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Case in Icelandic
A Construction Grammar Approach*

1 Introduction

Morphological case has been a classical object of research throughout the history of linguistics, from Jespersen and Hjelmslev to the modern approaches of Generative Grammar and Cognitive Semantics. Many things have been said about case, all more or less contributing to and generating more research in the field. Generative Grammar, for instance, introduced the useful dichotomy between structural and lexical case, a dichotomy which has proven to be highly fruitful when investigating case in the Germanic languages (see for instance Zaenen, Maling and Thráinsson 1985 for Icelandic, and Haegeman 1991 for German). Generative Grammar, however, does not seem to capture facts of morphological case in, for instance, the Slavic

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languages, where the tools of Cognitive Semantics have turned out to be more adequate (see Janda 1993 and Dabrowska 1997).

Recently, not only have Generative Grammar and Cognitive Semantics formed our view on case but yet some more opinions have manifested themselves. The debate has mainly been about the nature of the morphological cases. Wierzbicka (1980, 1981, 1983 and 1988) has argued that cases are basically a semantic phenomenon, Yli-Vakkuri (1987), Nemvalts (1996) and Tommola ((1986) cited in Nemvalts (1996)) have associated case in the Finno-Ugric languages with aspect or aspectuality. Case has also been related to factors like mood or modality (Yli-Vakkuri 1987, Dabrowska 1997). Jackendoff (1990:49) and following him Hentschel (1993) argue that cases are only "diacritics", the implicit conclusion being that research on case is not likely to be fruitful. It has further been suggested that case (in Icelandic) is an ornament (Hróarsdóttir 1996:132-133, Boeckx 1998:11-12), the last refuge of the irresolute.

Although much has been said about case, no one has (to my knowledge) considered case from a productivity perspective. Such a perspective on case may be highly promising, since it might reveal hitherto unnoticed properties of case.

Different theories make different predictions about the productivity of cases. Generative Grammar with its distinction between structural and lexical case predicts that only structural case should be productive, while lexical case should be unproductive. This is a consequence of structural case being a part of the core, and lexical case a part of the periphery. Cognitive Semantics, on the other hand, predicts that case should be a productive category since it assumes a 'use' or a 'sense' associated with the case forms. Yet some more of the latest theories can account for the productivity of case, for instance the recent theory of Construction Grammar (see below), which assumes that the construction is a central linguistic entity, and that morphological case is a part of that entity. That theory has not yet been applied to morphological case. The basic task of this study is to investigate novel verbs in Icelandic and the case forms they assign to their arguments, in a Construction Grammar framework.

In the following, I will begin with presenting Construction Grammar and its main idea that constructions have a meaning of their own. In section 3 I will present the Icelandic data, which will then be divided into groups according to the sentential pattern of each verb. Section 4 contains a discussion of some especially interesting instances of new verbs and their case behaviour. There I also summarize my conclusions about case assigning mechanisms in Icelandic according to principles of productivity. In section 5 I compare a Construction based analysis of the material to an analysis within Generative Grammar, and conclude that Construction Grammar offers a superior analysis. Section 6 is a summary.

2 Construction Grammar

According to certain theories of grammar, as for instance Construction Grammar (see Goldberg 1995), there is a correspondence between meaning and form, i.e. meaning and form together contribute to a whole, which is the *construction*. It is argued that the concept of construction is central to linguistic theory since every theory of language has to account for the meaning of the simple sentence. The idea is that the meaning of the simple sentence is compositionally put together from the meaning of the lexical items and the meaning of the construction. The construction is assumed to exist and have meaning independently of the lexical items occurring in the sentence. That does not automatically entail that lexical meaning of verbs is irrelevant to constructions. On the contrary, it is assumed that certain classes of verbs are related to certain constructions, through their meaning.

Goldberg, in her monograph *Constructions. A Construction Grammar Approach to Argument Structure* (1995), explores these relations and interrelations of verbs and constructions, and accordingly puts forward a constructional approach to argument structure. She defines *construction* in the following way (1995:4):

(1) C is a CONSTRUCTION iff_{def} C is a form-meaning pair $<F_i, S_i>$ such that

some aspect of F_i or some aspect of S_i is not strictly predictable from C's component parts or from other previously established constructions.

Goldberg claims that argument structure is a subclass of constructions, and that they are basic to clausal understanding. She gives the following examples from English (1995:3-4), where the first column is the name of the construction, the second column is the meaning of the construction and the third column is the syntactic form of the construction, illustrated with an example (2):

1. Ditransitive	X CAUSES Y to RECEIVE Z	Subj V Obj Obj_2
	Pat faxed Bill the letter.	
2. Caused Motion	X CAUSES Y to MOVE Z	Subj V Obj Obl
	Pat sneezed the napkin off the table.	
3. Resultative	X CAUSES Y to BECOME Z	Subj V Obj Xcomp
	She kissed him unconscious.	
4. Intrans. Motion	X MOVES Y	Subj V Obl
	The fly buzzed into the room.	
5. Conative	X DIRECTS ACTION at Y	Subj V Obl_{at}
	Sam kicked at Bill.	

How are we, for instance, to explain the occurrence of the examples in (3), (taken from Goldberg (1995:9-10)) where both *bake* and *smile* occur with an extra argument, not intuitively a part of these verbs' categorization frames or argument structure?

(3) a) She baked him a cake.
b) Pauline smiled her thanks.

There are many plausible alternative analyses but the one adopted by Construction Grammar says that such examples are only possible because the constructions the verbs participate in assign the extra argument! One advantage of Construction Grammar is that *bake* or *smile* in example (3) are considered to have the same sense of meaning in this example as in any other example without the extra argument, i.e. we

don't have to posit many senses of the main verb, instead we assume one basic sense of the verb with differences in construction choice and accordingly the difference in meaning.

The fact that Construction Grammar emphasizes that constructions have meanings of their own does not deprive verbs or lexical items of their meaning. On the contrary, Construction Grammar assumes that lexical elements are meaningful and that they base their meaning on frame-semantic knowledge (in the sense of Cognitive Semantics). This is so, since obviously constructional meaning, as in the ditransitive construction "X CAUSES Y to RECEIVE Z", seldom is enough to infer the meaning of the simple clause (apart from few exceptions as in the case of *give*). Further, Construction Grammar assumes that argument structure constructions are polysemous in the sense that they have one basic meaning and in addition many other senses derived from the basic meaning. The basic meaning of the ditransitive expression would be the same or similar to the meaning of the verb *give*, since the meaning of the verb *give* is the most prototypical instance of the ditransitive expression, with all other senses of the ditransitive being derived.[1] These derived non-basic senses cannot be predicted from the basic meaning. They will therefore have to be listed *per se*.

