

LEXICAL VS. STRUCTURAL CASE: A FALSE DICHOTOMY

JÓHANNA BARÐDAL

University of Bergen

1. INTRODUCTION

There is a long-standing tradition in modern linguistic frameworks to divide morphological case into lexical and structural case, and specifically in Icelandic, lexical case has been divided into thematic and idiosyncratic case.[•] This article takes issue with both these dichotomies, claiming instead that all morphological case marking, at least in Icelandic, is lexical, i.e. word bound, and not structural. Section 2 gives the historical background of the tradition assuming these two dichotomies, and in opposition to that the hypothesis of the current article, that all case marking of core arguments in Icelandic is lexical, is presented. Section 3 deals with the lexical vs. structural case dichotomy, with examples from Icelandic, as well as pointing out some existing problems caused by the dichotomy. Section 4 lays out three predictions that the dichotomy between lexical and structural case makes, i.e. on a) productivity, b) historical changes, and c) language acquisition, predictions which are not borne out in Icelandic. Section 5 demonstrates that the distinction between lexical and structural case is a derivative of case marking facts with no explanatory power, only descriptive power. Section 6 examines the data that originally motivated the dichotomy and shows that the perseverance of the dative and the genitive, as opposed to the non-perseverance of the nominative and the accusative turns out to be highly construction specific, not generalizable to the language as a whole. Section 9 gives a brief outline of how the data discussed in this paper can be accounted for (on a usage-based constructional approach) without making reference at all to the lexical vs. structural case dichotomy, hence concluding that this dichotomy is not needed in linguistic theory. Section 8 summarizes the content and conclusions of this article.

2. BACKGROUND

The conception that there is a fundamental difference between structural and non-structural morphological cases goes at least as far back as Chomsky (1981:171), where “structural” case is opposed to “inherent” case:

Structural Case ... is a structural property of a formal configuration. Inherent Case is presumably linked to θ -role.

What Chomsky here labels as “inherent” case is what later came to be known as “thematic” case, i.e. case marking assigned on the basis of a specific thematic role. Structural case, on the other hand, is nominative assigned on the basis of the subject position and accusative on the basis of the object position in a sentence.

Zaenen, Maling and Thráinsson (1985), however, in their seminal article on case marking and syntactic functions make a distinction between what they call “functional,”

[•] The title of this article is inspired by the title of Croft (2003): “Lexical rules vs. Constructions: A False Dichotomy.” I am grateful to the audiences in Stanford in July, 2007, and Bergen in February, 2008, for comments.

“idiosyncratic/lexical” and “semantic” case. Functional case for them is structural case, i.e. assigned by certain positions or slots in the structure/sentence, and semantic case is the label they use on, for instance, adverbial and instrumental case. On the notion of idiosyncratic/lexical case, they state the following:

Idiosyncratic or lexical case marking is an idiosyncratic property of a lexical item, assigned by a verb, preposition or adjective. We assume that idiosyncratic case is associated with a particular thematic role ... (1985: 465)

It is clear here that Zaenen, Maling and Thráinsson use the terms “lexical” and “idiosyncratic” as synonyms about the case marking of, amongst others, verbal arguments, i.e. core arguments that are not regarded as being assigned on the basis of the structure of the sentence. These are accusative, dative and genitive on subjects and (some) objects in Icelandic. Zaenen, Maling and Thráinsson demonstrate, moreover, that case marking and syntactic functions do not go hand in hand in Icelandic (first observed by Andrews 1976) and that subject-like arguments in the accusative, dative and genitive case behave syntactically as subjects in Icelandic, and that object-like arguments in the nominative case behave syntactically as objects, despite the non-canonical case marking. The latest contribution to this discussion is found in Barðdal (2006a) and Barðdal and Eythórsson (2006) where it is shown that subject-like obliques in German also behave syntactically as subjects, and hence that the difference between Icelandic and German is not categorical but gradient.

In contrast, Yip, Maling and Jackendoff (1987) elaborate with “syntactic” vs. “lexical” case, where syntactic is the same as structural, while lexical case is further divided into thematic and idiosyncratic case. Thematic case is linked to a particular thematic argument, while idiosyncratic case really is regarded as unpredictable. Cf. the following quote from Yip, Maling and Jackendoff (1987: 227):

... that it is possible for verbs to have one lexical case that has been assigned by a regular lexical rule to a particular class of arguments [i.e. thematic], plus a second truly unpredictable or ‘quirky’ lexical case.

It is thus clear that the modern distinction between lexical and structural case, with lexical case further divided up into thematic and idiosyncratic case, can be dated at least as far back as 1987. This distinction, or set of distinctions, has become classical in syntactic frameworks, and is employed by for instance Sigurðsson (1989), Jónsson and Eythórsson (2005) and others.

Research on morphological case has also given rise to further dichotomies, like for instance the one between abstract and morphological case (Sigurðsson 2003). Other variations of this theme have been developed in the literature, as in Woolford (2006), where non-structural cases are divided into “lexical” and “inherent” case with lexical case referring to experiencers and themes and inherent case referring to goals. I know of only one serious attempt in the literature to confute this dichotomy (apart from in my own earlier work), and that is in Svenonius (2006) where it is argued that all case marking of core arguments, for instance in Icelandic, is structural, and that there only exist different types of structural cases. Svenonius’ analysis deals first and foremost with object case, passives, medio-passives and anti-causatives (unaccusatives in his terminology), so it is not clear on his account whether for instance dative subjects are

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also structurally assigned or whether they would still be regarded as lexical in his framework.

The distinction between lexical and structural case is a widely used distinction within linguistics, not only in syntax but also in experimental linguistics (see, for instance, Hopf, Bayer, Bader and Meng 1998), acquisition studies (see, for instance, Eisenbeiss, Bartke and Clahsen 2005–2006) and in other fields. It has not only been applied to Icelandic but several other languages, such as German, Russian and others. Opposing the consensus in the literature, the hypothesis put forward in the present article is the following:

- (1) HYPOTHESIS: All core case marking in Icelandic is lexical

This of course raises the question of how I define both structural and lexical case. This is the topic of Section 3 below.

