

Mapping Korean Grammatical Relations

Donna B. Gerdts

Simon Fraser University

1. Mapping Theory¹

This paper gives an analysis of several constructions involving case alternations in Korean from the point of view of Mapping Theory (MT). First proposed in Gerdts (1992b) as an offshoot of Relational Grammar, MT makes use of rules of association between a level of grammatical relations (corresponding to initial GRs in classic RG) and a level of morphosyntactic argument structure (most closely corresponding to final GRs in classic RG).² However, MT differs from Relational Grammar in two significant ways.

First, no levels intervene between the GR level and the argument structure level in MT. Therefore, the theory is essentially bi-stratal, unlike RG, which allows intermediate strata. In various papers (Gerdts 1990, 1991, 1992a, Gerdts and Youn 1988, 1990), arguments have been given for relational analyses of constructions which have involve multiple levels in Korean. These include LOC/3-2-1 advancement in psych constructions, locative inversion constructions, the passive of ditransitive verbs, and possessor ascension with subsequent unaccusative advancement or passive. One task of this paper is to show that a MT analysis can be provided for these structures (section 2).

Secondly, RG makes use of an inventory of universally available final grammatical relations. Little attempt has been made to predict the constructions found in one language versus another. MT, however, takes a different viewpoint. Instead of final grammatical relations, MT posits morphosyntactically-licensed argument positions (MAPs). Following Gerdts 1991, I claim that MAPs are transparently licensed by morphosyntactic devices, the most common being agreement, S(tructural)-Case, and adjacency to the predicate (or a combination of these). Furthermore, Gerdts (1992b) shows that languages vary with respect to the number of MAPs they license; for example, Halkomelem, Ilokano, Mohawk, and Tzotzil license two, while Choctaw, Georgian, and S. Tiwa license three. Since languages vary with respect to the number of MAPs they allow, they will vary with respect to the constructions involving association to the MAPs found in their grammars. The number of MAPs existing in the language directly correlates with the type of associations allowed in the language. Two-MAP languages tend to have applicatives, possessor ascensions, and causees linked to the second MAP. Three-MAP languages, in contrast, make use of a third MAP (e.g. a DAT position) for association of these types. In RG terms, we expect 2-MAP languages to be object-centered and commonly have constructions involving 3-2, OBL-2, Possessor Ascension-2, Causee-2, etc. In contrast, 3-MAP languages are indirect object-centered and commonly have Obl-3, Possessor Ascension-3, and Causee-3

constructions.

In most respects, Korean acts like a prototypical 2-MAP language, the two MAPs being licensed by NOM and ACC case respectively. Many researchers (e.g. Gerdts 1991, Gerdts and Youn 1990) have argued that NOM and ACC case markers are S(tructural)-Case, while other Case markers are not (see section 2.1). Furthermore, the majority of association rules in Korean transparently target a NOM or ACC licensed position (section 2.2). In other respects, however, Korean seems to act like a 3-MAP language. For example, (i) benefactives can alternatively be marked DAT (not ACC); (ii) some possessors appear to be marked in the DAT case (Maling and Kim 1992); and (iii) causees in causatives that have been claimed to involve clause union can be marked DAT (Gerdts 1990). Section 3 briefly discusses these phenomena and concludes that it is possible to give them analyses without having to make use of a third MAP. I conclude that Korean is a genuine 2-MAP language, as the basic properties indicate.

2. A Mapping Grammar of Korean

Mapping Theory consists of several modules and rules for relating one module to another. Four perspectives on a nominal are encoded. First is its thematic relation. Second is its grammatical relation, corresponding to its initial grammatical relation in classic Relational Grammar. The relations are ordered according to the standard RG hierarchy of 1 > 2 > 3 > oblique. Third is its MAP. Nominals associated with a MAP are direct arguments. They get core morphosyntactic marking: that is, they determine agreement, license structural case, or appear in a configurationally determined word order. MAPs are hierarchically arranged according to a case/agreement hierarchy. Fourth is a statement of the language-specific rules of presentation (word order, agreement, case, etc.).

The Korean clause in (1) is given the representation in (2).

- (1) Yengswu-ka Swuni-eykey sopho-lul hangkongphyen-ulo ponay-ss-ta.
 Y.-NOM S.-DAT parcel-ACC air mail-INSTR send-pst-ind
 'Youngsoo sent the parcel to Sooni by airmail.'
- (2)
- | | | | | |
|------------------------|-------|-------|------|-------|
| thematic relations: | agent | theme | goal | instr |
| grammatical relations: | 1 | 2 | 3 | INSTR |
| | | | | |
| MAPs: | A | B | | |
| presentation: | NOM | ACC | DAT | INSTR |

In any given clause, we assign the number of MAPs based on three things: first, the lexical semantic valence of the verb; second, MAP-reducing or -building constructions (passives, applicatives, causatives, etc.); and third, the MAP

thresholds set for the language (that is, the maximum and minimum number of MAPs allowed). If Korean is a 2-MAP language, as suggested above, then at most two MAPS—A and B—are available for linking. In (1), the 1 and the 2 are linked to the A and B MAPs respectively. The 3 and instrumental are not linked to a MAP and therefore appear as adjuncts.

