Dative: The heterogeneity of the mapping among morphological case, grammatical functions, and thematic roles

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Abstract

This paper examines the mappings among morphological case, grammatical functions, and thematic roles, focusing on dative as a place where the mapping between the morphosyntax and semantics is often assumed to be particularly regular. Evidence is provided from three Germanic languages, English, German and Icelandic, which shows that the mappings are more heterogeneous than is generally acknowledged. An investigation of both co-occurrence restrictions and the lexical restrictions on adnominal genitives, middle formation and secundary predication suggests that the linking of dative case and verbal arguments does not play a role in restricting lexical roles. Accusative goals are shown to behave in most respects just like dative goals, and dative themes just like accusative themes. Since the objects of transitive verbs do not all behave alike, these cannot be treated as the default theta-role on verbal objects, and lexical roles may need to refer to the content of theta roles, not just their relative position in a verb’s theta grid. © 2001 Elsevier Science B.V. All rights reserved.

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1. The linking problem

This paper addresses the so-called 'linking problem': the problem of discovering and explaining the regularities which govern the syntactic realization of a verb's arguments. What are the possible mappings between thematic roles, grammatical functions, and morphological case? What role does morphological case play in the grammar of natural languages? A common, if usually tacit, assumption in much of the literature is that morphological case directly reflects or encodes either grammatical functions (SUBJ, OBJ, etc.) or thematic/semantic roles (agent, theme, experiencer, goal, etc.). An unusually explicit formulation of this assumption is found in the following quote from Den Besten:

(1) "... there seems to be a one-to-one relationship between nominative, dative, and accusative and Subject, Indirect Object, and Direct Object respectively." Den Besten (1989: 205).

Such statements reflect the widespread assumption that there is a one-to-one mapping between morphological case and grammatical functions (CFs). Similarly, in many languages we find quite systematic regularities concerning the relation between in-case and thematic role; for example, dative is cross-linguistically the case assigned to recipients, experiencers, and beneficiaries. Following Kiparsky (1987), I will use 'goal' as a cover term for this class.

In this paper, I focus on dative case as a place where the mapping between the morphosyntax and semantics is often assumed to be particularly regular. In Romance languages, for example, it has been claimed that dative case is assigned to any verbal argument that is thematically a goal (Alisina, 1996: 175). We shall see, however, that the mapping is not so predictable, at least in Germanic. I show that not only are goal arguments not necessarily marked dative, but dative can be mapped to thematic arguments as well as goals. Furthermore, even in the Germanic languages where the prototypical IO is dative, the IO is not always marked dative. For the purposes of this paper, I will use the traditional notion of IO, the argument which is in all Germanic languages is the intransitively first object in the double object construction and which by definition bears a goal-type theta role (usually recipient or benefactive), and hence is typically human.

1.1. Asymmetries between IO and DO

Before turning to the cross-linguistic data, I begin with a brief discussion of some of the arguments widely cited in the literature to distinguish between direct and indirect objects. One of the obvious differences between Romance and Germanic languages concerns the syntax of three-place predicates like give. Ditransitive or double object verbs are a proper subset of the class of triadic predicates. Only the Germanic languages have a true double object construction with two NP objects. In the modern Romance languages, the recipient argument will be mapped onto a PP or a dative clitic; in the Germanic languages, the recipient will typically be mapped on to a
dative NP, traditionally labeled the Indirect Object. Possibly motivated by the desire to minimize the differences between languages, a number of linguists have suggested that the indirect object/goal argument is realized as the object of a Preposition which may be phonologically null. Emotions (1985: 85.1, 1994: 617) argues that the morphological dative case on indirect object NPs and on NP complements to adjectives in German, Latin and classical Greek must be described in the presence of an empty introductory P; the dative case-marking is formally represented as an index or trace P on the NP sister of this null P. In his discussion of three-argument verbs, Baker (1997) compares dative alternation with locative alternation, and argues that the dative alternation, unlike the locative alternation, is the result of syntactic movement. The theme argument is consistently generated as the (underlying) direct object, but the benefactive/goal argument is generated as an oblique internal argument, object of a possibly null preposition. Dative shift is treated as an instance of Preposition Incorporation, ... when the preposition is incorporated, it no longer can force Case on its object; therefore the goal must move to a position outside the inner VP to receive/keep structural accusative Case ... As a result of this movement, the goal comes to be before the theme and asymmetrically e-commands it" (Baker, 1997: 91).

Baker’s analysis is based on the claim that indirect objects behave like prepositional objects and unlike direct objects. Hudson (1992) uses the same claim to argue for the traditional assignment of grammatical function to the two internal arguments of a double object verb. It is interesting that despite their very different theoretical approaches. Baker and Hudson give many of the same arguments. I enumerate Baker’s arguments here.

(2) Six different syntactic asymmetries between IO and DO (Baker, 1997)

1. Secondary Predication
2. Derived nominals
3. Synthetic compounds
4. Movement (difficultly extracting the first object of a double object construction, or moving it rightward)
5. Quantifier Scope interactions
6. Unaccusative verbs

(3) Adjective secondary predication (Williams, 1980: 204; Baker, 1997: 99)

a. I gave the meat to Mary raw.
   b. *I gave the meat to Mary hungy.
   c. I gave Mary the meat raw.
   d. *I gave Mary the meat hungy. [*Baker, 1997: 90, ex. 234]

(4) Derived nominals (Baker, 1997: 83, ex. 29)

a. *John’s giving of Mary (of) the book
   b. *the resting of the men (of) the house
   c. *this teaching of John (of) mathematics

(5) Synthetic compounds (Baker, 1997: 94, ex. 35)

a. secret-telling, book-reading
   b. *spy-telling, *child-reading
(6) Wh-movement and Heavy NP-shift (Baker, 1997: 92)
   a. *I gave the candy every child that came to the door.
   b. I gave to Johnny every piece of candy I could find.

(7) Quantifier scope interactions (Baker 1997: 94, ex. 36)
   a. The teacher assigned one problem to every student.
      (ambiguous)
   b. The teacher assigned one student every problem.
      (unambiguous)

(8) Unaccusative verbs (Baker, 1997: 95, ex. 40, 41)
   a. The rope dropped its down to John
   b. *John dropped its (down) the rope

Both Baker and Hudson implicitly assume that direct objects of simple transitive (dyadic) verbs behave alike with respect to the various diagnostics they use to distinguish the two internal arguments of ditransitive verbs: goal/IO versus theme/DO.

I show here that this assumption is unfounded. Of the six asymmetries between IO and DO discussed by Baker, only two are specific to the double object construction: namely, movement and quantifier scope interaction, because they refer to the relation between the two internal arguments. I argue that at least the first three diagnostics are sensitive not to grammatical function but to thematic role, since the effects show up with monosub stance verbs just as clearly. I consider two of these diagnostics here, synthetic compounds and secondary predication.

1.2. Synthetic compounds

One of Baker's arguments is based on synthetic compounds. Observing first that a prepositional object cannot be compounded (cf. *relative-depending), he proposes to account for the impossibility of incorporating the IO of ditransitive verbs in terms of a null preposition.

(9) a. *relative-depending (from depend on relatives) incorporated object
    of P
   b. book-reading; gift-giving; letter-writing; incorporated IO
   c. *children-reading; *children-giving; *friend-writing incorporated IO

On the basis of these contrasts, Baker concludes that "Goal role is necessarily assigned by a preposition and Ps cannot appear in compounds" (Baker, 1997: 106).

However, the facts concerning synthetic compounds are far more complicated. First, there are mysterious contrasts involving direct objects which presumably bear the same thematic role but differ in some other way.

(10) a. Poetry-reading is not popular.
    b. *Shakespeare-reading is required of all high school students.

More significantly, simple transitive verbs do not all behave alike. The direct objects of dyadic verbs like help, invite, teach, telephone, thank, visit cannot appear in synthetic compounds any more than the indirect objects of ditransitive verbs can.
(11) a. *Sentence-reaching on time is our goal.
   b. *Goal-reaching can be difficult.
   c. *Relative-visiting can be boring.
   d. *Dentist-visiting is no fun.
   e. *Host-shaking is common courtesy.
   f. *Friend-phonning after midnight makes parents angry.
   g. *Guest-inviting for the wedding too far.

These are all verbs whose objects are often described as bearing the theta role goal rather than theme. The fact that the goal object of a dyadic transitive verb behaves like the IO, and unlike the DO, of a ditransitive verb shows that contexts—like those in (5) cannot be used as a diagnostic for grammatical function, as Stimson (1992) assumes. And unless one is willing to analyze the direct objects of these simple transitive verbs as (underlyingly) the objects of a null preposition, the contrasts also suggest the existence of a thematic restriction against goal arguments occurring in such compounds.

1.2. Adjectival secondary predicates

Another of Baker’s arguments is based on adjectival secondary predicates. A well known descriptive generalization is that deontic and resultative APs can be predicated of a direct object but not the object of a P. As illustrated by the contrasts shown in (3), this restriction is standardly attributed to a c-command condition on secondary predication.1 Williams (1986) observed a further restriction for deative verbs: a secondarily predicative cannot be predicated of the goal argument of a ditransitive verb, even when it is not expressed as the object of to. This restriction is sometimes referred to as the Theme Condition (Ander son, 1976; Rapoport, 1991, 1993). Baker makes the following claim:

(12) *Indeed, (21d) *[I gave Mary the meat] hungry is the only situation in which an AP cannot be predicated of a bare NP that is inside VP” (Baker, 1997: 90)

But this is not a descriptively accurate generalization. Consider the examples below which involve direct objects of simple two-place predicates. The object-host reading is unavailable.2 The predicative AP would normally be understood as modifying the subject NP, but this reading has been ruled out by including an attributive modifier e.g. sober, which conflicts with the meaning of the deictic AP e.g. drunk.

(13) a. *The sober dean helped the student to his room drunk.
   b. *The only healthy nurse visited the patient at home sick

1 This structural condition on predication is not universal. As discussed in Section 4, virtually any NP, including prepositional objects, can host a secondary predicate in Adjective.
2 The object-host reading may be marginally available if separated by a strong enough pause.
c. "The elegantly-dressed CEO invited the animal rights protesters inside stark-naked."

d. "The sober dean telephoned the student at home distraught."

Just like the IO of a ditransitive verb, the direct object of these two-argument verbs cannot host a predicative AP. Conversely, it is sometimes possible to predicate a deictic AP of a NP which is an indirect object or object of a P, which are widely assumed not to c-command the secondary predicate.¹

(14) a. The brain surgeon had to operate on the patient wide-awake.

b. The perverted orderly liked to look at female patients naked.

c. Victorian doctors preferred to give their female patients a physical exam fully-dressed.

d. The nurse gave the patient his medication still-groggy/half-asleep.

The picture is obviously far more complex than one would assume from reading Baker or Hudson.

1.4. Theoretical Issues

What are the implications of these contrasts for syntactic theory, in particular, for the Uniformity of Theta Assignment Hypothesis (UTAH)?

(15) The Uniformity of Theta Assignment Hypothesis (UTAH)

a. "Identical thematic relationships between items are represented by identical structural relationships between those items at the level of D-structure." (Baker, 1988: 46)

b. "Arguments bearing similar thematic roles are expressed in similar initial structural positions both within and across languages. ... The alternations in the realization of arguments of a predicate that one does find are either the result of different conceptualizations of the event, or the result of syntactic movement processes." (Baker, 1997: 104-103)

Baker suggests that nouns always receive their theta-role from a (possibly null) preposition. The logical consequence of this is clear: in accordance with UTAH, the objects of simple transitive verbs like help, invite, thank, telephone, etc. must also be (underlyingly) the objects of a null preposition. Not all linguists will find this to be an acceptable level of abstraction.

An alternative is that the restrictions on synthetic compounds and nominalizations are thematic rather than configurational. If this suggestion is correct, the observed contrasts provide evidence that lexical rules need to refer to the content of theta-roles.