3. LEXICAL VS. STRUCTURAL CASE

Lexical and structural case are here defined in the following way:

- (2)a. Structural case is assigned on the basis of the structure or position in the sentence
b. Lexical case is word bound, i.e. tied to specific lexical entries

These definitions do not deviate from the traditional definitions of these categories in the literature. Structural case in Icelandic is a) nominative on subjects and accusative on objects (ex. 3), and b) nominative on objects when the subject is lexically case marked, e.g. by a dative (ex. 4). Lexical case in Icelandic is accusative (5), dative (6) and genitive (7) on subjects and accusative (8), dative (9) and genitive (10) on objects. These are listed below:

Structural nominative subjects, structural accusative objects:

- (3) Og **gamla kellan** barði **mig** í öxlina ...
and old.NOM lady.NOM hit me.ACC in shoulder
'And the old woman beat me in the shoulder ...'

Structural nominative objects:

- (4) **Hundum** líkar illa **fótsnerting**.
dogs.DAT like badly foot-touch.NOM
'Dogs dislike their feet being touched.'

Lexical accusative subjects:

- (5) **Mig** dreymdi undarlegan draum í nótt.
me.ACC dreamt strange.ACC dream.ACC in night
'I had a strange dream last night.'

Lexical dative subjects:

- (6) **Hundum** líkar illa fótsnerting.
dogs.DAT like badly foot-touch.NOM
'Dogs dislike their feet being touched.'

Lexical genitive subjects:

- (7) **Áhrifanna** gætir enn.
effects.GEN is-perceptible still
'The effects are still perceptible.'

Lexical accusative objects:

- (8) Mig dreymdi **undarlegan draum** í nótt.
me.ACC dreamt strange.ACC dream.ACC in night
'I had a strange dream last night.'

Lexical dative objects:

- (9) Lóan stal **senunni**.
golden-plover-the.NOM stole scene-the.DAT
'The golden plover stole the scene.'

Lexical genitive objects:

- (10) Nefndin skal ekki vitja **staða** sem ...
committee-the.NOM shall not visit places.GEN which
'The committee is not supposed to visit places which ...'

Here it is also of relevance how thematic case is defined, and in Icelandic dative on subjects is regarded as being assigned on the basis of thematic role. Originally it was assumed in the literature that dative case of subjects was thematically assigned on the basis of the experiencer and beneficiary roles (Zaenen, Maling and Thráinsson 1985). However, lately it has been argued that dative case on subjects can also be thematically assigned on the basis of the theme and patient roles (Jónsson 1997–98). This is exemplified in 11–14 below:

Experiencers:

- (11) **Hundum** líkar illa fót-snerting.
dogs.DAT like badly foot-touch.NOM
'Dogs dislike their feet being touched.'

Beneficiaries:

- (12) **Henni** barst pakki í gær.
she.DAT received package in yesterday
'She received a package yesterday.'

Patients:

- (13) **Honum** versnaði veikin.
he.DAT got-worse illness.NOM
'He got worse from the illness.'

Themes:

- (14) **Óhugnanlegri mynd** skaut upp í huga mér þegar ...
horrifying.DAT picture.DAT shot up in mind me when ...
'A horrifying picture surfaced in my mind when ...'

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At this point there are two serious problems that come to mind regarding thematic case assignment. First, nominative case is also assigned to experiencer, beneficiary, patient and theme subjects. Therefore, the difference between nominative and dative subjects is that only nominatives are assigned to agents (cf. Barðdal 2001a: 101–102). Thus, if all subjects, except those with the thematic role of an agent, may be assigned dative subject case, how thematic is this case assignment? In other words, if dative case can be assigned to the subjects of all types of non-agentive predicates, it is not restricted to a particular thematic role anymore, which is what the original generalization was supposed to capture. Moreover, the current generalization that dative case on subjects can be assigned to all thematic roles but agents is not captured by this approach, i.e. by regarding and calling this case assignment “thematic.”

A second problem arises from the fact that dative case is also assigned to subjects of subjective speaker-oriented evaluative predicates and not only to subjects of (semi-)factual predicates, which are the ones always discussed in the literature as having oblique subjects, exemplified in 11–14 above (cf. Barðdal 2004: 124–31). Speaker-oriented evaluative predicates are predicates occurring in utterances where the speaker evaluates the performance or other abilities of the subject referent. One such example from English is given in 15 below, where the verb *look* is used together with an evaluative complement *good* to convey the speaker’s evaluations of the looks of the subject referent, *John*:

(15) **John** looks good.

A subclass of speaker-oriented evaluative predicates in Icelandic occurs with a dative subject, like in 16 below:

(16) **Leikurunum** tókst vel upp á sviðinu.
actors-the.DAT took-*st* well up on stage
‘The actors performed well on the stage.’

The referent of the dative subject *leikurunum* is not assigned the thematic role of an experiencer but is rather somebody carrying out a performing act, cf. the translation ‘The actors performed well on the stage.’ It is the speaker, however, who is evaluating the performance of the subject referent. So if anything, it is the speaker who is the experiencer here. On the basis of data like these, I have argued elsewhere (Barðdal 2004) that two levels of relations need to be assumed:

- a) a level including the semantic relation which hold between the referent denoted by the logical subject and the “event” denoted by the predicate (the semi-factual level)
- b) a level including the emphatic relation holding between the speaker and his/her attitudes towards the content of the proposition encoded in the utterance (the subjective level)

The examples in 11–14 belong to the first level and the example in 16 belongs to this second level, and it is not clear at all how an approach based on thematic roles can account for the dative case marking of the subject in 16, i.e. how an approach based on thematic roles can account for these two levels.

