Ditransitive Asymmetries and a Theory of Idiom Formation

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This article discusses three asymmetries in ditransitives—quantifier scope, nominalizations, and idioms—and argues that an asymmetric theory like that advocated by Marantz (1993) and Bruening (2001) is correct. A symmetric theory like that proposed by Harley (1997, 2002) cannot account for the asymmetries. The article also proposes a complete theory of idiom formation based on selection. It also proposes a formal semantics for double object constructions that includes a mechanism for composing complex predicates. This semantics can account for the different readings of *again* and other modifiers, and can also be extended to nonalternating verbs like *deny*, *spare*, *envy*, and *cost*, with correct predictions about their behavior.

Keywords: ditransitives, double object constructions, idioms, quantifier scope, nominalization, lexical decomposition, complex predicates, *again*

1 Symmetric versus Asymmetric Theories of Ditransitives

Much recent research on ditransitives has concluded that the prepositional dative (1a) and the double object construction (1b) are not related to each other derivationally and have slightly different semantics (for a recent critical review, see Rappaport Hovav and Levin 2008).
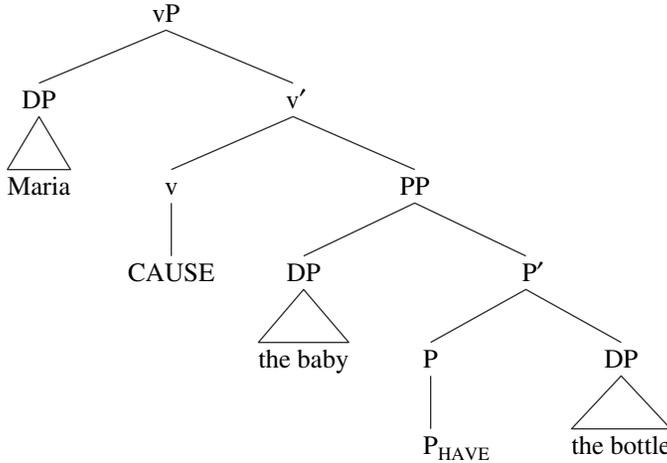
(1) a. Maria gave the bottle to the baby. (prepositional dative)
 b. Maria gave the baby the bottle. (double object construction)

I will assume that this is correct (with some justification coming as we proceed), but making this assumption still does not tell us what the correct structure is for each variant. Current approaches that assume that the prepositional dative and the double object construction have different underlying structures can be divided into two broad categories: symmetric and asymmetric. Symmetric theories posit essentially the same structure for each, but with the positions of the two objects
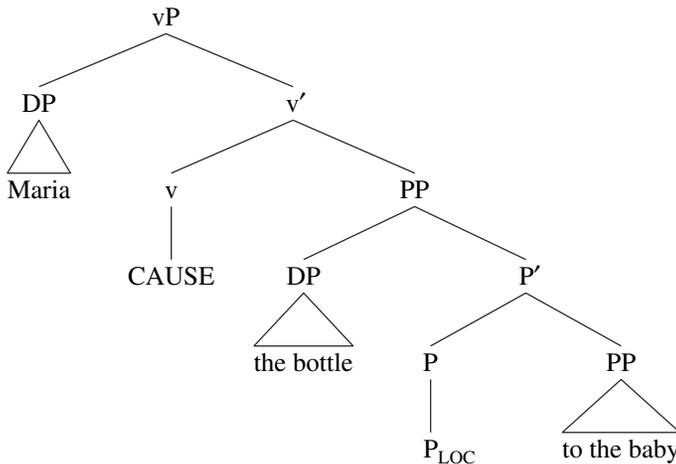
reversed, as in (2) and (3). The theory proposed by Harley (1997, 2002) is representative of the symmetric approach.
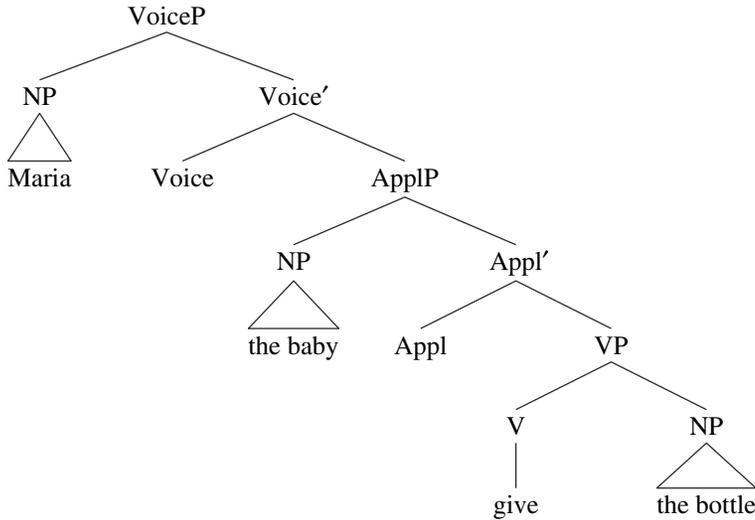
(2) Maria gave the baby the bottle.

```
                          vP
                      ┌────┴────┐
                     DP         v′
                      △     ┌────┴────────┐
                    Maria   v            PP
                            │        ┌────┴────────┐
                          CAUSE     DP            P′
                                    △        ┌────┴────┐
                                  the baby    P        DP
                                             │         △
                                           P_HAVE    the bottle
```

