



The Semantics of *-ketun*-Conditionals in Korean

Jae-II Yeom

Hongik University



Introduction

Conditional connectives in Korean:

$$\phi - \left\{ \begin{array}{l} (u)myen \\ \{ta/la\}myen \\ \{e/a\}ya \\ tentul \\ ketun \end{array} \right\}, \psi$$

Possible structures:

$$\dots V - \left\{ \begin{array}{l} \emptyset \\ ass \text{ 'PAST'} \\ keyss \text{ 'MOD'} \\ ass - keyss \end{array} \right\} - (u)myen, \dots V - \left\{ \begin{array}{l} ulkesi - ta \text{ 'DEC'} \\ keyss - nya \text{ 'INT'} \\ la \text{ 'IMP'} \\ ca \text{ 'HORT'} \\ ma \text{ 'PROM'} \end{array} \right\}$$

possible types of conditionals: purely temporal, generic, indicative, counterfactual

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Moods in *ketun*-conditionals

IMP(eratives), HORT(atives), PROM(issives)

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(1) nalssi-ka coh-ketun san-ey ka-{(1)la/(2)ca/(3)ma}^a
weather-NOM good-if mountain-to go-{(1)IMP/(2)

HORT/(3)PROM }

If the weather is good, {(1)∅/(2)let's/(3)I promise to }
climb the mountain

There are other endings which are allowed in *-ketun*-conditionals. Here are such endings: *-kela*: imperative, *-lita*: promissive, *-ci*: imperative, declarative or interrogative with volition, *-llay*: declarative or interrogative with volition.



Declaratives

the speaker's volition of his/her own future actions

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(2) (Agentive)

a. ??chelswu-ka tuleo-ketun mwun-i tathi-lkesi-ta.
chelswu-NOM enter-if door-NOM close-MOD-DEC
If Chelswu comes in, the door will be closed.

b. ??ney-ka o-ketun na-nun kippu-{lkesi/keyss}-ta
you-NOM come-if I-TOP happy-MOD-DEC
If you come, I will be happy.

(3) (1st person)

nalssi-ka coh-ketun {na/??chelswu}-nun san-ey
weather-NOM good-if {I/Chelswu}-TOP mountain-to
ka-keyss-ta.
go-MOD-DEC

If the weather is good, I/Chelswu will climb the mountain.



Speaker's volition

These moods and modality express the speaker's volition to change future actions on the part of the individual(s) including the speaker himself or the addressee(s).

imperatives: the speaker's volition to change future actions of the addressee(s)

hortatives: the speaker's volition to change future actions of the individuals including the speaker

promissives: the speaker's volition to change future actions of the speaker himself for the sake of the addressee(s)

speaker's volition: the speaker's volition to change his/her own future actions

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Interrogatives (I)

-keyss: asking the hearer's volition on his/her own future actions

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(4) {??na/ne/??chelswu}-nun nalssi-ka phwuli-ketun
{I/you/chelswu}-TOP weather-NOM get_warm-if
ka-keyss-nya?
go-will-INT

Will {I/you/Chelswu} go if it gets warmer?

(5) ??ne-nun nalssi-ka phwuli-ketun kippu-keyss-nya?
you-TOP weather-NOM get_warm-if happy-MOD-INT
If the weather gets warm, will be you happy?

2nd person interrogatives with -keyss: asking the hearer whether to change his/her own future actions



Interrogatives (II)

-l-kka: asking about the hearer's volition on the speaker's future actions

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(6) ku chinkwu-lul manna-ketun {nay/??ney/??chelswu}-ka
 The friend-ACC see-if {I/you/chelswu}-NOM
 mwue-la-ko malha-l-kka?
 what-DEC-COMP say-MOD-INT

If I see the friend, what shall {I/you/chelswu} say?

(7) ??ku chinkwu-lul manna-ketun nay-ka kippu-l-kka? (stative)
 the friend-ACC see-if I-NOM happy-MOD-INT

If I see the friend, shall I be happy?