2.1 Case

This brings us to the issue of case in Korean. As discussed in Gerdts (1991), most syntactic approaches to case, including GB Case Theory and Case in Tiers (Yip et al. 1987), divide case marking phenomena into two types, referred to here as S-Case and I-Case. S-Case is grammatical case correlated with surface structure, while I-Case is selected on the basis of the semantic role of the nominal and licensed in initial structure. It has been claimed previously (Gerdts 1991, Gerdts and Youn 1988, 1990) that only NOM and ACC are S-cases in Korean. Other case phenomena are I-Case. I give a partial rule for Korean case within MT in (3).

- (3) Korean Case (partial):³
- a. S-Case
 - NOM (*-i/-ka*) licenses a nominal linked to A
 - ACC (*-ul/-lul*) licenses a nominal linked to B
 - b. I-Case
 - DAT (*-eykey* for animates, *-ey* for inanimates) licenses a Goal, Exp, Loc, Ben, Temp, Agent, etc.
 - INSTR (*-ulo/-lo*) licenses an Instr, Path, etc.

For example, (3) accommodates the data in (1) as follows: the first two nominals are licensed by S-cases, while the last two nominals take I-case (represented in italics) on the basis of their semantic roles (goal and instrumental respectively).

The S-case/I-case distinction is relevant to a number of phenomena in Korean: for example, (i) NOM and ACC drop but I-case does not (Gerdts 1991), (ii) only I-case can co-occur with topic markers and delimiters (Youn 1989), (iii) only NOM- and ACC-marked nominals can float Quantifiers (see Gerdts 1987), (iv) duration/frequency adverbials can only be case-marked NOM or ACC (Maling 1989), and (v) some speakers allow only nominals which would otherwise appear in the NOM and ACC case to raise (Hong 1990).

A full discussion of this distinction and the role it plays in a relationally-based syntax is outside the scope of this paper. The reader is referred to Gerdts (1991) for a further discussion. I will briefly note that two types of “mismatches” arise in Korean: (1) there are nominals that are linked to a MAP but nevertheless appear in an I-case, and (2) there are nominals that appear in an S-case but are not linked to a MAP. Both of these phenomena are discussed in the following section.

2.2 Marked Associations

Two types of association are recognized in MT. Unmarked association proceeds in a vertical, non-crossing fashion, as in (1) above. Marked associations, however, may involve non-vertical linkings, the linking of an “extra” nominal not lexically subcategorized by the verb, the non-linking of a nominal, or a special stipulation concerning a linked nominal. Marked associations are generally accompanied by morphological conditions. A statement of these conditions and their concurrent effect on argument structure is the biggest task of a Mapping grammar.⁴

The following discussion gives Korean data for several marked associations—passives, dative applicatives, locative applicatives, and possessor applicatives. Relational treatments of these constructions have already been given in previous work. Here I will give the MT equivalents to these analyses and give a brief account of the case patterns found in these data.

2.2.1. Passives

Passive in MT is characterized as a demotion phenomenon. Gerdts (1993a) gives the following rule for passive:

- (4) **Passive:** do not link the first GR; cancel one or more MAPs.

The prototypical case in 2-MAP languages is that the 1 is not linked, the B MAP is cancelled (cancelled MAPs are written lower case in angle brackets), and some nominal other than the 1 is linked to the A MAP. Thus the Korean passive in (5b) would be represented as in (6); the non-linked 1 appears in the compound case -ey uyhae(se) or the I-case DAT.

- (5) a. Ai-ka chayk-ul ilk-ess-ta.
 child-NOM book -ACC read-pst-ind
 ‘The child read the book.’
 b. Chayk-i ai-eyuyhayse ilk-hi-ess-ta.
 book-NOM child-by read-PAS-pst-ind
 ‘The book was read by the child.’

- (6)
- | | |
|-------|-------|
| agent | theme |
| 1 | 2 |
| / | |
| A | |
| NOM | |

2.2.2 Applicatives

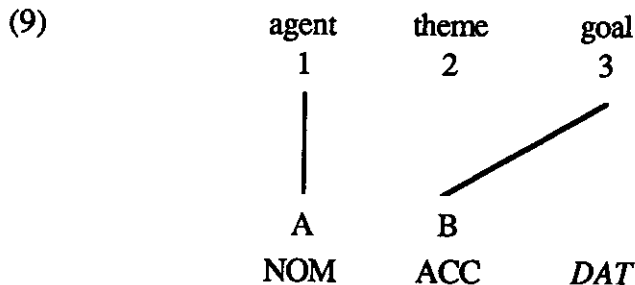
Gerds (1993a) suggests the following universal linking rule for applicatives:

- (7) **Applicative:** add a MAP (up to threshold) and link the 3 or oblique to the lowest MAP.⁵

The Korean data in (8) illustrate an applicative.⁶

- (8) Chelswu-ka Swuni-eykey/lul chayk-ul cwu-ess-ta.
 C.-NOM S.-DAT/ACC book-ACC give-pst-ind
 ‘Chulsoo gave Sooni a book.’