¹ See also Whelpton (1995) for similar examples of control of Purpose clauses where the controller is either an indirect object or is headed by a preposition.
and not just their relative position in a verb's theta-grid (contra much recent work), since a two-place predicate whose internal argument is a theme behaves differently from one whose internal argument is a goal argument. The problem, of course, is whether we can accurately identify the thematic role that a given verbal argument bears. We cannot simply rely on our intuitions about the difference between themes and goals. I assume that theme is defined as the argument that undergoes the action or notion of change of state or location.

(16) The theme is the entity which undergoes the (physical) change of state or location.

It is not straightforward to apply such definitions to a given verbal argument. Unfortunately, linguistic theory still awaits a full Lexical Conceptual Structure (LCS) analysis of verbs; so in the meantime, we will have to rely on other syntactic tests to support these intuitions. The difference between theme and goal arguments is reflected in English nominalizations in at least two ways: (i) in the choice of preposition, and (ii) for deverbal process nominals, in the interpretation of adnominal genitives as corresponding to the verb's subject or object. Some English examples are given in (17)–(18):

(17) Our help/thanks to the hostess went unacknowledged.

(18) a. the student's rescue (ambiguous: agent or theme)  
   b. the student's help (unambiguous: agent only/benefactive goal)

The relevant generalizations are as follows. First, themes but not goals can be marked with the case-assigning preposition of, as illustrated in (17). Second, themes but not goals can be linked to the adnominal genitive position when the head N is a deverbal process nominal, as shown in (18). Wason (1977: 338) expresses the difference in terms of grammatical functions, e.g. the verbs help and thank are said to take 'indirect objects' as their objects. In his comments on Wason's paper, Anderson (1977) interprets the distinction instead as one of thematic role (goal vs. theme).

Since the objects of transitive verbs do not all behave alike, it follows that Theme cannot be treated as the default theta-role on verbal objects. Roeper (1993) assumes that the object of the verb help is a Theme, and hence the verb has an [AG, TH] argument structure. This assumption is made explicit in his representation of the passive:

(19) John was helped by Bill  
     [AG, TH]

Roeper observes that the verb's object is 'unprojective', in that the deverbal nominal help does not allow the object to be expressed as either an of phrase or a preverbal genitive; note that in the NPs in (20a), John can only correspond to the subject argument of the corresponding verb.
(20) a. the help of John\(\text{\textquotesingle}s\) help (John = subject, a object)  
    (Roeppe, 1993: 189, ex. 166)  
    b. John\'s defeat; John\'s rescue; John\'s murder (John = subject or object)  

Because he fails to consider thematic role, Roeppe mistakenly attributes the unprojectability of the object of help to zero-affixation, and goes on to develop an account in which the zero-affix blocks the percolation of the internal argument. But this hypothesis fails to account for the contrast between help and the many zero-affix deverbal nominals (including rescue, defeat and murder) that do allow expression of the object as an objective genitive. Like the analyses of Fagan and Holmberg and Blutack discussed below, this example clearly illustrates the danger of the widespread tendency to treat theme as the default theta-role on objects.

1.5. The role of morphological case

With this discussion of English as background, we can now turn to the questions posed at the beginning of this paper. To what extent does morphological case serve to encode either grammatical function or thematic role? How can we tease apart these grammatical notions? How does dative, the prototypical case of the indirect object, fit into the picture? For the purposes of discussion, I will ignore the possibility of lexical case-marking other than dative. Under this simplified picture, dative and accusative are the only possible morphological cases on verbal objects. The prototypical mappings between morphological case, grammatical functions and thematic role are shown in the first two lines of Table 1. The remaining logically possible combinations are shown in lines 3–6.

<table>
<thead>
<tr>
<th>GF</th>
<th>m-case</th>
<th>0-role</th>
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<tbody>
<tr>
<td>Direct Object</td>
<td>dative</td>
<td>goal</td>
</tr>
<tr>
<td>Indirect Object</td>
<td>dative</td>
<td>theme</td>
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<tr>
<td>Indirect Object</td>
<td>accusative</td>
<td>goal</td>
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<td>Direct Object</td>
<td>accusative</td>
<td>theme</td>
</tr>
<tr>
<td>Direct Object</td>
<td>dative</td>
<td>goal</td>
</tr>
</tbody>
</table>

Recall that for the purposes of this paper, I am using the traditional notion of IO, which by definition bears a goal-type theta role, rather than the linearly first object which might be considered the direct object by the syntactic criterion of passivization. The traditional semantic definition of the term IO makes the distinction between grammatical function and thematic role redundant. For this reason, Table 1 has only six rows rather than the expected eight, since by definition, the theme argument of double object verbs will never be assigned to the function "indirect object". For two-argument verbs, however, there are four possible mappings between m-case
and thematic role. For a sketch of the case-marking on verbal objects in Icelandic, see Appendix A.

The remainder of this paper is divided into two sections. Section 2 is about the correlation between dative case and the GF ‘Indirect Object’. I look at the co-occurrence restrictions on both accusative and dative objects, and argue that morphological case is not the constraining factor. Section 3 is concerned with the relationship between dative case and thematic role. Dative is, of course, not only the prototypical case on indirect objects, but cross-linguistically the case most likely to occur on the goal-like objects of verbs like help, thank, invite, visit etc. I look at a number of examples in the morpho-syntax of Germanic languages where appeal has been made to the presence of lexical case-marking on verbal arguments in order to account for observed restrictions. In each case, examination of further data shows that lexical case does not play a role in restricting lexical rules. The evidence from adnominal genitives-middle formation and secondary predication shows that accusative goals behave in most respects just like dative goals. Finally, in Section 4, I briefly discuss two connections where the presence of m-case does seem to be the constraining factor.

2. The mapping between dative and the GF indirect object

As noted earlier, there is a widespread assumption that there is a one-to-one mapping between morphological case and GFs. While Nom subjects, ACC objects and DAT indirect objects are surely the marked state of affairs cross-linguistically, they are not the only possibilities. As Den Besten himself notes, exceptions to this general pattern must be allowed for verbs which govern a nonstandard case on an object. It has traditionally been assumed that the grammatical subject is always NOM, and the nominative NP (other than a predicate nominal) is necessarily the grammatical SUBJ; work on Icelandic and other languages has demonstrated convincingly the existence of both non-nominative subjects and nominative objects (see Zawistowski et al., 1985, Hopper et al.). It is well-known that lexical t.s.a. (indeclinable or uplight) case may block the application of syntactic rules which affect changes in grammatical function. For example, lexically case-marked NPs cannot undergo passive in either German and Russian, in the sense that they cannot become the surface grammatical subjects of passive verbs (Hainsby, 1980; Frei and Sprouse, 1981). In effect, in these languages, m-case appears to block the mapping of a lexically case-marked NP to the grammatical functions of SUBJ and DO. As is well known, no such constraint exists in certain other languages, including at least one Germanic language, namely Icelandic.3 Less often recognized is the fact that indirect objects are not necessarily dative.

3 From its Icelandic m-case seems to play a minor role in passive. Lexical case on the theme of a clausalative with prevents an argument from undergoing passive in the double object case when the goal argument is realized as a NP, not a PP (Zawistowski et al., 1985; Sproose, 1980). The situation is actually even more complicated than presented in the literature because of benefactive NDA verbs like thank and invite ‘to make easier’, where the accusative object does not readily passivize. By benefactive, I mean an argument which can be manipulated as a free phrase.
One goal of the theory of abstract Case is to account for the distribution of argument NPs. It is widely assumed that Case theory makes available two structural Cases, NOM and ACC, which can each be assigned to at most one NP per clause. Similarly, for languages with double object constructions, it is often assumed that there is a single DAT case available, which is assigned to the IO. This analysis works well for German, a language for which it is essentially correct that there can be at most one ACC object and at most one DAT object per clause (Czepluch, 1982; Wegener, 1991). This descriptive generalization is not a constraint on morphological case per se; nonarguments, including adverbal adjuncts and consubcategorized "free dative" (see below) must be excluded. Structural case must be distinguished from the semantic case associated with various adverbials. As Wegener (1991: 73) notes, adverbial accusative makes it possible to have as many as four or five accusative NPs in a single clause (the example in (21a) contains one of the very few verbs which govern two accusative objects). Toman (1987: 23) notes that adverbial accusative is available in non-case positions, e.g. as complement to a noun. These possibilities are illustrated in (21):

(21) a. Er hat von allein Monat jeden Abend eine Stunde seinen Sohn
he has lunch ACC/ month each evening-A, one hour-A his son-A
Wütter abgefragt.
words-A quizzed
b. die Wohnung leisten Monat
the dedication last ACC/ month.

Many linguists have independently suggested that there is a single Spec,VP position where IOs are generated; this position is thematically restricted to "goal-like" arguments (experiencers, recipients, benefactives).\footnote{This does not hold for Icelandic, which has verbs taking two dative objects (see Appendix A).} Depending on the analysis and/or the language, this specifier position may or may not be associated with structural dative case (cf. Wegener, 1991; Bolinger and Platzack, 1995: 204). Dative en verbal arguments has usually been considered a lexically-assigned case, but Wegener (1991) gives two sorts of arguments in support of the claim that dative in German is actually a structural case: (i) case alternations, e.g. bekommen or Recipient passives (see Reis, 1985), and (ii) co-occurrence restrictions.\footnote{Recall that I am using "goal" as a cover term for this class following Kiparsky, 1987} Wegener observes that in many ways, dative case behaves just like situational accusative. For example, either a dative or reciprocal argument may become the nominative subject of the bekommen passive, with lack of case-preservation, just as an accusative object becomes the nominative subject of the standard passive with auxiliary sein or werden. In this paper I will discuss only the argument involving co-occurrence restrictions.

\footnote{See Verger and Steibach (1991) for arguments against treating dative as a structural case in German.}
2.1. Co-occurrence restrictions on (structural) accusative in German

It has been noted several times in the literature that with a very few diachronic exceptions, German has no double accusative derivatives (Czopok, 1982). Wegener observes a number of co-occurrence restrictions for verbal arguments bearing structural accusative, which she interprets as indicating that a verb can assign at most one ACC case to argument NPs. She begins by noting that German lacks a whole-part (indefinite possession) construction:

(22) a. Er packte das Kind.
    he grabbed the child
    Possessor

b. Er packte seinen Arm.
    he grabbed his arm
    Body-Part
c. *Er packte das Kind seinen Arm.
    be grabbed the child ACC his arm-ACC
d. Er packte das Kind am Arm.
    he grabbed the child by the arm.
e. Er packte [den Arm des Kindes].
    he grabbed the child’s arm.

The reader might be wondering why we should expect a sentence like (c) to be grammatical, given that the verb ‘grasp’ is a simple two-place predicate taking a single object. But in many languages, including Korean, which has multiple accusative constructions of various kinds including ditransitive verbs, such sentences are fine, and indeed, it is in principle possible to have an unlimited number of accusative NPs (Kim, 1990: 289f.):

(23) a. Yumi-ku kay-ekey phal-ol oyocok-ol kkush-ol
    Yumi-N dog-DAT arm-ACC looks-ACC end-ACC
    bite-Pass-Pat-Ind (Korean, Kim, 1990: 289f.),
    ‘Yumi was bitten by the dog on the end of her left arm.’
    Choji-Nom Mary-ACC ring-ACC gift-ACC do-Pat-ind
    ‘Choji presented Mary with a ring.’ (Maling and Kim, 1992: 53)

Whatever the mechanism for this might be, Korean differs from German, then, in the ability to structure accusative to spread to as many internal argument NPs as there may be in the syntax.