1st person interrogatives with *-l-kka*: asking the hearer whether he wants to change the speaker's future actions



Restriction of perceptibility (I)

alternative forms of psychological verbs

stative		nonstative	
kippu	'happy'	– kippu-e ha	'happy do'
tep	'hot'	– tep-e ha	'hot do'
twulyep	'afraid'	– twulyep-e ha	'afraid do'

(8) a. ??emeni-kkeyse hayngbokha-si-ketun te memwul-ela.
 mother-NOM happy-HON-if more stay-IMP

If Mother is happy, stay longer.

b. emeni-kkeyse hayngbokhay-ha-si-ketun te memwul-ela.
 mother-NOM happy-do-HON-if more stay-IMP

If Mother is showing happiness, stay longer.

– Mother's state of being happy 'kippu' cannot be perceived, while mother's showing her happiness 'kippe-ha' can.

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Restriction of perceptibility (II)

Visible states

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- (9) a. kay-ka pay-ka holccokha-ketun pap-ul cwu-ela.
dog-NOM belly-NOM thin-ketun food-ACC give-IMP

If the dog's belly looks empty, give (him) some food.

- b. ??kay-ka pay-ka kopu-ketun pap-ul cwu-ela.
dog-NOM belly-NOM hungry-ketun food-ACC give-IMP

If the dog is hungry, give (him) some food.

A 'thin belly' (a belly that looks empty) can be observed, but hunger itself cannot.



Restriction of perceptibility (III)

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(10) chelswu-ka latio-lul kochi-ess-ta.
chelswu-NOM radio-ACC repair-PAST-DEC

Chelswu has repaired the radio (and works well.)

(11) chelswu-ka latio-lul kochi-ess-ess-ta.
chelswu-NOM radio-ACC repair-PAST-PAST-DEC

Chelswu had repaired the radio (but it doesn't work well now.)

(12) chelswu-ka latio-lul kochi-ess-ketun kachyewa-la.
chelswu-NOM radio-ACC repair-PAST-if bring-IMP

If Chelswu has repaired the radio, bring it.

(13) ??chelswu-ka latio-lul kochi-ess-ess-ketun kachyewa-la.
chelswu-NOM radio-ACC repair-PAST-PAST-if bring-IMP

If Chelswu had repaired the radio, bring it.

The fact that a radio set is repaired can be observed by seeing that it works; the fact that the radio had been repaired cannot be observed by seeing that it doesn't work.



Restriction of perceptibility (IV)

Two types of exceptions:

1. Some invisible states:

(14) chelswu-ka ttokttokha-ketun, elyewun mwuncey-lul cwu-ela.
chelswu-NOM bright-if difficult problem-ACC give-IMP

If Chelswu is bright, give him a difficult problem.

(15) ??ney-ka ttokttokha-ketun, ku mwuncey-lul phwul-ela.
you-NOM bright-if the problem-ACC solve-IMP

If you are bright, solve the problem.

It is assumed that you come to know Chelswu's brightness from some direct contacts with him, but not your own brightness.

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Restriction of perceptibility (V)

2. The agent of the action in the consequent clause:

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(16) ney-ka pay-ka kopu-ketun pap-ul mek-ela.
you-NOM belly-NOM hungry-ketun food-ACC eat-IMP

If you are hungry, eat some food.

(17) ??{nay/chelswu}-ka pay-ka kopu-ketun, pap-ul cwu-ela.
{I/Chelswu}-NOM belly-NOM hungry-if food-ACC give-IMP

If {I/Chelswu} am/is hungry, give me/him some food.

(18) nay-ka pay-ka kopu-ketun pap-ul mek-ul-kka?
I-NOM belly-NOM hungry-if food-ACC eat-MOD-INT

If I am hungry, shall I eat some food?

(19) ??ney-ka pay-ka kopu-ketun pap-ul cwu-l-kka?
you-NOM belly-NOM hungry-if food-ACC give-MOD-INT

If you are hungry, shall I give you some food?