Since (8) is lexically transitive and Korean is a two-MAP language, the applicative cannot add a MAP. Thus, MAPs A and B are available for linking. As (9) shows, the 3 is linked to the lowest MAP (B), the 1 links by unmarked association, and the 2 is not linked.



For the most part, the rule in (3) accommodates the case in (8). NOM licenses the 1. As discussed in Gerds (1991), licensing conditions for both DAT and ACC are met by the 3: it is semantically a goal, hence the I-case DAT; it is linked to the B, hence the S-case ACC. Either case can appear on the goal, as indicated by the / notation.⁷

Some explanation for the ACC case on the theme in (8) must be provided. Gerds (1991) treats this as case spread: in a relational treatment, the theme is a 2-chômeur placed en chômage by the 3-2 advancement of the goal. The ability to assign S-case spreads from the goal to the nominal it has placed en chômage.⁸ A parallel view of case spread can be adopted in MT. Imagining a vertical “territory” associated with the theme, we see that the goal nominal invades this territory. We can claim that feature passing is possible between the invader and the invaded nominal. Thus the S-case of the goal—ACC in (8)—is shared with the theme nominal.

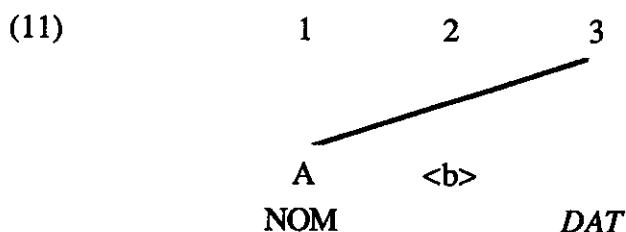
At first glance, the passive in (5b), represented in (6), also appears to meet the criterion for case spread. We see, however, that the passive agent is not marked

NOM. I claim that this is due to the nature of the passive construction. The rule for passive (4) stipulates that the 1 is not linked. Thus, I am assuming that the 1 forfeits its territory. The theme in (8), however, is not specifically mentioned in the rule for applicative in (7). That the theme does not link in Korean follows automatically from three things: (i) Korean is a 2-MAP language, (ii) the goal takes the second MAP in an applicative, and (iii) since there is no passive morphology, the 1 is linked. In other words, the theme does not forfeit its territory but rather is squeezed out by overpopulation.⁹

Passives of applicatives like (8) are also possible:¹⁰

- (10) Swuni-eykey/ka haksayng-tul-eyuyhayse chayk-i cwu-eci-ess-ta.
 S.-DAT/NOM student-pl-by book-NOM give-PAS-pst-ind
 'Soonil was given a book by the students.'

As seen in the representation in (11), the 1 is not linked, the B is cancelled, and some other nominal links to the A MAP, as required by passive.



The rule for applicative, as stated in (7), is not satisfied, however, since (7) requires the 3/OBL to link to the lowest MAP, i.e. the B MAP. However, mapping to the B MAP would create a strange situation here, since passive in Korean requires the cancellation of the B MAP. That is, the same MAP would contradictorily be both linked to an NP and cancelled. Thus, it is clear that (7) needs to be refined to allow for the analysis in (11). We accomplish this in (7') by referring to the lowest available MAP, i.e. a MAP not otherwise cancelled or specifically linked to another NP.

- (7') **Applicative:** add a MAP (up to threshold) and link the 3 or oblique to the lowest available MAP.

The examples in (12) and (13) illustrate two other applicatives, locative inversion and psych constructions.

- (12) I kongcang-ey/i pwul-i na-ss-ta.
 this factory -DAT/NOM fire-NOM break.out-pst-ind
 'Fire broke out in this factory.'

- (13) Chelswu-eykey/ka Swuni-ka mopsi kuli-wess-ta.
 C.-DAT/NOM S. -NOM greatly miss-pst-ind
 ‘Chulsoo missed Soonni badly.’

Following Gerdts and Youn (1988, 1990), we represent these as in (14).

- (14)
- | | |
|-------|----------------------|
| theme | locative/experiencer |
| 2 | LOC/3 |
| / | |
| A | |
| NOM | DAT |

The clauses are unaccusative, with the theme as a 2 and the locative/experiencer as an initial 3 or oblique. The LOC/3 links to the lowest—i.e. the only—MAP, and is marked DAT or NOM. The theme is NOM via case spread.

2.2.3 Possessor Applicatives

“Possessor ascension” effects can also be given a bi-stratal analysis.¹¹ For example, in (15) the theme nominal is modified by a possessor, as represented by the [pos] following the 2 in (16).^{12,13}

- (15) Yangswu-ka Swuni-lul elkwul-ul kuli-ess-ta.
 Y.-NOM S.-ACC face-ACC draw-pst-ind
 ‘Yangsu drew Soonni’s face.’

- (16)
- | | |
|-------|-------------------|
| agent | theme [possessor] |
| 1 | 2 [pos] |
| | / |
| A | B |
| NOM | ACC |

We can account for the fact that the possessor takes on the properties associated with the B MAP by adding possessor to the applicative rule in (7’):¹⁴

- (17) **Applicative:** add a MAP (up to threshold) and link the 3, oblique, or possessor to the lowest available MAP.