Wegener’s second argument that there can be at most one accusative case on argument NPs in German comes from certain verbs of creation, which can take either an ‘affected’ object or an ‘effected’ object. This is illustrated by the following examples (Wegener, 1991: 73, ex. 9a–c):

(24) a. Sie bindet die Blumen (zu einem Kränzchen). ‘Affected object’
    she ties the flowers-ACC (into a crown/ wreath)
b. Sie bündet (aus den Blumen) einen Krantz. ‘He bound (of the flowers) a crown’
   'Sie bündet die Blumen einen Krantz.' 'She bound the flowers a crown'

The generalization is that where a given verb can take either an ‘affected’ or an
‘affected’ accusative object, they cannot co-occur in the same clause as two
accusative objects. Wegener attributes this co-occurrence restriction to the hypothe-
sis that a verb can assign only a single structural accusative in German. Once again,
cross-linguistic evidence suggests that these are not in fact reflexes of the same
Case-assigning mechanism, since this co-occurrence restriction holds for at least
some speakers of Korean, where as we have seen, the case resources of the language
do allow for more than one accusative argument NP per clause. Although some
speakers do accept such sentences, ‘many do not allow both the ‘affected’ or an
‘affected’ object to be marked accusative.

    Yumi-TOP flower-ACC tie-Pst-Ind
Yumi-TOP  flower-ACC  tie-Pst-Ind
Yumi-TOP wreath-ACC tie-Pst-Ind
    ‘Yumi tied a wreath’

    Yumi-TOP logs-ACC burn-Pst-Ind
Yumi-TOP logs-ACC burn-Pst-Ind
Yumi-TOP small/campfire ACC burned
    ‘Yumi burned the logs’
    lit: Yumi burned logs a campfire
    ‘Yumi burned the logs down to a campfire.’

Thus, the limits on the Case-assigning properties of the verb in a given language
cannot be the entire explanation for the co-occurrence restrictions on accusative
objects noted by Wegener.

2.2. Co-occurrence restrictions on dative in German

Wegener shows that similar co-occurrence restrictions hold for dative case. The
German verb stehlen ‘steal’ can take either a dative beneficiary or a dative source,
but not both together, as illustrated in (27):

(27) a. Er stiehlt dem Juwelier einen Ring.
    SOURCE<EXTR>TH<ACT>
    ‘He steals the-DAT jeweler a-ACC ring’

    According to Seowon Kim (p.c.) ‘wreath’ is left to be a kind of small clause complement ‘... to
    make a wreath’. The first NP (the affected object) can also appear with instrumental case. There is the same
    slight difference in meaning that holds for the prepositional alternative in English: the ACC ACC V pat-
    tern has a holistic interpretation, whereas INST ACC V patterns have a partial reading.
b. Er steht seiner Freundin einen Ring.  |  BEN DAT TH ACC  
he stands his-DAT friend a-ACC ring  
*He stands a ring for his girlfriend.*  

| BEN SOURRE THEME |

c. Er steht seiner Freundin dem Juwelier einen Ring.  |  DAT DAT ACC  
Er steht seiner Freundin beim Juwelier einen Ring.  |  DAT PP ACC  
Er steht für seine Freundin dem Juwelier einen Ring.  |  PP DAT ACC  

Wegeners cite vorwiegend 'to rent' as another verb which can take either a dative beneficiary or a dative goal, but not both together, but many speakers find the benefactive reading of the dative impossible to get with this verb. Another example of the same sort is the verb schreiben 'to write':

(28) a. Bitte, schreib dem Vorsitzenden einen Brief!  |  GOAL  
please write the-DAT chairman a-ACC letter  

b. Bitte, schreib deinem Studenten eine Empfehlung!  |  BEN  
please write your-DAT student a-ACC letter of recommendation  

c. *Bitte, schreib deinem Studenten dem Vorsitzenden einen Brief!*  

Wegeners argues that the co-occurrence restrictions follow from the hypothesis that ACC and DAT are both structural cases in German, and that a verb can assign at most one ACC and one DAT.

Exactly the same argument could be made for English. As illustrated in (29), the 'dative' me can have either a benefactive reading ('for me/ on my behalf'), or a recipient/goal reading ('to me'), but the two cannot co-occur in the same clause unless one of them is realized as a PP.

(29) a. Please write me a letter of recommendation.  |  BEN TH 'on my behalf'  
Please write the chairman a letter.  |  GOAL TH 'to the chairman'  
Please write me the chairman a letter of recommendation.  

Since English shows the same co-occurrence restriction as German, some linguists might want to argue that the IO bears an abstract dative Case. Wegeners interprets this co-occurrence restriction as evidence that German has available a single dative case, which is assigned structurally to a Specifier position. Whatever the correct account is, the descriptive generalization is that in a given clause, only one goal-like argument can be realized as a bare NP, any others must be realized as PPs.

The availability of in-case seems to provide a filter on the morphosyntactic realization of argument structure, such that in a language like German, there can be only one accusative object per clause, and only one dative object per clause. As noted above, there is no surface constraint against two dative NPs, since (as observed by both Wegeners, 1991; Vogel and Steinbach, 1998), a benefactive or middle active dative can co-occur with dative object. The following examples are from Vogel and Steinbach (1998, 77, ex. 36b–0).
(30) a. *Den Peter habe ich gestern seinen Auto-eigen the Peter-DAT have I yesterday his car-DAT a new engine-ACC built-in.
neuen Motor eingebaut.
new engine-ACC built-in

'Yesterday I put a new engine into his car for Peter.'

b. Helf mir mal deinemen Vater in der Küche.
help me-DAT a minute your father in the kitchen

'Go help your father in the kitchen for a minute for me.'

c. Der David hat mir der Claudia schon zuviel
the David-DAT me-DAT the Claudia-DAT already too many
Geschenke gegeben.
gifts-ACC given

'I think David has already given Claudia too many presents.'

This extra dative is most acceptable if it is a 1st or 2nd person pronoun located at the left edge of the VP, if it is interpreted as a beneficiary or person adversely affected by the event described in the sentence. Such datives have been called either the 'free dative' or the ethical dative. I assume that this dative is not subcategorized for by the verb. As an adjunct rather than an argument, it is not a grammatical object, and hence not a counterexample to the descriptive generalization that German allows at most one dative object per clause.

As attractive as the case-theoretic account is, cross-linguistic evidence suggests that the restrictions on dative are entirely different from the restrictions on accusative. Evidence from Icelandic indicates that dative case for se is not to blame, since this co-occurrence restriction is independent of the morphological case marking on the IO. Consider the verb biðja 'to ask'. When used as a dirimative, biðja occurs in two different case frames: NAG and NDG. The theme argument is always marked genitive; accusative case marks the goal of the speech act, i.e., the person asked, while dative marks a beneficiary, the person for whose benefit the request is made.

(31) a. Jón bað [syni sínum] [blíktunar gáðin] BEN-gén,TH-gén

Jon asked his son-o God's blessing-G

'Jon asked God's blessing for his son.'

b. Jón bað [gáð] [blíktunnar] [fyrir soninn] GOAL-acc TH-gen BEN-nf

son asked God-A blessing-G for his son

'Jón asked God for his blessing for his son.'

c. *Jón bað [gáð] [syni sínum] [blíktunnar] *GOAL-acc BEN-DAT TH-gén

d. **Jón bað [syni sínum] [gáð] [blíktunnar] **BEN-gén,GOAL-acc TH-gén

However, even though the in-case associated with these two thematic roles differs, there can still be at most two NP objects in a clause. As shown by the ungrammaticality of (31c,d), it is impossible to combine an accusative and dative IO in the same clause; in order to express all three arguments, the beneficiary must be realized as a PP.  

* Hagen (1988: 126) provides two examples from Old Norse of this verb with three nominal internal arguments, one of them a dative reflexive beneficiary. (The first example is from Greenlandic saga sources (181), the second is from Early Saga Poetry-Glanszewski (185).)
Note that the restriction cannot be accounted for by disobeying more than one lexically case-marked argument per clause, since many Icelandic ditransitive verbs govern two lexically case-marked objects (see Appendix A).

Even more compelling is the fact that Kooan exhibits the same co-occurrence restriction on dative arguments as German, even though it allows an unlimited number of accusative NP's. As illustrated in (32), dative case can mark a number of different thematic roles in Korean, depending on the verb (Sub, 1996: 454; Jun, 1998).


'The boy wrote this friend a letter.'

c. Chakakakak na-tye-eyek ku money-nil mulha-yers-ta. Hearer friend-NOM me-DAT the problem-ACC talked

'(My) friend talked to me about the problem.'


'I bought Tom dinner.'


'I bought a ring from an old man.'


'I robbed him of a ring.'

It is possible to have two or more dative NP's in a single clause if the NP's are related by inalienable possession.


NOM Yumi-DAT head-DAT kiss-Pst-Ind (Kim, 1989: 462)


NOM Yumi-DAT arm-DAT give-Pst-Ind (Malling and Kim, 1992: 43)
However, it is impossible to have two dative NP's bearing different thematic roles.

   l-TOP old,man-DAT wife-DAT ring-ACC buy-Pst-Ind
   intended: 'I bought a ring from an old man for my wife.'
   
   l-TOP his girl-friend-DAT jeweler-DAT
   punci-lul ppayas-ass-ta
   ring-ACC rob-Pst-Ind
   intended: 'He stole a ring from the jeweler for his girlfriend'

As in Icelandic, this co-occurrence restriction can be shown to be independent of the morphological case on the recipient. Some ditransitive verbs in Korean allow the IO to be marked accusative as well as dative.

   l-TOP wife-ACC ring-ACC buy-Pst-Ind
   
   l-TOP me-ACC wallet-ACC rob-Pst-Ind

Choosing this option does not, however, make it possible for the added benefactive or source to be marked dative. Rather, a more semantically specific postposition must be used.

   l-TOP old,man-DAT wife ACC ring-ACC buy-Pst-Ind
   
   l-TOP wife-DAT me-ACC wallet-ACC rob-Pst-Ind
   'He robbed me of my wallet for his wife.'

   l-TOP old,man-SOURCE wife-DAT/ACC ring-ACC buy-Pst-Ind
   'He bought a ring for his wife from the old man.'
   
   l-TOP wife-BEN me-ACC wallet-ACC rob-Pst-Ind
   'He stole my wallet/purse for his wife.'

Once again, we see that dative case is not to blame. How, then, are these cooccurrence restrictions to be explained? I suggest that they can best be accounted for in terms of functional uniqueness. For three-argument verbs, the various Goal-like arguments may be realized either as the object of a semantically appropriate preposition, or (in some languages) as a bare case-marked NP; the choice between PP or NP, and if an NP, the m-case it bears (what Baker (1997: 86) calls 'semantic Case marker'), is subject to strict subcategorization by the verb. If the verb selects to realize a goal argument as an NP, that argument must be assigned to a grammatical function such as IO or OBJ2 (other than OBL). By functional uniqueness, only one NP
can be mapped in this function. Alternatively, one could say that such arguments 
compete for a single syntactic slot, a unique functional projection, *Ag2FO.
Whatever theoretical approach one chooses, dative case turns out not to be the con-
straining factor.

3. The mapping between m-case and thematic roles

In Section 2, I provided evidence that the mapping between grammatical func-
tions and m-case is not one-to-one. Let us now turn to the relationship between mor-
phological case and thematic roles. In this section, I discuss the constraints on middle 
formation, adnominal genitives in deverbal nominalizations, and the licensing of 
dative predicates. The relevance of thematic roles for various kinds of lexical 
rules has been pointed out by various linguists (see e.g. Halle and Keyser (1987) on 
However, as noted earlier, there is a widespread tendency to ignore this level of 
grammatical representation, and instead treat Theme as the default theta-role on 
direct objects. This oversight has led to false claims about the nature of restrictions 
on various roles. One example is Middle Formation in German (Fagan, 1992).

3.1 Middle formation

What about lexical roles? Can lexical case have the same blocking effect on the 
externalization of a verb’s internal argument in the lexicon that it can have on NP-
movement in the syntax? In her detailed study of middle constructions in German, 
Fagan (1992) argues that Middle Formation (MF) is a lexical rule which externalizes 
the direct theta-role, and that the rule is constrained by both syntactic and semantic/ 
aspectual constraints, as summarized in (38).

(38) Conditions on Middle Formation in German (Fagan, 1992: Ch. 5, Table 2)

a. *V does not assign lexical case;

b. V is not an achievement or state;

c. V is not durative.

