka?	
(4)	a.	0		hazu- <b>nano</b> -desu-ka? hazu- <b>noda</b> -COP-Q	
(4)	a.	0	be.wet	hazu- <b>noda</b> -COP-Q	

b. Yamada-wa inai hazu-nano-desu-ka?
 Yamada-TOP be.absent hazu-noda-COP-Q
 "Yamada must be absent."

#### 2.2. noda triggers abduction

Suppose we all know:if it rains, thenthe ground is wetpremiseconsequence

**Deduction** | By observing the premise(s), you draw the consequence.

if it rains, the ground is wet	we all know	
it rained	premise observed	
the ground is wet	consequence drawn	$\rightarrow$ "the ground is wet- <i>hazu</i> "

**Abduction** | By observing the consequence, you hypothesize (one of) the premise(s).

if it rains, the ground is wet	we all know	
the ground is wet	consequence observed	
it rained	premise drawn	$\rightarrow$ "it rained- <i>noda</i> "

### 2.3. "q-hazu-noda?" asks (one of) the premise(s), therefore it's ok

By adding *noda* to "q-*hazu*?", you can ask what *q* presupposes.

(5)	a.	ground-NOM "The ground n	wet nust be wet.	hazu- <b>nano</b> -desu-ka? hazu- <b>noda</b> -COP-Q ″ e that if it rains) the ground is wet?	(=(4a)) ″	
	if it	rains, the groun	nd is wet	$\leftarrow$ asking this part		
	<u>it ra</u>	ained				
		the grou	nd is wet			
		C				
	b.	Yamada-wa	inai	hazu- <b>nano</b> -desu-ka?		
		Yamada-TOP	absent	hazu- <b>noda</b> -COP-Q		
		"Yamada must	be absent."		(=(4b))	
		~"(Is it true tha	at Yamada's	travel document has been submitte	ed and thus) he is absent?"	
	if x's travel document has been submitted, x is absent					
	Yar	<u>nada's travel do</u>	cument has	been submitted	$\leftarrow$ asking this part	
	Yamada is absent					
nodi	a sav	ves "q-hazu?" by	y asking <i>q-ha</i>	zu's premise(s) P;		

*nouu* saves*q-huzu*: by asking *q-huzu* s premise(s) 1,"q-hazu-noda?" still presupposes a set of propositions P that make q true"q-hazu?" ~ "q or ¬q, which one is it?""q-hazu?" ~ "q or ¬q, which one is it?""q contradicts with what P entails, i.e. qBut:"q-hazu-noda?" asks P as well ~ "p or ¬p (p∈P), which one is it?"...nodaTherefore:"q-hazu-noda?" is a legitimate question

#### 4. Korean "q-I kes-i-" patterns with "q-hazu"

"q–*l kes-i-"* when used as epistemic modal cannot be used as true questions.

(6)	a.	5		2		<b>kes-i</b> -pni-ta. <b>kes-i</b> -HON-IND	(Volitional)
		"I will go to			0		
	b.	Nayil-un			0- <b>1</b>	<b>kes-i</b> -pni-ta.	(Epistemic)
		tomorrow-7	rop rain	-NOM o	come-l	kes-i-HON-IND	-
		"(I think) it	will rain t	omorrow.	."		
(7)	a.	Nayil	tangsin-	un o- <b>l</b>	ke	e <b>s-i</b> -pni-kka?	(Volitional)
		tomorrow	you-TOI	e con	ne- <b>l k</b> e	es-i-HON-Q	
		"Are you co	ming tom	orrow?"			
	b. *	Nayil-un	pi-k	a o	o-l	kes-i-pni-ta.	(Epistemic)
		tomorrow-7	TOP rain	-NOM o	come-l	kes-i-HON-IND	
		"(Do you th	ink) it wil	l rain tom	orrow?		

"q-*l kes-i-*" expresses 'logical consequences' just like "q-*hazu*" and presupposes that there are premises from which *q* can be deduced.

(8) Pi-ga o-l kes-i-pni-ta rain-NOM come-l kes-i-HON-IND "It will rain."

if there are halos around the moon, it will rain there are halos around the moon

it will rain

"q-*l kes-i-*" in this use cannot be questioned because it is interpreted that you are questioning what you just deduced, i.e. you are denying your presuppositions.

(9)\* Pi-ka o-l kes-i-pni-kka? rain-NOM come-l kes-i-HON-IND "(Do you think) it will rain?"

Notice that "q-*l kes-i-*" cannot be made into a meta-question, i.e. a question about the premises. To ask a question about the premises in Japanese *noda* is used to expand the scope to include premises. This is impossible in Korean because of the morphological make-up of *-l kes-i-*. Meta-questions in Korean can be formed by attaching *-nun kes-i-* for present and *-n kes-i-* for past eventualities.

(10) a.	Pi-ka	0- <b>nun</b>	<b>kes-i</b> -pni-kka?
	rain-NOM	come-PRES.ADNOM	kes-i-HON-Q
	"You have a	n umbrella with you (be	cause it will rain)?"
b.	Pi-ka	0 <b>-n</b>	<b>kes-i</b> -pni-kka?
	rain-NOM	come-PAST.ADNOM	kes-i-HON-Q
	"You are all	wet (because it rained)?'	,

Morphologically *-l kes-i-* forms a paradigm with these meta-markers even though it is fully grammaticalized to become a modal auxiliary. So it cannot be followed by these meta-markers. Notice that for copula *-i* the present adnominal form is *-n* and past adnominal form is *-den*.

(11) a .*	Pi-ka	o-1	kes-i-n	<b>kes-i</b> -pni-kka?
	rain-NOM	come-l	kes-i-PRES.ADNOM	kes-i-Q
	Int. "Is it bee	cause it v	vill rain(, you have an um	brella with you)?"
b. *	Pi-ka	o-1	kes-i-den	<b>kes-i</b> -pni-kka?
	rain-NOM	come-l	kes-i-PAST.ADNOM	kes-i-HON-Q
	Int. "Is it bee	cause it r	ained(,you are all wet)?"	

There are some marginal differences between Korean *-l kes-i-* and Japanese *hazu*, such that the former can marginally be used to ask a deity or scientists, who can control rain-fall. *Hazu* cannot be used in such cases.

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