For the purpose of the survey, presented here, of novel verbs in Icelandic and the morphological case they assign to their arguments, the view of productivity in Construction Grammar is highly relevant. I will therefore briefly summarize Goldberg's main assumptions on constructional productivity:

Some constructions in English are used in a productive way, i.e. they occur with new or novel verbs, and are in frequent use (the *way* construction). Other constructions are more or less non-productive (the resultative construction). In between these are constructions that are par-

1 This assumption is based on an informal experiment performed by Goldberg (1995:35-36) where 10 non-linguistic speakers gave the meaning of a nonsense verb occurring in the ditransitive construction. The experiment resulted in 60% of the participants answering that it meant 'give'. See also Zhang (1998) for a comparative study of the constructional meaning of the ditransitive construction.

tially productive. The ditransitive is such a construction. Consider the following examples (1995:121):

(4) a. Joe told Mary a story.
b. *Joe whispered Mary a story.

The verb *whisper* in (4b) cannot be used with the ditransitive construction, but yet the hypothetical verb *shin*, meaning "kick with the shin", can be used in that way (1995:120):

(5) Joe shinned his teammate the ball.

Here we have an obvious dilemma; a construction is so productive that novel verbs participate in it, but yet the use of the construction is not extended to cover already existing verbs which otherwise seem to fulfil the criteria for being used ditransitively. The explanation for this, within Goldberg's version of Construction Grammar, is based on two kinds of learning mechanisms. The first one explains why the use of the ditransitive construction is not extended to cover already existing verbs. The second learning mechanism also explains that, and in addition it explains why novel verbs are used productively with the ditransitive construction.

Firstly, it is assumed that learners are sensitive to which verbs are used in which constructions, such that the learner gradually distinguishes the different meanings of different constructions and infers that if a given verb is not used in an optimal construction, then such a usage of that verb is not warranted. This would explain how the learner can know that examples like (4b) are ungrammatical.

The second learning mechanism postulates that learners distinguish certain identifiable semantic subclasses of verbs available to the construction in question. It seems to be a fact that verbs occurring in certain constructions come in similarity clusters. Beside that, they can also be constrained by morphophonological rules. Similarity clusters can be illustrated for the ditransitive construction as in *Figure 1* from Goldberg (1995:135).

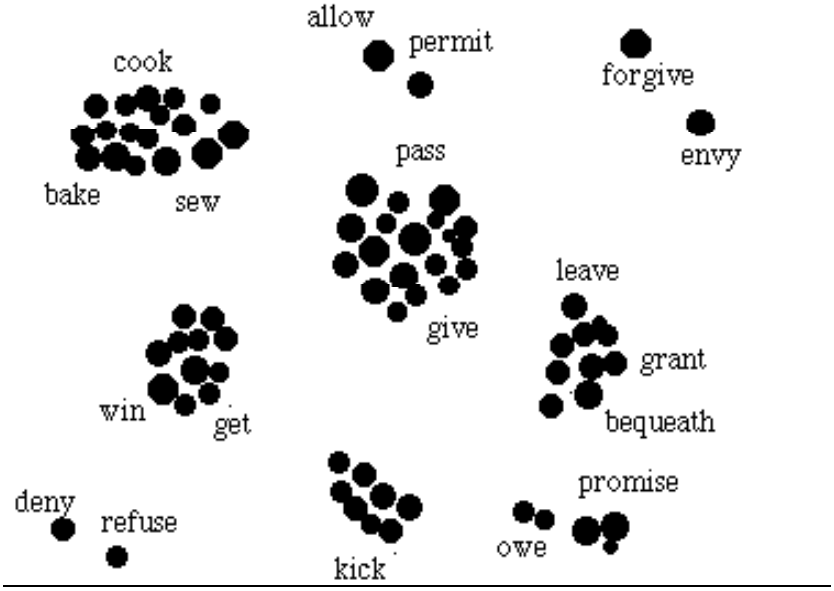

Figure 1: Possible similarity clusters of the ditransitive construction.

On the whole, two factors are important for deciding if a certain construction is used productively or not. First, the similarity metric of the cluster has to be defined, and secondly, the frequency of the use of the construction has to be high. A possible similarity metric for the ditransitive construction could just be narrowly defined semantic subclasses of verbs, such as "verbs of sending" and "verbs of ballistic movement" (see Goldberg 1995:126 for more suggestions of subclasses) for the ditransitive construction.

Regarding frequency, we have to distinguish between so-called *type frequency* and *token frequency*. Token frequency is the number of times the same verb is used in a certain construction, while type frequency is the number of distinct verbs occurring in a certain construction. Applying this to our example above of the ditransitive construction, then, each circle stands for one lexical item and the larger groups, containing more

verbs, have higher type frequency than the smaller groups, containing one or two verbs. The result of that is that the bigger groups can be considered more productive than the smaller groups, since they are more likely to attract new items to the group on basis of similarity.

We will now proceed to the Icelandic material and we will see that the productivity of case is well accounted for within the theory of Construction Grammar.

3 The Icelandic Data

3.1 The Origin of the Data

The verbs used in this study are from various sources. All the verbs are listed and glossed in *Appendix A* in Barðdal ((in prep.), henceforth *Appendix A*). The verbs were collected from five different dictionaries. The sixth source is an informal collection of new verbs from radio programmes, friends and other speech environments. The first of the five dictionaries is a dictionary of slang, informal and forbidden language (Árnason et al. 1982). The other four dictionaries are published by *Íslensk málnefnd* (The Icelandic Language Council). They contain material from different specialized areas, edited by specialists in those fields. They are the following: *Orðasafn úr tölfræði* (1990), *Orðaská úr uppeldis- og sálarfræði* (1994), *Flugorðasafn* (1993) and *Tölvuorðasafn* (1998). The first one is from statistics, the second one from pedagogy and psychology, the third one from the domain of aircraft and the last one from the domain of computers. The total number of verbs for all corpora is 913 verbs (see Barðdal in prep.:ch. 3 for a more detailed description of the entire research procedure).