The conditions in (38) are intended to limit the class of verbs which are eligible for 
Middle Formation in German. Thir there is some aspectual condition on MF is fairly 
uncontroversial, although according to Steinbach (1998:146), the condition in (b) is

too restrictive; he argues that only individual-level predicates are excluded. The 
restrictions in (a) and (c), however, seem to be various, language-particular con-
straints. Middle Formation in English is shown to be subject to the same conditions 
except for the Lexical Case Constraint in (a).\footnote{Fagan (1992: 97) asks whether the constraint in (a) is a general constraint on externalization rather than a construction-specific constraint; but based on his middles, the constraints that the constraint is in 
fact construction-specific.} Fagan sensibly assumes that a lan-
gauge like English which lacks morphological case-marking also lacks lexical case, even abstractly. I argue here that this constraint is unnecessary even for German. Dative is not to blame, since independently motivated semantic and aspectual conditions (Fagan, 1992: Ch. 3) will rule out middles of verbs which happen to assign lexical case to their objects in German. Moreover, I show that in Icelandic many verbs which assign dative case form middles. Thus in neither language is it necessary to assume that lexical case blocks Middle Formation.

Fagan cites only one verb, helfen 'to help', as support of her claim that lexical case blocks Middle Formation in German. She observes that there is a contrast between waschen 'to wash', which forms a good middle, and helfen, which does not:

(39) a. Der Stoff wäscht sich gut.  
   the fabric(N) washes REFL well.  
   (Fagan, 1992: 164, 54b)

b. Er hilft sich schwer.  
   he-NOM helps REFL hard  
   'He's difficult to help.'  
   (Fagan, 1992: 164, 55b)

c. *Er hilft mit (mit) schwierig.  
   'He helps with difficulty.'

Steinbach (1998: 17, 84) also observes that middle formation is always ungrammatical with verbs that select dative case on their sole object. More precisely, they cannot form personal middles; there is an impersonal middle with expletive subject er, shown in (40b).

(40) a. Der Rektor widerspricht sich leicht.  
   the dean(N) contradicts REFL easily  
   (Steinbach, 1998: 84, 66a)

b. Der Rektor widerspricht sich leicht.  
   the dean(D) contradicts REFL it easily  
   (Steinbach, 1998: 83, 66b)

Steinbach accounts for failure of dative objects to undergo MF in terms of a condition on chain formation. He proposes that dative objects are A-bar elements in syntax, since A-chains are a necessary prerequisite for MF in German, i.e. MF is limited to A-positions, which by hypothesis exclude lexically case-marked arguments. In effect, the presence of lexical case-marking blocks the mapping of an argument to the SUBJ and OBJ functions.

Fagan (1992: 165, ex. 57a,b) gives the following lexical representations for the verbs 'wash' and 'help'.

(41) a. waschen (agent, patient)  
   b. helfen (agent, patient, location)

These representations are based on the assumption that the only thing which distinguishes waschen from helfen is the presence or absence of lexical case marking on the internal argument. "The direct b-role of waschen differs from the direct b-role of
make essentially the same assumption about the Icelandic counterpart hjálpa, namely that this verb assigns lexical case to a theme.

Both Fagan and Steinbach make crucial use of lexical case-marking. Nonetheless, the English middle *He helps with difficulty* is just as ungrammatical as its German counterpart, despite the lack of lexical case in English. This suggests that the failure of help to undergo Middle Formation might better be attributed to other factors.

What about the restriction in (38c) against ditransitives? As has often been observed, only the direct object of a ditransitive verb can become the subject of the corresponding middle, and never the indirect object.

(42) a. Ich habe einen Linguisten ein Buch verkauft.
   *I sold a linguist-ACC a book, ACC.*
   b. *Ein Linguist verkauft sich leichte Bücher.*
      'A linguist sells books easily.'
   c. Bücher verkauft sich leicht an einen Linguisten.
      'Books sell easily to a linguist.'

Most IOs in German are marked dative, and externalization of these dative IOs would already be blocked by the lexical case constraint in (38a). Fagan adds this restriction in order to block externalization of the IO argument even when it doesn't bear lexical case: this is needed because of the few ditransitive verbs like lehren 'to teach' which take ACC on the indirect object as well as the direct object, at least in the standard written language. As Fagan notes, the verb lehren 'to teach' fails to form a middle, as shown in (43b). Another example is given in (44) using the verb allefragen 'to test, quiz'.

(43) a. Er lehrt die Schüler die deutsche Sprache. (Fagan, 1992: 165, 59a)
   *He teaches the pupils ACC the German language-ACC*
   b. *Dreie Schüler lehren sich (diese Sprache) leicht.*
      'Three pupils teach themselves this language easily.'
   c. *Kinder lehren sich Fremdsprachen leicht.*
      'Children teach foreign languages easily.'
   (Fagan, 1992: 165, 59b)
   (Maling, 1993)

(44) a. Der Lehrer hat den Schüler*en die unregelmäßigen Verben abgefragt.
   the teacher has the student-ACC the irregular verbs-ACC tested
   b. *Schüler fragen sich die unregelmäßigen Verben schwer ab.*
      'Students don't test easily on irregular verbs.'

---

12 This argument is complicated by the fact that for most speakers, this verb no longer takes the pre

nominal ACC ACC case form, but this assimilated to the productive DAT ACC case frame for ditran

The impossibility of MF in these examples suggests that once again, dative case is not to blame for the failure of indirect objects generally to become the nominative subjects of middles.

With this in mind, consider two-place predicates. A telling fact is that certain transitive verbs which take accusative objects also fail to undergo MF. The sentences in (45) contain the verb *bitten* 'to ask', which governs accusative case on the 'asker' = the goal of the speech act. This accusative object does not undergo MF, as illustrated in (45b). The same is true of many other monomorphemic verbs, including *anrufen* 'to appeal to, to phone', *bedienen* 'serve', *einladen* 'invite', *treffen* 'meet', *unterrichten* 'to instruct', and *unterstützen* 'support', all of which govern accusative case on their objects. (Singular subjects have been chosen to rule out a reciprocal interpretation.) Note that these examples sound just as odd in English as they do in German.

(45a) a. Der Angeklagte bittet den Richter um Gnade.
   the defendant asks the judge-PROF for mercy
   b. *Der Richter bittet sich schwer um Gnade,*
      the judge asks REFL hard for mercy
      intended: 'The judge can't easily be asked for mercy.'

(46a) a. *Das Kind lädt sich leicht auf Partys ein.*
   'The child invites easily to parties.'
   b. *Der Präsident räts sich schwer an.*
      'The president doesn't telephone easily.'
   c. *Großmutter besucht sich leicht.
      'Grandmother visits easily.'
   d. *Der König bediente sich schwer.
      'The king didn't serve easily.'
   e. *Eine Muslimin trifft sich schwer.
      'A modern woman doesn't meet easily.'
   f. *Dieser Präsident greift sich schwer an.
      'This president doesn't attack easily.'
   g. *Dieser Patient unterzieht sich leicht über die Therapie.
      'This patient exhibits easily about the therapy.'
   h. *Diese Methoden unterziehen sich schwer in einem demokratischen Land.
      'These methods don't support easily in a democratic country.'

Swabish (1992: 74) cites the following examples with *treffen* 'to meet' as grammatical:

(i) *Der Weihnachtsmann trifft sich nicht so leicht.*
   'Father Christmas doesn't meet that easily.'

(ii) *Erwachsene Männer treffen sich in dieser Stadt viel.*
   'Adult men meet here often.'

Swabish says that some verbs which are ambiguous between an activity and an achievement interpretation have only an achievement interpretation when used as a middle, thus *treffen* has only an achievement interpretation when used as a middle: "sentence (37a) for example does not mean that it is hard to arrange a get-together with Father Christmas but that it is hard to pass him altogether." (1992: 72). (b) is ambiguous between a middle interpretation and a reciprocal interpretation (1992: 74, fn. 41).
What accounts for the ungrammaticality of these examples? The existence of lexical restrictions on MF has been widely noted, and the exact nature of the constraints on MF has been the subject of much research. A common assumption is that MF is a rule which externalizes the direct internal argument of a verb, in other words, only verbs taking a direct internal argument can form grammatical middles (Carr and Randall, 1992; Sec. 3.2; Rapoport, 1993; see also Ackema and Schoonhoven, 1994, 1995). Rapoport (1993) argues that middles are possible only when the verb has a transitive LCS, i.e. when the subject of the middle is associated with the CAUSE-governed position in the LCS.

(47) a. [x CAUSE y ...] (Rapoport, 1993: 178, (31))
   b. "Any NP in the syntax which is associated with an LCS variable on the position of the variability in the phrase introduced and governed by CAUSE in (31) can be the subject of a middle or the host of a depictive predicate."

It has often been claimed that only verbs with 'affected' internal arguments may undergo MF (Roberts, 1988; Carr and Randall (1992); 189, fn. 15; Fagan (1992: 65) and Steinbach (1998: 18) all note that this restriction is too strong. Fagan (1992: 66) argues for the relevance of a notion of 'responsibility,' such that some property of the subject of the middle must be 'responsible' for the event described by the verb. What Fagan apparently did not consider in this regard is the possibility that the very factors that she discusses for these verbs will also take care of lehren, making it unnecessary to add the stipulation in condition (c) and also helfen, making it unnecessary to add the stipulation in condition (a). In other words, dative case is not to blame.

Such examples suggest that the restriction is underlyingly thematic. Whatever account proves best in the long run, a consequence will be that goal arguments do not undergo Middle Formation because they are the wrong kind of internal argument. They are not 'affected patients' or 'themes' or 'responsible' participants, or do not occur in the right position in the verb's LCS. What I wish to emphasize here is that whatever accounts for the often-cited contrast between direct and indirect objects is not limited to the DO of ditransitive verbs. The DO of two-place predicates do not form a homogeneous class. The following minimal pair nicely illustrates this.

(48) a. Plastic surface scratch easily.
    b. ['Can scratch most easily under the chin

Recall that invoking a lexical case restriction was motivated by the assumption that the presence of lexical case marking on the object of helfen is the only difference
between the 'direct theta-roles' of the two verbs. But this assumption is dubious, since there is every reason to suppose that they bear different thematic roles as well: *wash* takes a theme, whereas *help* takes a beneficiary, a subclass of goal arguments.

To summarize, we find the following correlation between m-case, thematic role and the ability of an object to externalize in the German middle construction, shown in Table 2:

<table>
<thead>
<tr>
<th>Role</th>
<th>m-case</th>
<th>German verb</th>
<th>Middle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theme</td>
<td>Acc</td>
<td><em>was</em> <em>waschen</em> 'to wash'</td>
<td><em>was</em> <em>wachsen</em></td>
</tr>
<tr>
<td>Theme</td>
<td>Dat</td>
<td><em>nah</em></td>
<td><em>nah</em></td>
</tr>
<tr>
<td>Goal</td>
<td>Acc</td>
<td><em>hören</em> 'to hear'</td>
<td><em>richt hören</em></td>
</tr>
<tr>
<td>Goal</td>
<td>Dat</td>
<td><em>helfen</em> 'to help'</td>
<td><em>richt helfen</em></td>
</tr>
</tbody>
</table>

Note the blank entries in the row for dative-marked themes. There is a partial correlation between m-case and thematic role in German, namely, theme arguments never bear lexical case. Thus, although there exist accusative goal arguments, there are no dative themes. The obvious question to ask is whether there exist any languages in which this restriction does not hold. The answer to this question is, fortunately, yes: there is at least one such language, namely, Icelandic. (See Appendix A for detail.)

3.2. Middle formation in Icelandic

If MF is the externalization of an affected patient/theme argument, and Icelandic has lexically case-marked themes, then it should come as no surprise that lexical case does not block MF in Icelandic. The middle in Icelandic is morphologically marked by the addition of an -st suffix rather than an independent reflexive pronoun as in the German middle. The examples below are all formed from verbs which take dative objects in the active voice. Note both the lack of case-preservation accompanying externalization of this argument, and the fact that this argument may be either animate or inanimate.