The possessor applicative construction with an accusative host is represented in

(16) and the possessor applicative construction with an unaccusative host (cf. (18)) is represented in (19).¹⁵

- (18) Swuni-ka elkwl-i/*ul yeppu-ta.
 S.-NOM face-NOM/*ACC pretty-ind
 'Sooni's face is pretty.'

- (19)
- | |
|------------------|
| theme[possessor] |
| 2 [pos] |
| / |
| A |
| NOM |

Furthermore, a passive possessive applicative is possible (20), as represented in (21).

- (20) Swuni-ka Yangswu-eyuyhayse elkwl-i/*ul kuli-eci-ess-ta.
 S.-NOM Y.-by face-NOM/*ACC draw-PAS-pst-ind
 'Sooni's face was drawn by Yangsoo.'

- (21)
- | | |
|-------|------------------|
| agent | theme[possessor] |
| 1 | 2[pos] |
| / | |
| A | |
| NOM | |

In all of the above examples, the possessor takes on the S-case associated with the MAP to which it is linked and, furthermore, the theme nominal is assigned the same S-case via case spread.

2.3 Summary

What the above discussion shows is that a two-level MT analysis can be provided for dative and possessor applicatives and for passive applicatives. Under this account, 3s, locatives, or possessors are linked to the B MAP in a transitive and the A MAP in an intransitive structure. This is accomplished without resort to "intermediate" 2-hood. Linked arguments have term properties, while non-linked nominals have the properties associated with *chômeage* under an RG analysis. Thus,

the two-level MT analyses capture the same generalizations as the multiple-level RG analyses.

3. Korean as a 3-MAP Language?

Making use of a B MAP for linking in applicative structures is characteristic of a 2-MAP language (see Gerdts 1992b). This coincides with the evidence that Korean has only two S-cases (NOM and ACC). Thus, the claim can be made that Korean, like many other languages of the world, is a 2-MAP language.

Nevertheless, there are at least three aspects of the grammar of Korean that, at first glance, suggest that it also has some properties characteristic of 3-MAP languages (Gerdts 1992b). These involve structures where nominals which have been analysed as benefactives, possessors, and causees appear in DAT case. In RG terms, these structures might be analyzed as BEN-to-3 advancement, causee revaluation-to-3, and possessor ascension-to-3 respectively. In MT terms, these are marked associations involving a C MAP. However, I briefly discuss each of these constructions below and suggest that alternative accounts can be given for each structure which do not involve a C MAP for linking. Thus, it can be maintained that DAT is an I-case—not an S-case—in Korean.

3.1 Dative Benefactives

The first challenge to the 2-MAP hypothesis comes from DAT benefactives. In many languages, including Georgian (Harris 1981), benefactives can appear either as an oblique or as a dative.

- (22) a. *gelam šəkera axali šarvali merabisatvis.*
 Gela-ERG he-sewed-it-II-I new trousers-NOM Merab-for
 ‘Gela made new trousers for Merab.’
- b. *gelam šeučkera axali šarvali merabs.*
 Gela-ERG he-sewed-him-it-II-I new trousers-NOM Merab-DAT
 ‘Gela made new trousers for Merab.’

Harris (1981) shows on the basis of evidence from agreement and pro-drop (see (23b)) and reflexives (see (24b)), that DAT-marked benefactives should be given a different syntactic analysis from oblique benefactives and, moreover, that DAT-marked benefactives behave like Georgian indirect objects.

- (23) a. *gelam šəkera axali šarvali šentvis.*
 Gela-ERG he-sewed-it-II-I new trousers-NOM you-for
 ‘Gela made new trousers for you.’

- b. gelam šegikera axali šarvali (šen).
 Gela-ERG he-sewed-you-it-II-I new trousers-NOM you-DAT
 ‘Gela made new trousers for you.’

- (24) a. važam gadatargmna anzoristvis tavisī leksi.
 Važa-ERG he-translated-it-II-I Anzor-for self-s poem
 ‘Važa_i translated for Anzor_j his_{i/*j} poem.’
 b. važam gadautargmna anzoris tavisī leksi.
 Važa-ERG he-translated-him-it-II-I Anzor-DAT self-s poem
 ‘Važa_i translated for Anzor_j his_{i/j} poem.’

She thus posits BEN-to-3 advancement for (22–24b). The equivalent MT analysis is that a C MAP is added as stipulated in (17) and the benefactive is linked to it (see Gerdts 1992b), as represented in (25).

| | | | |
|------|-------|-------|-----|
| (25) | agent | theme | ben |
| | 1 | 2 | OBL |
| | | | |
| | A | B | C |

At first glance, data like the following from Korean seem to parallel the Georgian data above, since a benefactive nominal can alternatively be marked DAT.

