Polarity sensitivity, domain restriction and determiner: The case of Korean KU-wh

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Main goal

- The main goal of this paper is to identify the Korean **emphatic marker KU**.

(1) *Context: the speaker and hearer were talking about a man they saw yesterday:*

ku	**namca**-nun	khi-ka	khu-ta.	[definite *ku*]
the/that	man-Top	height-Nom	tall-Decl	

'The man is tall.'

(2) a. wuli pan haksayng-tul-un **KU nwukwu-na** khi-ka khu-ta. [emphatic KU]
my class student-PL-Top KU who-or height-Nom tall-Decl
'Any student in my class, **whosoever (he may be)**, is tall.'

b. wuli pan haksayng-tul-un **KU nwukwu-to** khi-ka khu-ci.anh-ta. [emphatic KU]
my class student-PL-Top KU who-or height-Nom tall-Neg-Decl
'No student in my class, **whosoever (he may be)**, is tall.'
'Any student in my class, **whosoever (he may be)**, is not tall.'

Data & Puzzle

- Free Choice Item (FCI): *nwukwu-na* ‘anyone/everyone’
- Negative Polarity Item (NPI): *nwukwu-to* ‘no one’.
- FCI in (2) and NPI in (3) in Korean do not necessarily have to have *ku*:

(3) wuli pan haksayng-tul-un **nwukwu-na** kitha-lul chi.l.swu.iss-ta. [FCI]
my class student-PL-Top who-or guitar-Acc play-possible-Decl
‘**Any student** in my class can play the guitar.’

(4) wuli pan haksayng-tul-un **nwukwu-to** kitha-lul chi.l.swu.eps-ta. [NPI]
my class student-PL-Top who-even guitar-Acc play-impossible-Decl
‘No student in my class can play the guitar.’

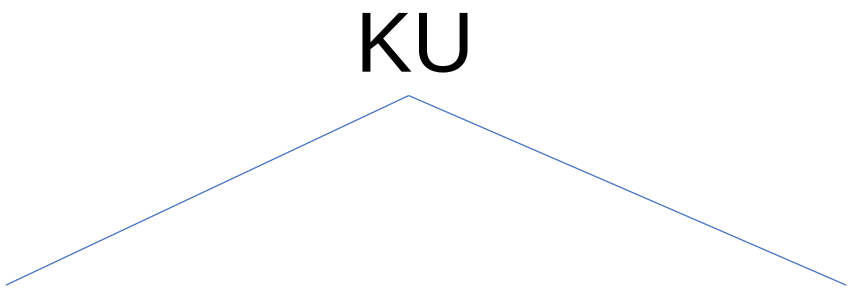
Data & Puzzle

- *ku* co-occurring with FCI and NPI creates a stronger and **more emphatic statements**.
- In (5) and (6), it does not exhibit typical feature of definitenss.
- But it gives rise to ***whosoever* (*he may be*)** reading revealed as in the translation:

(5) wuli pan haksayng-tul-un **ku** **nwukwu-na** kitha-lul chi.l.swu.iss-ta. [FCI]
my class student-PL-Top KU who-or guitar-Acc play-possible-Decl
'Any student in my class, **whosoever (he may be)**, can play the guitar.'

(6) wuli pan haksayng-tul-un **ku** **nwukwu-to** kitha-lul chi.l.swu.eps-ta. [NPI]
my class student-PL-Top KU who-even guitar-Acc play-impossible-Decl
'No student in my class, **whosoever (he may be)**, can play the guitar.'

Proposal



Definiteness marker
+ NP: (1)
(Kang 2012, 2015, to appear)

Emphatic marker
+ wh-indeterminates: (2)
= Modal Determiner

MD KU = *whosoever* (*he may be*)

Proposal

1. Emphatic KU conveys modal force which preserves polarity and domain restriction of *wh-ever* (indifference).

2. In the modal use, emphatic KU functions as an emphatic pragmatic operator.

Modal determiners in Chinese and Greek

- The connection between *wh*-indeterminates and definiteness seems to be pervasive crosslinguistically (Giannakidou and Cheng 2006; Cheng 2009; Lazaridou-Chatzigoga 2007; Liu 2017, 2018, a.o.)

(7) a. (wú lùn) shéi **dōu** key lái. [Chinese]

No-matter who **DOU** can come

'No matter who can come.'

b. **o** [[o- phos]- dhipote] ixos ine muskiki. [Greek]

DEF DEF- who/which FC-marker sound is music

'Just any sound is music.'