(49) a. Ölla og vatn blanda ins saman.
    oil and water mix poorly together
b. Fisk bretast aldrei.
    'People never change.'
c. Desi stíf í stæð.
    this sofa converts into a bed
d. Mjölkur hafst á íkki númer ar þessum bollin.
    'Milk spills less easily from this sort of cup.'

However, not all verbs which govern dative case form grammatical middles. On the intended reading where the nominative subject of the middle corresponds to the dative object of the active voice verb, the following examples are just as grammatical as their English counterparts.

(50) a. *Gamalt fólk hýgust illa.
   'Old people don't help easily.'

b. *Tínumar hálkar ífja.
   'Teenagers don't thank easily.'

c. *Fóreldrar telteinkast undirveldlega.
   'Parents dedicate to easily.'

d. *Bímm húsfókast undirveldlega bein.
   'Children invite home easily.'

e. *Hundar gefast undirveldlega.
   'Dogs feed easily.'

f. *Bímm húsfókast undirveldlega.
   'Children threaten easily.'

As expected, many verbs taking accusative objects do form good middles, as illustrated in (51):

(51) a. Barnið fannst eftir miklum leið.
   'The child was found after a long search.'

b. Knæislufinur hafðist kl. 9.
   'Classes begin at 9.'

c. Hjóððið heysti langa leið.
   'The sound is easily heard from afar.'

d. Lasur lígjast ekk (undirveldlega).
   'Salmon don't arc (easily).'

e. Gluggarnar opnaðast undirveldlega.
   'The windows open easily.'

f. Bætur seljast vel um jólín.
   'Books sell well at Christmas.'

Not surprisingly, however, accusative case marking on an object is no guarantee of an acceptable middle. On the intended reading where the nominative subject of the middle corresponds to the accusative object of the active, the following examples are just as ungrammatical as their English translations.
(52) a. *Vélskiptuvinið súðast aðveldlega.
customers assist easily
b. *Vélskiptuvinið súðast aðveldlega.
  hunting-bands support easily
c. *Vélskiptuvinið súðast aðveldlega.
  Grandma visits easily
d. *Kósur líkavÞust illa.
  women say good-bye to politely
  "Women don't say good-bye to easily."

The facts for Icelandic are summarized in Table 3, which shows clearly that the ability of a verb to form a middle is correlated not with the morphological case assigned to the verb's object, but rather with the thematic role assigned to that object.

<table>
<thead>
<tr>
<th>Role</th>
<th>m-case</th>
<th>Icelandic verb</th>
<th>Middle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thme</td>
<td>Acc</td>
<td>open 'to open'</td>
<td>opna</td>
</tr>
<tr>
<td>Thme</td>
<td>Dur</td>
<td>lock 'to close'</td>
<td>loka</td>
</tr>
<tr>
<td>Goal</td>
<td>Acc</td>
<td>abduct 'to assist, help'</td>
<td>abdukt</td>
</tr>
<tr>
<td>Goal</td>
<td>Dur</td>
<td>abduct 'to help'</td>
<td>abdukt</td>
</tr>
</tbody>
</table>

Why, then, does lexical case appear to block MF in German, when it so clearly does not in Icelandic? The explanation for this apparent contrast lies, I have suggested, lies in the different distribution of lexical case in the two languages. It is only in Icelandic that a lexically case-marked NP will meet the semantic and inspectoral restrictions on MF. Precisely because lexical case can be assigned to themes in Icelandic, as well as to goals/experiencers, it is possible to show that it is not the presence of lexical case per se that blocks Middle Formation. Whatever the correct account for the failure of goal arguments to externalize, the presence or absence of lexical case marking on the verbal object is irrelevant. Once again, dative case is not to blame.

I have argued that dative case is not to blame for the failure of certain verbal objects to undergo MF in German. Let us now turn to similar evidence for that dative case is not to blame for observed constraints in two other constructions which pattern with MF, namely, the licensing of secondary predicates and adnominal genitives.

5.3. Depressive predicates

Independent support for a thematic restriction on MF comes from the clear contrast in which verbs license secondary predicates on their objects. It has been argued that object-hosted depressive predicates are restricted by the thematic role assigned by the verb to its object. Consider the well known contrasts in (53):
(53) a. Pat sold the boy [the fish] fresh.
   b. "Pat sold [the boy], the fish hungry."

Williams (1986) suggests that predication is restricted to cases in which the NP is the 'theme' of the verb, thus accounting for observed contrast between the DO and IO as possible hosts. In (a), the descriptive adjective fresh modifies the theme the fish, so the predication is acceptable; in (b) the predicate hungry modifies the NP the boy, which is the goal. The sentence is therefore ungrammatical.

The same contrasts are found in German, as illustrated below.

(54) a. Ich habe Maria den Fisch roh serviert.
   b. Ich habe Maria den Fisch nicht serviert.
   c. Ich habe Maria den Fisch nicht serviert.

The host of the descriptive adjective nackt ‘naked’ in (54b) can be either the subject Ich or the object den Fisch (in which case it means ‘nacktless’), but not the indirect object Maria. This is brought out more clearly in the following example where nackt precedes the DO, and the subject-host reading is contradictory.

(55) *Der elegante gekünstelte Kellner hat der Frau nackt den Fisch serviert.

As in English, a prepositional object cannot host a descriptive predicate. Thus the following examples are ungrammatical: in (55b), the generally available subject-host reading is ruled out by the presence of the semantically contradictory adjective ‘sober’.

(56) a. Ich stellte den Fisch in den Backofen sehr hoch.
   b. "Ich stellte den Fisch in den Backofen sehr hoch.

The oven contains food, not a naked one.

As in English, a prepositional object cannot host a descriptive predicate. Thus the following examples are ungrammatical: in (55b), the generally available subject-host reading is ruled out by the presence of the semantically contradictory adjective ‘sober’.

These are the sort of data which have been taken to support the hypothesis that IOs are underlyingly the object of a null preposition. Once again, what gets overlooked in this regard is that the same contrasts can be found with two-place (descriptive) predicates, taking a single object. The standard examples of secondary descriptive adjectives involve accusative objects as hosts; some examples are given below.

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43. I grant the common but generally untested fact that only certain adjectives work naturally. When these are the host, the preposition is in the accusative. Even such adjectives as steif and nackt seem like perfectly good stage level predicates. Exactly the same judgments hold for English and Norwegian.

44. Der Junge hat mehr Kuchen untersucht.
   "The boys examined the ACC naked/food? not?"
(57a) a. Der elegant gekleidete Arzt hat die Frau nackt untersucht.
   'The elegantly dressed doctor examined the woman naked.'

b. Der nächstere Gast hat mich betrunken in den Zeugenstand gebracht.
   'The sober lawyer called me-ACC drunk to the witness stand.'

c. Die nächste Menge wurde ihren Feier betrunken.
   'The sobber prostitute enjoyed her client drunk.'

(57c) has approximately the same meaning as (56b), but is grammatical since the intended host is now a direct object, rather than the object of Preposition. An interesting contrast is provided by the sentence in (58), to be compared with the ungrammatical (55).

(58) Der elegant gekleidete Kellner servierte die Frau nackt.
   'The elegantly dressed waiter served the woman naked.'

This sentence is grammatical on what might be called the 'Greeraway reading', referring to Peter Greeraway, a famous British movie director. In his movie 'The cook, the thief, his wife and her lover', a naked woman is served up on a platter at a dinner party. On this reading, the naked woman is, of course, the (accusative) theme rather than the (dative) goal, and as such, can host the dative preposition.

As expected, the dative objects of verbs like helfen 'help' and danken 'thank' cannot host a dative adjective, as illustrated by the following examples:

(59a) a. 'Der elegant gekleidete Arzt hat der Frau nackt ins Büro geholfen.
   'The elegantly dressed doctor helped the woman-D naked into the office.'

b. 'Der nächste Gast hat seinen Wirt betrunken gedanken.
   'The sober guest thanked his host-D drunk.'

c. 'Der nächste Student hat seinen Professor betrunken wunderschön.
   'The sober student contradicted his professor drunk.'

But the failure of the objects of these verbs to host dative adjectives cannot be blamed on dative case. First, as illustrated by the examples in (60), certain dative arguments can host a dative adjective:

(60a) a. Betrunken gefällt ihm diese Frau am besten.
   (ambiguous)
   'Drunk pleases him-D this-N woman best'

b. Betrunken ist ihm dieser Platz nicht gelungen.
   'Drunk he didn't succeed in his plan.'

c. Betrunken kommt mir diese Nachricht komisch vor.
   'Drunk comes me-D this news-N strange'

'This news seems strange to me drunk.'

7 Thanks to Katherine Harmon for this example.
d. Betrunken mißlingt mir Marmorkuchen immer.
    "Drunk I never succeed in making a marble cake."

e. Betrunken erscheinen mir solche Analysen immer richtig.
    drunk appear to me-D such analyses-N always right
    "Such analyses always appear right to me drunk."

Note that in (66a), the verb gefallen ‘to like’ takes two animate arguments; which could potentially host the adjectival betrunken; this German sentence is ambiguous exactly like its English counterpart; despite the dative case marking on the experiencer argument. Let us assume that the thematic hierarchy ranks Agent > Experiencer > Goal > Theme. I suggest that the reason precisely these dative experiencers can host deictives is that they are thematically the highest argument of these verbs, since the nominative argument is a theme, rather than an agent, as is the case for a verb like ‘help’.

A second argument for assuming that dative case is not to blame for the failure of dative objects of agentive verbs to host secondary predicates is based on the many objects which cannot host a deictive adjective even though they are bear accusative case, as illustrated by the examples in (61).\(^\text{18}\)

(61) a. "Die nächste Frau hat ihren Mann betrunken angesehen.
    'The sober woman called up her husband drunk.'

b. "Der elegant gekleidete Kellner bediente die Frau nicht.
    'The elegantly dressed waiter served the woman naked.'

    'A sober bartender served the customer drunk.'

d. "Der nächstes Anguklagte rief den Richter betrunken um Gnade an.
    'The sober defendant appealed to the judge ACC drunk for mercy.'

e. "Die nächste Frau hat den Richter betrunken um Mitleid.
    'The sober woman asked the judge ACC drunk for leniency.'

f. "Der elegant gekleidete Arzt hat den Patienten nach die Therapie untersucht.
    'The elegantly dressed doctor instructed the patient ACC drunk on the therapy.'

g. "Die nächste Frau hat ihren Freund betrunken nach Hause eingeladen.
    'The sober woman invited her friend ACC home drunk.'

\(^\text{18}\) Some speakers describe the object reading as completely ungrammatical, but simply displaced. The point is that for all speakers there is a contrast. Some speakers allowed a deictic on the inanimate object traditionally ACC-ACC verbs like lieber/darum, dafür, independent of the actual case marking on the IO, even though they didn’t accept IP applied to the same argument.

i. "Der nächste Lehrer hat das Schuliert betrunken die Vorlesung abgefangen.
    'The sober teacher tossed the students ACC drunk at the lecture.'

j. "Die nächste Person hat mir das Geschirr betrunken geklaut.
    'The sober person seized me ACC drunk the dishes.'
Whatever account for the failure of these accusative objects to host deictics will also account for the failure of dative objects to host deictics, without appeal to dative case. The pattern for German is summarized in Table 4.

### Table 4

<table>
<thead>
<tr>
<th>German secondary phrases</th>
<th>German verb</th>
<th>Object as host of deictic phrase</th>
</tr>
</thead>
<tbody>
<tr>
<td>object head</td>
<td>in case</td>
<td>thematic phrase</td>
</tr>
<tr>
<td>Theme</td>
<td>Acc</td>
<td><em>sympathize</em> (emotions)</td>
</tr>
<tr>
<td>Themat</td>
<td>Dat</td>
<td><em>complain</em></td>
</tr>
<tr>
<td>Goal</td>
<td>Dat</td>
<td><em>behave</em></td>
</tr>
</tbody>
</table>

#### 3.4. Nominalizations

Another construction which distinguishes clearly between theme and goal arguments comes from deverbal process nominals. The same factors (e.g., affectedness) are often assumed to constrain both nominalizations and middle formations (Tenny, 1992), and object-host deictics (Rappaport, 1993). The difference between theme and goal arguments is reflected in English nominalizations in at least two ways: (i) in the choice of preposition and (ii) for deverbal process nominals, in the interpretation of adnominal genitives as corresponding to the verb's subject or object. Some English examples are given in (62)–(63):

(62) Our help/thanks to the hostess went unacknowledged.