In addition to these problems, the dichotomy between lexical and structural case makes three predictions on a) productivity, b) historical development, and c) language acquisition, which are not borne out in Icelandic. This is the topic of Section 4 below.

4. PREDICTIONS OF THE LEXICAL VS. STRUCTURAL CASE DICHOTOMY

The lexical vs. structural case dichotomy makes the following three predictions:

- (17) PREDICTION 1: *Only structural case and not lexical case should be productive when new verbs enter a language*, as structural case is assigned on the basis of the syntactic structure, i.e. nominative to subjects and accusative to objects, while lexical case is bound to already-defined lexical items and specified in the lexicon to occur with them.

This interpretation of the role of the lexical vs. structural case dichotomy for productivity is confirmed by the following quote from Pinker (1999: 19) on the productivity of regular and irregular past tense forms in English:

The theory that regular forms are generated by rule and irregular forms are retrieved by rote is pleasing [...] because it explains the differences in productivity between the two patterns [...]

The distinction between lexical and structural case is equivalent to the distinction between regular and irregular past tense forms, as regular forms are regarded as being generated by a rule while the irregular forms are regarded as being associated with specific lexical entries. Hence, on this approach only the forms generated by a rule should be productive while the ones not generated by a rule, but associated with specific lexical entries, should not be productive.

- (18) PREDICTION 2: *Structural case should increase in frequency over time while lexical case should decrease in frequency*, as only structural case should be productive. Given a gradual renewal of the vocabulary, a proportion of verbs selecting for both structural and lexical case should fall into disuse, while new verbs should only be assigned structural case. Through history, frequencies should therefore become more and more skewed in favor of verbs selecting for structural case.
- (19) PREDICTION 3: *Children should overuse structural case at the cost of lexical case*, as the mapping of lexical case with the relevant lexical entries needs to be learned specifically, while structural case does not need to be mapped with any lexical entries.

These three predictions of the lexical vs. structural case dichotomy, which I will now discuss in turn, are not borne out in Icelandic. The first prediction, that only structural case and not lexical case should be productive is clearly not borne out in Icelandic, as borrowed transitive verbs in Icelandic can assign either accusative or dative case to their objects. Table 1 gives the absolute type frequency, i.e. dictionary frequencies (first column) and the relative type frequency, i.e. type frequency based on occurrence in a text corpus (second column) of Nom-Acc and Nom-Dat predicates in Icelandic. The last

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column specifies the proportion between Nom-Acc and Nom-Dat with transitive verbs borrowed into Icelandic. It is therefore the last column which shows the productivity of accusative and dative case on objects in Icelandic.

Table 1. The differences between Nom-Acc and Nom-Dat in various counts of Icelandic (Barðdal, to appear)

	Dictionary Count		Corpus Count		Borrowed Verbs	
	N	f	N	f	N	f
Nom-Acc	1,381	65.2%	303	61.7%	68	63.6%
Nom-Dat	738	34.8%	188	38.3%	39	36.4%
Total	2,119	100.0%	491	100.0%	107	100.0%

The dictionary count is carried out on the basis of an intermediate sized Icelandic-English dictionary (cf. Barðdal, to appear, for the details of this source), while the corpus count is conducted on the basis of a small but well-stratified corpus with six different genres, five written genres and one spoken genre (cf. Barðdal 2001a: 76–80 and its bibliographical section). The database with borrowed verbs was mostly compiled on the basis of occurrences on the Icelandic discussion forum for Mac-users (www.apple.is/umraedur).

Observe that the proportions between Nom-Acc and Nom-Dat for the borrowed verbs mirror almost exactly the proportions between Nom-Acc and Nom-Dat in the two other databases, i.e. 64% Nom-Acc vs. 36% Nom-Dat. This means that speakers who borrow transitive verbs from a foreign language into Icelandic assign dative case to the object of these verbs in approximately 36% of the cases. This is totally unexpected on the assumption that dative as an object case is lexical, i.e. tied to specific lexical entries. These borrowed verbs are listed below, first the Nom-Acc verbs and then the Nom-Dat verbs (cf. Barðdal 2006 and to appear).

- (20) **Nom-Acc:** *archive-a* ‘archive’, *battla* ‘battle’, *biddsslappa* ‘bitchslap’, *blasta* ‘blast’, *bojkotta* ‘boycut’, *builda* ‘build’, *bomba* ‘bomb’, *branda* ‘brand’, *browsa* ‘browse’, *bösta* ‘bust’, *compilera* ‘compile’, *copy-a* ‘copy’, *digga* ‘dig’, *döbba* ‘dub’, *editera* ‘edit’, *erasa* ‘erase’, *fíla* ‘like’, *fixa* ‘fix’, *flexa* ‘flex’, *formatta* ‘format’, *fótósjoppa* ‘photoshop’, *gúggla* ‘google’, *hakka* ‘hack’, *hössla* ‘hussle’, *kidda* ‘kid’, *krakka* ‘crack’, *logga* ‘log’, *massa* ‘finish with style’, *meisa* ‘spray with tear gas’, *modda* ‘modify’, *mounta* ‘mount’, *muffa* ‘bang’, *mönnsa* ‘munch’, *offa* ‘off’, *óna* ‘own’, *paira* ‘pair’, *partiona* ‘partition’, *patcha* ‘patch’, *peista* ‘paste’, *pinga* ‘ping’, *plögga* ‘plug’, *próðúsera* ‘produce’, *prógrammera* ‘program’, *publisha* ‘publish’, *r[e]nta* ‘rent’, *releasa* ‘release’, *rendera* ‘render’, *resetta* ‘reset’, *resolva* ‘resolve’, *restora* ‘restore’, *rippa* ‘rip’, *rokka* ‘rock’, *skratsa* ‘scratch’, *skvassa* ‘squash, break’, *slamma* ‘slam’, *ssh-a* ‘ssh’, *stúðera* ‘study’, *supporta* ‘support’, *sörfa* ‘surf’, *syncal/synkrónisera* ‘synchronize’, *tagga* ‘tag, write’, *testa* ‘test’, *tóka* ‘smoke hash’, *trimma* ‘trim’, *updata* ‘update’, *upgreida* ‘upgrade’, *verifya* ‘verify’
- (21) **Nom-Dat:** *adda* ‘add’, *blasta* ‘blast’, *bomba* ‘bomb’, *bundla* ‘bundle’, *convertera* ‘convert’, *downloada* ‘download’, *deleta* ‘delete’, *de-multiplexa* ‘demultiplex’, *dumpa* ‘dump’, *droppa* ‘drop’, *ejecta* ‘eject’, *expandera* ‘expand’, *exporta* ‘export’, *farta* ‘fart’, *innstalla/innstillera* ‘install’, *krassa* ‘crash’, *mnsa* ‘msn’, *mökka* ‘move’, *neimdroppa* ‘namedrop’, *offa* ‘off’, *parkera*