⇒ Personal feeling of the subject of the consequent clause



Semantics of -ketun: temporary

Generalization: (S:Speaker, H: Hearer, O:Others, DEKNOW: KNOW with **Direct Experience** (with no presupposition triggered))

[[ϕ -ketun, ψ - $\left\{ \begin{array}{l} (i) -la! \\ (ii) -ca! \\ (iii) -ma! \\ (iv) -keyss-ta. \end{array} \right\}$]]: 'If $\left\{ \begin{array}{l} (i) H \\ (ii) S + O \\ (iii) S \\ (iv) S \end{array} \right\}$

DEKNOWs that ϕ , $\left\{ \begin{array}{l} (i) H \\ (ii) S + O \\ (iii) S \\ (iv) S \end{array} \right\}$ do(es) ψ in the future.'

[[ϕ -ketun, ψ - $\left\{ \begin{array}{l} (i) -keyss-nya? \\ (ii) -l-kka? \end{array} \right\}$]]: (S asks H) whether 'If

$\left\{ \begin{array}{l} (i) H \\ (ii) S \end{array} \right\}$ DEKNOWs that ϕ , $\left\{ \begin{array}{l} (i) H \\ (ii) S \end{array} \right\}$ does ψ in the future.'

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Other Evidence for the operator 'KNOW' (I)

Past events leave perceptible evidence, while future events do not.

For past events, the time of knowing is the present

For future events, the time of knowing is the future.

(20) cinan pam-ey pi-ka o-ass-ketun, swuy-ela.
last night-AT rain-NOM come-PAST-if rest

If it rained last night, take a rest (today).

(21) nayil pi-ka o-ketun, swuy-ela.
tomorrow rain-NOM come-if rest-IMP

If it rains tomorrow, take a rest (tomorrow).

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Other Evidence for the operator 'KNOW' (II)

The existence of the subject of knowing

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(22) chelswu-lul chac-ass-ketun teyliko o-ala.
chelswu-ACC find-PAST-if bring come-IMP

If you KNOW that you have found Chelswu, (you) bring him.

(23) ??Chelswu-lul chac-ass-ketun teyliko ka-keyss-ta.
chelswu-ACC find-PAST-if take go-MOD-DEC

If I KNOW that I have found Chelswu, I will take him (to you).

Reasoning behind the awkwardness of (23):

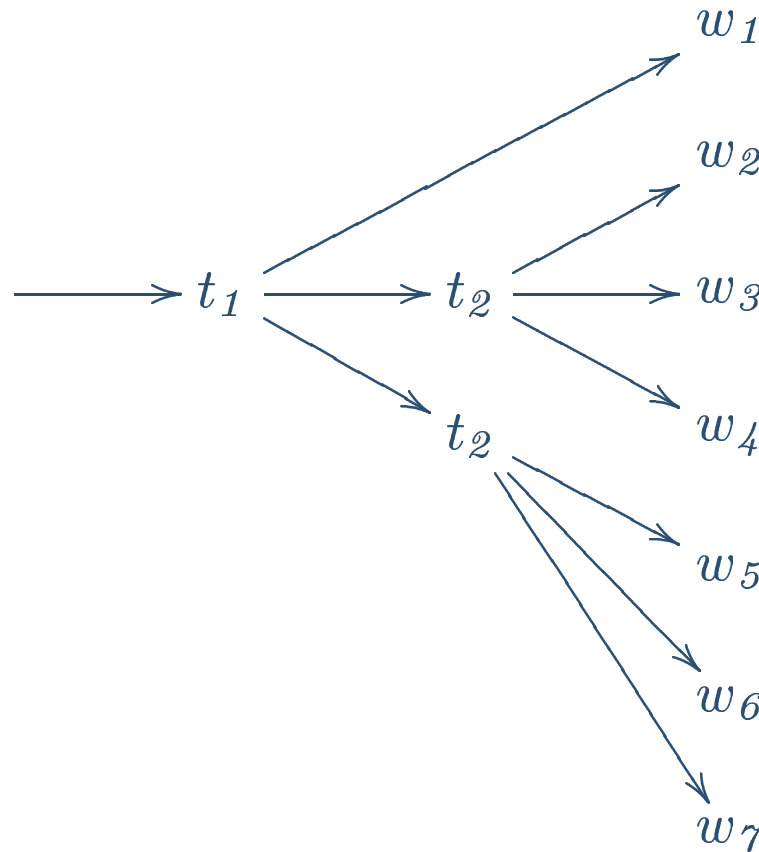
The antecedent clause implies that the speaker does not KNOW that he has found Chelswu himself.