(63) a. the student's rescue (ambiguous: either subjective or objective genitive)
b. the student's help (unambiguous: subjective genitive only)

The relevant generalizations are as follows. First, themes but not goals can be marked with the case-assigning preposition to, as illustrated in (62). Second, themes but not goals can be linked to the adnominal genitive position when the head P is a deverbal process nominal, as shown in (63). Wasow (1977: 338) expresses the differences in terms of grammatical functions, e.g. the verbs help and thank are said to take 'indirect objects' as their objects. In his comments on Wasow's paper, Anderson (1977) interprets the distinction instead as one of thematic role (goal vs. theme).
(64) a. *die Hilfe meinem Freund
(b. die Widmung der Sinfonie
(Tomans: 1987: 22)
the help my-DAT friend
the dedication the symphony-GEN Prince William-DAT

Tomans argues that this restriction has nothing to do with the inheritance of lexically case-marked arguments, which can be realized in APs where dative complements are allowed. The output of nominalization is limited by language particular constraints on NP-structure; the exclusion of adnominal dative follows directly from the base hypothesis or structure-preserving principle (Emmons, 1976), since independently of nominalizations, the S-V rules for NPs in German do not allow adnominal dative. This exclusion of dative complements from NPs is a clearly language-specific restriction, as shown by the fact that in Russian, for example, lexical case on a verbal argument is inherited in the nominalizations of transitive verbs governing Dative, Genitive or Instrumental on their object.

(65) a. sostěděni poměr stáří
b. pomoći sostěděni stáří
"the neighbor helped the old man-D"
"the neighbor’s help [to] the old man-D"
c. *pomoći stáří sostěděni

(66) a. stáří otevřel sostěděni
b. otevřel stáří sostěděni
"the old man answered the neighbor-D"
"the old man’s answer [to] the neighbor-D"
c. *otevřel sostěděni stáří

Something more needs to be said about what rules out the Instrumental marking on the Agents of adnominal genitive has not been used, as in (65c) and (66c), but it is clear that because lexical case on a verbal object is obligatorily inherited, a Russian nominalization can have two adnominal NPs: a structural genitive plus a lexically case marked complement. But in Germanic languages, at most a single adnominal genitive is allowed; any other verbal arguments must be expressed as the object of a semantically appropriate preposition. Tomans assumes that the exclusion is due to the obligatory preservation of inherent case on the dative, which by assumption is inherently associated with a given verbal argument in the lexicon, and must therefore be inherited by the nominalization.

3.4.1 Icelandic nominalizations
What about nominalizations in Icelandic? At first blush, Tomans’ argument would seem to carry over to Icelandic. The Icelandic counterparts to the examples in

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15 Tomans shows (1987: 25) that adnominal genitive must be distinguished from “ad-verbal” genitive, which cannot be inherited: "die Geschenke der Sibylle / her treasury the sibyl GEN".
(67) are shown below; note that the verb tilæikna ‘dedicate’ does not allow the goal argument to be realized as a PP:

(67) a. *[Hjálp vínum] mínunum
help friend-DAT my-DAT
b. *[tilæikna þúarinnar konunni hans] var sérkennilag
dedication book-GEN wife-DAT his was unique
c. Hann tilæiknaði konunni sínum bókinum.
he dedicated wife-DAT the.book-A

d. *Hann tilæiknaði bókinum til konunni sínar.
he dedicated the.book to wife-refl

However, once again, we find that dative case is not to blame. The evidence from Icelandic nominalizations indicates that the restriction is independent of lexical case marking, a fact noted by Yip et al. (1987: 233). Consider the nominal derived from two verbs which govern dative case on their objects in Icelandic, hjálp ‘to help’ and bjarða ‘to rescue’. Just as in English, the adnominal genitive can be understood as either subjective or objective in the case of ‘help’, but can only be interpreted as a subjective genitive in the case of ‘help’.

(68) a. hjálp kemnars
help the.teacher-GEN
‘the teacher’s help’

b. bjarða kemnars
rescue the.teacher-GEN
‘the teacher’s rescue’

(69) a. drep barna
‘the killing of the child’

b. eyðilegging borgarinnar
‘the destruction of the city’

c. mismokun barna
‘abuse of the child’

d. pytting fangana
‘the torture of the prisoner’

e. skýr barna
‘the christening of the child’

f. stailling ljónuma
‘adjustment of the lights’

Hann drep barna.
he killed the.child-ACC
Herinn eyðilegði borgina.
the.army destroyed the.city-ACC
Hann mismokuði barna.
he abused the.child-ACC
Einhergtið fangana.
someone tortured the.prisoner-ACC
Presturinn skýrði barna.
the.priest christened the.child-ACC
I staillti ljónuma.
I adjusted the.lights-ACC
However, accusative case-marking is neither a necessary nor a sufficient condition. Many dative objects can also map to the adnominal genitive position; some examples are given in (70):

(70) a. bíngrun sjómanninn  䴙ir bíngrunu sjómanninum.
"the rescue of the sailor"  they rescued the sailor-DAT
b. breyting fundarleinan  Eg breytið fundarleinanum, changed the meeting time-DAT
"change of the meeting time"  i changed the meeting time-DAT
 c. eyðing skjaltnar  Hann eyðdi skjaltna Óvarl. the deletion of the file  DAT
"the deletion of the file"  he deleted the file-DAT unawares
 d. frestur fundarleinan  Hann freststaði fundarleinanum.
"the postponement of the meeting"  he postponed the meeting-DAT
 e. lokun vestanriðavar  Hann lokkuð vestanriðavars kl. 9.
"the closing of the store"  she closed the store-DAT at 9
 f. naðgum konunnar  Hannu naðgúði konunns.
"the rape of the woman"  he raped the woman-DAT
 g. seinleik veltennar  Flugflugð heinakal veltins.
"the delay of the plane"  the airline delayed the plane
 h. umbyltið alls heimi skólanum
"the change of everything here in the school"  þeir umbyltuð verðlaunanna eftir mótið.
 i. úthöfði verðlaunanna
"the distribution of prizes"  þeir distribution þeir prizes-DAT after
 j. úrýning gefjúla
"extermination of the great auk"  þeir úrýning gefjúlan.
 k. útskiðin morðingeinar
"banishment of the murderers"  þeir útskiðuði morðingeinar.

On the other hand, many accusative objects cannot map to the adnominal genitive position, as illustrated in (71). Only the subjective genitive reading is available for these examples.

(71) a. aðstoð viðskiptavörunar  CLUDir aðstoðu viðskiptavörunum ekki mótið.
"the customer’s assistance"  they distribute the prizes-DAT after
 # assistance to the customer
 b. heimsvein spillingas  þeir heimsveina spillingans.
"the patient’s visit"  þeir heimsveina spillingans.
 c. *heimsvöku spillingas
"the grave’s visit"  þeir heimsveina spillingans.
 d. kefðja heimiðgerðinnar  Flugflugð heinakal veltingu.
"the guest of honor’s saying good-bye"  þeir heimsveina spillingans.
 e. *þansbúgg kupina
"deathblow of the scalp"  Flugflugð heinakal veltingu.

This could only have the implausible meaning of a deathblow delivered by the scalpel.
f. *støðningur hválfvöðbulmanns
   ≠ support for the whaling ban

These are all verbs whose objects are thematically goals. Even when they are the
direct objects of the base verbs, not the objects of a preposition, goal arguments must
be realized as PP complements to the derived nominal.

(72) a. aðstoð við vinnuglupavinnum
   'assistance to the customer'
 b. heimsækja við grifinnar/til sjöklingsins
   'a visit to the grove/the patient'
 c. kveðja við heitarragnum
   'saying good-bye to the guest of honor'
 d. støðningur við hválfvöðbulmanni
   'support for the whaling ban'

Not surprisingly, goal objects which are marked dative cannot map to the adnominal
position either. Only the subjective genitive reading is available for the following
examples.

(73) a. heimboð kennarans
   'the teacher’s invitation to his/her own home'
   ≠ the invitation of the teacher to one’s home
 b. hjálp kennarans
   'teacher’s help'
 c. lokut kennarans
   'teacher’s threat'
 d. trúknuk rithúfundaðrins
   'the author’s dedication'
 e. *tveigurkum konungr af rithúfundaðinum
   dedication wife:GEN by the author
 f. flaskaða Evrópunanna
   'the sale of fish by Europeans'
   ≠ the sale of fish to Europeans
 g. verblaugastaliðin zigaðvergaðanna
   'the prize-distribution by the winners'
 h. verblaugastaliðin zigaðvergaðanna
   'prize-awarding by the winners'
   ≠ the awarding of prizes to the winners
 i. vinveitingin gætanna
   'wine-offering by the guests'
   ≠ the offering of wine to the guests
 j. þótt kennarans
   'the teacher’s thanks'
   ≠ thanks to the teacher
The results are summarized in Table 5. The descriptive generalization is that goal arguments cannot map to adnominal genitive position in Icelandic, regardless of the morphological case they happen to bear as a verbal object.

Table 5

<table>
<thead>
<tr>
<th>Object type</th>
<th>Case</th>
<th>Icelandic verb</th>
<th>Nominalization</th>
<th>Interpretation of adnominal genitive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theme</td>
<td>Acc</td>
<td>svið 'to baptize'</td>
<td>svíður konungur</td>
<td>ambiguous</td>
</tr>
<tr>
<td>Theme</td>
<td>Dat</td>
<td>hring 'to receive'</td>
<td>hjörnir konungur</td>
<td>ambiguous</td>
</tr>
<tr>
<td>Goal</td>
<td>Acc</td>
<td>athafstra 'to assist, help'</td>
<td>at-hafstra konungar</td>
<td>subject-only</td>
</tr>
<tr>
<td>Goal</td>
<td>Dat</td>
<td>hjálfan 'to help'</td>
<td>hjálfax konungar</td>
<td>subject-only</td>
</tr>
</tbody>
</table>

3.4.2. German nominalizations

We would therefore expect the same to be true of German. As expected, many accusative objects can map to the adnominal genitive position, whereas a dative object never can. Thus, a NP like die Rettung des Seemans 'the sailor's rescue' is in principle ambiguous. By now, it should come as no surprise that we find the same pattern as we did for MF and secondary predication. Many accusative objects can map to the adnominal genitive position, as illustrated in (74).

(74) a. Die Rettung des Heißluftballonfahrers verlief ohne Zwischenfall.

   'The rescue of the balloonist proceeded without incident.' (objective genitive)

b. Rettungen der Küstenwache verlaufen in der Regel ohne Zwischenfälle

   'rescues [by] the coastguard-G proceed as a rule without incident' (subjective reading)

c. die Zerstörung der Stadt

   'the destruction of the city'

d. die Taufe des Kindes

   'the christening of the child'

It is not surprising that dative objects cannot correspond to the adnominal genitive. The noun phrases in (75) allow only the subjective genitive interpretation.

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21 My two Austrian informants told me that the adnominal genitive is not part of their spoken speech. I got the impression that process nominalizations are less productive in German than in English.

22 As noted in Tomaselli (1987: 32), a dative object can be linked to an adnominal genitive when the head is an agent nominal rather than a process nominal.