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Individual idiosyncratic case assignment:

- (25) ... að umba **útreiknuðu æviverki** ...¹ Dative
to be agent for calculated.DAT life-work.DAT
‘... to be agent for the estimated life work ...’

Observe that the borrowed verbs which select for the Nom-Dat case frame, and are a part of a low-level verb-class generalization, like the one in 24, are those which have been regarded as having their case assigned on the basis of thematic roles (Jónsson 2005: 384), in this case to verbs of non-translational motion. However, examples like in 25 are neither based on synonymous verbs nor on a class of verbs with a similar meaning. The example in 25 shows therefore very clearly that idiosyncratic case assignment is productive in Icelandic. In addition, several of the original 25 borrowings assigned dative object case on the basis of the case frame of a synonymous verb, i.e. those which are not verbs of non-translational motion, must also be regarded as being assigned case on an idiosyncratic basis. In other words, if a borrowed verb acquires its case frame on the basis of synonymy with only one already existing verb in Icelandic, such a case assignment is obviously not thematic in the sense that it is not based on a subclass of verbs with a similar meaning. Hence, there can be no rule. This means that several of the borrowed verbs which are assigned dative object case on the basis of one synonymous verb must be regarded as assigning idiosyncratic non-predictable case.

The second prediction of the lexical vs. structural case dichotomy states that through history frequencies should become skewed in favor of structural case, as only structural case should be productive while lexical case should not be productive. Consider the statistics in Table 2, which are based on type frequencies in two comparable corpora, one from Old Norse-Icelandic and one from Modern Icelandic. The Modern Icelandic corpus is the same corpus as reported on in Table 1 above, except that the frequencies in Table 2 are only based on a subset of that corpus, as two of the genres do not exist for Old Norse-Icelandic texts.

Table 2. Object frequency in Old and Modern Icelandic texts (Barðdal 2008)

	Old Norse-Icelandic		Modern Icelandic	
	N	f	N	f
Dat-Nom	33	10.0%	11	2.7%
Nom-Acc	173	52.1%	237	58.4%
Nom-Dat	105	31.6%	141	34.7%
Nom-Gen	21	6.3%	17	4.2%
	332	100%	406	100%

On the lexical vs. structural case dichotomy, one would not expect structural case to decrease in frequency from medieval to modern times. This is, however, what has happened with structural nominative on objects, as evident from Table 2. This is of course a consequence of the fact that Dat-Nom predicates are used less in the Modern Icelandic texts than in the Old Norse-Icelandic texts. Observe, moreover, that even though the Nom-Acc case frame increases in its type frequency from Old-Norse

¹ The verb *umba* ‘be agent for’ is a denominal verb, derived from the noun *umboðsmaður* ‘agent.’ One could, however, imagine that this was a short form of the verb *umbuna* ‘reward.’ A closer scrutiny of the context reveals that it is the former analysis which is the right one, as the verb *umba* is systematically used in Internet contexts in the meaning ‘be agent for somebody or something.’

Icelandic to Modern Icelandic, so does the case frame of Nom-Dat. This increase of the Nom-Dat case frame is unexpected, as dative case on objects counts as lexical case marking.

The next question to ask is of course whether this increase in Nom-Dat may be due to thematic case increasing in frequency at the cost of idiosyncratic case. That is expected on the basis of the thematic vs. idiosyncratic case dichotomy, where thematic case is regarded as being assigned on the basis of a rule while idiosyncratic case is regarded as being unpredictable. Observe that of the 105 Nom-Dat predicates in the Old Norse-Icelandic material 15 are motion verbs while 90 are not motion verbs. This means that 85.7% of these dative objects must be regarded as idiosyncratically assigned. In the Modern Icelandic material 15 out of 141 verbs are non-translational motion verbs. This means that 126 predicates of 141, or 89.4%, assign idiosyncratic case to their objects. These numbers show that there are more idiosyncratic object datives in Modern Icelandic texts than in corresponding Old Norse-Icelandic texts, i.e. 89.4% against 85.7%. These figures show once again that my criticism against the lexical vs. structural case dichotomy cannot be swept away by the point that lexical case can be divided into thematic and idiosyncratic case, as idiosyncratic case seems to have gained in frequency from Old Norse-Icelandic to Modern Icelandic.

The third and final prediction derivable from the lexical vs. structural case dichotomy has to do with the acquisition of morphological case, namely that children acquiring a language with both structural and lexical case should only have to learn which predicates assign lexical case, while the predicates occurring with structural case do not have to be learned specifically. This is a consequence of the assumption that lexical case is regarded as tied to specific lexical entries while structural case is regarded as being assigned on the basis of the position in the sentence structure. This, in turn, means that children should extend structural case to the predicates conventionally assigned lexical case, with a subsequent overuse of structural case at the cost of lexical case. Lexical case, in contrast, should not be overused or extended to predicates assigned structural case, as this case marking is not rule-based, but item-based.

