A constraint-based approach
to Icelandic case system*

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Choi, Incheol. 2012. A constraint-based approach to Icelandic case system. Linguistic Research 29(3), 599-615. Across languages, cases function as the most important coding features. However, Icelandic does not easily reveal the function of case system. It is mainly due to the fact that grammatical relation-based case system is interwoven with lexical quirky cases. Throughout this paper, I suggest that the ordinary default case system is dependent on the aspectual properties of the head verb (cf. Burzio’s Generalization). In addition, the information of lexical quirky cases overrides the default case-requirement. This cancellation process does not resort to the non-monotonic value cancelation. Instead, adopting configuration-based case realization approach in Kim and Choi (2004), I show that the core case assignment coincides with phrasal structure realization. The proposed analysis provides a performance-compatible description of the Icelandic case system without cyclic application of rules that destructively modifies the initial value. (Kyungpook National University)

Keywords Icelandic cases, case resolution, dative sickness, default case, quirky cases, HPSG

1. Introduction

Although the basic definition of case is dependent on the inflectional characteristics of the verbal dependents, the function of the case system varies across languages. This is because the term case can be interpreted in various ways. For example, case in English mainly signals the configurational syntactic relations of verbal dependents whereas that in Latin signals the semantic regularity among them. On the other hand, in some languages, it is not clear what function the case system carries out. Icelandic is the language that does not easily reveal the function of case system. This can be ascribed to the notorious murky properties of Icelandic case

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* I am thankful to two anonymous reviewers for their helpful comments. All remaining errors are of course mine.
assignment. Specifically, the existence of quirky, unpredictable cases is mainly responsible for these murky properties. This paper aims to reveal the function of the Icelandic case by showing how the cases are resolved.

As a representative murky property, the subject realization in Icelandic shows various peculiar properties that seemingly do not rely on grammatical functions. Icelandic subjects can be marked by accusative, dative and genitive as well as by nominative.

(1) a. þú hefur séð Svein
   you.nom have seen Sveinn.acc
   ‘You have seen Sveinn.’

   b. þig hefur dreymt Svein.
      you.acc. has dreamt Sveinn.acc
      ‘You have dreamt of Sveinn.’

   c. þér hefur líkað maturinn?
      you.dat has pleased food-the.nom
      ‘Did you like the food?’

   d. þess gat í skrifum hans.
      it.gen appeared in writings his
      ‘It was obvious from his writings.’
      (from Barðdal 2001)

A question raised from the examples in (1) is whether the preverbal non-nominative NPs are simply instances of topicalization or bona fide subjects. Zaenen et al. (1985) shows that the non-nominative preverbal NPs in Icelandic are actually qualified as oblique subjects. For example, only subjects can undergo raising and control obligatory reflexivization.

(2) a. Henni hefur alltaf þótt Ólafur elíðinlegur
      her.dat has always thought Olaf.nom boring.nom

   b. Ég tel henni hafa alltaf þótt.
      I believe her.dat to-have always thought.

(3) Henni þykir bróðir sinn leiðinlegur
       her.dat, thinks brother her.[+REFL] boring. (from Zaenen et al. 1985)
According to Thráinsson (1979) and Andrews (1982), only grammatical subjects can raise. Therefore, *henni* ‘her.dat’ qualifies as a subject in the embedded clause of (2b). In addition, only subjects can be antecedents of reflexive pronouns. As a result, the pronoun in (3) is also defined as a subject.

In Icelandic, objects as well as subjects are not mapped onto an NP with a marked case. Instead, the object NP can be marked with various different cases.

(4) a. Ég hafði séð *hana*
    I had seen her.acc
b. Ég hjálpaði *honum*
    I helped him.dat
c. Ég mun skana *hans*.
    I will miss him.gen

The non-accusative objects in (4) are also defined as real objects (Zaenen et al. 1985). For example, the non-accusative object can move through passivization as shown in (5).

(5) Honum var hjálpa
    Him.dat was helped.