(3) Maria gave the bottle to the baby.

```
                          vP
                      ┌────┴────┐
                     DP         v′
                      △     ┌────┴────────┐
                    Maria   v            PP
                            │        ┌────┴────────┐
                          CAUSE     DP            P′
                                    △        ┌────┴────┐
                                the bottle    P        PP
                                             │         △
                                           P_LOC     to the baby
```

In Harley's theory, the verb *give* consists of a CAUSE component and either an abstract preposition that encodes possession (P_{HAVE}) or one that encodes location (P_{LOC}). The first postverbal NP is the subject of a small clause whose predicate is the abstract PP. As (2) and (3) indicate, the structures are essentially identical, except that the positions of the two internal arguments are reversed.
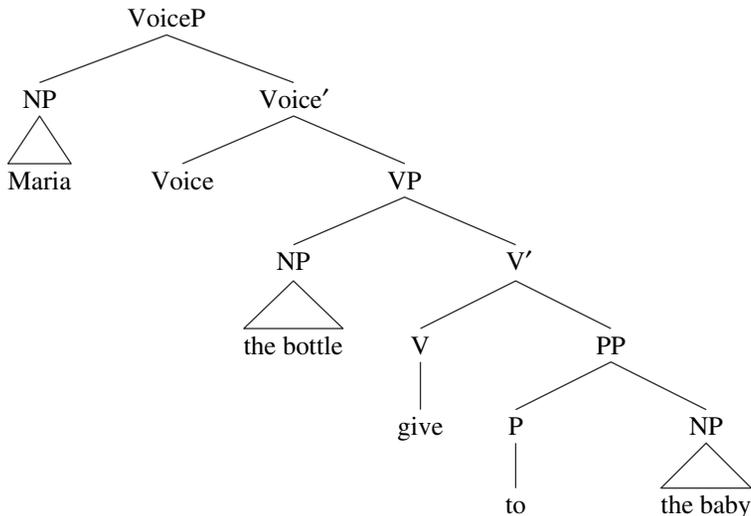
In contrast, an asymmetric theory was proposed by Marantz (1993) and advocated in Bruening 2001, making use of the Voice theory developed by Kratzer (1996) (for reasons explained below, I also reject the DP Hypothesis adopted by Harley). In this theory, the structure for the double object construction is (4).

(4) Maria gave the baby the bottle.

```
                        VoiceP
                   ┌──────┴──────┐
                  NP            Voice′
                   △         ┌────┴────┐
                 Maria     Voice      ApplP
                        ┌──────────┴──────────┐
                       NP                    Appl′
                        △              ┌───────┴───────┐
                    the baby         Appl            VP
                                           ┌──────────┴──────────┐
                                          V                     NP
                                          │                      △
                                        give                the bottle
```

In the double object construction, the theme argument is an argument of the verb, while the goal/recipient argument is introduced by an Appl(icative) head that comes between the verb and Voice. (The verb moves through Appl to Voice.) In contrast, the prepositional dative lacks Appl, instead having both the NP and the PP as arguments of V, as in (5).[1]

(5) Maria gave the bottle to the baby.

```
                        VoiceP
                   ┌──────┴──────┐
                  NP            Voice′
                   △         ┌────┴────┐
                 Maria     Voice       VP
                                 ┌───────┴───────┐
                                NP              V′
                                 △         ┌─────┴─────┐
                             the bottle    V          PP
                                           │       ┌────┴────┐
                                         give      P        NP
                                                   │         △
                                                   to    the baby
```

[1] In Bruening 2001, I actually considered several possibilities for the prepositional dative, including a ternary-branching VP and a small clause structure. I rule out the small clause structure in section 2. I view the structure in (5) as essentially equivalent to a ternary-branching structure, as explained in section 5.