Table 3. Children's errors in the object case marking of Nom-Acc verbs

Nom-Acc verbs	Nom	Acc	Dat	Indist.
<i>baka</i> 'bake'	4.7%	67.4%		27.9%
<i>brjóta</i> 'break'	5.8%	86.1%		8.1%
<i>fela</i> 'hide'	2.3%	93%	3.5%	1.2%
<i>færa</i> 'move'	1.2%	97.6%	1.2%	
<i>hræða</i> 'scare'	4.9%	95.1%		1.2%
<i>lemja</i> 'hit'	7%	88.4%	3.5%	1.2%
<i>prjóna</i> 'knit'	1.2%	79.9%		19.8%
<i>rífa</i> 'rip'		100%		
<i>sjóða</i> 'cook'	1.2%	98.8%		
<i>skoða</i> 'observe'	1.2%	90.5%		8.3%
<i>strauja</i> 'iron'	1.2%	94.1%		4.7%
<i>öfunda</i> 'envy'	5.3%	46.3%	45%	2.5%

(Sigurðardóttir 2002: 127)

Tables 3 and 4, from Sigurðardóttir (2002: 127), show that Icelandic children use dative object verbs with accusative and accusative object verbs with dative. This means that lexical dative objects are replaced with structural accusative objects, and vice versa that

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structural accusative objects are replaced with lexical dative objects. Moreover, both structural accusative and lexical dative are replaced with structural nominative case. These facts run contrary to the predictions of the lexical vs. structural case dichotomy and suggest instead that no such qualitative difference exists between the alleged lexical and structural cases.

It is a fact, however, that Icelandic children replace lexical dative with structural accusative more often than they replace structural accusative with lexical dative, and that this might possibly reduce the force of my argument. To this potential objection I have two comments. First of all, the Nom-Acc case frame is substantially higher in type frequency in Icelandic than the Nom-Dat frame, hence it is expected on a usage-based approach to language that the Nom-Acc case frame be overused at the cost of the Nom-Dat frame more than the Nom-Dat frame is overused at the cost of the Nom-Acc frame. This expectation is borne out by the numbers in Tables 3 and 4. Second, if the qualitative difference between lexical and structural case is substantive, and not apocryphal, one would not expect Icelandic children to replace structural accusative at all with another case form. One would only expect them to replace lexical dative with structural accusative (or possibly structural nominative). As long as there exist any examples showing that children replace structural accusative with lexical dative, the distinction between lexical and structural case is falsified, irrespective of the quantity of the errors.

Table 4. Children's errors in the object case marking of Nom-Dat verbs

Nom-Dat verbs	Nom	Acc	Dat	Indist.
<i>gleyma</i> 'forget'	3.6%	5.9%	89.3%	1.2%
<i>hrinda</i> 'push'	5.8%	7%	84.9%	2.3%
<i>kasta</i> 'throw'	1.2%	5.8%	86%	7%
<i>læsa</i> 'lock'	4.7%	15.3%	78.8%	1.2%
<i>ná</i> 'get'	3.5%	4.7%	90.6%	1.2%
<i>stela</i> 'steal'	1.2%	9.4%	89.4%	
<i>stríða</i> 'tease'	7%	7%	84.9%	1.2%
<i>vorkenna</i> 'feel sorry for'	7.3%	17.1%	75.6%	

(Sigurðardóttir 2002: 127)

Finally, the question arises whether the errors children make are tied to idiosyncratic case while thematic case is spared. The data in Tables 3 and 4 do not suggest that. One cannot discern fewer errors with verbs assigned with thematic case than with those assigned with idiosyncratic case. For instance, the verb *gleyma* 'forget' is correctly used with idiosyncratic dative object case in 89.3% of all occurrences, while the verb *kasta* 'throw' is correctly used with thematic dative object case in 86% of the occurrences. These numbers do not favor the alleged thematic case marking. It is thus clear that even though one takes the dichotomy between thematic and idiosyncratic case into consideration, the prediction in 19 is still not borne out, which on the whole speaks against both dichotomies. In contrast, the prediction of a usage-based constructional account, that the Nom-Acc pattern be overused more than the Nom-Dat pattern, as it is higher in type frequency than the Nom-Dat pattern, is clearly borne out.

5. DESCRIPTIVE VS. EXPLANATORY POWER

In the literature on lexical and structural case, two approaches to structural case marking can be found. First, the traditional view of structural case is that nominative is assigned to subjects and accusative is assigned to objects. This approach can be traced back to traditional Latin school grammar. A later more modern approach, first advocated in Yip, Maling and Jackendoff (1987) is that in addition to nominative on subjects and accusative on objects, structural nominative is also assigned to the first argument not bearing lexical case. These two accounts capture different kind of data, or more correctly put, different case frames. On the first approach, Nom-Acc is accounted for, while on the second approach, the nominative of Dat-Nom is accounted for. A preposterous consequence of this latter approach is that accusative objects of Acc-Acc predicates, like *dreyma* ‘dream’ in 5 above, must be regarded as lexical (cf. Yip, Maling and Jackendoff 1987: 231–232). If the case marking of the objects were structural, it should be nominative, like with Dat-Nom predicates, since the subject of *dreyma* ‘dream’ is lexically case marked with an accusative subject. Hence, this accusative marking must be regarded as lexically assigned within this framework.

These two approaches have been developed to account for synchronic structures, and the question arises whether they make the correct predictions about diachronic development. In Icelandic, for instance, one would expect dative and genitive objects to change into accusative objects, as dative and genitive are lexical cases while accusative is the structural case for objects, according to the older traditional approach. There are certainly some examples of, at least, genitive objects changing into accusative objects (cf. Barðdal 2001a, 2008, to appear). However, there are also examples of genitive objects changing into nominative objects. Consider the verb *batna* ‘recover’ which selected for the Dat-Gen case frame in Old Norse-Icelandic (ex. 26), and selects for the Dat-Nom case frame in Modern Icelandic (ex. 27).