Semantic Interpretation of Imperatives (I)

Thomason's (1984) world-time model:

Possible worlds w are complete histories through time.
possible continuations of w at t $PC(w, t)$: a set of worlds with the same past as w but alternative futures after time t .



$$PC(w_1, t_1) = \{w_1, w_2, w_3, w_4, w_5, w_6, w_7\}$$

$$PC(w_3, t_2) = \{w_2, w_3, w_4\}; \quad PC(w_5, t_2) = \{w_5, w_6, w_7\}$$

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Semantic Interpretation of Imperatives (II)

Kamp (1973, Free Choice Permission; 1978, Semantics versus Pragmatics)

Let $Per(w, t, x) = \{w' | w' \in PC(w, t), \text{ and } x \text{ does not transgress any prohibitions against } x \text{ after } t\}$.

Uttered in w at t by S to H , w.r.t. a set $Per(w, t, H)$,
 $[[\phi - la]]^{w, t, Per(w, t, H)} = Per(w, t, H) \cap \{w' | w' \in PC(w, t) \ \& \ \exists t' [t \preceq t' \ \& \ [[\phi]](w', t')]\}$

Roughly, for a pair of a given world and an utterance time, the meaning of an imperative $\phi - la!$ is a change from a current set of permissible worlds to a new (reduced) set of permissible worlds in which the hearer does ϕ some time in the future.

More generally, the meaning of an imperative for any possible world and any time:

$[[\phi - la]] = \lambda t \lambda w [\lambda Per(w, t, H). Per(w, t, H) \cap \{w' | w' \in PC(w, t) \ \& \ \exists t' [t \preceq t' \ \& \ [[\phi]](w', t')]\}]$

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Imperatives with quantifiers (I)

every is conjunctive, while *most* is not:

Let $[[student]] = \{A, B, C\}$.

Every student came = A came & B came & C came.

Most students came \neq A came & B came.

Krifka (2001, Speech Acts and Truth-Conditional Meaning):
Only conjunctive quantifiers can quantify into speech acts.
(Krifka discusses quantifying into questions.)

Who did every student meet?

= Who did A meet? & Who did B meet? & Who did C meet?

??Who did most students meet?

\neq Who did A meet? & Who did B meet?

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Imperatives with quantifiers (II)

(i) Only conjunctive quantifier subjects can quantify into commands, and (ii) they occur at the topic position.

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- ❖ Proposal–Temp
- ❖ Evid-KNOW (I)
- ❖ Evid-KNOW (II)
- ❖ Interpretation (I)
- ❖ Interpretation (II)
- ❖ Quantifiers (I)
- ❖ Quantifiers (II)**
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- ❖ Implication

(24) chelswu- $\{ka/nun\}$ ttena-la!
chelswu- $\{NOM/TOP\}$ leave-IMP

Chelswu leave!

(25) motun haksayng- $\{??i/un\}$ ttena-la!
every student- $\{NOM/TOP\}$ leave

Every student leave! (= A leave! & B leave! & C leave!)

(26) ??taypwupwynuy haksayng- $\{i/un\}$ ttena-la!
most students- $\{NOM/TOP\}$ leave-IMP

Most students leave! (\neq A leave! & B leave!)