Neologism is here defined widely. *A new verb* in this study is used about a slang-type verb from Árnason et al. (1982) which may have a morphophonologically foreign verb stem borrowed from another language, as for instance the verb *bísa* 'steal', borrowed from Danish. The term *a new verb* is also used to denote verbs already existing in Icelandic but which have gained a new usage, as for instance the verb *beina* which

means 'route'. *beina* has had the meaning 'route' for a long time, but it is only recently that it has begun to be used in the domain of computers. To sum up, neologisms here are defined as:

(6) a) new verb(stem)s in new or old contexts.
b) old verb(stem)s in new contexts.[2]

Obviously, this does not make the 913 verbs, subject to this study, a particularly homogeneous group of verbs. On the contrary, the verbs used here are *new verbs* in different ways.

Notice that the definition, strictly speaking, includes all new metaphorical usages of already existing verbs in Icelandic. It is also my opinion that metaphorical usages should be regarded as novel, but that does not immediately indicate that investigating metaphorical usages is particularily fruitful for the purposes of case. It seems that such a survey might rather result in figures or knowledge on state of affairs in Modern Icelandic as a whole and not particularily on what is productive. General metaphorical usages of already existing verbs in Icelandic, which are not listed in our corpora, are therefore not included in this survey.

Furthermore, it is not my claim that this corpus of a total of 913 verbs exhausts new verbs in Icelandic. There may be many more new verbs circulating in the language than the ones I have come across. The reader must therefore bear in mind that the main body of the corpus consists of neologisms that have appeared in print, and were thus readily available (convenience sample). This should, of course, not be a problem for the main results of this study, since my goal is not to make assumptions on how new verbs are coined in general in Icelandic, but rather to investigate how mechanisms of productivity affect the behaviour of nominal arguments and from this to draw conclusions about case in Icelandic.

3.2 Icelandic Sentential Patterns

In the following I will give a schematic overview of the 39 sentential

[2] See section 4.2.2.1 for two apparent exceptions to this definition, yet included in *Appendix A* and in this survey.

patterns available to the verbs in *Appendix A*. The verbs which may occur in each pattern are listed in *Appendix B* (Barðdal in prep. (henceforth *Appendix B*)) but here I only present the sentential patterns with one example of each, together with its English glosses. Since my corpus is not fully based on examples of real usages, I do not have access to all the patterns each verb might possibly occur in. Therefore I will use those examples of real usages that are found in the corpus and base the remaining classification on my native speaker intuition. Doing that may lead to some, but not all, verbs being listed under more patterns than only one, and also it may lead to some verbs not being listed under all possible patterns they might occur in. It would, of course, have been ideal to base all of the classification on real usages but unfortunately such corpora, with exhaustive examples of novel usages, do not exist. The classification in *Appendix B,* and in the following, should therefore under no circumstances be considered complete or final.

(7) a. **Subj$_{Nom}$ Verb Obj$_{Acc}$** (398 instances)
b. Hann afbakar sannleikann
'He distorts the truth'

(8) a. **Subj$_{Nom}$ Verb** (203 instances)
b. Hann alhæfir
'He generalizes'

(9) a. **Subj$_{Nom}$ Verb Prep$_{Acc}$** (104 instances)
b. Hann bjallaði í mig
he phoned in me 'He phoned me'

(10) a. **Subj$_{Nom}$ Verb Obj$_{Dat}$** (88 instances)
b. Þau droppuðu þessu
'They dropped it'

(11) a. **Subj$_{Nom}$ Verb Part** (88 instances)
b. Hún bakkaði út
'She backed out'

(12) a. **Subj$_{Nom}$ Verb Obj$_{Acc}$ Part** (70 instances)
b. Þau dressuðu sig upp

they dressed themselves up 'They dressed up'

(13) a. **Subj$_{Nom}$ Verb Prep$_{Dat}$** (65 instances)
b. Hann djókaði í þeim
he joked in them 'He made jokes with them'

(14) a. **Subj$_{Nom}$ Verb+st** (31 instances)
b. Hann klikkaðist
'He went crazy'

(15) a. **Subj$_{Nom}$ Verb Adv/Prep** (29 instances)
b. Gefðu í botn!
give-you in bottom 'Speed up!'

(16) a. **Subj$_{Nom}$ Verb Obj$_{Dat}$ Part** (27 instances)
b. Hann fokkaði þessu upp
'He fucked this up'

(17) a. **Subj$_{Nom}$ Verb Obj$_{Acc}$ Prep$_{Dat}$** (23 instances)
b. Hann intresserar sig fyrir þessu
he interests himself for this
'He shows an interest for this'

(18) a. **Subj$_{Nom}$ Verb Obj$_{Dat}$ Prep$_{Acc}$** (17 instances)
b. Ég skal redda þér um þetta!
I will provide you about this 'I'll get this for you!'

(19) a. **Subj$_{Nom}$ Verb+st Part** (15 instances)
b. Hann þynnist upp
he thins up 'He gets hangover'

(20) a. **Subj$_{Nom}$ Verb Obj$_{Dat}$ Adv/Prep** (10 instances)
b. Loksins gubbaði hann því út úr sér
finally spewed he it out of himself
'Finally, he spit it out'

(21) a. **Subj$_{Nom}$ Verb Obj$_{Acc}$ Prep$_{Acc}$** (9 instances)
b Ég ordna þetta fyrir þig
'I'll fix it for you'

(22) a. **Subj$_{Nom}$ Verb Obj$_{Acc}$ Adj/Adv** (8 instances)

b. Ég fíla þetta vel
I like this well 'I like this a lot'

(23) a. **Subj$_{Nom}$ Verb Prep$_{Gen}$** (8 instances)
b. Hún fónaði til hans
she phoned to him 'She phoned him'

(24) a. **Subj$_{Nom}$ Verb+st Prep$_{Acc}$** (7 instances)
b. Hann draugaðist um bæinn
'He dragged himself (like a ghost) around town'

(25) a. **Subj$_{Nom}$ Verb Obj$_{Dat}$ Prep$_{Dat}$** (6 instances)
b. Hann söng þessu að lögreglunni
he sang this at the police
'He give the information to the police'

(26) a. **Subj$_{Nom}$ Verb Obj$_{Acc}$ Prep$_{Gen}$** (6 instances)
b. Ég faxa þetta til þín
'I'll fax it to you'

(27) a. **Subj$_{Nom}$ Verb Obj$_{Dat}$ Obj$_{Acc}$** (4 instances)
b. Ég símsendi þér þetta
'I'll fax it to you'

(28) a. **Subj$_{Nom}$ Verb Obj$_{Dat}$ Prep$_{Gen}$** (4 instances)
b. Slakaðu þessu til mín
'Hand it over to me'

(29) a. **Subj$_{Dat}$ Verb** (3 instances)
b. Honum stendur
him stands'He's got a hard on'

(30) a. **Subj$_{Nom}$ Verb Obj$_{Acc}$ Obj$_{Dat}$** (3 instances)
b. Hann samsamaði sig hópnum
He identified ("samed") himself the group
'He identified himself with the group'

(31) a. **Subj$_{Dat}$ Verb+st Clause** (1 instance)
b. Mér analýseraðist svo að ...
me analysed so that

'I came to the analysis that ...'