- (26) Pormóði batnaði þá skjótt **augnaverklarins** og ... *Old Norse-Icelandic*
Thormod.DAT got-better then swiftly eye-pain-the.GEN
‘Thormod then swiftly recovered from the eye pain ...’
(Fóstbræðra saga 1987: 802)
- (27) ... og Steinunni batnaði **veikin**. *Modern Icelandic*
... and Steinunn.DAT got-better illness-the.NOM
‘... and Steinunn recovered from the illness.’
(www.snerpa.is/net/thjod/fellsend.htm)

This development from genitive objects to nominative objects is unexpected on the traditional approach that objects are assigned accusative on the basis of their object position in the sentence structure. On that approach, one would expect an accusative here and not a nominative. However, this change can be captured by the latter approach to lexical and structural case, namely that the first argument which is not lexically case marked receives a structural nominative. In other words, it is the modern approach to structural case that captures this change, while the traditional approach fails.

Another change in the history of Germanic is from nominative objects to accusative objects. This happens with predicates that originally selected for the Dat-Nom case frame in Germanic, like *hreowan* ‘pity’ in Middle English (ex. 28) and *dáma* ‘like’ in Modern Faroese (ex. 29):

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- (28) for þi ðat **him** areowe **ow** *Middle English*
for that that him.OBJ pity you.OBJ
'so that he would pity you' (Allen 1996:10)
- (29) **Mær** dámar væl **hasa bókina**. *Modern Faroese*
I.DAT like this book.ACC
'I like this book.' (Barnes 1986:33)

It has been argued by Allen (1996) and Falk (1997) that this change entails a change from one structural case to another, i.e. a change from a structural nominative to a structural accusative. This change, however, is unexpected on the assumption that structural nominative is assigned to the first non-lexically case marked argument. In contrast, this change is captured by the original approach that nominative is the structural case for subjects and accusative the structural case to objects. In other words, this time it is the traditional approach to structural case that captures this change, while the modern approach fails.

These two examples of changes in case marking in Germanic show that the two approaches that have been developed within generative linguistics to account for case marking target complementary changes, changes which are predicted to take place by one of the accounts are predicted not to take place by the other account, and vice versa. This means that these two approaches have no explanatory power. These two approaches are simply derivatives of case marking facts in Icelandic and Germanic. As such they are more or less only useful for descriptive purposes (for a usage-based constructional approach to these changes, cf. Barðdal 2001a: Ch 7 and 2008).

6. MOTIVATION FOR THE STRUCTURAL VS. LEXICAL CASE DICHOTOMY

The original motivation for assuming a dichotomy between lexical and structural case within the generative framework can be found in raising-to-object constructions and passives. Both structures were taken to show that lexical case is maintained during structure-changing operations while structural case is not maintained. That is, structural accusative changes into a structural nominative, while lexical dative is maintained through structure-changing operations. I will first discuss "raising-to-object" constructions and then passives.

The example in 30 below shows that the nominative subject of *kaupa* 'buy' in Icelandic changes into an accusative object in "raising-to-object" constructions with the verb *láta* 'let', while the example in 31 shows that the dative subject of *líða* 'feel' is maintained in the same kind of "raising-to-object" construction in Icelandic:

- (30) Ég lét **Svein** kaupa bílinn.
I.NOM let Sveinn.ACC buy car-the.ACC
'I made Sveinn buy the car.'
- (31) Ég lét **Sveini** líða illa.
I.NOM let Sveinn.DAT feel bad
'I made Sveinn feel bad.'

It has been argued on the basis of data like these that there is a fundamental difference between lexical and structural case, as these data show that structural case gets altered

in structure-changing operations, while lexical case is preserved. However, this is not true for all “raising-to-object” constructions, but turns out to be highly construction specific. Consider the following examples:

- (32) Mér sýnist **Sveinn** ætla að kaupa bílinn.
I.DAT seems Sveinn.NOM intend to buy car-the.ACC
‘To me it seems as if Sveinn intends to buy the car.’
- (33) Mér sýnist **Svein** langa að kaupa bílinn.
I.DAT seems Sveinn.ACC long to buy car-the.ACC
‘To me it seems as if Sveinn wants to buy the car.’
- (34) Mér sýnist **Sveini** líka bíllinn illa.
I.DAT seems Sveinn.DAT like car-the.NOM badly
‘To me it seems as if Sveinn dislikes the car.’

The examples in 32–34 show that with the raising verb *sýnast* ‘seem, appear’ in Icelandic not only lexically assigned accusative and dative subjects maintain their case marking but also nominative subjects (ex. 32). In other words, with raising verbs like *sýnast* ‘seem, appear’ the subject of the lower verb maintains its case irrespective of which case it is (cf. Barðdal 2001a: 104–105, Thráinsson 2005: 432). Do these data show that nominative is also lexical? Taking the motivation for the lexical vs. structural case dichotomy to its logical conclusion entails that the nominative here should be regarded as lexical, as it is maintained with the “raising-to-object” verb *sýnast*. A more feasible alternative, however, is to say that the case marking properties of “raising-to-object” constructions are specific for each construction and not a general property of the language as a whole.

Turning now to passives, consider the examples in 35–36:

- (35) **Bókin** var keypt. Passive
book-the.NOM was bought
‘The book was bought.’
- (36) **Bókinni** var stolið.
book-the.DAT was stolen
‘The book was stolen.’

The example in 35 has been taken to show that the accusative object of *kaupa* ‘buy’ in active structures turns up in the nominative in the passive, while the example in 36 has been taken to show that the dative object of *stela* ‘steal’ maintains its dative case when this dative object is promoted to subject.

Observe, however, that in the adjectival passive construction, dative objects also change into nominative (cf. Barðdal 2001a: 103–104, Svenonius 2006):

- (37) **Bókin** var keypt. Adjectival passive
book-the.NOM was bought
‘The book was bought.’

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- (38) **Bókin** var stolin.
book-the.NOM was stolen
'The book was stolen.'