English *any* (Kadmon and Landman 1993; Krifka 1994; Chierchia 2005, 2013, a.o)

- For the use of **emphatic PSI**, ***any*** in English is often brought up as the prototypical instantiation that has received the most attention in the literature.

- Core properties: 1) **domain widening** and 2) **scalarity** with **covert *even***
- The pragmatic effect: 3) **make a statement strengthened**

☞ The behavior of MD KU is distinct from *any!!!!*

Proposal: Core properties of MD KU

① like *any*, MD KU is **a weak NPI** which needs to be subject to licensing by nonveridical operator.

② unlike *any*, MD KU is **not domain-widened** but conveys **a contextually specified domain restriction.**

③ unlike *any*, MD KU does **not trigger scalarity.**

④ unlike *any*, MD KU **trigger a distributive/maximality effect**.

Outlines

- **Section 2**: A brief recapitulation of theoretical backgrounds on FCI and NPI in Korean.
- **Section 3**: Laying out a set of novel data, providing hallmark properties of MD KU.
  - Weak polarity
  - Contextual domain restriction
  - Maximality (i.e. *even*-less)
  - No scalarity
- **Section 4**: Elaboration of the core proposal of the semantico-pragmatic contribution of MD KU.
- **Section 5**: Conclusions

2. Theoretical backgrounds: PSI FCI and NPI (Choi 2007)

(8) a. **amwu-na** o-l.swu.iss-ta. [FCI]
any-or come-possible-Decl
'anyone can come.'

b. **amwu-to** o-l.swu.eps-ta. [NPI]
any-even come-impossible-Decl
'anyone cannot come.'

(9) a. **nwukwu-na** o-l.swu.iss-ta. [FCI]
who-or come-possible-Decl
'anyone can come.'

b. **nwukwu-to** o-l.swu.eps-ta. [NPI]
who-even come-impossible-Decl
'no one can come.'

2. Theoretical backgrounds: PSI FCI and NPI (Choi 2007)

Table 2. Licensing environments of *wh*-PSIs (Choi 2017, (3))

Wh-PSI Context	Wh-(N)-*to* (NPI)	Wh-(N)-*na* (FCI)
Negative episodic	√	*/√
DE contexts other than negation	*	√
FC contexts (generic, possibility/necessity modal, imperative)	√	√
Affirmative episodic	*	*/√

2. Theoretical backgrounds: FCI and NPI (Choi 2007)

Table 3. Domains of the Korean indefinite roots

Amwu-(N)	*Wh*-(N)
Widened domain	Regular or contextually salient domain

(10) a. ku il-un nwukwu-na ha-l.swu.iss-ciman, **amwu-na** ha-l.swu.iss-ci.ahn-ta.
the job-Top who-or do-possible-but amwu-or do-possible-Neg-Decl
'(Lit.) As for the job, anyone can do it, but not just ANYone can do it.'

b. #ku il-un amwu-na ha-l.swu.iss-ciman, **nwukwu-na** ha-l.swu-iss-ci.ahn-ta.
the job-Top amwu-or do-possible-but wh-or do-possible-Neg-Decl
'(Lit.) As for the job, just ANYone can do it, but not everyone/anyone can do it.'

2. Theoretical backgrounds: FCI and NPI (Choi 2007)

(11) **whatever(w0)(F)(P)(Q)** (von Fintel 2000)

a. Asserts: Q(w0)(ιx.P(w0)(x))

b. Presupposes: ∀w′∈minw0 [F∩(λw′. ι x.P(w′)(x) ≠ ι x.P(w0)(x)]: Q(w′)(ι x.P(w′)(x)) = Q(w0)(ι x.P(w0)(x))

(12) ***wh*-(N)-*na* (w0)(F)(P)(Q)** (Choi 2007)

a. Asserts: ∃x[P(w0) ∧Qw0)(x)]

b. Presupposes: ∀w′∈minw0 [F∩(λw″P(w′)(x) ≠ P(w0)(x)]: ∃x [P(w′)(x) ∧ Q(w′)(x)] = ∃x [P(w0)(x) ∧ Q(w0)(x)]

(13) ***wh*-(N)-*to* (w0)(F)(P)(Q) = NPI-*even*** (Choi 2007)

$[[even_{NPI}]](C)(p)$ is defined iff ∃q ∈ C [q ≠ p ∧ q(w)=1] ∧ ∀q ∈ C [q≠ p → p $<_{likelyhood}$ q]; if defined,

$[[even_{NPI}]](p)$ = 1 iff p(w) =1

3.1 Core properties of MD KU: weak NPI

- The MD KU is polarity sensitive which is licensed in the nonveridical context, such as questions, imperatives, modal verbs, etc (Kang 2015, 2018).