(32) a. **Subj$_{Nom}$ Verb Part Prep$_{Acc}$**
b. Hann brann inni með þetta
he burned in with this
'It became to late for him to say it'

(33) a. **Subj$_{Nom}$ Verb+st Prep$_{Dat}$**
b. Hann bömmeraðist yfir því
he bummered over that
'He became depressed because of that'

(34) a. **Subj$_{Nom}$ Verb Prep$_{Acc}$ Prep$_{Acc}$**
b. Hann dílaði við þau um þetta
he dealt with them about this
'He made a deal with them about this'

(35) a. **Subj$_{Dat}$ Verb Part**
b. Mér finnur til
me finds till 'I'm in pain'

(36) a. **Subj$_{Nom}$ Verb Part Obj$_{Dat}$**
b. Þau hnoðuðu saman krakka
they kneaded together a kid 'They made a baby'

(37) a. **Subj$_{Acc}$ Verb Prep$_{Acc}$**
b. Mig klæjar í fingurna
me itches in the fingers 'I'm restless (to begin sth)'

(38) a. **Subj$_{Nom}$ Verb Obj$_{Acc}$ Adv/Part**
b. Hann labbaði sig í bæinn
he walked himself in town 'He walked to town'

(39) a. **Subj$_{Nom}$ Verb Obj$_{Gen}$**
b. Hann leitar e-s
he searches sth 'He searches for sth'

(40) a. **Subj$_{Nom}$ Verb+st Obj$_{Gen}$**
b. Hann minntist þess
'He recollected that'

(41) a. **Subj$_{Acc}$ Verb Adv/Part**
b. Hann rak um
'He drifted around'

(42) a. **Subj$_{Acc}$ Verb**
b. Vélina rekur
'The aircraft drifts'

(43) a. **Subj$_{Nom}$ Verb Obj$_{Dat}$ Obj$_{Dat}$**
b. Hann snapaði sér upplýsingunum
'He scavenged the information'

(44) a. **Subj$_{Dat}$ Verb Adv/Prep**
b. Þá byrjaði krökkunum að snjóa inn í sjoppuna
then started the kids (dat) to snow in the shop
'then the kids flocked inside the shop'

(45) a. **Subj$_{Dat}$ Verb Prcp**
b. Mér er sveitt
me is sweaty 'I feel sweaty'

Note that, in the above list, I have not distinguished between reflexive and non-reflexive verbs. Both are listed according to their sentential patterns, irrespective of the status of the object as reflexive or non-reflexive. This means that verbs selecting accusative or dative objects are listed separately with both reflexive and non-reflexive objects.

4 The Findings

Braine (1988:241-250) and Braine et al. (1990) argue that if we use a novel verb without having been exposed to its argument structure we assign an argument structure to this verb from a canonical sentence schema (*skeletal construction* in Goldberg's terms). Braine et al. (1990) experiment with action verbs, which have two canonical sentence schemas available to them: the causative, transitive construction with an agent

subject and a patient object or the intransitive construction with a patient subject. Some action verbs in English are transitive such as *drop*, some are intransitive such as *fall* and some verbs can be both transitive and intransitive such as *roll*. The results of the experiment show clearly that novel verbs presented to the participants (both adults and children) in an environment which is neutral regarding argument structure[3] are treated as optionally transitive verbs in English, while other novel verbs presented either as transitives or intransitives are treated as the fixed transitive and intransitive English verbs (Braine et al. 1990:331-333). The fact that the novel verbs, which were presented in an environment neutral to argument structure, were treated as optionally transitive verbs in English led Braine et al. to conclude that the participants assigned argument structure to these verbs by default. Default argument structure assignment is assignment from canonical sentence schemas.

Braine (1988:247-250) furthermore argues that when learning a new verb we first of all notice the most salient features of the verb, i.e. the meaning of the verb. At that point in acquisition we can assign argument structure by default since we know that certain semantic classes of verbs are associated with certain argument structures. Braine et al. (1990:314) give the example *tavver*, which hypothetically means 'to convey information telepathically'. Immediately we know that we can both say *John tried to tavver George the answers to the language quiz* and *John tried to tavver the answers to the language quiz to George*.

These results are of course only valid for nonsense verbs. The interesting questions arise whether they are also valid for borrowed verbs, and how these mechanisms affect a language in the process of acquiring new verbs. The Icelandic data reveals that borrowed verbs either pattern with verbs which have a similar meaning, or they retain their source language argument structure.[4] These findings will be discussed in section 4.1 and the special findings for case will be discussued in section 4.2.

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[3] Neutral environment is for instance as follows: "Much V-ing has happened here".

[4] *Argument structure* in this context is used widely and can cover complex predicate structure.

4.1 The Argument Structure of Novel Verbs

Both Goldberg (1995) and Braine (1988) argue that novel verbs pattern with clusters of verbs with a similar meaning, and get their argument structure from the construction associated with that cluster. This is partly supported by the Icelandic data, but it seems that such a description has to be modified a bit in order to fit the data completely. Some new verbs do not seem to pattern with a similarity cluster since they seem to get their argument structures from a construction associated with only one predicate with the same meaning. These two alternatives I label *Cluster attraction* and *Isolate attraction*, respectively. The third option, that a verb is borrowed with its complete argument structure, I call *Argument structure borrowing*. These will now be discussed in turn (see also Barðdal 1999a for an application of these on historical data).

4.1.1 Cluster Attraction

The list in *Appendix B* provides us with plenty examples of new verbs which are obviously attracted by a cluster of verbs with the same or similar meaning and the same argument structure construction. Such examples are *netast á* 'take turns in writing to each other on the internet' and *boltast um* 'move around heavily'. These verbs behave like a number of other verbs, already existing in the language, with a similar meaning and the same syntactic form:

(46) **Novel** **Old Verbs**

a. *netast á* *skrifast á* 'take turns in writing to each other',
drekkast á 'take turns in drinking to each other',
kallast á 'take turns in screaming to each other',
kankast á 'take turns in teasing each other', ...

b. *boltast um* *ganga um* 'walk around',
labba um 'walk around',
ráfa um 'wander around',
reika um 'wander around',
veltast um 'roll around', ...