- (26) Nay-ka iwussalam-tul-ulwihayse/eykey canchi-lul peyphwul-ess-ta.
 I-NOM neighbor-pl-for/DAT banquet-ACC hold-pst-ind
 ‘I held a banquet for the neighbors.’
- (27) Ku salam-un nala-ulwihayse/ey caki-uy ilsayng-ul pachi-ess-ta.
 the man-TOP country-for/DAT self-GEN life-ACC devote-pst-ind
 ‘The man devoted his life for/to his country.’
- (28) Nay-ka tongsayng-ulwihayse/eykey cip-ul ci-ecwu-ess-ta.¹⁶
 I-NOM brother-for/DAT house-ACC build-give-pst-ind
 ‘I built a house for my brother’

However, there are several reasons to suspect that the benefactive marked DAT is not like other “indirect objects”, i.e. goals marked DAT.

First, goals can be passivized (see (10)), but benefactives cannot, as (29)–(31) show:¹⁷

- (29) *Iwussalam-tul-i canchi-lul/ka peyphwul-eci-ess-ta.
 neighbors-pl-NOM banquet-ACC/NOM hold-pas-pst-ind
 'The neighbors were held a banquet for.'
- (30) *Nala-ka caki-uy ilsayng-ul/i pachi-e ci-ess-ta.
 country-NOM self-GEN life-ACC/NOM devote-pas-pst-ind
 'The country was devoted his life for.'
- (31) *Tongsayng-i cip-ul/i na-eyuyhayse ci-ecwu-e ci-ess-ta.
 brother-NOM house-ACC/NOM I-by build-give-pas-pst-ind
 'My brother was built a house for by me.'

Second, benefactives cannot be alternatively marked ACC, as (32) shows, though goals can (see (8)).

- (32) *Nay-ka tongsayng-ul cip-ul ci-ecwu-ess-ta.
 I-NOM brother-ACC house-ACC build-give-pst-ind
 'I built my brother a house.'

Finally, honorable goals can appear with the honorific dative case *-kkey* as in (33), but honorable benefactives apparently cannot, as (34) shows.

- (33) Ai-ka emeni-eykey/kkey kieka-ss-ta.
 child-NOM mother-DAT/H+DAT crawl-pst-ind
 'The child crawled to mother.'
- (34) *Nay-ka emeni-kkey canchi-lul peyphwul-ess-ta.
 I-NOM mother-H+DAT banquet-ACC hold-pst-ind
 'I held a banquet for mother.'

The above facts show that DAT goals and DAT benefactives are syntactically different. In fact, the 2-MAP analysis claims that there is no C MAP and thus neither goals nor benefactives can link to it. The DAT case on both goals and benefactives is attributed to an I-case rule. The I-case DAT marks goal, benefactive, and several other "non-term" relations (see (3b)).

3.2 Dative Possessors

Another challenge for the 2-MAP hypothesis comes from data that appear to involve a DAT possessor (Maling and Kim 1992), as in (35):

- (35) Nay-ka Yumi-eykey phal-ey cwusa-lul noh-ass-ta.
 I -NOM Y.-DAT arm-DAT shot-ACC give-pst-ind
 'I gave Yumi a shot in the arm.'

At first glance, it might appear that (35) is a possessor applicative construction on a par with (15) and (18) but involving a C MAP instead of a B or A MAP. Other languages, including Albanian (Hubbard 1985), Choctaw (Davies 1986), and Georgian (Harris 1981) are claimed to have possessor applicatives where the possessor links to a C MAP; for example, see the Choctaw data in (36).

- (36) Ofi-yat katos ā-kopoli-tok.
 dog-NOM cat 1DAT-bite-pst
 'The dog bit my cat.'

However, an alternative account is available for Korean data like (35). I claim that *Yumi* is a goal, not a possessor, and *phal* is a locative. In other words, these nominals are not in a possessor-head relation. Rather, each is assigned a grammatical relation—3 and LOC respectively—and each appears in the I-case DAT, as represented in the structure in (37).¹⁸

- | | | | | |
|------|-------|-------|------|----------|
| (37) | agent | theme | goal | locative |
| | 1 | 2 | 3 | LOC |
| | | | | |
| | A | B | | |
| | NOM | ACC | DAT | DAT |

Under this analysis, *Yumi* in (35) is not a possessor, but nevertheless the locative body part is interpreted as being *Yumi*'s. We can account for this by positing a *pro* possessor for the locative in (35) that is co-indexed with the goal. In fact, this possessor can be overtly realized as a plain or reflexive pronoun as (38) shows.

- (38) Nay-ka Yumi-eykey kunye/caki-uy phal-ey cwusa-lul noh-ass-ta.
 I-NOM Y.-DAT her/self-GEN arm-DAT shot-ACC give-pst-ind
 'I gave Yumi a shot in her arm.'

In this respect, sentences like (35) differ from possessor applicatives. As (39) shows, overtly realized possessive pronouns do not appear in possessor applicatives:

- (39) *Emeni-ka kunye/caki-uy elkwul-i yeppu-ta.
 mother-NOM her/self-GEN face-NOM pretty-ind
 'Mother's face is pretty.'