First, KU_{MD} cannot occur in episodic context:

(14) a. John-un mwues-ul mek-ess-ta.
John-Top what-Acc eat-Past-Decl
'John ate something.'

b. #John-un KU mwues-ul mek-ess-ta.
John-Top KU_{MD} what-Acc eat-Past-Decl
'intended: John ate something, whatsoever it may be.'

3.1 Core properties of MD KU: weak NPI

Second, KU_{MD} appears in non-negative polarity contexts such as questions:

(15) a. John-un cemsim-ulo mwues-ul mek-ess-ta.
John-Top lunch-for what-Acc eat-Past-Decl
'John ate something for lunch.'

b. #John-un cemsim-ulo KU mwues-ul mek-ess-ta.
John-Top lunch-for KU_{MD} what-Acc eat-Past-Decl
'intended: John ate something for lunch, whatsoever it may be.'

c. John-un cemsim-ulo KU mwues-ul mek-ess-ni?
John-Top lunch-for KU_{MD} what-Acc eat-Past-Q
'Did John eat anything for lunch, whatsoever it may be?'

3.1 Core properties of MD KU: weak NPI

Third, KU_{MD} occurs in conditional:

(16) a. John-ul eti-eyes po-ase ku-eykey yaykihay-ss-ta.
John-Acc where-Loc see-so he-Dat talk-Past-Decl
'(I) saw John some place, so I talked to him.'

b. #John-ul KU eti-eyes po-ase ku-eykey yaykihay-ss-ta.
John-Acc KU_{MD} where-Loc see-so he-Dat talk-Past-Decl
'intended: (I) saw John some place, wherever it may be, so I talked to him.'

c. John-ul KU eti-eyes po-myen ku-eykey yaykihay-la.
John-Acc KU_{MD} where-Loc see-if he-Dat talk-Imp
'If you see John some place or other, wherever it may be, talk to him.'

3.1 Core properties of MD KU: weak NPI

Fourth, KU_{MD} appears in imperative:

(17) a. Etten sakwa-lul mek-ess-ta.
which apple-Acc eat-Past-Decl
'(I) ate some apples.'

b. #KU Etten sakwa-lul mek-ess-ta.
KU_{MD} which apple-Acc eat-Past-Decl
'intended: (I) ate some apples, whichever it may be.'

c. KU Etten sakwa-lul mek-ela.
KU_{MD} which apple-Acc eat-Imp
'Eat any apple, whichever it may be.'

3.1 Core properties of MD KU: weak NPI

Fifth, KU_{MD} is compatible with modal verbs:

(18) a. nwukwu-ka o-ass-ta.
who-Nom come-Past-Decl
'Someone came in.'

b. #KU nwukwu-ka o-ass-ta.
KU_{MD} who-Nom come-Past-Decl
'intended: someone, whosoever it may be, came in.'

c. KU nwukwu-ka o-ass-ul.swu.iss-ta.
KU_{MD} who-Nom come-possible-Decl
'It is possible that someone, whoever he may be, came in.'

Table 4. Comparative distribution of *any, wh-ever* and KU_{MD} + PSI-wh

Context		***any***	**wh-ever (indifference)**	**KU_{MD} + PSI-wh**
Downward entailing	Antimorphic	√	√	√
	Context with negative word	√	√	√
	Without	√	√	√
	Before	√	√	√
	Comparative	√	√	√
	Conditional	√	√	√
Veridical	Factive	√	√	√
	Affirmative episodic	*	√	??/√
	Context with copula sentence	*	*	*
	existential	*	*	*
Nonveridical	Episodic possibility modal	*	√	√
	Deontic possibility modal	√	√	√
	Ability modal	√	√	√
	Episodic necessity modal	*/√	√	√
	Deontic necessity modal	*/√	√	√
	Volitional modal	*/√	√	√
	Generic	√	√	√

3.2 Core properties of MD KU: domain restriction

Table 5. Domains of the Korean indefinite roots

Amwu-(N)	*Wh*-(N)
Widened domain	Regular or contextually salient domain

- MD KU should occur in contextually restricted context.