23 Der Helfer des Mannes 'Dem Man' (literally: the helper of the-G man-G) the man-D.

The same is true of English agent nominalizations; our helper, my helper. The contrast between agent nominalizations and plan nominalizations should fall out, given an adequate account of the argument structure changes affected by these lexical rules.
(75)  a. die Hilfe des Priesters
    the priest’s help
    (subject reading only)
   b. der Dank der Wirtes
    the thanking by the host
   c. der Widerspruch des Papstes
    the pope’s contradicting

Clearer judgments can be obtained by adding a ‘subject’ in the form of a genitive
postpositive, thus ruling out the subject reading for the adnominal genitive. The
verbal object must be realized as the object of a semantically appropriate $P$; compare
the ungrammatical examples in (76) to the grammatical nominalization in (77) where
the goal argument is realized as a PP rather than an adnominal genitive.

(76)  a. *seine Hilfe der Hinterbliebenen
    his help of the survivors
   b. *die Hilfe des Hinterbliebenen durch den Priester
    the help of the survivor through the priest
   c. *ihr Dank der Wirtes
    his thanks of the host
   d. *sein Widerspruch des Papstes
    his contradicting of the Pope

(77)  ihr Dank an den Wirt
     her thanks to the host

However, just as with MF and depictive predicates, the lexical dative case associated
with the verbal object is not what prevents them from occurring as adnominal gen-
itives. The same goal-like accusative objects which cannot host depictives or
undergo MF also cannot occur as adnominal genitives.

(78)  a. Die Bitte des Priesters um Verzeihung war optimistisch.
     The request of the priest-G for forgiveness was optimistic.
     (only subject reading)
cf. Er wollte den Priester um Verzeihung bitten.
     ‘He wanted to ask the priest-ACC for forgiveness.’
   b. Der Ermittler der Hinterbliebenen nach einem tödlichen Unfall ist immer
     ‘The police officer the bereaved-G after a fatal accident is always difficult.’
cf. Die Polizei muss die Hinterbliebenen nach einem tödlichen Unfall anrufen.
     ‘The police must call the bereaved-ACC after a fatal accident.’

---

2 Thanks to Ray Jackendoff for suggesting this.
c. Der Angriff des Richters (*durch den Angeklagten*) war dumm.
   "The attack of the judge* (by the defendant) was stupid."
   (only subject reading)
cf. Der Angeklagte hat den Richter angegriffen.
   "The defendant attacked the judge-ACC.*"
d. Der konstante Angriff des Präsidenten durch die Medien ist politisch
   motiviert.
   "The media's constant attack on the president is politically motivated."
cf. Die Medien haben den Präsidenten konstant angegriffen.
e. Das Treffen des Studenten mit seinem Professor
   "the meeting of the student-G (with his Professor)"
   (subject reading only)24
   cf. Der Professor hat einen Studenten getroffen.
   "The professor met a student-ACC.*"
f. Der Unterricht der Kinder ist ausgezeichnet (can only mean "the teaching
   done by children")25
   "The instruction of the children-G is excellent."
cf. Der Lehrer hat die Kinder unterrichtet.
   "The teacher instructed the children-ACC.*"

As in English and Icelandic, goal-arguments must be realized as the object of a
semantically appropriate preposition:

(79) a. Die Bitte an den Priester um Verzeihung
   "the request to the priest for forgiveness"
b. Der Angriff auf den Präsidenten
   "the attack on the president"
c. Das Treffen (des Professors) mit seinen Studenten
   "the meeting with his student"

I uncovered a number of apparent counterexamples: accusative goals which do map
to abnominal genitive in German.

24 This example is ambiguous if the abnominal complement is singular, it's okay if the abnominal complement is plural, because the verb treffen 'meet' allows a plural subject with no object. *Das Studenten haben sich auf dem Markt getroffen.* 'The students met at the market.'

25 However, the following sentence is apparently acceptable (as an affected object?):

   a. die Unterweisung der Kinder im Violinspiel
   'the instruction of the children in playing'

26 Thus the noun phrase "der Angriff der Stadt* cannot mean 'the attack on the city'; this contrasts minimally with die Eroberung der Stadt 'the conquest of the city' where the objective genitive interpretation is the preferred reading.
(80) a. Beim Besuch des Präsidenten in China gab es Ausschreitungen
   (subjective genitive)
as the visit of the president in China there were protests
b. Der Besuch des Grobs seiner verstorbenen Frau fällt ihm immer schwer
   (objective genitive)
   the visit to the grave of his dead wife falls him hard
c. Das Bedrücken des Kindes in der Kneipe war illegal
   (objective genitive)
   the serving the child G in the bar was illegal

(81) a. Er hat das Grob seiner verstorbenen Frau besucht.
   'he visited the grave of his dead wife'
b. Der Kellner hat das Kind in der Kneipe bedient
   'the waiter served the child in the bar'
c. Der Knabe hat dem König treu dienst.
   'the boy served the king faithfully'

Note the sharp ungrammaticality of the preposition of in the English counterpart of
(80a) *a visit of the grave. These exceptions might give the impression that German
nominalizations are in fact sensitive to ob-Case rather than theta-role. The verbs
besuchen and bedienen are derived from suchen 'seek, look for' and dienen 'serve'
respectively with the prefix be-, which in most instances ensures that the derived
verb will take an accusative direct object even if the root verb takes a dative object
as in the case of dienen, and correspondingly, that a (further) derived nominal will
allow objective genitives/cor-phrases (Rex Sprouse, personal communication). By
and large, however, the general pattern seems to be the same in German as in Ice-
landic, as summarized in Table 6:

<table>
<thead>
<tr>
<th>Object 3-role</th>
<th>Acc</th>
<th>Gen</th>
<th>German verb</th>
<th>Nominalization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theme</td>
<td>Acc</td>
<td>Gern</td>
<td>*sehen 'watch'</td>
<td>die Stunde des Geschichts</td>
</tr>
<tr>
<td>Theme</td>
<td>Dat</td>
<td>Gern</td>
<td>*sehen 'watch'</td>
<td>die Stunde des Geschichts</td>
</tr>
<tr>
<td>Goal</td>
<td>Acc</td>
<td>Gern</td>
<td>*sehen 'watch'</td>
<td>die Stunde des Geschichts</td>
</tr>
<tr>
<td>Goal</td>
<td>Dat</td>
<td>Gern</td>
<td>*sehen 'watch'</td>
<td>die Stunde des Geschichts</td>
</tr>
</tbody>
</table>

The same pattern is found with synthetic compounds of the type discussed by Baker
(1997) for English. Accusative goals, which cannot be incorporated, pattern just like
dative indirect objects.

(82) a. *Die Priesterbuche um Verzeihung
   the priest-asking for forgiveness
cf. Es will den Priestern Verzeihung bieten
   he wants the priests A for forgiveness to ask

b. 'the priest himself asks for forgiveness'

c. Der Priester hat um Verzeihung gebeten.
   'the priest himself asked for forgiveness'

d. Der Priester hat der Büchsen Verzeihung gebeten.
   'the priest himself asked of the books for forgiveness'

e. Der Priester hat der Büchsen und dem König Verzeihung gebeten.
   'the priest himself asked of the books and the king for forgiveness'
cf. Die Bitte an den Priester um Verzeihung
the asking to the priest for forgiveness
b. *Die Familieneinladung zu einer Hochzeit ist zwingend.
the family-inviting to a wedding is obligatory
c. *Die Kinderbetreuung in einer Krippe ist illegal.
the children-serving in a bar is illegal
cf. Der Kellner hat das Kind bedient.
the waiter has the child-A served
d. *Der Kinderunterricht hier ist ausgezeichnet.
the children-instruction here is excellent
(can only mean teaching done by children)
e. *Der Familienmann nach einem tödlichen Unfall ist immer schwer.
the family-calling after a fatal accident is always difficult
the student-testing irregular verbs lasted the whole afternoon

There are rare examples of agentive compounds where the first member corresponds to the dative object of the verbal root, e.g. die Arztassistentin 'the doctor’s receptionist' (literally, the doctor-helper (F)). Such examples are not typical, however.7 Agentive compounds are productive only with accusative themes, incorporating a dative argument is not productive, as can be seen from the examples in (83):

(intended: helper of children, the elderly or the poor)
b. Three-place verbs: Blutsperre ‘blood donor’; *Kirchenspender
(intended: one who donates to the church); Geldgeber ‘money donor’; *Armengründer
(intended: one who gives to the poor).

Overall, we find the same general pattern in which that goal arguments are prohibited. The ungrammaticality of the examples in (84), in which the first element of the compound corresponds to a goal argument marked accusative, shows once again that the dative case associated with the verbal objects in the above examples is not to blame.

(84) a. *Krankenbesucher (intended: one who visits the sick)
b. *Königshäscher (intended: one who serves the king)
c. *Gästeinbiter (intended: one who invites a guest)
d. *Richweinbauer (intended: one who pleads to the judge)

In conclusion, I have looked at three different constructions: MF, secondary predications, attributinal genitives and synthetic compounds, where the presence of lexical

7 Thanks to Markus Steinbach for this observation, and for providing the examples in (83).
case marking on a verbal object has often been assumed to block the application of the lexical rule. In order to tell whether morphological case or thematic role is responsible for lexical restrictions, we need to look for verbal arguments where m-case and thematic role differ from the expected correlation. This is particularly easy to do in a language like Icelandic, where all four possible combinations of theta role and m-case exist. In each of the constructions studied here, I have shown that Dative case is not to blame in either Icelandic or German. One might conjecture that lexical case marking per se never blocks the application of lexical rules in natural language, not even in languages like German where it does block NP-movement in the syntax because it constrains the mapping to grammatical functions.

The alternative to admitting the possible relevance of thematic role is to pursue Baker’s suggestion that in accordance with UTAH, goals always receive their theta-role from a possible null) preposition. As noted earlier, the logical consequence of this hypothesis is that the objects of simple transitive verbs like help, invite, thank, telephone, visit must also be (underlying) the objects of a null preposition. Not only will many linguists find this to be an unacceptable level of abstraction, but the null preposition analysis faces an empirical problem: explaining why the dative object of a null preposition can undergo passive in Icelandic, when the object of an overt preposition cannot (Maling and Zemach, 1985).

4. Constructions where morphological case is responsible

I have argued here the presence of dative case marking is not to blame for either lexical or co-occurrence restrictions. Let me conclude that m-case serves only a purely decorative function in natural language, let me conclude by pointing out several instances where morphological case is the constraining factor. First, as noted earlier, lexical case marking does constrain the mapping of verbal arguments to grammatical functions in many languages including German, which does not allow grammatical subjects to bear lexical case. Abina (1996: 179) observes that subjects must be nonfinite in Romance, and further argues that this restriction cannot be reduced to a condition against the assignment of dative to an external argument. Another example where dative is the constraining factor is the phenomenon of Tropic Drop in German.26 Siemund (1985: 407, 427) observes that accusative but not dative topics can be dropped in clause-initial position, as illustrated by the following contrast.

(85) a. Was ist denn mit den Weingläsern? (De) hab ich schon auf den Tisch gestellt.
   what is there with the wine-glasses? (there-ACC) have I already on the table put

26 Thanks to Markus Steubebach for this observation, and for providing the reference to Siemund (1985).
b. Was ist denn mit dem Peter? *(Dem) hab ich schon geladen/wider-
   sprach.
   what n then with the Peter (him-T-AP) have I already helped/contradicted

We can control for the possible relevance of either animacy or thematic role by using verbs like einladen ‘invite’ and besuchen ‘visit’ whose objects are accumulative goals.

(86) a. *(Dem Peter) hab ich schon eingeladen.
   the ACC Peter have I already invited
b. *(Dem Peter) hab ich noch nicht besucht.
   the-ACC Peter have I not yet visited

The full acceptability of Topic Drop with such sentences shows that dative case is indeed responsible for the ungrammaticality of (85b).

The last examples I wish to discuss concerns the constraints on secondary predicates. As noted earlier, secondary predication is generally assumed to be subject to a structural condition such that the intended host must c-command the secondary predi-
cate. (Cf. Winkler (1997) for a useful and detailed survey of the literature.) The alert reader may have wondered why I provided Icelandic data on MF and nominaliza-
tions, but not on secondary predication. The reason is that Icelandic does not exhibit this structural condition. As illustrated in (87), any NP, including indirect objects and prepositional objects, can host a deictive predicate.