Another fact concerning these structures follows from this claim. First, the goal but not the locative should be able to passivize.¹⁹ The data in (40) vs. (*41) show that this is the case.²⁰

- (40) Yumi-ka phal-ey payksin-cwusa-ka noh-aci-ess-ta.
 Y.-NOM arm-DAT vaccine-shot-NOM give-pas-pst-ind
 'Yumi was given a vaccination in the arm.'
- (41) *Yumi-eykey phal-i payksin-cwusa-ka noh-aci-ess-ta.²¹
 Y.-DAT arm-NOM vaccine-shot-NOM give-pas-pst-ind
 'The arm was given a vaccination in to Yumi.'

We can assign the structure in (42) to the data in (40); i.e. the 3 is linked to the A MAP and the B MAP is cancelled (see (11) above).

- | | | | | |
|------|-------|-------|------|----------|
| (42) | agent | theme | goal | locative |
| | 1 | 2 | 3 | LOC |
| | | | / | |
| | A | | | |
| | NOM | | DAT | DAT |

Case spread accounts for NOM case on the theme.²² The data in (41), however, will not be allowed, as locatives do not passivize in Korean.²³

3.3 Dative Causees

A third way in which Korean appears to pattern like a 3-MAP language is with respect to Causatives. Gerdts (1992b) notes that 3-MAP languages typically have clause union causatives based on transitives with the causee in the DAT (rather than ACC) case. Korean causatives formed with *-ha* 'do' as in (43) appear to have this property (see Gerdts 1990).

- (43) Kyengkwan-i Yangswu-eykey/lul pelkum-ul mwul-key hay-ss-ta.
 policeman-NOM Y.-DAT/ACC fine-ACC pay-cmp do-pst-ind
 'The policeman made Yangsu pay the fine.'

However, there are several ways in which this type of causative does not conform to the above expectations. First, (43) is also grammatical when the causee is ACC. Second, *-ha* causatives are possible based on intransitives as well as transitives, as (44) shows:

- (44) Sensayngnim-i haksayng-eykey ttena-key hay-ss-ta.
 teacher-NOM student-DAT leave-cmp do-pst-ind
 'The teacher made the student leave.'

These (and other facts brought forth in O'Grady 1991) lead to the conclusion that causatives like those in (43)–(44) are not typical clause union causatives, but rather involve a main clause controller, i.e. a 3. If the causee-3 is not linked to a MAP it will appear in the DAT case. Alternatively, if the causee-3 is linked to a B MAP via the applicative rule in (17), it appears in the ACC case.

Further research is clearly necessary on the analysis and representation of causatives in Mapping Theory. However, we can conclude that there are plausible alternatives to positing that Korean requires the linking of causees to a C-MAP.

4. Conclusion

This paper has provided a basic MT grammar of Korean. Section 2 gave analyses for goal, locative, and possessor applicatives and their interaction with passives and unaccusatives. It was shown that structures can be posited for these data without resorting to multiple levels of representation. In fact, the MT analyses make use of linking statements involving two levels of structure: a GR level, corresponding to the initial stratum in RG, and a level of morphosyntactic argument structure, roughly corresponding to the final stratum of RG. The MT analysis is thus a simplification of the RG analyses of Gerdtz and Youn and others, which posit structures with three or more levels.

The biggest challenge in accomplishing a two-level analysis of Korean is accounting for multiple NOM and multiple ACC clauses. In an RG account (Gerdtz 1991), the rule of case spread relies crucially on the notion of *chômage*. Section 2.2.2 gives a parallel view of case spread in MT. The key concept is the extrapolation of a path along which a non-linked nominal would have linked if another nominal had not usurped its MAP.

In most respects, Korean acts like a prototypical 2-MAP language, the two MAPs being licensed by NOM and ACC case respectively. This correlates with the fact that only NOM and ACC are S-case in Korean. DAT and other postpositions are I-case. Furthermore, the majority of association rules in Korean transparently target a NOM or ACC licensed position (section 2.2).

Section 3 discussed three phenomena that, at first glance, seem to suggest that Korean also had three properties typical of 3-MAP languages: (i) benefactives can

alternatively be marked DAT (not ACC); (ii) some possessors appear to be marked in the DAT case; and (iii) causees can be marked DAT. However, in each case an alternative analysis was offered that was compatible with the claim that DAT case is I-case, and not S-case correlating with a C MAP.

Section 3.1 shows that DAT benefactives in Korean, unlike those in Georgian, do not share properties with prototypical 3s (i.e. goals). Unlike goals, benefactives do not link to an A MAP in a passive, they do not link to a B MAP in an applicative, nor do they appear in honorific DAT case. I conclude that DAT benefactives as well as DAT goals are non-linked nominals with I-case marking.

Section 3.2 claims that double-DAT part-whole constructions are not possessor applicatives. Many 3-MAP languages have transitive possessor applicatives where the possessor is linked to a C MAP. I claim, however, that transitive possessor applicatives in Korean link to the B MAP, i.e. the lowest available MAP in a 2-MAP language. The alleged DAT possessors I analyse as DAT goals. The DAT body part can be treated as a possessed locative. Various facts about these constructions can be handled as simply under this analysis as under the possessive applicative one. Furthermore, the DAT part-whole construction differs from possessor applicatives with respect to the presence of an overt pronominal possessive of the body part.

