A Relational Analysis of Case Stacking*

Cheong Youn

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0. Introduction

Korean contains many case alternation constructions, that is, clauses in which a nominal can be marked in either of two cases. For example, the first noun phrase in the locative inversion clause in (1) and the psych construction in (2) can be marked with DAT or NOM.

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

(2) Chelswu-eykey/-ka Swuni-ka kuli-wess-ta.
     C.-DAT/-NOM S.-NOM miss-pst-ta.
     "Chulsoo missed Sooni."

Even more interesting, for some speakers (especially of southern dialects

* This research on a Relational Theory of Case has been done in collaboration with Donna B. Gerdts. I thank her for her comments on this paper.
like Taegu and Pusan Korean), both DAT and NOM case appear on the first noun phrase of such clauses:

(3) I kongcang-ey-ka pwul-i na-ss-ta.
    this factory-DAT-NOM fire-NOM break out-pst-ind
    “Fire broke out in this factory.”
    C.-DAT-NOM S.-NOM miss-pst-ind
    “Chulsoo missed Sooni.”

In previous research, Gerdts and Youn (1988) have referred to this phenomenon of multiple case assignment as "case stacking." This paper presents an elaborated theory of case within Relational Grammar that provides mechanisms necessary to accommodate case stacking. Section 1 gives the philosophical underpinnings for such a theory. Section 2 develops the notion of two types of case. Section 3 discusses the issue of how case is assigned to dative subjects. Section 4 gives a brief typology of case systems. Section 5 discusses case resolution rules. Sections 6, 7, and 8 deal with case stacking phenomena. Section 9 provides a conclusion for this paper.

Before embarking on the discussion of case, I should first point out that, throughout this paper, I am assuming an analysis of the above data previously put forth in Gerdts and Youn (1988, 1990) and Youn (1990). In those works, it was shown that no matter what case is assigned to the first noun phrase in the above clauses—DAT, NOM, or both—the clause has actually the same structure. More specifically, the first noun phrase is always the subject no matter what its case marking. Evidence for this claim is provided by a variety of tests, including subject honorification, plural copy, and reflexive antecedence. For example, observe the data in (5).
     mother-DAT/-NOM/-DAT-NOM S.-NOM miss-SH-pst-ind
     "Mother missed Sooni."

No matter what case appears on *emenim*, it is possible to have subject
honorification on the verb. Thus, the challenge of such data for case
theory is twofold: first, an explanation for each case must be given,
and second, this must be accomplished while assuming that all three
versions of the clause have identical syntactic structures. Therefore,
we are assuming the explanation for the case pattern lies in case
theory itself, and not in additional complications in the syntax.

1. A Relational Theory of Case

A recently proposed case theory, Case in Tiers (Yip et al. 1987),
uses a simple mechanism of associating hierarchically organized cases
to linearly ordered noun phrases in a left-to-right fashion, mirroring
autosegmental treatments of phonological phenomena. The authors,
however, are quick to point out that:

Free word-order languages, whether ergative or not, pose an
obvious problem for the simplest form of this approach. It seems
likely that association must be defined on grammatical (or thematic)
relations in such languages, and indeed perhaps universally; but we
leave this issue for further research. (p. 220)

This paper reports on some research that, in fact, adopts this
approach. It takes as its foundation Relational Grammar, a theory that
uses grammatical relations as its principal organizing construct. After
all, since one of the goals of the research is to separate the function of
case from the function of other devices such as agreement and word
order, some more abstract construct, such as grammatical relation, must serve in the formulation of case rules (and also, for that matter, in the formulating of rules for agreement and word order). In summary, a relationally-based case theory is justified from a metatheoretical perspective.

Relational Grammar is an especially appropriate vehicle for a theory of morphosyntax since it has a richly developed set of grammatical relations, a clear view of levels of sturcture, and some proposed universal laws constraining possible structures. Furthermore, Relational Grammar has an established protocol for identifying grammatical relations. Thus, evidence for the grammatical relation of a nominal can be provided independently of its case marking, thereby avoiding the circularity of argumentation so often present in discussions of case marking.