In (46a) the construction [V+st á] means 'to take turns in V-ing to each

other'. The construction has its own meaning and the verb provides the lexical content of the simple sentence, 'write', 'drink', 'scream', 'tease' and so on. The same is true for (46b). The construction [V_{motion} um] means 'to V around' and the verb decides further what the lexical content is, 'walk', 'wander', 'roll' and so on. In fact, the verbs in *Appendix B* with the particle *um* all mean 'movement around in a particular way', with one exception, *skipta um* 'replace, overlay'. These verbs are listed in (47).

(47)

krúsa um	'drive around'
rápa um	'navigate around'
rása um	'swing around'
rúnta um	'drive around'
synda um	'move/be around drunk'
voka um	'hover around'
draugast um	'move/be around like a ghost'
bunkast um	'plop around'
bömmerast um	'move/be around in a depressed mood'
hlunkast um	'move around heavily'
lesbast um	'move/be around and behave like a lesbian
lyfjast um	'move/be around drugged

Notice that verbs occuring in this construction are both "ordinary" verbs and *st*-verbs[5]. The fact that both ordinary verbs and *st*-verbs are found in the *um*-construction is in accordance with the findings of Anderson (1990) that *st*-verbs behave syntactically like ordinary verbs, that they don't form a unitary group of verbs with the same syntactic behaviour. The following examples illustrate more instances of Cluster attraction:

(48) **Novel verbs** **Old verbs**[6]

[5] *st*-verbs are called so because they all have an *-st* suffix, originally a cliticized reflexive/reciprocal pronoun *sik*, which then grammaticalized to a derivational/inflectional ending and finally to a stem suffix (see Anderson 1990 and Ottósson 1992).

[6] The verb in the right column is a synonym to the verb in the left column.

trekkja að, 'attract'	*laða að*, *draga að*, *hæna að*,[7]
matsa við, 'match'	*passa við*, *eiga við*,
fitta við, 'match'	*passa við*, *eiga við*,

Without having exhausted the list in *Appendix B*, we have found that both Goldberg's (1995) claims about productivity, and Braine's (1988) claims about the behaviour of novel verbs seem to be borne out.

4.1.2 Isolate Attraction

Some new verbs don't behave as predicted in the sense that they are not attracted to a whole cluster of verbs with the same or similar meaning. Instead they seem to be formed analogically to only one existing verb in Icelandic with the same or a similar meaning. Consider the following examples:

(49)

Novel Verbs	**Old Verbs**	
hjalla/fóna í e-n	*hringja í e-n*	phone sb
fóna/netsíma til e-s	*hringja til e-s*	phone/fax sb
smæla til e-s	*brosa til e-s*	smile to sb
dona uppi	*daga uppi*	be forgotten
koffína/tjúna sig upp	*æsa sig upp*	caffeine/tune up
droppa/kíkja við hjá e-n	*koma við hjá e-m*	visit sb
digga/dudda/dúlla við e-n	*reyna við e-n*	make a pass at sb
díla við e-n um e-ð	*semja við e-n um e-ð*	negotiate with sb about sth
syngja/krunka e-u að e-m	*lauma e-u að e-m*	give sb information
sjarmera/spóla/trixa e-n upp úr skónum	*plata e-n upp úr skónum*	deceive sb

The already existing verbs in Icelandic which form the basis for the behaviour of the novel verbs don't seem to be a part of a cluster, but rather single, lexical items. This is definitely true for *hringja í e-n* 'phone sb', *hringja til e-s* 'phone sb', *brosa til e-s* 'smile to sb', and *daga uppi* 'be forgotten'. This is presumably true also for *æsa sig upp* 'get upset', *koma við hjá e-m* 'visit sb', *reyna við e-n*, 'make a pass at sb' and *díla við e-n um e-ð*

[7] The already existing verbs which I didn't remember myself, were found with the help of *Íslensk samheitaorðabók* (1988).

'negotiate with sb about sth'. The remaining verbs in (49), *lauma e-u að e-m* 'give sb information' and *plata e-n upp úr skónum* 'deceive sb', also seem to be single items and not a cluster. Yet these verbs are used as models when novel verbs, with the same meaning, are assigned argument structure, by default.

An important question arises! When a single verb has functioned as a model for the behaviour of a novel verb, and two lexical items therefore exist with the same or similar meaning and the same argument structure, do these two then not form a similarity cluster together? If so, they don't fall under the mechanism *Isolate attraction* anymore but rather *Cluster attraction*! This data, if interpreted as I do, would certainly point in the direction that Isolate attraction can be a prerequisite for Cluster attraction. Also it entails that Isolate attraction is not a different kind of mechanism than Cluster attraction but rather the same mechanism, or a different stage in the same process.

The whole concept of *Isolate attraction* seems to be in opposition to Goldberg's claims about the behaviour of novel verbs, since she assumes that novel verbs attract to whole clusters of verbs with a similar meaning and not only to one verb. She elaborates with token frequency and type frequency (see section 2). If the use of a construction is only typical of one single verb then the type frequency of that construction is very low. But if this one single verb is very frequent in this construction that leads to a high token frequency. According to Goldberg, the presupposition for a construction to be productive is high type frequency (Cluster attraction) and not low type frequency (Isolate attraction). It is of course possible that Isolate attraction has high token frequency. In order to find out we would need to statistically analyse a large text corpus. But even if the token frequency were high in these cases Goldberg would still predict that these small verb classes, with only one verb, should not be productive. This is contradicted by the Icelandic data presented here.[8]

[8] Unless, of course, we assume that high token frequency is not a prerequisite for productivity, but rather the result of productivity, and accordingly a tool to measure it. Such an interpretation would not rule out *Isolate attraction* as an active process

4.1.3 Argument Structure Borrowing

The third mechanism of argument structure assignment, found in the Icelandic data, and not mentioned by Goldberg or Braine, is *Argument structure borrowing*.[9] It should be mentioned here that neither Goldberg nor Braine are making claims about language contact or the overall picture of novel verbs, but merely about acquisition and productivity. Their assumptions on argument structure assignment are based on nonsense verbs and not borrowed verbs.

In my corpus, there are many examples of novel verbs, where the argument structure, or the complex predicate structure, of the source language seems to be important for the borrowing to Icelandic. Consider the following examples:

(50)

Novel Verbs	**English (or foreign) Equivalent**
tékka inn	check in
brenna út	burn out
brotna niður	break down
fríka út	freak out
pissa út	piss out
koxa út 'fall asleep, give up'	kokse ud (Danish)[10]

The verbs in (50) are all borrowed from a foreign language, and not only has the verb stem been borrowed in many cases and the meaning of the verb stem, but also the argument structure of the verb in the source language.