Section 3.3 briefly discusses DAT causees. If we posit a typical 3-MAP analysis involving clause union with the linking of the causee (in causatives based on transitives) to the C MAP for Korean, then there are several recalcitrant facts. First, there are DAT causees even in causatives based on intransitives. Second, causees can alternatively be ACC even in causatives based on transitives. Neither of these facts is expected in a 3-MAP language, given the mechanisms of MT. However, a control analysis (as in O'Grady 1991) accounts for these features of Korean causatives. The DAT causee is a non-linked nominal that appears in I-case.

To summarize, several constructions appeared at first glance to require an unexpected C MAP. However, alternative analyses could be given in each case that did not require a C MAP and that, moreover, accounted for a larger range of empirical facts than the analyses making use of a C MAP. Thus, both basic presentational facts (only NOM and ACC are S-cases in Korean) and the inventory of basic constructions lead to the conclusion that Korean is a 2-MAP language.

Notes

¹Thanks go to the many people who have given me suggestions and comments on the ideas expressed here, especially Judith Aissen, Bill Davies, Katarzyna Dziwirek, Don Frantz, Sea-Eun Jhang, In Que Lee, Nathalie Schapansky, Charles Ulrich, and Lindsay Whaley. My research is supported by grants from the Social Science Humanities Research Council of Canada and the SFU President's Research Fund.

²This paper can only give a brief look at MT and furthermore does not compare it with other similar theories. Woolford (1986), which makes use of a tree notation, is perhaps the closest

theory in its intention, and Yip et al. (1987), which makes use of linear order, is the closest in notation. Linking Theory (Kiparsky 1987, 1988) has influenced this work greatly.

³When two forms are given in (3), the first appears after consonants and the second after vowels. Genitive *-uy* is not discussed in this paper. I also do not discuss complex cases such as *-ey uyhayse* 'by' and *ul wihayse* 'for'.

⁴Some aspects of marked association will be specified in universal grammar but other aspects will be subject to parameter setting. Furthermore, there are universal principles for linking GRs to MAPs:

- (i) Saturation Principle: every MAP must be linked to a GR or cancelled.
 Biuniqueness Principle: a MAP is linked to at most one GR (except under coreference),
 and every GR is linked to at most one MAP.
 No Delinking Principle: there are no "delinkings".

These principles for linking GRs to MAPs are fairly typical in linking theories; see, for example, Ostler (1980), Woolford (1986), and Yip et al. (1987).

⁵This, in fact, follows from the Marked Association Principle (Gerdts 1992b), which states that marked associations (other than passive) target the lowest MAP.

⁶In RG terms, (8) involves 3-2 advancement (Gerdts 1987, 1990). Some speakers dislike data like these because of the presence of two ACC cases.

⁷For some speakers, case stacking (*Swuni-eykey-lul*) is possible. See Gerdts (1991).

⁸What is transferred is the ability to assign S-case, not the S-case itself. See Gerdts (1991).

⁹This distinction is similar to the distinction between actions and reactions proposed in Basis Grammar (Perlmutter 1986).

¹⁰In RG terms, (10) involves 3-2 advancement and passive (Gerdts and Youn 1988, Gerdts 1991).

¹¹Many works, too numerous to cite here, have been published on S-case marked possessors. For relational approaches to this phenomena, see especially Choi (1988), Chun (1985), Gerdts (1990, 1991, 1992a, 1993b), and Youn (1989) and references therein.

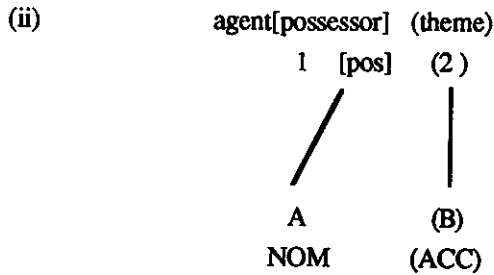
¹²This is the first MT account of possessor applicatives in any language.

¹³It is crucial to this analysis that the [pos] follow its head. I take this to be an appropriate representation of modification for all languages. The head parameter, which will be part of a general statement on linear order, will account for the surface word order.

¹⁴In fact, many languages, including Chamorro (Crain 1979), Kinyarwanda (Kimenyi 1980), Shuswap (Kuipers 1992), and Tzotzil (Aissen 1987) use the same morphology for possessive applicatives and goal/benefactive applications.

¹⁵The account of possessor applicatives given below, together with the principle of linking nominals (see footnote 2), allows an explanation for the lack of ergative or unergative hosts (see Choi 1988, Yang 1991, and Youn 1989). An ergative host as in (i) would be represented as in (ii):

- (i) Chelswu-uy/*ka cwumek-i chayksang-ul naylyechi-ess-ta.
 C.-GEN/NOM fist -NOM desk-ACC smash down-pst-ind
 'Chulsoo's fist smashed down on the desk.'



Due to semantic constraints, data with a possessed unergative is unavailable. In any case, an applicative with an unergative host would be represented as in (ii), omitting the material in parenthesis. Assuming that the only unlinked 1s in monoclausal contexts in Korean (and perhaps universally) arise through passive and noting the lack of passive morphology on (i), we can rule out (ii) since it inappropriately requires that the 1 not be linked.

