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**PART I THEORETICAL APPROACHES TO CASE**
This chapter focuses on the main aspects of the reduction/loss of case and the decay of case marking systems. The general mechanisms which lead to the merger of case and case syncretism and, eventually, to the loss of (some) cases include: (i) phonetic processes which result in the loss of the difference between two or more case forms, i.e. erosion of case inflection, and, thus, in case syncretism; (ii) overlapping of syntactic and semantic functions and/or uses of individual cases, i.e. syntactic and semantic affinity of some cases; (iii) semantic or functional overlapping of whole argument structures; and (iv) a variety of analogical developments and paradigmatic levelling (cf. Kulikov 2006).

Often these mechanisms work together so that several factors create favourable (albeit not always sufficient) conditions for the case mergers. The phenomenon of case syncretism can be best illustrated with examples from the history of the Indo-European languages which attest nearly all possible types of case mergers within the original eight-case Proto-Indo-European case system: genitive-ablative (Slavic, Greek), nominative-accusative (Balkan: Romanian, Albanian), dative-locative (Greek), ablative-instrumental-locative (Latin), dative-ablative-instrumental-locative (Celtic, Germanic), etc. (cf. Luraghi 1987 and Chapter 14).

The ultimate case syncretism is typically preceded by a period of variation and alternation between case forms or argument structures, with the source forms being interchangeably employed in some usages with only some minor functional distinctions (see Kulikov, to appear). The interplay between phonetic erosion and the semantic/functional overlap of case forms and argument structure constructions can be demonstrated with examples from several Indo-European language groups, as these provide rich evidence for various scenarios of the decay and collapse of case systems.

### 30.1 Phonetic Erosion of Case Inflection

In the simplest and most trivial cases, the (partial) merger of case morphemes and, eventually, the decay of case systems is due to certain phonological changes, foremost, to the erosion of inflection in word-final position (in languages with case suffixes) or, much more rarely, in word-initial position (in languages with case prefixes). Such a development may result in case syncretism, where case distinctions are erased in their entirety.

The evolution of the Arabic nominal inflection provides an instructive example. In the post-classical period, Arabic undergoes a strong reduction of case endings, resulting in the loss of the original three-case system. Phonologically, these processes essentially amount to the weakening, merger, and the subsequent loss of final vowels (in particular, Nom.Sg. -u, Gen.Sg. -i and Acc.Sg. -a). Middle Arabic of the Southern Palestinian Christian texts of the eighth–tenth centuries AD still exhibits vestiges of case distinctions, although the oppositions of the classical language appear severely deteriorated. One case variation found in this period is that between the genitive, accusative, and nominative on nominal forms preceded by prepositions (where case endings were preserved longer than in many other contexts), as illustrated in (1):

(1) Southern Palestinian Christian Middle Arabic (Gruber-Miller 1990: 244f)

a. w-l-7b-ii-h
   and-to-father-GEN-his
   ‘... and to his father’

b. mš? 7b-aa-hmaa
   with father-ACC-their
   ‘... with their father’

c. y-thma
   3MASC.SG.IMPF-speak against
   3MASC.SG.IMPF-brother-NOM-his
   ‘He speaks against his brother...’

Another example of the total collapse of a case system, primarily due to phonetic developments in word-final position and erosion of case endings, can be seen in the history of the Proto-Romance (i.e. Latin) case system in the daughter languages. Latin attests the very beginning of the decay of the original Proto-Indo-European
case system (see Section 30.2 below), which has affected all Romance languages. The
daughter languages, i.e. Spanish, Italian, French, Romanian, etc., display the same
tendency, reducing the Latin case system further, ending up with caseless systems
or with two cases at maximum as in Romanian (Penny 2002; Calabrese 1998; Blake
2000: 175f.; Hewson and Bubenik 2006: ch. 11). This can be shown with an example
from Spanish where the relevant phonological changes are the following:

(i) Loss of final -m mostly causing Acc.sg. to merge with the Abl.sg.:

\[-m > \text{-a} :\]

Acc.sg. montem

Abl.sg. monte

(ii) The merger of the long and short a, together with the loss of final -m, caused
the merger of Nom., Acc. and Abl.sg.:

\[-m > \text{-a}, \text{a} > \text{a} :\]

Nom.sg. men sa

Acc.sg. mensam

Abl.sg. mensa

(iii) The merger of um and o in final position caused the merger of Acc.sg. and
Abl.sg.:

\[-u(m), \text{o} > \text{o}:\]

Acc.sg. dominum

Abl.sg. dominó

(iv) The merger of the front vowels in final position caused the merger of Nom.-
Acc.pl. (montes) with Gen.sg. (montis).