It is of course possible to argue that, for instance, *tékka inn* has its argument structure from an Icelandic verb with a similar meaning, as *skrá inn* which means 'register', but not from the English verb *check in*. It

found within languages acquiring new verbs.

9 I suspect that what I call *Argument structure borrowing* is the same as what traditionally is called *Lexical transfer*.

10 As Muriel Norde pointed out to me, *fitta við* in (48) above, analysed as an example of *Cluster attraction*, can also be analysed as an example of *Argument structure borrowing*. That raises questions on what criteria to use to distinguish between the two. I leave that matter open for now.

is hard to imagine evidence in favour of one or the other analysis, and even if such evidence existed, the other examples in (50) are clear-cut. The verb *brenna út* with the meaning 'burn out, be exhausted' is a fairly new concept in Icelandic and is associated with an increased awareness of psychological strain at the work place. Argument structure borrowing therefore seems to be a valid way for borrowed verbs to acquire argument structure.[11]

4.2 Case Findings

Goldberg, in her Construction Grammar based approach to argument structure, does not have so much to say about case, apart from claiming that her constructional approach to argument structure is applicable to case (1995:108). In the following I will discuss case assignment of the novel Icelandic verbs listed in *Appendix B*, in a Construction Grammar spirit.

A Construction Grammar based approach to morphological case assumes that morphological case is *constructional*, in the sense that morphological case is a property of arguments, and as such it participates in argument structure constructions. It further predicts that all morphological cases should be productive if the constructions they occur in reach a sufficiently high level of type frequency.

4.2.1 General Assumptions

In this section I will concentrate on the Icelandic dative as it occurs in the syntactic functions of a subject and object, but before that a few words about the other morphologial cases are necessary.

According to the list in *Appendix B*, the nominative is the absolutely

[11] It has been pointed out to me, both by Lars-Olof Delsing and Adele Goldberg, that it is not customary to assume that a structure is borrowed from one language to another if that structure already exists in the former language, i.e. only when a completely foreign structure is introduced into a language are we justified to speak of borrowing of structures from one language to the other. This may very well be customary, but that does not exclude the possibility of lexical items being borrowed together with their structures. It is just impossible to prove.

dominant subject case of most constructions, and no nominative objects are found in the data.[12] That does not automatically entail that the dative-nominative impersonal construction is non-productive; this lack of nominative objects can also be explained by the fact that all the verbs in *Appendix B* which select a dative subject are either monotransitive verbs or they select a clause. A larger corpus on novel verbs is needed to decide on the matter but obviously my data suggest that the dative-nominative construction is not particularily productive[13]. Not surprisingly, no nominative prepositional phrases were found either, since nominatives never occur in that syntactic environment in Icelandic.

Most direct objects to transitive verbs are in the accusative case (thereby supporting Rögnvaldsson's claim (1983a) that most novel verbs assign accusative to their objects). Accusative is also common as a prepositional case, while the three examples of accusative subjects in (51) are all selected by verbs which already exist in Icelandic with accusative subjects.

(51) *klæja í fingurna* 'be restless to begin sth.', *latreka* 'drive so sharply in a curve that you might lose control', *reka* 'drift, be adrift'.

The first predicate is probably not novel in spite of being listed in Árnason et al. (1982) since a very similar construction is listed in *Íslensk orðabók* (1988) and Jónsson (1998). The usage domain of the two other

[12] See Bernódusson 1982, Zaenen, Maling and Thráinsson 1985, Sigurðsson 1990-1991, Maling & Jónsson 1995 on nominative objects in Icelandic, and conversely Thráinsson 1979, Bernódusson 1982, Zaenen, Maling and Thráinsson 1985, Sigurðsson 1989, 1992 on Oblique subjects in Icelandic.

[13] Since Icelandic has a strong policy of language purism, examples of the dative-nominative construction might have been wiped out by teachers and other professional language "purists", who have fought against Dative substitution (see section 4.2.2.1 below for a clarification of the term). In order to find out if such tendencies exist within the language system, we would have to examine child language, or possibly elaborate with nonsense verbs with the 'right' meaning. Preliminary results of such an experiment (Barðdal 1999b) show that dative subjects seem to be associated with certain meaning, suggesting that dative subjects might very well be productive. However, further research on the dative-nominative construction is needed to decide on the matter.

verbs in (51) has only been expanded.

No genitive subjects are found in the data but since most genitive subjects are found in passive formation, this does not come as a surprise. Only two verbs select a genitive object and both already exist in Icelandic in another usage domain.

(52) *leita e-s* 'search, find',
minnast e-s 'recollect'.

Genitive as an object case can therefore not be said to be particularly productive. Genitives are also found as objects to prepositions but they are definitely not as common as accusatives and datives in that position.

Dative objects to verbs and prepositions are not as many as accusative objects but the amount is still substantial. Regarding dative subjects, there are only seven in *Appendix B* and a closer inspection shows that not all of them are novel (see section 4.2.2).

The figures for all the morphological cases are illustrated in *Table 1*.

	Subjects	Objects	Prep. objects
Nominative	1229		
Accusative	3	522	141
Dative	7	160	95
Genitive		2	17

Table 1. The distribution of cases of the arguments of novel verbs on the three syntactic functions: subjects, objects and prepositional objects.[14]

To conclude, the nominative is productive as a morphological case form for subjects. Accusative is productive as a morphological case form for objects of verbs and prepositions. The genitive is hardly productive as a case form for objects but presumably as a case form for prepositional objects (the examples are very few). Finally the dative is productive as a case form for objects of verbs and prepositions, and to some extent, the dative is a potentially productive case for subjects even though that pos-

[14] These figures are presented to give a concrete picture of the outcome of the study on the tendencies of the cases. Of course, another material would most likely give different figures, but the main tendencies might be the same.

sibility is not made much use of in this material.

4.2.2 The Novel Usage of the Dative Case

4.2.2.1 Dative Subjects

The Dative subjects present in the Icelandic material are the following:

(53) a. *e-m snjóar e-t* 'flock somewhere'
b. *e-m geigar* 'yaw'
c. *e-m stendur/blýstendur* 'have an erection'
d. *e-m finnur til* 'feel hurt'
e. *e-m er sveitt* 'feel sweaty'
f. *e-m analýserast svo að…* 'come to the analysis that ...'