The difference between the canonical passive construction and the adjectival passive is that the first is processual, or eventive, while the second is stative, or non-eventive (Barðdal & Molnár 2003). These data therefore show that case maintainance is not a general property of “lexical” case as opposed to “structural” case but is a construction-specific property of individual constructions, like different “raising-to-object” constructions and different passive constructions. These properties are, in other words, idiosyncratic and have to be defined for each construction. As such, these properties do not support the lexical vs. structural case dichotomy.

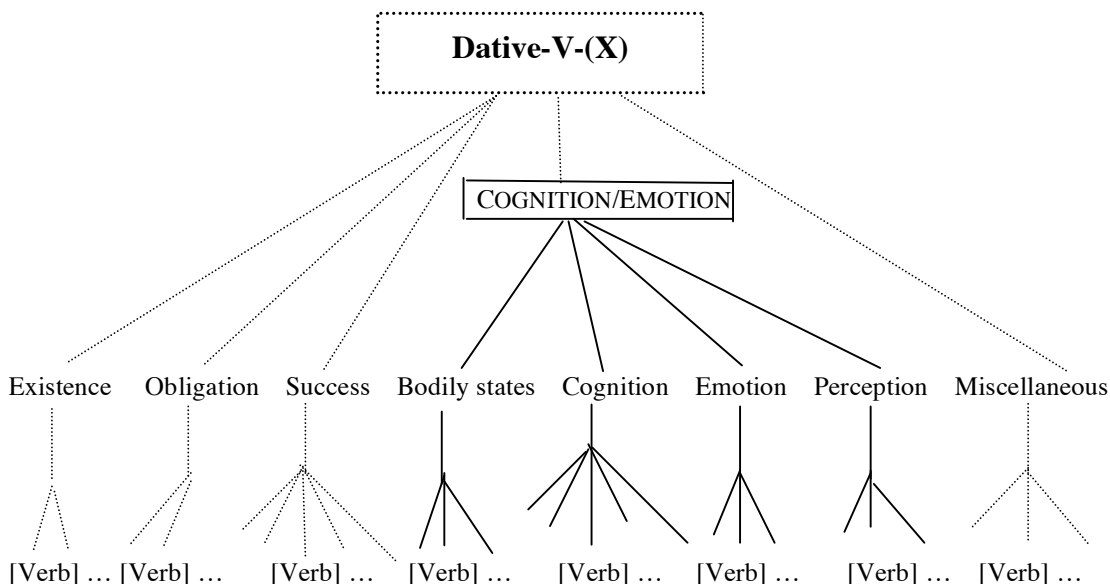
7. ALL CASE MARKING IN ICELANDIC IS LEXICAL

The assumption that all case marking of core arguments in Icelandic is lexical can easily be accounted for on a usage-based constructional approach to language and grammar. Also, this assumption does not necessarily entail that higher-level generalizations are lost. On the contrary, on a usage-based constructional approach, where constructions are assumed to exist in a lexicality–schematicity hierarchy, both lower-level and higher-level generalization can be maintained, as well as the idiosyncratic behavior of individual predicates (cf. Croft 2001, 2003). The lowest-level idiosyncratic properties are encoded in verb-specific constructions at the bottom of the lexicality–schematicity hierarchy. This is the most lexical level where the case marking of the arguments is encoded. Such encoding of the case marking of verbal arguments is found with all predicates in Icelandic at the verb-specific level. Hence, all case marking of core arguments in Icelandic is “lexical.” The case marking is specified on an item-specific level for all predicates. In contrast, the highest level of the lexicality–schematicity hierarchy is the most abstract level with the least lexical information and the most schematic information. The highest level is thus an abstraction of all the lower-level verb-specific and intermediate-level verb-class-specific constructions. At the intermediate levels, verb-class-specific and verb-subclass-specific generalizations are stored. To exemplify, consider the lexicality–schematicity hierarchy of the dative subject construction, given in Figure 1, based on the occurrence of fifty-three types in the text corpora reported on in Table 2.

Observe that the vertical axis represents the schematicity–lexicality continuum. The lowest level at the bottom of the hierarchy is the semantically and lexically most concrete level, consisting of the fifty-three verb-specific constructions in the text corpus (labeled [Verb]). These fifty-three verb-specific constructions make up the next level above, which contains only eight verb-class-specific constructions. Four of these are subconstructions of the basic-event-type categories COGNITION/EMOTION while the remaining four do not make up a category of their own (Barðdal, to appear: Ch. 4). Observe also that differences in type frequency also result in differences in entrenchment, here shown with bold lines. There are four verb classes that are more salient in the material than other verb classes, i.e. they contain the most verbs. These are verbs of bodily states, verbs of cognition, verbs of emotion and verbs of perception. Hence, these are bold-lined in Figure 1. The highest level, schematic dative subject construction is not particularly entrenched, as the intermediate levels are not particularly well entrenched or well connected to the highest level. It is only verbs of

cognition/emotion that is entrenched, which does not make the highest, most schematic level salient.

Figure 1. The dative subject construction in Modern Icelandic texts



Full-fledged lexical–schematic hierarchies have been suggested for the transitive Nom-Acc, Nom-Dat and Nom-Gen constructions in Icelandic (Barðdal, to appear: Ch. 3), alternating Dat-Nom/Nom-Dat predicates (Barðdal 2001b), the dative subject construction (Barðdal 2006a), the ditransitive construction in West-Scandinavian (Barðdal, Kristoffersen & Sveen 2008), and additional constructional analysis has been suggested on the ditransitive in Icelandic (Barðdal 2007). It also needs to be specified for the various “raising-to-object” and passive constructions what the case frames of the individual subconstructions are, and what the case frame will be for the output constructions. This has been done for the passive construction (Barðdal & Molnár 2003), inchoative aspectual constructions (Barðdal 2001c) and coordinated structures (2006a) in Icelandic. Therefore, on the present usage-based constructional approach, all case marking in Icelandic can easily be accounted for as lexical, i.e. word bound, tied to specific lexical entries, without that resulting in loss of intermediate and higher-level generalizations.