Now the raised question is whether the Icelandic case system is full of lexical idiosyncrasies. In this paper, following Yip et al. (1987) and Sag et al. (1992), I will show that the Icelandic case system is entangled in lexical idiosyncrasy and productive relation-based case assignment. Specifically, I will suggest that every argument NP can be marked with a default case and it is dependent on the semantic property of the main predicate. In addition, lexically idiosyncratic quirky cases are assigned by lexical specification of individual verbs. In my approach, these two factors cooperate to result in the complicated Icelandic case system. I will further show that the Icelandic case system can well be captured by HPSG feature regime (Pollard and Sag 1994; Sag et al. 1999).
2. Previous approaches

In this section, I will review previous approaches to Icelandic case system. By doing that, I will be able to introduce what kind of partial productivity and mechanism underlie Icelandic case system, in addition to revealing limitations of the previous approaches.

2.1 Filtering-out approach

Following Perlmutter (1983) and many others, Zaenen et al. (1985) assume that nominals are linearly ordered according to the hierarchy of grammatical relations. At a level of representation at which the valency of a verb is determined, its arguments can be distinguished in terms of thematic roles. In addition, some arguments are already marked with a case at the lexical representation level of a verb. For example, the verb gefa ‘to give’ has the lexical specification as in (6). The dative case is inherent to the goal argument and it is specified in lexicon. The remaining default case marking takes place on the nominals which are not preassigned a case.

(6) gefa: V< agent theme goal >
    | | [dat]
NOM ACC

As illustrated in (6), the least oblique agent argument is assigned by default nominative case and the next least oblique theme argument default accusative case.

This type of case assignment can be supported by the fact that the lexical case marking is preserved under syntactic operations such as passive and raising.

(7) a. Jon      gaf     barninu    bokina
     Jon.nom gave    the.child.dat the.book.acc
b. Barninu     var      gefin     bókin
     the.child.dat was given the.book.nom
(8) a. Hana    vantar   peninga
       her.acc lacks      money.acc
b. Hana    virðist    vanta    peninga
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her.acc seems to-lack money.acc

A significant problem that undermines this approach comes from the so-called dative sickness phenomenon (Svavarsdóttir 1982, Halldórsson 1982, Yip et al. 1987).

(9) a. Mig brestur kjark
    me.acc lacks courage.acc
b. Mér brestur kjarkur.
    me.dat lacks courage.nom

The verb *bresta* ‘lack’ is a two-place predicate, both of whose arguments are marked with accusatives. As suggested by Smith (1996), the accusative case on the subject in (9a) is taken as lexical. On the other hand, the accusative case on the object is not considered lexical. According to Yip et al. (1987), when the accusative case on the subject is changed to a dative marked NP, the case of the object is changed to nominative. This case alternation is possible because the case on the object in (9a) is not a fixed lexical case. I suggest that it is the default case marking that the accusative case in the object in (9a) results from. However, the default case marking approach proposed in Zaenen et al. (1985) will wrongly predict that the object is marked with nominative. This is because the object is the highest remaining grammatical function.

Like Zaenen et al. (1985), Yip et al. (1987) argues that there exist two separate case tiers. A lexical case is the one specially assigned by the verb and can be thought of as an element that is linked to a particular thematic argument. Syntactic case is assigned by the standard L-to-R association processes in a linearly ordered N A tier.

(10)                                  D
    |                                 |
Siggi leyndi konuna sannleikanum
S.nom concealed the.woman.acc the.truth.dat
    |                                 |
N A
‘Siggi concealed the truth from the woman.’
As indicated in Sag et al. (1992), these approaches rely on a principle of filtering derivations and the cyclic application of syntactic rules which destructively modify the initial case value assigned to the NP. Further, the approaches confront the locality problem with respect to case assignment.

(11) a. Hann virðist elski hana
    he.nom seems to-love her.acc
b. Hana virðist vanta peninga
    her.acc seems to-lack money

Since cases are assigned in a verb’s local case domain, the matrix raising verb *virðist* in (11a) assigns a nominative to its raised subject. However, when the embedded verb subcategories for a lexical-case marked subject as in (11b), the original case of the matrix subject becomes overridden by the lexical case of the unexpressed embedded subject. To avoid this locality problem, one might attempt to argue that raising verb does not assign case to the raised argument. Such a modification, however, cannot predict the case assignment shown in (12).