I argue here, on the basis of numerous asymmetries between the prepositional dative and the double object construction, that the asymmetric theory is correct. It has simple explanations of the asymmetries available to it; the symmetric theory does not, and would require additional complications to account for the asymmetries.
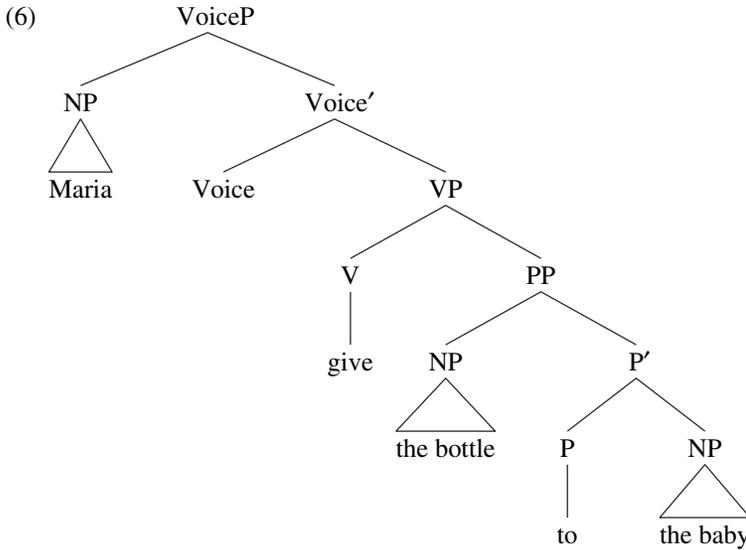
I also argue against treating ditransitives as involving small clauses, as Harley's theory does. I concentrate in particular on the prepositional dative, because the explanation that I will propose for some of the asymmetries requires the structure given in (5) for the prepositional dative and is incompatible with a small clause analysis of the prepositional dative. In section 2, I therefore spend some time arguing against small clause approaches. In section 3, I then present two asymmetries that argue for the asymmetric approach: quantifier scope and nominalizations. In section 4, I turn to idioms, and I present a complete theory of structural conditions on idioms, which accounts for the patterns of ditransitive idioms that exist—and, more importantly, those that do not. I also show that the symmetric theory cannot account for these patterns.

Finally, in section 5 I turn to the semantics of the double object construction and the adverb *again*. The different readings of *again* with double object constructions have been successfully analyzed within the symmetric theory by Beck and Johnson (2004) and appear not to be compatible with the asymmetric analysis. I spell out a semantics for the double object construction that can account for the readings that exist, as well as one that does not. The account can also extend to obligatory double object verbs like *deny*, *envy*, *spare*, and *cost*, with interesting predictions that I show are correct. The overall conclusion is that the facts of English overwhelmingly support the asymmetric approach over the symmetric one.

2 Against Small Clause Analyses

The structure I have proposed for the prepositional dative treats the NP and the PP both as arguments of the verb. An alternative that is often proposed is a small clause structure, as in (6), where the NP is not an argument of the verb, but is instead the subject of a small clause whose predicate is the PP (e.g., Hoekstra and Mulder 1990, Den Dikken 1995, building on ideas in Kayne 1984).[2] The idea is that a sentence like *Maria gave the bottle to the baby* includes a predication that asserts that the bottle is located at or with the baby. (Note that the analysis requires some abstraction, because **The bottle is to the baby* is not a well-formed English predication.)

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[2] Proponents of the small clause analysis often posit a functional head mediating between the PP predicate and the NP subject of the small clause, but this is immaterial to the arguments here.

(6)

```
                        VoiceP
                       /      \
                     NP        Voice′
                     /          /    \
                    △        Voice    VP
                  Maria              /    \
                                    V       PP
                                    |      /    \
                                  give   NP      P′
                                        /       /   \
                                       △       P     NP
                                   the bottle   |     △
                                               to   the baby
```

An argument often given for this idea is that the PP can front in locative inversion;[3] apparently, the claim is that only PPs that are predicates of small clauses can front in locative inversion. This argument seems to come from Hoekstra and Mulder (1990), who assert without argument (p. 29) that a PP that fronts in locative inversion must be the predicate component of a small clause with the postverbal NP as its subject. However, this is clearly not true. There is no such constraint on locative inversion; numerous examples can be given where no one would posit a small clause relation of predication between the fronted PP and the postverbal subject. The following examples come from Postal 2004:

(7) *(Postal 2004:(5b,d,e,g))*
    a. For that perverted cause were slaughtered thousands of innocents.
    b. During the reign of Queen Lulu II were built many fabulous monuments.
    c. With this pen seems to have been written the first verse of that famous sonnet.
    d. Throughout that period were undertaken some impressive feats of irrigation.

