

## 8 Summary

In a new paper, Joan Maling (2001) points out that morphological case marking has erroneously been appealed to in the literature to explain various restrictions found on syntactic arguments. My overview in 7.4 above on the role attributed to morphological case in language change confirms Maling's claims. Thus, my aim in this work has been to contribute to the discussion of morphological case, from an empirical perspective. I have investigated morphological case in Icelandic and its functions. The research question was put forth in Chapter 1 above, repeated in the following:

(1) What is function of the Icelandic case system?

My basic assumption has been that morphological case should be regarded as a multifunctional category, whose function is not primarily of one, and only one, nature. That is, I consider morphological case to be a category whose role in grammar can be manifold, however, without any attempts on my part to dramatize its possible consequences for syntax and syntactic theory. I believe that morphological case is first and foremost a morphological category, whose function is partly syntactic, partly semantic, partly arbitrary, etc. The research presented in this book aims to be an empirical approach to morphological case, where a thorough investigation of the possible functions of morphological case in one language, namely Icelandic, is carried out and assessed. This research project has been divided into four parts:

- To investigate new verbs in Icelandic and the morphological case they assign to their arguments.
- To investigate the correlation between morphological case, syntactic functions and thematic roles in Modern Icelandic texts.
- To investigate the correlation between morphological case, syntactic functions and thematic roles in Old Icelandic texts.
- To compare the results of the two previous subprojects, i.e. of Modern Icelandic and Old Icelandic, and to investigate whether the results coincide with the development of case in the other Germanic languages, and on the basis of that comparison put forth a theory on the development of morphological case in the Germanic languages.

A list of new verbs in Icelandic has been collected from various sources and compiled (see *Appendix C* below). A thorough investigation of these verbs revealed that nominative is productive as a case for subjects, and that both accusative and dative are productive as object cases. On the basis of "dative substitution" and nonce-probe tests it was also concluded that the dative is mildly productive as a subject case. These findings contradict the predictions of generative grammar and its distinction between lexical and structural case. On such an account, nominative and accusative are assigned to subjects and objects, on the basis of their position or syntactic function in the sentence, while lexical case is (a) thematic, (b) idiosyncratic. An example of thematic case assignment is dative case to Experiencer subjects, and dative case to Beneficiaries (indirect objects). An example of idiosyncratic case would be dative as a case on (non-Experiencer) objects. Further, within generative grammar a distinction is made between highly productive syntactic rules, i.e. the core of grammar, and linguistic objects that cannot be generated by such rules, and thus are more on the periphery of grammar. Such a view of grammar, thus, predicts that only structural case should be productive, since it can be generated by a syntactic rule, while lexical/idiosyncratic case should be non-productive since it does not belong to the core of grammar. On this account, then, dative as a case for objects should not be productive. Thus, the predictions of the structural vs. lexical case account are not borne out for Icelandic, since 24-30% of all objects of new verbs are assigned dative case.

Construction Grammar, however, assumes morphological case to be a part of the form (SYN-part) of constructions, which again are defined as form-meaning correspondences. Thus, it follows that no fundamental distinction is made between structural and lexical case; instead all case forms are treated uniformly as a part of the formal part of schematic constructions. More generally, a construction, and thus a case structure, is assumed to be productive if it has high enough type frequency, i.e. is instantiated by many verbs. Thereby, a construction that is instantiated by 687 verbs, like the Dative subject construction, should be more productive than a construction instantiated by 206 verbs, like the Accusative subject construction (see section 5.3.4.1.1 above). Thus, it is predicted that the Dative subject construction should show a higher degree of productivity than the Accusative subject construction. That is also borne out in Icelandic. The most productive construction in Icelandic should be the Nom-Acc construction, as it has the highest type frequency and the widest semantic range. That is also borne out for Icelandic. Furthermore, experimental evidence has shown that the Nom-Acc construction exists at a high level in the mind of speakers, and can be assigned to nonce verbs of all semantic types, while the Dative subject construction was documented

to exist only as a verb-class-specific construction, assigned only to verbs of that particular semantic verb class. Low type frequency constructions can therefore be productive, and attract new or already existing items, on the basis of a high degree of similarity.

This investigation of new verbs in Icelandic has therefore revealed that morphological case is more accurately viewed as a part of a construction, i.e. as constructional, than as being "structural" or "lexical". The distinction between structural and lexical case, traditionally assumed by generative grammarians, has thus not been empirically supported by this research on the case assignment of novel verbs in Icelandic.