In this paper, I develop an analysis of the case system of a test language—Korean—to serve as an examplar of how the elements of a case theory interact. Korean meets the criteria set above, since it is a language which has a notoriously rich case system, an extremely free word order, and no person/number agreement. In addition, there is a rich literature on grammatical relations in Korean, which serves to establish independently the constructions under study.

2. Types of Case

The Relational Theory of Case, like other syntactic approaches to case, including GB Case Theory and Case in Tiers, divides case marking phenomena (including affixal case and adpositional flags) into two types, referred to here as S-Case and I-Case. S-Case is grammatical case licensed in terms of final structure, while I-Case is selected on the basis of the semantic role of the nominal and licensed in
initial structure.

Let’s take Korean as an illustration of these two types of case. A partial list of case forms in Korean is given in (6).¹

(6) NOM -i/-ka
    ACC -ul/-lul
    DAT -eykey (animates)
         -ey (inanimates)
    INSTR -ulo/-lo
    COM -kwa/-wa

Gerdts and Youn (1988) claim that in Korean NOM and ACC are S-Cases, respectively licensed by the final 1 and final 2 of a clause, while other cases are I-Case, as given in the partial rule for Korean case in (7).²

(7) Korean Case (partial)
    a. S-Case
        NOM is licensed by a final 1.
        ACC is licensed by a final 2.
    b. I-Case
        DAT is licensed by a Goal, Exp, Loc, Ben, Temp, Agent, etc.
        INSTR is licensed by an Instr, Path, etc.
        COM is licensed by a Com(itative).

We see the effect of rule (7) in a monostratal construction such as

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¹ When pairs are given, the first appears after consonants and the second after vowels. Genitive -uy is not discussed here; see Gerdts and Youn (in preparation).
² Gerdts and Youn (in preparation) discuss two other types of flagging—complex postpositions (e.g. -ey uyhay "by" and -ey kwanhay "about") and topic/focus markers (e.g. -un/-nun).
(8a), represented in the stratal chart in (8b).3)

(8) a. Chelswu-ka Swuni-eykey sopo-hul hangkongphyen-ul
   C.-NOM  S.-DAT   parcel-ACC airmail-INSTR
   ponay-ss-ta.
   send-pst-ind
   "Chulsoo sent the parcel to Sooni by airmail."

b. Chelswu sopho Swuni hangkongphyen
   1    2    3    Instr

The first two nominals are assigned S-Cases based on their final grammatical relations, while the last two nominals are assigned I-Cases on the basis of their semantic roles (goal and instrumental respectively).

Several arguments can be made for distinguishing S-Case and I-Case in Korean. I-Case, for example, can co-occur with the topic marker, -un/-nun, as (9) illustrates, but S-Case cannot (cf. 10).

(9) Swuni-eykey-nun nay-ka i chayk-ul cwu-ess-ta.
   S.-DAT-TOP   I-NOM this book-ACC give-pst-ind
   "To Sooni, I gave this book."

      this book-ACC(-TOP) I-NOM S.-DAT   give-pst-ind

   this book-TOP I-NOM S.-DAT   give-pst-ind
   "This book, I gave to Sooni."

Assuming that S-Case and Topic marking have similar functions, that is, to link the nominal to surface structure, it is not surprising that they do not co-occur. I-Case, on the other hand, presents semantic

3) I am assuming familiarity on the part of the reader with the basic terminology of Relational Grammar. Please see Youn (1990) for an introduction to Relational Grammar and its application to Korean.
information about a nominal which is not incompatible with Topic marking, so co-occurrence is possible.

Also, S-Case appears outside of delimiters such as *kkaci, mace, and cocha*, while I-Case appears inside such delimiters, as (11) and (12) illustrate.

C. -mace -NOM there-DAT go-pst-ind
 -chocha
 -even

b. Chelswu-ka [-kkaci keki-ey ka-ss-ta.
C.-NOM -mace there-DAT go-pst-ind
 -chocha
 -even

"Even Chulsoo went there."

C.-NOM S. -mace-DAT money-ACC give-pst-ind
 -chocha
 -even

C.-NOM S. -DAT -mace money-ACC give-pst-ind
 -chocha
 -even

"Chulsoo gave money even to Sooni."