I don't consider example (53a) as novel since similar examples are found in *Íslensk orðabók* (1988) and Jónsson (1998)[15]. The example in (53b) is an example of usage domain expansion. The verb in (53c) has been under a taboo but is nevertheless recorded in *Íslensk orðabók* (1988). The only real examples of novel dative subjects are therefore those in (53d-f).

The predicates *finna til* and *vera sveitt* are not novel in the sense used in this study, defined in (6) above. Both already exist in Icelandic, they have the same meaning and have not acquired a new one, and their usage of domain has not been expanded. They are nevertheless included in *Appendix A* and *B* for the reason that they select a dative subject and not a nominative one, as in all other cases. So even though these verbs are not novel in our sense they should still be included because of this novel case usage.

Dative substitution[16] in Icelandic, a process where accusative experiencer subjects change their case into dative (*mig langar* becomes *mér langar* 'I want'), has received abundant attention in the literature (see

[15] Jónsson (1998) gives the following example:
i. *Fólkinu snjóar að.*
people-the snow at 'The people come quickly.'

[16] Also called "dative sickness".

Svavarsdóttir 1982, Halldórsson 1982, Rögnvaldsson 1983b, Svavarsdóttir et al. 1984, Smith 1994 and 1996). A couple of examples have also been noted where verbs, which select a nominative subject according to prescriptive grammar, occur instead with accusative or dative subjects. These verbs are *hlakka til* 'look forward' and *kvíða fyrir* 'be anxious' (*ég hlakka til* either becomes *mig hlakkar til* or *mér hlakkar til*). Most verbs which undergo dative substitution prescriptively select accusative subjects. These accusatives tend to change into datives, or, in a minority of cases, into nominatives (*mig dreymir* becomes *ég dreymi* 'I dream'). The only documented verbs, prescriptively selecting nominative subjects and undergoing dative substitution, are therefore *hlakka til* and *kvíða fyrir*. They differ from *finna til* and *vera sveitt* in one respect. The nominative subject of *hlakka til* and *kvíða fyrir* has also been found in the accusative case and not only as a dative subject, but *finna til* and *vera sveitt* in the Icelandic material presented here only occur with a dative subject.

Psychological (experiencer) predicates with the copula verb *vera* 'be' and an adjective divide into two syntactic groups in Icelandic; the personal construction with a nominative subject and an agreeing adjective, and the impersonal construction with a dative subject and a nonagreeing adjective:

(54) [Subj$_{Nom}$ V Adj$_{Agr+}$]	*Ég er reiður*	'I am angry'
	Ég er illur	'I am angry'
	Ég er glaður	'I am glad'
	Ég er hamingjusamur	'I am happy'
	Ég er áttaviltur	'I am lost'
	Ég er sveittur	'I am sweaty'
[Subj$_{Dat}$ V Adj$_{Agr-}$]	*Mér er illt*	'I feel sick'
	Mér er kalt	'I feel cold'
	Mér er bumbult	'I feel nauseated'
	Mér er óglatt	'I feel nauseated'
	Mér er heitt	'I feel warm'
	Mér er sveitt	'I feel sweaty'

The original predicate *vera sveittur* can obviously now occur in both of

these copula constructions and not only in the personal type.[17] Goldberg (1995) goes to some length to explain why certain productive constructions don't spread to already existing verbs. These examples of *vera sveitt* and *finna til* (as well as *hlakka til* and *kvíða fyrir* and every other example of dative substitution) are apparently counterexamples to her claim that partially productive constructions only attract novel lexical items and not already existing verbs with the same or similar meaning.[18]

Example (55e) *e-m analýserast svo*, is an example of a dative subject together with a *st*-verb selecting a clausal complement. As stated in section 4.1.1 *st*-verbs in Icelandic are not a unitary group of verbs, neither syntactially nor semantically. A closer inspection of the *st*-verbs in Icelandic reveals that this borrowed verb *analýsera* falls right into a subgroup of *st*-verbs, all expressing some sort of mental activity, all selecting dative subjects and a clausal complement:

(55)	*Mér reiknaðist það til að ...*	I estimated it so ...
	Mér taldist það til að ...	I estimated it so that ....
	Mér hugsaðist það svo að ...	I thought about it such that…
	Mér hugkvæmdist það að ...	I got the idea that ...
	Mér skipulagðist þetta þannig að…	I organized this such that...
	Mér skrifaðist þetta þannig að ...	I wrote this in the way that …

The two last examples are neither documented in *Íslensk orðabók* (1988) nor in Jónsson (1998), but they are perfectly fine according to my native speaker's intuition. Perhaps it would be better to gloss them as 'I managed to organize this so ...' and 'I managed to write this so ...', which would ultimately point in the direction that Icelandic has a "constructional" way of "deagentivizing" the subject. Compare also the glosses to *e-m analýseraðist svo að* ... as 'come to the analysis that ...', but not 'analyse it so ...'.

4.2.2.2 Dative Objects

[17] According to Eiríkur Rögnvaldsson (p.c.) the impersonal *vera sveitt* has become more and more common.

[18] She, of course, discusses constructions which are fully productive but full productivity is hardly at issue here.

The dative objects of new verbs in Icelandic also pattern up in certain constructions, just like the dative subjects. We will now consider some of them, as presented by the Icelandic material. Three new verbs with the meaning *steal* are found in *Appendix A*:

(56) *bísa, fingra, putta.*

They all select a dative object, just like the already existing *stela*, *hnupla* and *ræna*, with the same meaning. The novel verb *dræfa* 'drive' selects a dative, just like its already existing synonym *keyra*. The novel verb *bítta* 'change, exchange' selects a dative like its Icelandic counterpart *skipta*. The borrowed verbs *slaufa* and *skippa* 'skip' select an object in the same morphological case as the Icelandic *sleppa*, with the same meaning. The same goes for the innovative *dömpa* 'dump', it selects a dative as its Icelandic equivalents *kasta* and *henda*. The borrowed verb *droppa* 'drop, let go' selects dative like the Icelandic *sleppa*. Consider also the verb *diskriminera* which selects a dative like the Icelandic *mismuna*, and *splitta* 'split' like the Icelandic *skipta*. The verb *varíera* 'vary' not surprisingly assigns dative to its object as does the Icelandic *breyta*. These examples can be illustrated schematically as follows:

(57)