By the fourth-fifth centuries AD these changes had resulted in a considerable re­
duction of the case paradigm: a three-case system in the Eastern part of the Roman
empire and two cases in most of the West, including Spain. The latter entails that
the three oblique cases had merged into one common form, hence the system
consisted of only nominative and accusative (oblique) case, as illustrated by the
three examples in Table 30.1 (Penny 2002: 114–19).

<table>
<thead>
<tr>
<th>CASE</th>
<th>NOM.SG</th>
<th>NOM.PL</th>
<th>ACC.SG</th>
<th>ACC.PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>SG</td>
<td>rosa</td>
<td>rosas</td>
<td>anno</td>
<td>ionis</td>
</tr>
<tr>
<td>PL</td>
<td>rosas</td>
<td>rosas</td>
<td>ionis</td>
<td>ionis</td>
</tr>
</tbody>
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The resulting system of the three major paradigmatic classes that Spanish inherits from Latin is represented in Table 30.2.

**30.2 Functional Mergers**

An example of erosion of case inflection supported by functional mergers is pro-
vided by the syncretism of three Proto-Indo-European cases, ablative, locative, and
instrumental, into the Latin ablative (for details of the history of the Latin case
inflection, see, in particular, Leumann et al. 1977: 405ff). The relevant fragment
of the system of case endings reconstructed for Proto-Indo-European (including
the endings traditionally regarded as borrowed from the pronominal paradigm) is
represented in Table 30.3. The endings which have left direct reflexes in the actually
attested markers of ablative are in bold face while those which have only indirectly
contributed to the attested endings are bold and underlined.

The resulting system of ablative endings, arranged by declension types, is
shown in Table 30.4. Although the origins of some actually attested end-
ings may be the subject of debate, the main details of the scenario are quite
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This example from Latin is useful as it shows that phonetic processes may render formal distinctions between cases opaque, thus leading to the merger of some forms (as in the case of Loc. and Ins.pl.), although they do not represent the only driving force of case syncretism. All three source cases have left their traces in both the singular and plural paradigms at least in some of the attested Latin declensions, so phonetic processes alone could not yet result in the simple syncretism of these three cases. Hence, the final outcome is a result of a complex interplay of several mechanisms; in particular, the three source cases must be considered semantically (functionally) close enough to each other, which in turn has licensed the form of one of them to take over the functions of the other(s).

30.3 ANALOGICAL DEVELOPMENTS AND PARADIGMATIC LEVELLING: TOTAL COLLAPSE OF CASE SYSTEMS

An instructive example of a total collapse of a case system primarily based on a number of analogical developments and paradigmatic levelling is provided by the evolution of the Old French two-case system. By the Old French period only two cases have survived (usually called subject and object cases, or 'sujet' and 'régime'), as illustrated in Table 30.5 (for details and discussion, see e.g. Plank 1979; van Reenen and Schoorl 2000; Detges forthcoming).

As Table 30.5 shows, each declension type counts no more than two forms in total, distributed quite intricately across the paradigm. The system becomes even more opaque because of the loss of final -s before a consonant: -s > -C.

Thus, for mur- we have two allomorphic variants, given in Table 30.6.

The factors which caused further collapse of this system include: (i) the expansion of constructions with non-canonical subject marking, viz. with the subject encoded by the object case—as, for instance, in impersonal constructions of the type Il a... (i.e. Modern French Il y a... 'There is...'), which has apparently triggered case variation in the subject position (see Laubscher 1921: 51ff); (ii) the existence of