Antecedent clauses quantifying in commands

- ❖ Introduction
- ❖ Moods
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- ❖ Perceptibility (II)
- ❖ Perceptibility (III)
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(27) chinkwu-ka o-ketun {pantusi/??pothong} ku kos-ey ka-la.
 friend-NOM come-if {necessarily/usually} the place-to do-IMP

If you KNOW that a friend has come, {be sure to/usually} visit the place!

every, necessarily = universal/conjunctive quantifier
 most, usually = proportional/non-conjunctive quantifier

every, most: quantifying over individuals
 necessarily/usually: quantifying over cases (including possible worlds and times)

Cf. Frequency adverbs within the scope of command

(28) pwumonim-ul cacwu chacapoy-ela!
 parents-ACC often visit-IMP

Visit your parents often!

scope relation: IMP > often



Antecedent clauses are topics

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(29) motun haksayng-un chelswu-ka tochakha-ketun cip-ey ka-la!
 every student-TOP chelswu-NOM arrive-if home-to

go-IMP

If Chelswu arrives, every student go home!

(30) chelswu-ka tochakha-ketun motun haksayng-un cip-ey
 chelswu-NOM arrive-if every student-TOP

ka-la!

home-to go-IMP

If Chelswu arrives, every student go home!

- Transposition of a topic and an antecedent clause is okay.
- Multiple topics are allowed if they are selected from different domains.

(ordinary topic: individuals, antecedent clause: a set of possible worlds)



Semantics of -ketun – final

-ketun-clauses are topics in the domain of possible worlds (and times) which quantify into commands.

$$\llbracket ketun \rrbracket = \lambda P \lambda F \lambda t' \lambda w' : w' \in PC(w_0, t_0) \ \& \ t_0 \preceq t' \ \& \ x = S/H \ \& \ DEKNOW(w', t', x, \exists w'' \exists t'' P(w'', t'')). F(w', t')$$

The condition of KNOWing with direct experience selects the moods or modality of changing the future actions of the S or H.

(31) chelswu-ka o-ketun ttena-la!
 chelswu-NOM come-if leave-IMP

If you DEKNOW that Chelswu comes, (you) leave!

$$\begin{aligned} \llbracket (31) \rrbracket = & \lambda t' \lambda w' : w' \in PC(w_0, t_0) \ \& \ t_0 \preceq t' \ \& \ x = H \ \& \\ & DEKNOW(w', t', x, \exists w'' \exists t'' \mathbf{come}(w'', t'', chelswu)) \\ & .[\lambda Per(w', t', x). Per(w', t', x) \cap \{w''' | w''' \in \\ & PC(w', t') \ \& \ \exists t''' [t' \prec t''' \ \& \ \mathbf{leave}(w''', t''', x)]]] \end{aligned}$$

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Selection of mood/modality in Other Conditions

-{a/e}ya 'only if' does not combine with epistemic modality.

(32) ??pwul-i khyecye iss-eya chelswu-ka cip-ey iss-ulkesi-ta.
light-NOM on be-only_if chelswu-NOM home-at be-MOD-DEC
Only if the light is on, Chelswu must be at home.

-*ta-myen* always allows epistemic modality, while -(*u*)*myen* does not.

(33) chelswu-ka pay-ka kopu-ta-myen cemsim-ul
chelswu-NOM belly-NOM hungry-DEC-if lunch-ACC
kel-ess-ulkesi-ta.
skip-PAST-MOD-DEC
If Chelswu is hungry, he must have skipped lunch.

(34) ??chelswu-ka pay-ka kopu-myen cemsim-ul
kel-ess-ulkesi-ta.

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Implication

Even when *-ketun* does not occur, the operator ‘x KNOW’ exists covertly if the consequent clause is an imperative.

(35) ??*nay-ka chelswu-lul chac-ass-umyen, teyliko o-keyss-ta.*
I-NOM chelswu-ACC find-PAST-if bring come-MOD-DEC
If I have found Chelswu, I will bring him here.

Cf.

(36) *nay-ka chelswu-lul chac-ass-umyen, teyliko o-ass-ulkesi-ta.*
I-NOM chelswu-ACC find-PAST-if bring come-PAST-MOD-DEC
If I had found Chelswu, I would have brought him here.

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