S-Case (and also Topic marking) follows the entire NP, but I-Case sometimes appears before other semantic modifiers of the nominal.4)

For the most part these differences follow from the difference in the

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4) There are other differences between I-Case and S-Case. When another morphosyntactic device (e.g. word order) is used to identify the grammatical relation, S-Case is unnecessary. Floated quantifiers can be marked with S-Case but not I-Case (Gerdts 1987). Only S-Case spreads (Gerdts and Youn 1988, 1990).
relevant level of structure. In Korean, as in all languages, we see that the primary difference between S-Case and I-Case is semantic. Nominals appearing in a certain I-Case share some semantic gestalt. For example, DAT in Korean (like “to”/“at” in English) marks location/movement in time, space, or emotional/mental space. On the other hand, nominals with S-Case may sometimes have very different semantic roles, given that many languages have rules “creating” new subjects and objects. For example, in an active/passive pair in Korean, a nominal with the same semantic role (theme/patient) licenses ACC in (13a) but NOM in (13b):

    C.-NOM book-ACC read-pst-ind
    “Chulsoo read the book.”

    Book-NOM C.-by read-pas-pst-ind
    “The book was read by Chulsoo.”

The Korean case rule in (7) accommodates this fact since \textit{chayk} is a final 2 in (13a) but a final 1 in (13b).

3. Non-standard Case

Given a set of case rules distinguishing S-Case and I-Case along the lines of (7), case marking in monoclusal sentences in Korean (and in fact in most languages) will be straightforward: subjects will be NOM, objects ACC, indirect objects DAT, etc. Case in multistratal clauses, however, may be more complicated. In some languages, e.g. Icelandic (Zaenen et al. 1985), Kashmiri (Altaha 1985), and Korean (Gerdts and Youn 1988), it is possible to have a nominal that is a subject but is nevertheless marked with non-standard case, that is, a
case (e.g. ACC or DAT) usually associated with a non-subject relation. I claim that, in each instance of this phenomenon, the non-standard case is determined by the semantic relation that the nominal bears in the initial level of structure; non-nominative subjects (in languages where subjects are otherwise marked nominative) always involve advancement to subject of a nominal otherwise eligible to license I-Case.

Take for example Korean non-nominative subject constructions like (14)-(16):

(14) I kongcang-ey pwul-i na-ss-ta.
    this factory-DAT fire-NOM break out-pst-ind
    "Fire broke out in this factory."
(15) I theyleypi-ey menci-ka kki-ess-ta.
    this T.V.-DAT dust-NOM collect-pst-ind
    "Dust collected on this T.V.."
    C.-DAT S.-NOM miss-pst-ind
    "Chulsoo missed Sooni."

Gerdts and Youn (1988, 1990) and Youn (1990) give several arguments that the DAT nominal is the final subject in (14)-(16) and that the NOM nominal is not. We propose that such clauses are initially unaccusative; the DAT nominal is an initial oblique and the NOM nominal is an initial α. The DAT nominal advances oblique-to-2-to-1, placing the NOM nominal en chomage, as represented in the stratal chart for (14) in (17):

(17) OBL 2
    2 CHO
    1 CHO

5) See Kang (1986) for a GB discussion of these data.
This analysis accounts for the final 1-hood of the DAT nominal and various properties of the NOM nominal. Given the case rule in (7), DAT is properly licensed in (14)-(16); the final subjects bear the semantic role of locative or experiencer and thus licenses the 1-Case DAT. This situation, where a final 1 advancee appears in a non-nominative case, is not unique to Korean. For example, Zaenen et al. (1985) discuss “Quirky Case” in Icelandic: when an initial 2 is assigned an idiosyncratic case like DAT in an active clause like (18a), this case also appears on the advancee in a passive like (18b).

(18) a. Ég hjálpaði honum.
I helped him(D)

b. Honum var hjálpað.
him(D) was helped

Furthermore, many languages have 1-Case experiencers in psych constructions, for example, Icelandic (19) (Zaenen et al. 1985), and Italian (20) (Belletti and Rizzi 1988).

(19) Henni hefur allt af Pótt Ólafur leiðinlegur.
her(D) has always thought Olaf(N) boring
“She has always thought Olaf boring.”