Another subproject is to investigate the statistical relation between morphological case, syntactic functions and thematic roles in Modern Icelandic. A corpus of texts was compiled, with five genres of written Icelandic and one genre of spoken Icelandic. The written genres were the following:

- Icelandic fiction
- Translated fiction
- Biographies and memoirs
- Non-fiction
- Teenage and children's Literature

Each written genre consisted of ten texts, 500 words each, a total of 5,000 words for each genre. The spoken material consisted of recordings of a call-in radio programme, therefore representing many speakers of Icelandic. The radio programme was 15,000 words, thus the total corpus of Modern Icelandic was 40,000 words. In order to assure that the corpus used here is representative a comparison was made with case frequency figures from a corpus of 500,000 words, compiled in 1991 for an Icelandic word frequency count. The results of that comparison were that my case frequency figures were almost identical to the figures in the 1991 corpus, meaning that my material is highly representative of written Icelandic.

The results of the investigation revealed that morphological case correlates with both syntactic and semantic factors. A clear majority of subjects (94%) is in the nominative case, a clear majority of objects (67%) is in the accusative case, and 56% of prepositional phrases are in the dative case. Regarding thematic roles, there is a clear tendency for certain thematic roles to correlate with certain morphological cases, either 100%, as is the case with Agents and Causes being nominative, and Instruments being dative, or to a high extent, as is the case with Stations being nominative, Contents being accusative, Cognizers and Perceivers being nominative, Beneficiaries, Comitatives, Locations and Manners being dative, and Goals, Paths and Times being accusative. One thematic role,

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Themes, is distributed relatively evenly across nominative, accusative and dative, whereas Experiencers are evenly divided among nominatives and datives. Finally, there is also a correlation between syntactic functions and thematic roles: Agents, Causes, Stations, Experiencers, Cognizers and Perceivers are (almost) always linked to subjects. Themes, Contents and Beneficiaries are evenly distributed across subjects, objects, indirect objects and prepositional phrases. Goals, Reasons, Sources and Comitatives link to prepositional phrases. Instruments link to objects and prepositional phrases. Finally, Locations, Paths, Manners, Measures and Times link to prepositional phrases and adverbials. To conclude, there is a statistical relation between morphological case and syntactic functions, between morphological case and thematic roles and between syntactic functions and thematic roles.

The generative distinction between lexical and structural case also makes certain predictions about the acquisition of morphological case in Icelandic. In other words, since nominative of subjects and accusative of objects are assumed to be generated by a highly productive rule, the verbs that occur in the Nom-Acc construction should not have to be stored as such in memory, while all other verbs have to be stored in the lexicon together with their case frames. Moreover, if structural case is generated by a highly productive rule while lexical case is not, children would be expected to generalize nominative and accusative and not the other cases. Research on the acquisition of morphological case does not support this distinction between structural and lexical case. First, there is no evidence that Nom-Acc verbs are treated any differently from other verbs. Secondly, the error children make involve exchanging structural case for structural case, structural case for lexical case, lexical case for structural case, and finally lexical case for lexical case. The predictions of the generative distinction between lexical and structural case on the acquisition of morphological case are thus not borne out in Icelandic.

I have also briefly discussed the semantics of dative subject verbs in Icelandic and concluded that the view that they are Experiencer or Benefactive verbs is too simplistic. It appears that oblique subjects encode semantic information of a much richer and varied nature than is assumed and denoted by the gross distinctions into thematic roles.

Furthermore, in addition to morphological case being constructional, syntactic and semantic, I have discussed various other functions that morphological case can have in a language. For instance, in Icelandic, morphological case can function as a device to distinguish between different lexical meanings of verbs which are otherwise polysemous or homonyms. For certain verbs, dative case vs. nominative/accusative signals the animacy of the referents. In other constructions, dative contrasts with the accusative in signaling equal status of the referents. In yet some other

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cases accusative and dative denote different kinds of motion, directed or undirected. Also, objects of verbs denoting movement/transfer are in a clear majority of cases case-marked with the dative, and not the accusative. Case marking, together with agreement marking, can be a device to differentiate between different subconstructions of both the passive and the ergative construction in Icelandic. Finally, I have shown that the syntactic cases, that is, nominative and accusative, seem to carry a meaning of their own, namely, of control and affectedness, respectively. Thus, my conclusion is that morphological case is a multifunctional category.