(19) a. *KU amwu-na o-ass-ul.swu.iss-ta.
KU_{MD} any-or come-possible-Decl
'(lit.) anyone can come.'

b. *KU amwu-to o-ass-ul.swu.eps-ta.
KU_{MD} any-or come-possible-Decl
'(lit.) anyone cannot come.'

3.2 Core properties of MD KU: Domain restriction

- *Wh*-indeterminates are domain determined, so there is a contextually salient domain (i.e. a set of alternatives to x) to refer back.

(20) Achim cemsim cenyek cwung ku enu hankki-nun mek-eya.han-ta.
breakfast lunch dinner among KU_{MD} which one.meal-Top eat-must-Decl
'We have to eat either breakfast, lunch, or dinner, whichever it may be.'

3.3 Core properties of MD KU: Maximality

- The felicitous use of MD KU is guaranteed by the fact the sum of students in the class is considered to be a maximal individual.

(21) wuli pan	haksayng-tul-un	**ku**	**nwukwu-na**	kitha-lul	chi.l.swu.iss-ta.	[FCI]
my class	student-PL-Top	KU_{MD}	who-or	guitar-Acc	play-possible-Decl	
#kulentey	John-un	mos	chin-ta.			
but	John-Top	cannot	play-Decl			

'Every student in my class, whosoever he may be (without exception), can play the guitar. #but John cannot play the guitar.'

(22) wuli pan	haksayng-tul-un	**ku**	**nwukwu-to**	kitha-lul	chi.l.swu.eps-ta.	[NPI]
my class	student-PL-Top	KU_{MD}	who-even	guitar-Acc	play-impossible-Decl	
#kulentey	John-un	chin-ta.				
but	John-Top	play-Decl				

'Every student in my class, whosoever he may be (without exception), can play the guitar. #but John cannot play the guitar.'

3.4 Core properties of MD KU: NO scalarity

- MD KU sentence only allows distributive reading, not *even*-reading (cf. Chinese *dou* : Liu 2017, 2018)

(23) wuli	pan	haksayng-tul-un	**ku**	**nwukwu-na**	10 kwen-uy	chayk-ul
my	class	student-PL-Top	KU_{MD}	who-or	10 CL-Gen	book-Acc

sa-l.swu.iss-ta.

buy-possible-Decl

'Every student, whoever he may be, can buy10 books.'

~~a. Even reading: 'A group of student in my class together can buy 10 books, which is unlikely.'~~

b. Distributive reading: 'The students in my class each can buy 10 books.'

- KU in distributive reading conveys maximality effect.

4. Analysis

- MD KU = *whosoever* (*he may be*)
- MD KU gives rise to **universal-concessive reading**

- Some examples of English unconditionals:

(24) a. **Whoever comes**, I will leave.

b. **No matter who comes**, I will leave.

c. **Regardless of who comes**, I will leave.

Rawlins (2008, 2013) and Hirsch (2016)

- English unconditionals '*wh-ever* XP' in (26) is akin to a conjunction of conditionals in (27):

(25) Whatever Mary read, John was boring.

(26) a. If Mary read x, John was boring.

b. If Mary read a newspaper, John was boring, and if Mary read a magazine, John was boring, ...

Rawlins (2008, 2013) and Hirsch (2016)

(25') Whatever Mary read, John was boring.

(26) ⟦whatever Mary read⟧ = "regardless of {*p1, p2,…, pn*}

a. $\lambda P_{<st,t>}.\exists x$ [p = λw. Mary read x in w]

b. {λw. Mary read a newspaper in w, λw. Mary read a magazine in w, …}

(27) $[\![(25)]\!]^c$

a. $\lambda w.\forall p[\exists x$ [p = λw′. $\forall w'' \in F_c(w)$[Mary read x in w″ → John was boring in w″]] → q(w)]

b. $\lambda w.\forall w' \in F_c(w)$[Mary read a newspaper in w′ → John was boring in w′] & $\forall w' \in$ Fc(w)[Mary read a magazine in w′ → John was boring in w′] &…

Unconditionals in Korean

(28) haksayng-tul-un **nwukwu-tun,** (ku-ka) kitha-lul chi.l.swu.iss-ta.
student-PL-Top who-ever he-Nom guitar-Acc play-possible-Decl
'**Whoever the student may be**, he can play the guitar.'