(20) Gli piacciono molte sinfonie di Mozart.

6) I will not go into the assignment of NOM case on the theme in this paper. In our previous papers and also Gerdt and Youn (in preparation), we treat this as an instance of “case spread.”

7) Such case is called “quirky” because it is apparently lexicalized. This greatly complicates the rules of I-Case assignment. For example, the list for DAT in Icelandic would include patient/themes of “help.” In a transitive clause, this final 2 nominal would also qualify for the S-Case ACC. Note that Korean and Kashmiri differ from Icelandic in that non-standard case is a regular and not idiosyncratic feature in these languages.
to-him like many symphonies of M.
"He likes many of Mozart's symphonies."

Under an advancement analysis, these nominals are final I advancees. Their case is assigned, however, on the basis of their semantic role.

4. A Typology of Languages

The elements of a relational theory of case discussed below hinge on the S-Case/I-Case dichotomy. Differentiating cases into these two types will be an essential part of the grammar of a language. The behavior of case in advancement constructions will be an important diagnostic for S-Case vs. I-Case. For example, in Korean I find that DAT subjects but not ACC subjects are possible (cf. (14) vs. (13)). Thus, passives involving patient subjects and unaccusatives in Korean will have NOM subjects. Icelandic shows the same effect; DAT subjects, as in (18) and (19) are possible, but an ACC patient/theme in an active clause (21a) corresponds to a NOM marked one in a passive (21b).

(21) a. Lögreglan tók Siggu fasta.
   the-police took Sigga(A) fast(A)
   "The police arrested Sigga."
 b. Sigga var tekin fóst af lögreglunni.
   Sigga(N) was taken fast(N) by the-police(D)
   "Sigga was arrested by the police."

Thus, NOM and ACC are S-Cases in these languages, licensed in final structure, while DAT, etc. are I-Cases.

Kashmiri, as discussed by Althaha (1985), shows a slightly different pattern. ACC (aka DAT) case in Kashmiri marks all indirect objects but also direct objects in the present tense. Furthermore, ACC is an
I-Case in Kashmiri. Thus, not only do the psych constructions in (22) have ACC subjects, but passives like (23) and unaccusative clauses like (24) in the present tense do as well.

(22) badšah-æ čæ badšahbæ-e xuškaraːn
king-ACC aux(3.f.sg) queen-ACC liking
"The king likes the queen."

(23) lark-æ ču yiwaːn parrawne maštənma sidi zeryi
boy-ACC aux(3.m.sg) coming teach-PAS teacher-OBL of by
"The boy is being taught by the teacher."

(24) doktor-æ ču šamis pondtrawaːn
doctor-ACC aux(3.m.sg) evening sneezing
"The doctor sneezes in the evening."

Taking NOM, ACC, DAT, etc. to be hierarchically defined cases, we can derive the following typology.

(25) | NOM | ACC | DAT |                |
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</table>

Icelandic, Korean, and Italian (at least for pronominal case) are type B languages: NOM and ACC are S-Cases, while DAT and other obliques are I-Cases. Kashmiri (at least in the present tense) is type C: a case normally used to represent objects (in the present tense) tests to be an I-Case. English (insofar as it has case) may be a type A language. As pointed out below, passives with recipient subjects omit “to”, passives with locative subjects require “in” to be restructured into the predicate. Georgian may also represent a type A language.

As discussed in Harris (1981), a variety of nominals bearing diverse initial relations (including agents, causees, and benefactives) can be
final 3s in Georgian. She argues, for example, that the benefactive in (26b) is advanced to 3.

(26) a. gelam šekera axali šarvali merabistvis
   G.-ERG he-sewed-it-ll-1 new trousers M.-for

b. gelam šeũkera merabs axali šarvali
   G.-ERG he-sewed-him-it-ll-1 M.-DAT new trousers
   "Gela made new trousers for Merab."

That Merab is DAT would follow from the claim that DAT case is licensed by final 3s. Such evidence suggests that Georgian is a type A language.