	Novel Verbs	**Old Verbs**	
a.	*bísa e-u*, *fingra e-u*, *putta e-u*	*stela e-u*, *hnupla e-u*, *ræna e-u*	'steal sth'
b.	*dræfa e-m*	*keyra e-m*	'drive sb'
c.	*bítta e-u*	*skipta e-u*	'(ex)change, sth'
d.	*slaufa e-u, skippa e-u*	*sleppa e-u, hætta e-u*	'skip sth'
e.	*dömpa e-u/e-m*	*kasta e-u, henda e-u*	'dump sth'
f.	*droppa e-u/e-m*	*sleppa e-u/e-m*, *hætta e-u*	'drop sth, let go of sth'
g.	*diskriminera e-m*	*mismuna e-m*	'discriminate sb'
h.	*splitta e-u*	*skipta e-u*	'split sth'
i.	*varíera e-u*	*breyta e-u*	'vary, change sth'

Surprisingly two verbs in the material, both roughly meaning *sell,* i.e. *díla* and *pússa* select datives, as in the following examples:

(59) a. *díla stuði* sell/deal in drugs (dat.)

b. *pússa stuði* sell/push drugs (dat.)

This is strange, considering the fact that the simple verb meaning 'sell' in Icelandic, i.e. *selja* selects an accusative object and not a dative one. But a closer survey of these examples reveals that *deal* and *push* can also mean 'spread' and the equivalent of the verb *spread* in Icelandic, i.e. *dreifa*, selects a dative object.

Another striking example is the dative reflexive object of a number of verbs of motion, all meaning 'get lost':

(59) *blaka sér, dilla sér, dingla sér, drulla sér, labba sér, pilla sér, slaka sér, troða sér*

This construction seems to be a general construction in Icelandic for verbs of movement, all denoting *moving oneself*, since more such examples are found in the material (though not with the meaning 'get lost'):

(60) *demba sér, koma sér, sippa sér, skutla sér, skvísa sér, slaka sér, smúlla sér*

Finally it is worth noting that all verbs in Icelandic with the meaning 'kick' or 'smash' select a dative object (not all the examples are novel though):

(61)

negla e-u	'nail, throw sth intensely'
smassa e-u	'smash sth intensely'
dúndra e-u	'kick, throw intensely'
þrusa e-u	'throw, kick, thrush intensely'
þrykkja e-u	'thrush sth intensely'
þruma e-u	'kick, throw intensely'

A tendency of dative objects denoting movement with certain verbs has already been noted by Barðdal (1993) and further discussed by Maling (1995 and 1999).

This study of novel verbs in Icelandic has revealed that case in Icelandic is evidently constructional in the sense that it is a part of a syntactic pattern and it renders this pattern a special meaning, associated with a particular construction. In this survey I have only studied the dative, since the genitive does not seem to be productive as a morphological case form of subjects and objects. And since accusatives are so many, we can expect that it should be possible to divide them into groups on

constructional basis, i.e. the bigger the material, the more likely it becomes that we can discern case assignment on constructional basis. Therefore the dative is the perfect object of study, when investigating morphological case associated with novel verbs in Icelandic.

5 Theoretical Comparison

We will now compare our analysis with the analysis traditionally offered by Generative Grammar.

Within Generative Grammar, two types of case assignment are assumed, in the Germanic languages. These are structural and lexical case (see Zaenen, Maling and Thráinsson 1985 for Icelandic, Falk 1997 for Old Swedish, Allen 1995 for Old English). In addition, lexical case can be either idiosyncratic or thematic (semantic) (see Zaenen Maling and Thráinsson 1985, Falk 1997). In practice, this means that nominatives are assigned to subjects, accusatives are assigned to objects, datives are assigned to recipients, beneficiaries and experiencers, and the remaining case assignment to arguments is idiosyncratic.

This description, at first sight, seems to account for facts of modern Icelandic. However, it does not capture facts of the productivity of the morphological cases. According to the generative view, we would not expect idiosyncratic case to be productive, only structural and (possibly) thematic case. We would anticipate subjects to be nominative and objects to be accusative, recipients, beneficiaries and experiencers to be dative. Such a prediction does not hold altogether for Icelandic, since not all experiencer subjects of novel verbs are dative, e.g. *fíla*, which means 'like' and selects for a nominative subject. Further, according to the predictions of Generative Grammar, we would not expect theme subjects to be dative, like in *mér analýseraðist svo að*... 'I came to the analysis that...', nor would we expect theme objects also to be dative, like with the verbs *stela* 'steal', *diskriminera* 'discriminate', *varíera* 'vary' and *smassa* 'smash'.

On a constructional approach, we would expect those constructions

that are the most common and their morphological cases, to be productive in Icelandic. Further, if a construction is infrequent it can still be productive if it is associated with the right meaning, yielding for instance theme subjects and theme objects in the dative case. When comparing Generative Grammar to Construction Grammar, Construction Grammar, evidently, makes more accurate predictions.

6 Summary

The basic tenet of Construction Grammar is that there exists a correspondence between meaning and form. Every structure has a syntactic form and a semantic meaning. This structure is the *construction*. The construction and the lexical content of the verb together create the meaning of the simple sentence. Constructions and verbs also have a semantic relationship, since verbs fall into similarity clusters on the basis of their meaning, equivalent to the meaning of the constructions. All constructions in the language are not equally productive. Some are more productive than others, and some less.

An examination of novel verbs in Icelandic uncovered three mechanisms of argument structure assignment: Cluster attraction, Isolate attraction and Argument structure borrowing. Within Goldberg's constructional approach to argument structure only the first one is expected, and the second one is actually predicted by the theory not to exist. A Constructional approach to morphological case, as I have outlined it here, assumes that case is a part of the construction, and perhaps productive as such. This is so, since morphological case is a property of arguments and arguments are parts of constructions.

The study of novel verbs in Icelandic further reveals that almost all subjects are nominatives. Genitives were extremely few and therefore assumed not to be productive as neither subjects nor objects. Most verbal and prepositional objects were in the accusative case and therefore accusative is assumed to be highly productive as such. Finally, datives were recorded as subjects, objects and prepositional objects. The first

two were studied in detail here. In the case of dative subjects, they occured clearly as parts of constructions. The results on the dative as an object case also indicated that the dative was assigned on a constructional basis. A more detailed study of accusatives was not carried out here since obviously the great amount of accusative objects make it more likely that we find it assigned on constructional basis. The dative presents itself therefore as the perfect object of study.

Finally, a comparison of the predictions of Generative Grammar and Construction Grammar for morphological case showed that the predictions of Construction Grammar are unquestionably more accurate.

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