(29) haksayng-tul-un **nwukwu-tun,** (ku-ka) kitha-lul chi.l.swu.eps-ta.
student-PL-Top who-ever he-Nom guitar-Acc play-impossible-Decl
'**Whoever the student may be**, he cannot play the guitar.'

Unconditionals in Korean

(28') haksayng-tul-un **nwukwu-tun,** (ku-ka)kitha-lul chi.l.swu.iss-ta.
student-PL-Top who-ever he-Nom guitar-Acc play-possible-Decl
'Whoever the student may be, he can play the guitar.'

(30) haksayng-tul-un **ku nwukwu-na** kitha-lul chi.l.swu.iss-ta. [FCI]
student-PL-Top KU who-or guitar-Acc play-possible-Decl
'Any student in my class, **whosoever (he may be)**, can play the guitar.'

Unconditionals in Korean

(29') haksayng-tul-un **nwukwu-tun,** (k**u**-ka) kitha-lul chi.l.swu.eps-ta.
student-PL-Top who-ever he-Nom guitar-Acc play-impossible-Decl
'Whoever the student may be, he cannot play the guitar.'

(31) haksayng-tul-un **ku nwukwu-to** kitha-lul chi.l.swu.eps-ta.
student-PL-Top KU who-or guitar-Acc play-impossible-Decl
'Any student in my class, **whosoever (he may be)**, cannot play the guitar.'

4. Analysis: MD KU in unconditionals

(30') haksayng-tul-un **ku nwukwu-na** kitha-lul chi.l.swu.iss-ta. [FCI]
student-PL-Top KU who-or guitar-Acc play-possible-Decl
'Any student in my class, **whosoever (he may be)**, can play the guitar.'

(32) a. If x is a student in my class, x can play the guitar.
b. If **John** is a student in w', the person can play the guitar in w',
& If **Bill** is a student in my class in w', the person can play the guitar in w', & …

- Pragmatically strengthened effect comes from the addition of indifference modal force (i.e. speaker's 'no-matter' attitude).

4. Analysis: MD KU in unconditionals

(31') haksayng-tul-un	**ku nwukwu-na**	kitha-lul	chi.l.swu.eps-ta.	[NPI]
student-PL-Top	KU who-or	guitar-Acc	play-impossible-Decl	

'Any student in my class, **whosoever (he may be)**, cannot play the guitar.'

(33) a. If x is a student in my class, x cannot play the guitar.

b. If **John** is a student in w', the person cannot play the guitar in w',

& If **Bill** is a student in my class in w', the person cannot play the guitar in w', & …

4. Analysis: MD KU in unconditionals

MD KU + FCI

(34) haksayng-tul-un **ku nwukwu-na** kitha-lul chi.l.swu.iss-ta.
student-PL-Top KU who-or guitar-Acc play-possible-Decl
'Any student in my class, **whosoever (he may be)**, can play the guitar.'

a. Assertion: $\lambda w_o.\exists w \in Deo_{wo}.[\exists x.student(x,w) \wedge C(x.w) \wedge$ can play the guitar$(x,w)]$

b. Presupposition: $\lambda w.\exists x[p=\forall w' \in F_c(w)[x$ is a student in $w' \rightarrow \imath y[y$ is a student in $w'] \rightarrow$ can play the guitar in $w]]$

4. Analysis: MD KU in unconditionals

MD KU + NPI

(35) haksayng-tul-un **ku nwukwu-to** kitha-lul chi.l.swu.eps-ta.
student-PL-Top KU who-even guitar-Acc play-impossible-Decl

'No one, **whosoever (he may be),** can play the guitar.'

a. LF: ku[[-to C[Neg [wh-(student) can play the guitar]]]]

b. Assertion: ¬∃x[play the guitar(x)]

c. ScalarP: "That ¬[wh-student(x) play the guitar]" is the least-likely in C.

d. ExistP: There is some (number of) y other than x that cannot play the guitar.

e. UnconditionalP: λw.∃x[p=∀w'∈F_c(w)[x is a student in w' → ıy[y is a student in w] cannot play the guitar in w]]

5. Conclusions

- Pragmatically strengthened effect: the addition of indifference modal force (i.e. speaker's 'no-matter' attitude).
- The contribution of MD KU is characterized in terms of unconditionals.
- Two types of *ku* can conceptually connected into the uniform class with definiteness marker.

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Thank you !

谢谢