5. Case Resolution Rules

The previous sections have shown non-standard case phenomena in several languages. However, Icelandic, Italian, and Kashmiri differ from Korean in a crucial respect: NOM is not possible on the subject nominal in (18b), (19), (20), (22), (23) or (24), even though a final subject would otherwise license NOM in these languages. To account for this fact, I invoke "case resolution" rules. Given case rules like those in (7), a nominal that heads more than one arc (e.g. an initial arc that is distinct form a final arc) may have the ability to license more than one case. In some languages, however, only one case is allowed to be phonologically realized: language specific resolution rules like (27a) and (27b) stipulate which case appears in these instances.8

(27) Case Resolution:

8) Zaenen et al. (1985) suggest that case assigned by a language specific rule (e.g. "quirky" DAT) takes priority over case assigned by universal rules (e.g. NOM). It is not clear how this principle could be extended to the Korean facts.
a. I-Case takes priority over S-Case.
b. S-Case takes priority over I-Case.

In Icelandic, Italian, and Kashmiri we see that (27a) is relevant and thus the advancee is marked DAT, not NOM. In other languages, however, (27b) may be relevant. For example, in English dative constructions like (28a), the I-Case marker “to” flags the indirect object; in the passive (28b), the indirect object that is advanced to final subject must be NOM, as (28c) and (28d) show.

(28) a. John gave the book to me.
    b. I was given the book.
    c. "To me was given the book.
    d. "I/Me was given the book to.

However, Korean (cf. (29)-(30)) and Japanese (cf. (31) from Kuno 1973) show another pattern.

(29) I kongcang-e-y-i pwul-i na-ss-ta.
    this factory-DAT/-NOM fire-NOM break out-pst-ind
    “Fire broke out in this factory.”
(30) Chelswu-eykey/-ka Swuni-ka kuli-wess-ta.
    C.-DAT/-NOM S.-NOM miss-pst-ta.
    “Chulsoo missed Sooni.”
(31) John ni/ ga nihongo ga wakaranai.
    J. DAT/NOM Japanese NOM understand-not
    “John does not understand Japanese.”

The locative/experiencer licenses either NOM or DAT in these examples. Gerdts and Youn (1988, 1990) point out that there is no apparent difference in the syntax of these clauses no matter which case appears.
Thus, all are assigned the structure in (17). Actually, a case rule like (7) accounts for this alternation: both NOM and DAT are properly licensed—NOM at final level and DAT at initial level. What separates Korean and Japanese from Icelandic, Italian, Kashmiri, and English is that the former languages lack a resolution rule; thus neither I-Case or S-Case will take priority in advancement clauses like (29)-(31).

6. Case Stacking

Under most views of case, only one case can be assigned to a nominal.\textsuperscript{9} The Korean data, however, show that such a restriction is too strong. I claim instead that Korean needs the following restriction:

(32) A nominal can license at most one S-Case.

The restriction in (32) prohibits the co-occurrence of the S-Cases NOM and ACC, hence the impossibility of the combination of cases in (33) and (34).

(33) Chelswu-*lul-i/-*ka-lul kyengchal-ey cap-hi-ess-ta.
C.-*ACC-NOM/-*NOM-ACC police-DAT arrest-pas-pst-ind
(Chulsoo was arrested by the police.)

(34) Chelswu-ka Swuni-*lul-i/-*ka-lul Sewul-ey
C.-NOM S.-*ACC-NOM/-*NOM-ACC Seoul-DAT
ka-ss-ta-ko mit-ess-ta.
go-pst-ind-cmp believe-pst-ind
(Chulsoo believed that Sooni had gone to Seoul.)

Of course, given that NOM and ACC case are both licensed at final

\textsuperscript{9} Lefebvre and Muysken (1982) and Belletti (1988) are two notable exceptions to this.
level, and that a nominal cannot be simultaneously a final 1 and a final 2 of the same clause, no situation arises where the stacking of NOM and ACC would be expected.

However, (32) allows two types of co-occurrence of cases—referred to here as case stacking. First, more than one I-Case may appear on a nominal, as (35) and (36) show.

    C.-NOM S.-DAT-INSTR ball-ACC throw-pst-ind
    “Chulsoo threw the ball to(ward) Sooni.”