(12) Jón telur Harald elski hana.
    John.nom believes Harald.acc to-love her.acc

In (12) the embedded verb *elska* is a regular verb that assigns a nominative to its subject. However, the raised object receives accusative case from the matrix raising verb. Therefore, it cannot be maintained that the raising verb does not assign case to the raised argument.

### 2.2 Constraint-based relational approach

Sag et al. (1992) provide for Icelandic case a monotonic, order-independent, process-neutral approach. They suggest that cases be encoded by two different attributes: CASE and DCASE. The default case for subjects of finite verb from is nominative whereas that for direct object is accusative. The feature DCASE corresponds to the default cases. On the other hand, the feature CASE corresponds to the actual case that a nominal bears. Thus, when a complement is not quirky case
marked, the DCAES and CASE values are identical and hence it is marked with a case following its grammatical function. On the other hand, verbs that subcategorize for an argument with a quirky lexical case specify the CASE value for the argument. Therefore, the case value of the argument is preserved under raising as shown in (13) (Sag et al. 1992).

The finite raising verb *virðist* subcategorizes for a subject whose DCASE value is *nom*. In addition, the VP complement is headed by a quirky verb whose unexpressed subject is [CASE acc]. Since the *synsem* values of the matrix subject and the unexpressed subject of the embedded VP are identical, the lexical case, accusative, assigned by the quirky verb *vanta* is preserved in the matrix subject position.

Although this approach provides a new perspective on Icelandic cases, it still encounters a serious problem. According to Sag et. al. (1992), the DCASE is determined on the basis of the grammatical function. However, nominative case can be assigned onto an object (Yip et al. 1987).

(14)  a. Mér bauðst hestur
       me.dat was.offered a.horse.nom

  b. Mér býður svo hugur
       me.dat offers so mind

   ‘I think so’
To save the default case idea in Sag et al. (1992), the nominative cases in the object positions in (14) would be treated as a quirky lexical case. However, as noted in Yip et al. (1987), nominative is never lexically assigned (Zaenen and Maling 1984). Even if the nominative on the object position is a lexical case, it cannot explain the following data (Sag et al. 1992).

(15) a. Mér virðist hun elska hann
    me.dat seems she.nom to-love him.acc
    ‘It seems to me that she loves him.’

b. Mér virðist hana vanta peninga
    me.dat seem her.acc to-lack money
    ‘It seems to me that she lacks money.’

In (15a) the raising controller hun ‘she.nom’ has nominative case1. However, when the embedded VP is headed by a quirky verb, the nominative case becomes overridden by the quirky lexical case as shown in (15b). It means that the nominative case is assigned by the matrix raising verb through the default case assignment.

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Wechsler and Lee (1996) propose that accusative case marking in Korean is dependent on a verb’s aspectual representation, such as stativity (see also Y. Kang, 1986, Y. Kim 1990, Hong 1991, Choi 2003, Kim 2004, and Kim and Choi 2004). Similarly, Kiparsky (1997) argues that morphological cases are directly linked to semantic properties of the verb. Following this line of idea, I suggest that case assignment in Icelandic is sensitive to the semantic-aspectual representation of case-assigning verbs. Verb types are primarily determined by the verbs’ semantic properties. In addition, I suggest that this default relation based semantic case can be overridden by the lexically encoded case information. In succeeding sections, this

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1 Sag et al. (1992) treat the case as if the nominative case comes from the embedded VP. However, it is not possible that the default case value spreads over the raising controller. Unless the embedded VP is headed by a quirky verb, the case of the raising controller is always determined by the matrix raising verb.
case assignment procedure will be formalized in HPSG regime.