(87) a. Ormskýfl á eð gefs hundnum svíngrum
   ‘Worm medication must be given to the dogs-D hungry-D.’ (=i.e., to an
   empty stomach)
   Dative goal
b. Aldrei skýltu gefs honun brennvín svíngrum
   Never give him brennvín hungry.
   Dative goal
c. Eg skálaði þoni bokinn ólíkana.
   ‘I looked at the book-D unread-D.’
   Dative theme
d. Eg trúðið at honum nástakkan þorsalum og þytti honum í sjónun.
   ‘I snatched from him-D his lunchbox ravenous-D and threw it into the sea.’
   Object of P
e. Sæta þeim í of stíð eldhestan.
   put the-nest into the.coven-A redhot-A
   Object of P

Here, apparently, morphological case is to ‘blame’. More precisely, the relevant factor seems to be agreeing morphological case, which generally makes the intended antecedent clear. As argued by Hale (1981) and Laughren (1992) for Warlpiri, case agreement does the work of licensing secondary predicates (see also discussion by Rapoport, 1991; 1991). The licensing of secondary predicates is syntactic, either structural or via case agreement. Neither case alone nor agreement alone suffices to bypass the structural constraint. In Russian, for example, deictive adjectives are marked with an invariant case, instrumental, yet secondary predication is subject to the same structural constraints as in English.
(86) a. *Teplı lêkarstvå dolyøhøk davaøtjja kota golodnym
warme medicatıons should be given
cat-D hungry-INST
golodnym
hungry

b. ??Nikogda ne davaøtjja emu vodka
ever not give him-D vodka

golodnym
hungry

1 wrestled from him-GEN the box

i yanu and
vykol z or v more.
threw it into the sea

d. *Polozha miøo v pec h raskalennym
put the meat into the oven red-hot

It seems to be crucial that the agreement be case agreement. In Norwegian, predicate adjectives agree in number, but there is no morphological case marking. Despite the existence of number agreement on adjectives, goal objects cannot host deictic predicates. If the object is a theme, then the host of the deictic adjective can be either the subject or the object; if the object is a goal, then only the subject-host reading is available. The grammaticality judgments can be made sharper by ensuring that subject and object disagree in number. The adjective nakat is singular (n/m/s), whereas nakat is plural.

(89) a. De sа høm naki/enak

they saw him naked

b. De redørt høm nakdken

they rescued him nak-sen

c. De besokite høm nakdken

they visited him nak-sen

d. De hjalp høm nakdken

they helped him nak-sen

I conclude that it is the presence of agreeing morphological case on adjectives which serves to license secondary predicates in Icelandic even when c-command does not hold.

5. Conclusion

So, what role does morphological case play in the grammar? With only four morphological cases in Germanic languages, it would be impossible for m-case to mark each possible thematic role unambiguously, no matter how coarsely-grained one’s inventory of proto roles. The so-called structural cases do not distinguish e.g., the prototypical agent subject from the experiencer subject of bate/like/fear. Although there is no neat one-to-one correlation between m-case and thematic role, case does serve to identify verbal arguments on a verb-by-verb basis, even in Icelandic. Recall the two senses of thiøja to ask, where the choice between accusative and dative marks the distinction between the addressee and the beneficiary. Although for many
verbs, m-case is redundant in that only one m-case can occur on the verb's object, speakers can and do generalize across lexical entries, as evidenced by language change and acquisition data. Speakers extract generalizations based on semantic or phonetic factors, and extend those generalizations to new verbs. In Icelandic, dative has been extending not only to experiencers (a phenomenon known as 'Jóhanna's baby'), but also to theme arguments under semantic generalization of 'movement' (Barðal, 1993; Malting to appear). Nor is there necessarily a one-to-one correlation between m-case and GFs. Abstract Case theory is, I think, an unfortunate conflation of two quite distinct phenomena: (i) the licensing of NPs and (ii) the distribution of nominative/accusative as morphological cases vis-à-vis the core GFs of subject and object. Abstract Case theory is thus a theory not of morphological case, but rather of GFs. Although it is too late to take back the term 'Case' from Abstract Case Theory, it is not too late to consider grammatical functions, thematic role and m-case as separate and distinct phenomena. The discovery of both mismatches and partial mappings should only urge us to look more rigorously for the principles that underlie the linking regularities among these phenomena within and across languages. After all, Dative case is not always to blame.

Appendix A. Morphological case on verbal arguments in Icelandic as compared to German

Although there are systematic linking regularities in the language, morphological case is demonstrably independent of both grammatical functions and thematic roles in Icelandic. This fact makes it an ideal language for testing apart these grammatical modes in order to determine which is responsible for observed constraints on otherwise productive processes. Consider first double object verbs, where there is general agreement about the thematic roles borne by the three verbal arguments. Double object verbs occur in six different case frames in Icelandic, as shown in the table below (Yip et al. 1987: 226, Table 3), and illustrated in the example sentences in (90). Ideally as possible, the illustrative sentences have been chosen because the corresponding verbs cannot be used as double object verbs in English.

(90) Dative-nominative verbs in Icelandic

<table>
<thead>
<tr>
<th>Case</th>
<th>Verb</th>
<th>English Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominative</td>
<td>weblauðum</td>
<td>'we plan to hold the president-D party-A'</td>
</tr>
<tr>
<td>Dative</td>
<td>áklaða forsetnafall</td>
<td>'we plan to hold a party for the president.'</td>
</tr>
<tr>
<td>Nominative</td>
<td>narðruður</td>
<td>'new computer has facilitated us-D the job-A'</td>
</tr>
<tr>
<td>Dative</td>
<td>húfur nauðvénað</td>
<td>'The new computer has made the job easier for us.'</td>
</tr>
</tbody>
</table>

> The NAA case frame also occurs with complex transitive verbs, with accusative on the objective complement. Since the object complement is not an object, such verbs are not included in the list. It is clear that Icelandic actually has double object verbs with the NAA case frame, since the second accusative NP of Item 'road' and color 'blue' is in the sense of 'it took me an hour' in an object rather than a numeral adverbial of some kind. Helga Skuli Jóhannesson points out (pers. comm.) that for the verb词组, the measure phrase took Dative rather than Accusative case in older periods of Icelandic.
<table>
<thead>
<tr>
<th>Case frame</th>
<th>Typical</th>
<th>Verb</th>
<th>Approximate number of verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>NDA</td>
<td>suða</td>
<td>'say'</td>
<td>75+</td>
</tr>
<tr>
<td>NAD</td>
<td>leyja</td>
<td>'tell'</td>
<td>25</td>
</tr>
<tr>
<td>NAG</td>
<td>leyja</td>
<td>'demand'</td>
<td>10</td>
</tr>
<tr>
<td>NDD</td>
<td>byggja</td>
<td>'promise'</td>
<td>10</td>
</tr>
<tr>
<td>NGD</td>
<td>ekkja</td>
<td>'worse'</td>
<td>11</td>
</tr>
<tr>
<td>NAA</td>
<td>kosta</td>
<td>'with'</td>
<td>2</td>
</tr>
</tbody>
</table>

b. NDD skila 'return' | Eg skilaði hann bókinni. | I returned the book to her.

c. NDD syja 'deny' | Dómarinn syðið náð leyfils. | The judge denied the permission.
d. NAD byggja 'hide' | Rúðhermann leyði forensta sunniliusam. | The minister hid the truth.
e. NAG nýja 'ask' | Hún bæði náð bóðari. | She asked many questions.

This variety makes the Icelandic case-system remarkable.

Given that there are so many different case frames for double object verbs, it is perhaps not surprising that there exist minimal pairs, in the sense that roughly synonymous verbs take different case frames. Three examples are shown in (91).

(91) a. gei 'give' | aðilaða 'hand out' | NDA Bryggjumenninum gáfu formarhófnum flóttanu teppl | The rescue workers gave/distributed the food victims blankets.
b. velja 'award' | zuna 'award' | NAD Fórustaður vettu náð Fólkakönnun. | The president awarded the Order of the Falcon.

c. leyja 'hide' | dýla 'hide' | NAD Rúðhermann leyði forensta sunniliusam. | The minister hid the president.

For double object verbs, then, the descriptive generalization for Icelandic is that the direct object, i.e. the theme argument, may be marked with any of the three non-nominative cases, while the indirect object (in the traditional sense) may be marked either dative or accusative but not genitive. I know of no explanation for the fact that only theme arguments can be marked with genitive case. Various linguists have discussed the possibility that the case of the IO is correlated with the thematic role it bears (see discussion in Yip et al., 1987: fn. 6). Heineberg and Flöttrød note that "there is a strong tendency in Icelandic to have dative Case
with benefactives and a less strong but still noticeable tendency to have accusative with malefactors" (1995: 198), citing e.g. the NAD verb raus 'rob', leynu 'conceal', yogna 'deceive'. But there are enough exceptions to semantic generalizations such as this to lead us to conclude that the case of the IO must be stipulated in the lexical entry, at least for any verb that doesn’t occur in the prototypical NDA case frame.

What about some transitive verbs with a single direct object? Does the morphological case on a verb’s object correlate with the verbal semantics, and if so, how? Cross-linguistically, dative case is typically associated with goals (e.g. indirect objects of ditransitive verbs) and experiencers. This is true in Germanic languages, as well; goal arguments which do not bear syntactic nominative/accusative case will bear dative case. Some monomorphemic transitive verbs taking dative goals in Icelandic and German are given in (92):

(92) Some monomorphemic verbs taking dative goals in Icelandic and German

a. hjálpa 'help'; hátka 'thank'; hjóla 'laud'; hel sta 'threaten'; umhunda 'reward'; geða 'feed'
b. helfen 'help'; dækken 'thank'; bægyna 'meet'; drohja 'threaten'; aðald 'harm'; flúch 'curse'

It is important to note that this correlation between in-case and thematic role is at best one-way, since not all goals are marked with dative case. For example, the German verb verleihen 'to lease' takes an accusative object, whereas its Icelandic counterpart leiðgeva governs dative; the German borgen 'to lend' governs dative, whereas both German treffen 'meet' and Icelandic þræfa govern accusative; similarly, the verb meaning 'to meet' governs dative in Japanese (but) and accusative in Korean (muma); the verb 'to visit' takes accusative in both German (beherzigen) and Icelandic (þráttastá) although its object bears the thematic role of goal. I assume, therefore, that dative case marking is lexically-governed, and must be marked in the lexicon for each verb not associated with the relevant argument; any argument not marked for lexical case will get syntactic nominative/accusative case by the general principles of case assignment.

However, lexical case-marking is not a reliable indicator of thematic role. In both Icelandic and German, there are nearly synonymous verbs pairs which govern different cases, e.g. German helfen and Icelandic hjálpa 'help' both govern dative, whereas German wässern and Icelandic kraupa 'to support' govern accusative. As we shall see, evidence from deverbal nominals indicates that the objects of these verbs are thematically goals, despite the accusative case marking.

Thus, lexical case-marking has somewhat different distribution in Icelandic than it does in German.

Icelandic differs from German in that it allows dative case to be associated with theme arguments as well as goals, the prototypical class of dative arguments.

(93) Some Icelandic verbs taking Dative theme objects

a. Monomorphemic: hýrgra 'acquire'; breyka 'break'; stykkla 'break'; glema 'forget'; hæfða 'thief'; helsta 'thieve'; lika 'climb'; lika 'lock'; styppa 'release'; súlka 'sink'; tapa 'lose'; tóttu 'lose'; sambíla 'revolutionize'; árkafla 'repeat', búnaðar 'annulate'; átýnna 'broadcast'
b. Ditransitives: líka 'promise'; liða 'report'; postra 'answer'; átýning 'distribute'

In fact, as first noted by Barðdal (1993), one of the semantic classes of objects which are marked dative in Icelandic are objects which undergo movement. These include the objects of verbs meaning to throw, and the load-class (Barðdal, 1999: Malling to appear).
An argument which undergoes a change of location is a prototypical form.

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