(36) Chelswu-ka Swuni-eykey-lo-wa Yengswu-eykey-lo kong-ul
    C.-NOM S.-DAT-INSTR-COM Y.-DAT-INSTR ball-ACC
    tenci-ess-ta.
    throw-pst-ind
    “Chulsoo threw the ball to(ward) Sooni and Youngsoo.”

We see that a nominal can have multiple semantic roles like goal, path, and comitative and can be multiply case marked accordingly.

Second, some speakers of Korean allow both I-Case and S-Case on a nominal. For example, DAT co-occurs with ACC in 3-2 and Obl-2 advancement constructions, as in (37) and (38) respectively.

    C.-NOM S.-DAT-ACC book-ACC give-pst-ind
    “Chulsoo gave Sooni a book.”

b.  
    1   2   3
    1   CHO  2
      Chelswu   chayk   Swuni

(38) a. Chelswu-ka wucheykuk-ey-lul ka-ss-ta.
    C.-NOM post office-DAT-ACC go-pst-ind
    “Chulsoo went to the post office.”

b.  
    1   OBL
For these speakers of Korean, DAT and NOM can also co-occur in Obl-2-1 advancement constructions as in (39) and (40); case stacking occurs on the locative subject and the experiencer subject respectively.

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

(40) Chelswu-eykey-ka Swuni-ka kuli-wess-ta.
    "Chulsoo missed Sooni."

The case rule in (7), the lack of a case resolution rule, and the restriction in (32) account for case in (35)-(40). The I-Case DAT is properly licensed since each of the nominals is an initial oblique with an appropriate semantic role. The S-Case ACC or NOM is also licensed since the nominal is a final 2 or 1. The nominals in (35)-(40) have only one S-Case and thus satisfy (32).

Furthermore, a principle of linearization of grammatical elements, the Satellite Principle (revised from Gerdts 1988b), given informally in (41), assures that the cases in (35)-(40) appear in that order.10,11

(41) If an element A is licensed in an earlier stratum than element B, then A appears inside B.

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10) Originally formulated to account for ordering of verbal morphology, the Satellite Principle as stated here also covers nominal morphology.
11) The Mirror Principle (Baker 1985) is the GB equivalent. However, Baker does not discuss nominal morphology.
Since I-Case is determined in the initial stratum while S-Case is
determined in the final stratum, (41) requires I-Case to precede S-Case.
This prediction is correct, as can be seen by comparing (42a) to *(42b).

       C.-DAT-NOM mother-NOM miss-pst-ind
       C.-NOM-DAT mother-NOM miss-pst-ind
       “Chulsoo missed Mother.”

The table in (43) from M-S Kim (1970, 1980) summarizes the
allowable combinations of case in Korean.

(43) a. Double Compound Case:

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b. Triple Compound Case:

- eykeyka, eyseka, eykeyuy, eyseyu, eykeylul, eyselul, eykeylo,
  eyselo, eykeywa, eysewa, eyluka, eylouy, eylolu, eyloua, etc.

c. Quadruple Compound Case:

- eykeyluka, eykeylouy, eykeylolu, eykeyloua, etc.

Although I have no explanation for the relative order of I-Cases, other
features of the table in (43) are accounted for in the above discussion.
The lack of co-occurrence of S-Cases follows from the restriction in (32), and the appearance of S-Case after I-Case but not vice versa follows from the Satellite Principle (41).

7. Further Types of Case Stacking

The Korean data in the previous section illustrate two types of case stacking in monoclausal structures. First, I-Case can be stacked. This arises when a nominal bears more than one semantic relation. Many languages, including Japanese, Russian, and English (e.g. "into", "toward"), have compound forms in such contexts. The second type of case stacking, involving an I-Case and an S-Case, appears to be much rarer. In Korean, it arises when an advancee is marked for an earlier and a later relation. No other examples of monoclausal case stacking of this latter type have been brought to my attention.

However, Lefebvre and Muysken (1982) (see also Cole and Hermon 1981) have discussed an instance of case stacking in Quechua in a muticlausal context. In raising to object constructions like (44b), the ascendee is marked for its complement relation (i.e. GEN), as well as its matrix relation (i.e. ACC).