3.1 Semantics-based default case

I suggest that the semantic roles of verbs play an important role in Icelandic case assignment. Here I assume that the roles are more like sets of predicate entailments as Dowty (1991) proposed. Therefore, the roles can be grouped into the two proto-roles: proto-agent and proto-patient. Specifically, only proto-agent verbs can assign accusative case to their arguments (cp. Burzio 1986 for Burzio’s generalization). Conversely, nominative objects are selected by proto-patient verbs or passive verbs whose agent role is suppressed. This idea can be supported by Andrews (1982):

(16) a. Henni áskotnaðist bíll
    her.dat lucked-onto car.nom
    ‘She got possession of a car by luck.’
  b. Mér sýndist álfur
    me.dat thought-saw an elf.nom
    ‘I thought I saw an elf.’
  c. Barninu batnaði veikin
    the.child.dat recovered-from the.desease.nom
  d. Henni var sýndur bíllinn
    her.dat was showed the.car.nom

According to Andrews, the verbs that take nominative objects are non-agentive or passive verbs. The nominative case marking on the object positions in (16) can be explained by the case assignment rule given in (17b).
The head-comp phrases are divided into two types on the basis of the AGT feature. That is, agentive verbs assign default accusative case to their object as in (17a) whereas non-agentive verbs assign default nominative case to their object as in (17b). As assumed in Sag et al. (1992), the feature DCASE captures this default case assignment. On the other hand, the default nominative case assigned on subjects will be captured by the head-subject phrase rule given in (18). Since the DCASE value is resolved in the phrasal structure, the verb lexeme underspecifies its value and instead specifies the super type case.

The default case can be overridden by a lexical or quirky case. As in Sag et al. (1992), we assume that the information of actual morphological case comes from CASE feature. Thus, the CASE value becomes different from the DCASE value when the head verb selects a noun phrase with a lexical case. To deal with the interaction between the DCASE feature and CASE feature, I first propose the type hierarchy of the Icelandic case system in (19).

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\[ (17) \]

\[ [hd - comp - ph] \rightarrow [1][DCASE \text{ acc}], H[HEAD | \text{ AGT + COMPS } \langle \ldots, [1], \ldots \rangle] \]

\[ b. \text{ Head-Comp Rule B:} \]

\[ [hd - comp - ph] \rightarrow [1][DCASE \text{ nom}], H[HEAD | \text{ AGT - COMPS } \langle \ldots, [1], \ldots \rangle] \]

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\[ (18) \text{ Head-Subj Rule} \]

\[ [hd - subj - ph] \rightarrow [1][CASE | \text{ DCASE \text{ nom}}], H[\text{SUBJ } [\ldots, [1]]] \]

\[ (19) \]

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\[ 2 \text{ Following Kim & Choi (2004) and Kim (2004), I assume that a head verb is lexically equipped with the feature AGT that specifies the verb’s agentivity.} \]
The CASE feature in ordinary verb lexemes does not specify any terminal case value and instead has the super type \textit{dcase} as its value. I assume that the resolution of the CASE feature is made by the constraint given in (20).

\begin{equation}
(20) \text{CASE Resolution Constraint}
\end{equation}

In a non-head daughter, when the CASE value is not terminal and the DCASE value is terminal, the CASE value becomes identical to the DCASE value.

Owing to the constraint in (20), any nominal with non-quirky case is assigned a case on the basis of the head-subj-rule in (18) or the head-comp-rules in (17). However, when a verb subcategories for a noun phrase whose CASE feature is specified, the CASE resolution constraint in (20) does not apply. Therefore, the CASE value becomes independent from the DCASE value. The approach proposed here solves the problems that were confronted by other approaches. The subsequent sections will show how this proposed approach solves the problems raised from complicated Icelandic case system.

3.2 Nominative object

In contrast to Sag, et al. (1992), my approach solves the nominative object problem mentioned in section 2.2. That is, accusative cases are dependent on the agentivity of verbs. Thus, when a verb is not agentive, it will head the head-comp phrase which is licensed by the Head-COMP Rule B in (17). This nominative case assignment process is illustrated in tree diagram (21).
The verb *batnøi* is a non-agentive verb heading the head-complement phrase that undergoes the Head-Comp Rule B.

### 3.3 Raising construction

In (12), the embedded verb *elska* subcategorizes for an understood subject that does not specify the terminal case value. On the other hand, the raising verb *telur* assigns a default accusative to its object. In the proposed approach, the case is assigned by the phrase structure rule. As a result, if an element is not realized its case requirement is not realized either. Therefore, the raising controller *Harald* receives the accusative case, as illustrated by the tree diagram in (22)
On the other hand, if the embedded verb subcategorizes for a subject with a quirky case the raising controller will be marked with the quirky case, instead of the default accusative case assigned by the matrix verb. This is because the actual case form is decided by the CASE feature rather than the DCASE feature. Further, if the CASE feature of a nominal is terminal, the CASE Resolution Constraint in (20) does not affect the morphological case form. This prediction is verified in (23).