I have in the present article concentrated on Icelandic data. It remains to be seen whether the lexical vs. structural case dichotomy can also be refuted for German, Russian, Finnish and other languages. Irrespective of whether it can be refuted for these languages or not, usage-based constructional analyses can be proposed for them, without making recourse to the dichotomy at all. Hence, a usage-based constructional analysis will always have the benefit over other generative analyses that it will sufficiently account for case marking facts of Icelandic, which, as I have shown here, generative analysis do not.

8. CONCLUSIONS AND SUMMARY

In this paper a critical view has been directed towards a) the dichotomy between lexical and structural case and b) the dichotomy between thematic and idiosyncratic case. The two dichotomies have not withstood the scrutiny. For instance, I have shown that there are several problems associated with the notion of thematic case assignment in

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Icelandic; First, all thematic roles of subjects except agents can be assigned dative case, hence dative case assignment on subjects is not restricted to experiencers and beneficiaries, as was originally assumed in the literature. Thus, the concept of thematic case assignment has lost its original generalizing force. Second, an approach to case marking based on thematic roles will not capture the dative case assignment of subjects of speaker-oriented evaluative predicates, existing at a level where it is the emphatic relation between the speaker and his/her attitudes towards the content of the proposition that is being profiled, and not the semantic relation between the subject and the predicate.

I have also shown that the distinction between lexical and structural case makes three predictions that are not borne out in Icelandic on: a) synchronic productivity, b) changes in case frequencies over time, and c) acquisition of case. When it comes to these three predictions and their non-attestation in Icelandic, the distinction between lexical and structural case cannot be rescued by the distinction between thematic and idiosyncratic case. In other words, a) lexical and idiosyncratic case is productive in the sense that it can be extended to new predicates in Icelandic, b) lexical and idiosyncratic case has not gone down in frequency from Old Norse-Icelandic to Modern Icelandic texts, and c) children make error with both structural and lexical/idiosyncratic case and not only lexical/idiosyncratic case, which is unexpected if structural case is assigned on the basis of position in the sentence, and hence does not need to be learned, while lexical/idiosyncratic is tied to specific lexical entries, and hence must be learned specifically for each verb. Moreover, the data on productivity in Section 4 suggest that the assignment of accusative case to objects is also tied to specific lexical entries, and hence that accusative objects are also assigned case lexically, exactly like datives.

Furthermore, changes from Dat-Gen to Dat-Nom in the history of Icelandic and Dat-Nom to Dat-Acc in, for instance, Early Middle English and Early Modern Faroese are captured by two complementary approaches to structural case, which in turn severely undermines the general explanatory value of the concept of structural case. It seems, rather, that the power of the lexical vs. structural case dichotomy is purely descriptive.

Finally, it turns out that the motivations for assuming the lexical vs. structural case dichotomy to begin with are construction-specific motivations that cannot be generalized to the language as a whole. These are the non-perseverance of nominative and accusative in structure changing operations and the perseverance of dative and genitive in the same structure changing operations. On a closer inspection it turns out that there are passive constructions where the so-called lexical cases also turn into nominative, and there are “raising-to-object” constructions where the nominative is preserved. Hence, the perseverance of dative and genitive vs. the non-perseverance of the nominative and the accusative cannot be generalized to the language as a whole, again diminishing the value of the lexical vs. structural case dichotomy.

In this article I have suggested instead that all case marking of verbal arguments in Icelandic is lexical, i.e. word bound, tied to specific lexical entries. This can easily be accommodated in a usage-based constructional framework, where constructions are assumed to exist in a lexicality–schematicity hierarchy with the verb-specific constructions at the lowest level, the abstract schematic constructions at the highest level, and verb-class-specific and verb-subclass-specific constructions at the intermediate levels. On such an account the case marking of the verb-specific constructions are coded at the lowest level of the hierarchy, while at the same time intermediate and higher-level generalizations are maintained.

APPENDIX: Borrowed verbs not assigned case on the basis of synonymous verbs

NOM-ACC:

battla ‘battle’: *battla þá svo þeir hætta þessari iðju*
editera ‘edit’ *oft þarf að “editera” hann; til að editera síðurnar.*
erasa ‘erase’: *Vitið þið nokkuð hvernig maður erasar cdrw diska án þess að ...*
gúggla ‘google’: *Ég nota bene gúgglaði þetta fram og til baka; veit ekkert um þetta*
ég googlaði það bara
muffa ‘muff’: *Ég var samt ekki að muffa neinn*

NOM-DAT:

de-multiplexa ‘demultiplex’: *hverni de-multiplexa ég þessu?*
expandera ‘expand’: *verð að expandera skjölunum með því að*
exporta ‘export’: *og exportað því svo þaðan í fæl sem ég get importað í Opera*
importera ‘import’: *búin að importera öllum færslum þessa árs inn í MT*
innstalla/innstallera ‘install’: *ætlaði að installa honum en það er eitt vandamál.*
msna ‘msn’: *leiðinlegt að msna fólki sem situr við hliðina á mér.*
peista ‘paste’: *þannig er unnt að peista honum í console*
pósta ‘post’: *Póstaðu lognum hér.*
publisha ‘publish’: *Get ég publishað mínu iCal dagatali á netið*
restarta ‘restart’: *og svo restartaði ég tölvunni eins og venjulega: og síðan restartar*
finder sér.
starta ‘start’: *og hindra að ég geti startað henni upp ...*
umba ‘be agent for’: *að umba útreiknuðu æviverki*
unzippa ‘unzip’: *þegar ég var að reyna að unzippa forriti (Mellel) sem ég sótti.*
untara ‘unzip’: *en það “ætti” að vera nóg að untara skránni í vefrótinni.*

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