(44) a. mariyacha muna-n [xwancha-q platanu ranti-na-n-ta]
Maria want 3 Juan GEN banana buy SUB 3 AC
"Maria wants Juan to buy bananas."

b. mariyacha xwancha-q-ta; muna-n [e, platanu ranti-na-n-ta]
Maria Juan GEN AC want 3 banana buy SUB 3 AC
"Maria wants Juan to buy bananas."

Although nominals marked with a variety of cases can "raise", case stacking can only be observed in examples like (44b). As the chart in (45) shows, only the GEN and ACC stack. NOM is otherwise Ø, ACC
does not double, and OBL cases rather than ACC appear on raised obliques, so the domain of case stacking in Quechua is quite limited.

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<tbody>
<tr>
<td>nominative</td>
<td>Ø</td>
<td>-ta</td>
</tr>
<tr>
<td>genitive</td>
<td>-q(pu)</td>
<td>-q(pu)-ta</td>
</tr>
<tr>
<td>objective</td>
<td>-ta/Ø</td>
<td>-ta</td>
</tr>
<tr>
<td>oblique</td>
<td>obl.</td>
<td>obl.</td>
</tr>
</tbody>
</table>

nominate+objective  
genitive+objective  
objective  
oblique

A third type of case stacking involves case agreement. The Dyirbal data from Dixon (1969) in (46) illustrates this:

(46) njalŋa  gudaŋgu [yaraŋn-djin-du]  badja-n  
child-NOM dog-ERG man-REL-ERG-ERG bite-PAST  
"The man’s dog bit the child."

The nominal *yara* is marked for case twice. The first ERG suffix arises because it is a possessor; the second ERG suffix arises through agreement with the head *guda*, which licenses ERG since it is the subject of a transitive clause.

We see, then, that although case stacking is perhaps a marginal phenomenon cross-linguistically, it arises monoclauasally and multiclausally in several situations: where a nominal has more than one semantic role, where an advancee/ascendee is marked for cases at different levels of structure, and where a nominal licenses a case of its own but also has a second case via agreement.

8. Case Stacking Effects

It is probably not surprising that so few instances of case stacking
have been attested. Four factors must co-occur before case stacking is possible in a language: (i) the language must have morphologically realized I-Case/S-Case, (ii) a semantic/syntactic situation must arise so that more than one case could be licensed, (iii) the language must ordinarily lack a case resolution rule, and (iv) the morphological expression of compound case must be possible. Although rare, case stacking should nonetheless not be assumed to be impossible as it is, for example, by Chomsky (1981). Support for this claim comes from a variety of phenomena that can be accounted for under the assumption that some languages show case stacking "effects" even if morphological compounding of case is blocked.

One view of restructured prepositions and applicative markers is that they should be associated with the I-Case marking of an advancee. Locative passives like (47a) show that although I-Case cannot appear on the advancee in (47b), its semantic content must be recoverable in (47c).

(47) a. This bed was slept in by George Washington.
    b. *In this bed was slept by George Washington.
    c. "This bed was slept by George Washington.

Restructuring the preposition onto the predicate accommodates the I-Case without expressing it on the final subject nominal. Some applicative suffixes, for example the locative applicatives in Ilokano (Gerdts in preparation) as in (48b) and in Kinyarwanda (Kimenyi 1978) as in (49b), may be the results of a similar strategy.

(48) a. P-in-akbo ni Juan ti danum yán-ti ubing.
    pst-pour det J. det water on-det child
    "John poured water on the child."
    b. P-in-akbu-an ni Juan ti ubing i-ti danum.
    pst-pour-on det J. det child obl-det water
“John poured water on the child.”

(49) a. Úmwaána y-a-taa-ye igitabo mú máazi.
child he-put-throw-asp book in water
“The child has thrown the book into the water.”
b. Úmwaána y-a-taa-ye-mo máazi igitabo.
child he-put-throw-asp-in water book
“The child has thrown the book into the water.”

A relational analysis of (48b) and (49b) involves oblique-to-object advancement. The final object nominal in both Ilokano and Kinyarwanda must be caseless. Presenting the I-Case on the predicate allows for its recoverability without violating the object’s caselessness.