(23) Hann telur barninu hafa batnað veikin
    he.nom believes the-child.dat to-have recovered-from the-disease
    ‘He believes the child to have recovered from the disease’

As illustrated by the tree diagram in (24), what decides the case of the raising controller is the embedded verb, not the matrix verb. This is because the embedded verb batnað ‘recovered-from’ assigns a quirky dative case to its subject which is specified in the CASE feature of the verb’s lexeme.

3.4 Dative sickness

In section 2.1, I have shown that the previous approaches cannot deal with the dative sickness phenomenon appropriately. The essential observation for the dative sickness is that the dative-nominative argument frame can be changed to the accusative-accusative argument frame as in (25) and (26).
According to Yip et al. (1987), most of dative subjects carry the experiencer role and their head verbs are non-agentive. I suggest that some verbs such as *bresta* and *prjóta* are lexically ambiguous between agentive and non-agentive verbs. Therefore, when the subject is marked by the lexical accusative case, I assume that the head verb is an agentive verb. Therefore, its object receives accusative case as in (25a) and (26a). However, when the subject changes to the dative case, the object comes to get the default nominative case as in (25b) and (26b). This is because the head verb that selects the dative case is treated as a non-agentive verb.

The proposed treatment for the dative sickness phenomenon has merits over the treatment in which the accusative case on the object is treated as a lexical quirky case (cf. Smith 1996). First, we can explain why the verbs taking dative subjects always take a nominative object. In my approach, it is simply due to the Head-Comp Rule B in (17). As shown in (27), when the accusative case is actually a quirky case, it is preserved in the other structure.

(27) a. Mig  vantar  hnif
   me.acc  lacks  knife.acc
b. Mér  vantar  hníf.
   me.dat  lacks  knife.acc

Second, it is consistent with the finding that two accusative quirky cases are not generally allowed in a clause. That is, in my treatment, the second accusative cases are assigned by the Head-Comp Rule A in (17). Finally, it well explains the

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3 (27a) does not follow this generalization. In this sense, this statement should be considered a tendency rather than a generalization.
systematic relation between the sentences in (25) and (26) and the unaccusative sentences in (28).

(28) a. Kjarjurinn brast
    the.courage.nom was.lacking
b. Polinmœðin praut
    the.patience.nom was.lacking
c. Peningana vantar
    the.money.acc is.lacking (Yip et al. 1987)

If we assume a lexical process in which the subjects of the unaccusative verbs in (28) are related to the objects in (25), (26) and (27), it can be well explained how the subjects in (28) have such cases. That is, (28a) and (28b) are corresponding to the (25a) and (26a). Therefore, with the change of the grammatical relation, the case is changed. However, as the object in (27a), the subject of (28c) is marked by a quirky accusative case. This is because the quirky case is preserved in passivization.

4. Conclusion

The murky properties of Icelandic case system make it difficult to find what kind of roles the case system carries out. Throughout this paper, I suggested that the case system is interwoven with several functions. First, I suggested that the ordinary default case system is dependent on the semantic agenthood. Specifically, this agenthood is responsible for accusative case on the object. In this sense, this proposal can be considered a lexical version of Burzio's Generalization. Second, I assumed that the information of lexical quirky cases overrides the default case-requirement. In my approach, this process does not resort to the destructive value cancelation or cyclic filtering out process, but it still maintains an order independent, process-neutral theory and, hence, constitutes a performance-compatible description as pursued in Sag et al. (1992). Finally, my approach adopts the configuration based realization approach, in that the core case marking system coincides with phrasal structure realization. By doing this, I was able to avoid possible conflict between the case information from the matrix verb and that from
the embedded verb in raising constructions.

References


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Received: 2012. 11. 15
Revised: 2012. 12. 27
Accepted: 2012. 12. 27