Table 30.4. Latin ablative case endings and their Proto-Indo-European sources

<table>
<thead>
<tr>
<th>Decisions</th>
<th>Singular</th>
<th>Plural</th>
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</thead>
<tbody>
<tr>
<td>1st (-a)</td>
<td>-d̩f [analogous with -o-type]</td>
<td>-s̩ [analogous with -o-type]</td>
</tr>
<tr>
<td>2nd (-e)</td>
<td>-d̩f [-e-o-e]</td>
<td>-s̩ [-e-o-s] and/or -e-dis</td>
</tr>
<tr>
<td>3rd (-c)</td>
<td>-d̩f [analogous with -o-type]</td>
<td>-s̩ [-e-s] and/or -e-dis</td>
</tr>
<tr>
<td>4th (-i)</td>
<td>-d̩f [analogous with -o-type]</td>
<td>-s̩ [-e-s] and/or -e-dis</td>
</tr>
<tr>
<td>5th (-e)</td>
<td>-d̩f [analogous with -o-type]</td>
<td>-s̩ [-e-s] and/or -e-dis</td>
</tr>
</tbody>
</table>

3 The genesis of the Abl.pl. ending of the third, fourth, and fifth declensions -bus poses some problems. It is likely to represent the Proto-Indo-Celtic -bus, which replaced the original ending *-ios, presumably under the influence of the instrumental ending *-bhi (cf. Homeric Gr.-bhi; see Kortlandt 2002: 40f).

4 With o-dors.
a few (minor) inflectional types which had completely lost their case distinctions by the Old French period; (iii) the very intricate distribution of as few as two markers, -a and -s, across the four-member paradigm, which may have rendered the system as 'conceptually too complicated' (van Reenen and Schössler 2000: 337).

30.4 *Synonymous argument structure constructions*

It is a well-known fact that languages have a tendency to abate synonymous grammatical forms over time. For case and argument structure, this can take place in two ways: (i) the morphological case distinctions disappear with a consequent merging of the argument structure constructions; (ii) productive case and argument structure constructions attract new verbs and verbs from non-productive constructions, thereby gradually causing non-productive constructions to fall into disuse. Given a definition of productivity based on type frequency, semantic coherence, and an inverse correlation between the two, the productivity of case and argument structure constructions is, at least in part, derived from the size/type frequency of each case and argument structure construction (cf. Barodal forthcoming, a). Hence, the case and argument structure construction lowest in type frequency is expected to disappear first, then the one next lowest in type frequency, etc., until only the productive case and argument structure constructions are left in the language. This development correlates in part with changes in the verbal vocabulary, as productive argument structures attract new verbs while non-productive argument structures do not. Hence, contact situations with massive replacement of the vocabulary can speed up this development. In Germanic both developmental paths outlined above are documented. In Mainland Scandinavian and English the development has led to case merging and case loss, whereas in German and Icelandic the development has led to the disuse and disappearance of the argument structures lowest in type frequency.

Table 30.7 shows case and argument structure constructions which can be postulated for two-place predicates in Germanic on the basis of comparative evidence and documented case marking in the history of Icelandic (Barodal forthcoming, b).

The case and argument structure construction highest in type frequency in all the Germanic languages was without a doubt the nominative subject construction, while dative subject predicates were low in type frequency and accusative subject predicates were even less common. A comparative study of the semantics of accusative and dative subject predicates across the Germanic languages reveals that they are grossly speaking either (i) stative/inchoative experience-based predicates, or (ii) anti-causative intransitives (Barodal 2004). There was, thus, a considerable overlap in the semantics of accusative and dative subject predicates in Germanic, also found for the nominative subject construction, which was the semantically most open construction of them all. A comparison of Nom–Acc, Nom–Dat, and Nom–Gen in Modern Icelandic also reveals that Nom–Dat and Nom–Gen are not strictly confined to any particular semantic fields, but can be regarded semantically as proper subsets of the Nom–Acc argument structure construction (cf. Barodal forthcoming, c). This comparative evidence suggests that the case and argument structure constructions in Germanic were partly synonymous.

The genitive subject construction, which was lowest in type frequency of all the subject constructions, is not documented in Old English and Old Swedish. It thus seems that it had already disappeared in these languages before recorded history. The first documented construction to disappear in Old Swedish is the genitive object construction, i.e. the construction lowest in type frequency of all the object constructions. This took place before 1350 (cf. Delsing 1991). In English, on the other hand, genitive objects disappeared in two rounds: the genitive objects of Acc–Gen and Dat–Gen disappeared during the twelfth century while genitive objects of Nom–Gen did not disappear until the thirteenth century (Allen 1995: 217–19). This is in accordance with differences in the size of these constructions, as Acc–Gen and Dat–Gen were much lower in type frequency than the Nom–Gen construction. The distinction between accusative and dative on nouns, both subjects and objects, was lost in English during the thirteenth century, after the loss of the genitive. Finally, the oblique subject construction (formerly accusative and dative subject construction) starts losing ground during the fifteenth century and only exists in fixed expressions after that (Allen 1995: ch. 6). In Swedish, moreover, the accusative subject construction (which was lower in type frequency than the dative subject construction) was lost around 1400 (Falk, C. 1997: 14–15) and c1450 the case distinctions on nouns had completely disappeared. The oblique subject construction (visible on pronouns) survived in Swedish until the sixteenth and seventeenth centuries.