¹⁶Note that the verb *ci* (and several other verbs) only allows DAT benefactives in the compound form; the simple verb does not take a DAT benefactive:

- (i) *Nay-ka emeni-lulwihayse/*eykey cip-ul ci-ess-ta.*
 I-NOM mother-for/DAT house-ACC build-Past-Dec
 'I built a house for my mother'

¹⁷Like DAT benefactives, locatives (i), which also appear in DAT case, lack goal DAT properties; they do not passivize (ii) nor alternatively take ACC case (i).

- (i) *Swuni-ka teyipul-ey/ *ul chayk-ul noh-ass-ta.*
 S.-NOM table-DAT/*ACC book-ACC put-pst-ind
 'Sooni put the book on the table.'
- (ii) **Teyipul-i Swuni-eyuyhayse chayk-i noh-aci-ess-ta.*
 table-NOM S. -by book-NOM put-pas-pst-ind
 'The table was put the book on by Sooni.'

¹⁸This analysis differs from previous ones posited for double-DAT part-whole constructions. Kim (1990) gives an analysis where the locative nominal is predicated on the goal; the locative receives case by agreement. Maling and Kim (1992) apparently are positing a structure involving a branching NP with a possessor and a head but where each N nevertheless gets assigned case by the V (their Direct Case hypothesis). The analysis proposed here shares the intuition of Kim (1990) there there is no "underlying" possessive phrase, but also shares with Maling and Kim (1992) the property of assigning each NP its own case. Unfortunately, space limitations preclude further discussion of alternative analyses here.

¹⁹See footnote 15.

²⁰It is also possible to passivize the theme; in which case both the goal and locative appear in DAT:

- (i) Yumi-eykey phal-ey payksin-cwusa-ka noh -aci -ess -ta.
 Y.-DAT arm-DAT vaccine-shot-NOM give-pas pst-ind
 'Yumi was given a vaccine shot in the arm.'

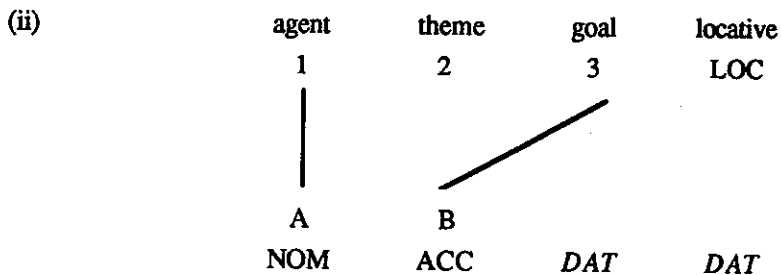
²¹This is ungrammatical regardless of the word order of the NPs.

²²Furthermore, the locative *phal* will be DAT, not NOM as in (*i); as seen in (42) the locative's territory is not invaded by the advancement of the goal. Thus, the goal's case—NOM—will not be spread to it.

- (i) *Yumi-ka phal-i payksin-cwusa-ka noh-aci -ess-ta.
 Y.-NOM arm-NOM vaccine-shot-NOM give-pas-pst-ind
 'Yumi was given a vaccine shot in the arm.'

²³Another difference between goals and locatives is that goals can alternatively link to a B MAP, as in (i), represented in (ii), but locatives cannot (cf. footnote 15).

- (i) Nay-ka Yumi-lul phal-ey cwusa-lul noh -ass-ta.
 I-NOM Y.-ACC arm-DAT shot-ACC give-pst-ind
 'I give Yumi a shot in the arm.'



At first glance, data like (iii) and (iv) from Maling and Kim (1992) appear to contradict this claim, since *phal* appears in ACC:

- (iii) Nay-ka Yumi-lul phal-ul cwusa-lul noh -ass-ta.
 I-NOM Y.-ACC arm-ACC shot-ACC give-pst-ind
 'I gave Yumi a shot in the arm.'
- (iv) ?Nay-ka Yumi-eykey phal-ul cwusa-lul noh -ass-ta.
 I-NOM Y.-DAT arm-ACC shot-ACC give-pst-ind
 'I gave Yumi a shot in the arm.'

There are several reasons for supposing that (iii) and (iv) do not actually involve linking to a B MAP.

First, it should be pointed out that these data are not on a par with (35) or (i). Byong-Seon Yang (SUNY at Buffalo) surveyed ten Korean speakers and found that while all ten speakers accepted (35) and eight accepted (i) (see footnote 6), only two speakers accepted (iii) and only one

accepted (iv). Furthermore, those speakers who accepted (iii) and (iv) vastly preferred (35). The grammaticality of (iii) and (iv) is thus questionable.

Second, if the locative were available for linking to the B MAP, we would also expect it to be able to link to an A MAP in the corresponding passive. This is not the case, as seen in the data in (*41) and footnote 22.

Third, in other instances where a 3 or oblique links to a B MAP, that nominal is then available for scrambling to clause-initial position, topicalization, and relativization. Even the speakers who like (iii) and (iv) do not allow *phal* to appear first, as a plain topic, or as the head in a relative clause.

I conclude that some other explanation must be given for the presence of ACC case on *phal* for those speakers who allow it.

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