The above examples show covert I-Case marking. Covert S-Case marking is sometimes evidenced as well. For example, sometimes we see that a nominal determines S-Case agreement, even when it is not overtly marked for that case itself. Arabic predicate nominals [cf. (50)] show case agreement, as discussed by Mohammad (1988); _alwalad_ is a final 1 and thus licenses NOM case on itself and the agreeing predicate nominal.

(50) al-walad-u marij-un
the-boy-NOM sick-NOM
“The boy is sick.”

Example (51) seems paradoxical, however, since the subject of the embedded clause and the predicate nominal referring to it appear in different S-Cases (ACC and NOM) respectively.

(51) a. qultu ḫinna-ka marij-un
said Is that-you(ACC) sick-NOM
“I said that you are sick.”
Covert case stacking provides an explanation for this disparity. The complement subject licenses two S-Cases: ACC in the domain of the complementizer (like *for* in English) and NOM in the domain of the embedded clause. Only the former is morphologically realized. The relevant domain for the predicate nominal is the embedded clause (not the complementizer phrase), as represented in (51b). The subject nevertheless licenses NOM case on the agreeing predicate nominal. In contrast, when the small clause predicate nominal is linked to a "real" object, as in (52), it appears with ACC case agreement.

(52) hasibtu l-walad-a mariid-an
    thought Is the-boy-ACC sick-ACC
    "I thought the boy was sick."

Thus, the embedded clause subject in (51) shows the indirect effect of having licensed NOM case, even though it appears in ACC.

Finally, copy pronouns may in part arise as a circumvention of case stacking. For example, in biclausal structures involving raising or relativization where a nominal bears two final relations (one in each clause), one case might appear on the nominal, while a second case might appear on the copy pronoun. We see this in Arabic (Salih 1985):

(53) tabayyanat-i l-bint-u [?anna l-walad-a za:ra-ha:]
    seem-V the-girl-NOM that the-boy-ACC visited-her(ACC)
    "The girl seems to have been visited by the boy."
Salih (1985) argues for object-to-subject raising for sentences like (53). The ascendees licenses NOM in the matrix clauses; its pronoun copy licenses ACC in the embedded clause.

9. Conclusion

In summary, although overt case stacking may be quite rare, many "effects" of case stacking are nevertheless discernible in various languages. Thus, a theory of case must allow for the possibility of case stacking. Theories that assume that only one case can be assigned per NP will be too restrictive.

The Korean data discussed above, insofar as they are the only data known to me that involve overt case stacking in a monoclausal domain, are crucial in establishing a correct version of case theory. What the Korean data show is that case stacking only arises in a very limited domain. The key point in a theory of case is to establish for any given language which cases are structural cases (S-Cases) and which are assigned on a semantic basis (I-Cases). Case stacking arises in Korean only under two circumstances: two or more I-Cases can be combined or one or more I-Cases can also co-occur with one (and only one) S-Case. Instances of multiple I-Cases arise when an NP satisfies several semantic roles. Stacking of an S-Case after an I-Case only arises in a construction, such as locative inversion or psych constructions, where the NP satisfies the semantic role appropriate for the I-Case and also occupies the final syntactic position appropriate for the S-Case. Since an NP will never simultaneously occupy two S-Case positions in final structure, instances of S-Case stacking will never arise.

We see then that the Relational Theory of Case presented here
provides a treatment of case alternation and case stacking data, and it does so without positing additional complications in the syntactic structure. That is, it allows for a single NP to be assigned different cases or more than one case while holding the syntax constant. Nevertheless, this theory of case predicts that instances of case stacking will be extremely limited. Several conditions must be met in a language before case stacking can occur. First, the language must have both I-Cases and S-Cases. Second, it must have advancement rules of the type where an NP could qualify for both an I-Case and an S-Case. Furthermore, it must lack a resolution rule that favors either the I-Case or the S-Case. In addition, if we want to actually see case stacking and not just the abstract effect of this, the language must have a morphology that tolerates the concatenation of cases. Viewed from this perspective, it is no mystery that overt case stacking in monoclausal domains is so rare in the world's languages.

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