In German the genitive subject construction started disappearing during the thirteenth century (Seefranz-Montag 1983: 173–5). The genitive object construction...
has been heavily reduced in the history of German, with only a few predicates left, and so has the dative object construction, although the dative object construction is still higher in type frequency than the genitive object construction, with perhaps around 100 predicates in total (cf. Maling 2002). The accusative and the dative subject constructions have also been heavily reduced in German, with approximately 80-100 predicates left (cf. Barðdal 2004). In the history of German, moreover, accusative and dative subject predicates have been interchangeable, with dative subject predicates attracting more verbs from the accusative subject construction than the accusative subject construction from the dative one. In summary, the construction lowest in type frequency, i.e. the genitive subject construction, has disappeared, the remaining low type-frequency constructions, i.e. genitive and dative objects, and the accusative and dative subject constructions, have gone down in type frequency. This is because the predicates instantiating the low type-frequency constructions have either disappeared in German or occur now in the Nom(-Acc) construction.

Finally, in Icelandic, only one construction has completely disappeared, namely the Dat-Gen construction, which was instantiated by only a few predicates in Old Norse-Icelandic (cf. Barðdal 2001: 197–8). Three other low type-frequency constructions are at the border of becoming extinct today, namely the Acc-Nom, Acc-Gen, and Gen-Nom constructions. These were slightly higher in type frequency in Old Norse-Icelandic than the Dat-Gen construction, and are now lowest in type frequency of all the case constructions in Modern Icelandic. The Nom-Gen construction has also been reduced in the history of Icelandic. Nom-Dat predicates in Modern Icelandic are approximately 750 (Maling 2002: 31), accusative subject predicates are c. 200, and dative subject predicates are around 700 (Barðdal 2004). Hence, only the case and argument structure constructions lowest in type frequency in Old Norse-Icelandic have disappeared, and the ones that were already low then have decreased in type frequency. The constructions of intermediate size have maintained their status (like Nom-Dat), and the most productive Nom-Acc construction has increased its type frequency (cf. Barðdal forthcoming, b).

The loss of case and the time/onset of these changes correlate with the degree of language contact found in the individual Germanic language communities during medieval times. England was exposed to the most language contact and earliest, namely during the eleventh century. Mainland Scandinavia has been exposed to less contact, beginning in the thirteenth century. Germany has had considerably less contact and more spread out in time, while Iceland, being the most isolated of the four, has been in the least contact of them all. Clearly, rapid changes in the vocabulary favour the most productive case and argument structure constructions and disfavour the non-productive ones, causing them to fall into disuse earlier.

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**Chapter 31**

**The Geography of Case**

**Balthasar Bickel**

**Johanna Nichols**

### 31.1 Introduction

Cases are of course not evenly distributed worldwide. It is generally known, for example, that cases are common in Eurasia and much less common in Africa. Modern typological research aims at capturing and understanding such continent-wide frequency differences (Nichols 1992; Bickel 2007b), and it has becomes standard practice in universals research to control for confounding factors from continent-wide linguistic areas (Dryer 1989; Cysouw 2005). A fundamental problem of linguistic geography, however, is that it is all too easy for the human eye to detect spatial patterns on a map even when they are artefacts of chance or when they arise simply because some regions have many more different people and languages than others (cf. Siberia with Cameroon; e.g. Nettle 1999).

Our approach to linguistic geography starts from biogeographical and culture-historical theories of population movements and contact patterns that define a constant set of areas as predictor variables for statistical modelling (Predictive Areality Theory: Bickel and Nichols 2006). Thus, areas are not defined linguistically, and this avoids circularity when used in linguistic surveys. Hence the present chapter does not fish for areas by visual inspection of maps, but assumes areas as hypotheses.