I have, furthermore, carried out an investigation of the statistical relation between morphological case, syntactic functions and thematic roles in Old Icelandic. A corpus of 20,000 words was compiled, containing texts from the following four Old Icelandic genres:

- Family Sagas and Tales of Icelanders
- Romantic Sagas
- Contemporary Sagas: (a) of Bishops, (b) Sturlunga
- Non-fiction

These four genres are the Old Icelandic equivalents of the first four Modern Icelandic genres, where genre definitions are based on the content and literary structure (not the grammatical properties) of the texts.

The investigation was conducted according to the same criteria as the investigation of the Modern Icelandic texts. The results for Modern Icelandic were, by large, also valid for Old Icelandic, namely, that there is a statistical correlation between both syntactic functions and morphological case, and thematic roles and morphological case. Morphological case, thus, has both syntactic and semantic functions in Old Icelandic, and also in Modern Icelandic.

However, some differences were also found between the two corpora. First, the number of genitive objects has decreased, as has the number of genitive prepositional phrases and dative attributes. Secondly, the number of dative objects and dative prepositional phrases has increased. It also seems as if dative subjects are less frequent in Modern Icelandic than in Old Icelandic. Finally, accusative subjects and genitive subjects have remained stable from Old Icelandic to Modern Icelandic times, a remarkable fact considering their low type frequency. However, these two subject categories have become semantically more uniform.

I have discussed the following five theories on the loss of morphological case in Germanic:

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- A change from synthetic to analytic
- Word order takes over from morphological case
- The definite article takes over from morphological case
- Structural case replaces lexical case
- Semantic overlap of case constructions

The first four theories were rejected since their predictions were shown not to be borne out, and as they could not uniformly account for the development in all the Germanic languages. Instead I have put forward a hypothesis that morphological case has been lost because of the synonymy of the different case constructions. That is, since the Nom-Acc construction has the highest type frequency of all case constructions it is to be expected that it attracts verbs from the other case constructions. Secondly, since the Nom-Acc construction has the widest semantic range it subsumes all the other case constructions. Under such circumstances verbs from the low type frequency constructions may gradually be attracted to the high type frequency construction, with a subsequent loss of the low type frequency constructions from the language. There are logically two ways for languages to deal with synonymous case constructions:

- High-frequency constructions attract verbs from low-frequency constructions, thereby gradually causing low-frequency constructions to fall into disuse.
- The morphological case distinctions disappear with a subsequent merging of the case constructions.

In the history of Germanic both of these developments have been documented. English, Dutch, and Mainland Scandinavian have merged their constructions into one, with the subsequent loss of morphological case, whereas German, Faroese and Icelandic have maintained their case systems intact, with fewer and fewer lexical items associating with the low-frequency constructions.

The changes have, thus, occurred in the same order in all the languages: the most infrequent construction has been lost first, and the least infrequent construction last. First, the Genitive object construction has disappeared, then the Genitive subject construction, then the Accusative subject construction has been lost, then the distinction between the accusative and dative has been reduced, and finally the Oblique subject construction has disappeared, leaving behind only the high-frequent (original) Nom-Acc construction.

A Construction Grammar/Usage-based model account also makes certain predictions about the speed of this change. The language that replaces its vocabulary fastest will lead the development, whereas the

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language with the least replacement in the vocabulary will maintain its case constructions longest. This is an immediate consequence of the fact that high type frequency constructions are the ones that attract new or already existing items which again increase the speed of the low-frequency constructions falling into disuse. For the languages that I have investigated, Icelandic, German, Swedish and English, I have found a 100% correlation between the timing of the loss of case and the timing and degree of the vocabulary replacement. English was the first language to lose its morphological case and the first language to suffer from massive lexical borrowings, followed by Swedish, then German, and finally, Icelandic has borrowed least, maintained its original vocabulary to the highest degree, and has lost the fewest case constructions of all the languages.

Finally, I have discussed the "blended" construction which has arisen in the history of the Germanic languages and suggested a Usage-based model account of why the subject construction and the object construction do not change their case at the same time. The prediction is that the construction lower in type frequency will exchange its case first and the construction higher in type frequency will exchange its case later. This prediction is borne out for the blended construction in the Germanic languages, sustaining the validity of the Usage-based model.