Hoekstra and Mulder's account would require that the above sentences include the following predications, which is clearly false:

(8) a. thousands of innocents were [for that perverted cause]
    b. many fabulous monuments were [during the reign of Queen Lulu II]
    c. the first verse of that famous sonnet was [with this pen]
    d. some impressive feats of irrigation were [throughout that period]

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[3] This argument has been expressed to me several times by anonymous reviewers, who appear to be taking it from Hoekstra and Mulder 1990. I have found no defense of this argument in print.

These predications either make no sense or are not entailed at all by the corresponding locative inversion sentences. For instance, in (7c) it is not the first verse of the sonnet that is with the pen, as (8c) asserts; the prepositional phrase is instead an instrumental modifier of the event and does not in any way predicate anything of *the first verse of that famous sonnet* (all of these prepositional phrases are event modifiers).

So, a PP that fronts in locative inversion is not required to be the predicate of a small clause. The fact that the *to*-PP in a prepositional dative can front in locative inversion does not show that it is part of a small clause.

Moreover, true small clauses have various syntactic properties that *to*-PPs in the prepositional dative do not share (Pesetsky 1995, Beck and Johnson 2004).[4] First, the subject of a true small clause cannot be extracted from (Postal 1974:195), but the NP object of a prepositional dative can.

(9) a. *Who do you consider supporters of beneath our notice?
    b. *What did he prove an account of false?
    c. Who did you give statues of to all the season-ticket holders?

Second, the subject of a true small clause cannot be an *of*-PP in a nominalization (Kayne 1984), but the NP object of a prepositional dative can be.

(10) a. *the consideration of him beneath our notice
     b. *my expectation of that man off my ship
     c. gifts of bobble-head dolls to season-ticket holders

Third, true small clauses create opaque domains for anaphora, but the putative NP-PP small clause in a prepositional dative does not (Pesetsky 1995:159–160).[5]

(11) a. *John considers her proud of himself.
     b. John gave a gift to himself.

Contra much of the literature, then, there are numerous phenomena that distinguish the NP-PP complements of the prepositional dative from true small clauses, and no phenomena that treat them the same. Of course, one could claim that the internal arguments of the prepositional dative do constitute a small clause, but a different type of small clause from the ones with the properties listed above. However, absent a theory of a typology of small clauses, such a claim would be contentless. Classifying something as Category A is only meaningful if one has the expectation that that thing will have properties of Category A. Dividing Category A into two subcategories with nothing in common is pointless and disingenuous, implying a relation when in fact there is none. The empirical facts show that prepositional datives do not involve a small clause.

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[4] These properties are also not shared by the PP argument of verbs like *put*, which is also often viewed as a small clause. These same facts therefore indicate that complements of verbs like *put* are not small clauses, either.

[5] Note that the first two phenomena might suggest that the *double object construction*, in contrast with the prepositional dative, is a small clause, as Kayne (1984) has argued. However, the opaque-domain argument shows that double object constructions, too, pattern differently from small clauses.

I therefore assume that the NP and the PP are both arguments of the verb, as in the tree in (5).[6] I also assume that the two arguments are essentially unordered and are treated equivalently. This will be important below, where I spell out the semantics of the double object construction.

Before moving on, I should note that the arguments given above against a small clause analysis of the prepositional dative are also arguments against Harley's (1997, 2002) symmetric theory, which treats both the double object construction *and* the prepositional dative as involving a PP small clause. So, not only does the symmetric theory stumble on the asymmetries that are the topic of the next two sections, but it also suffers from incorrectly treating the prepositional dative as a small clause.

As for the double object construction, the evidence from this section is equivocal (as noted in footnote 5); however, the various asymmetries described in the next sections will show that even double object constructions do not involve small clauses. The second object has to be an argument of the verb, while the first object is introduced by an Appl head.

3 The First Two Asymmetries

I turn now to various asymmetries that are difficult for a symmetric theory of ditransitives to handle. This section treats quantifier scope and nominalizations. Because they require a much longer treatment, the idiom asymmetries are the topic of section 4.[7]

3.1 First Asymmetry: Quantifier Scope

It is well known that double object constructions, in contrast with prepositional dative constructions, disallow inverse scope of the second object over the first (Larson (1990) attributes this observation to David Lebeaux).

(12) a. Maria gave a baby every bottle. (*every bottle* cannot distribute over *a baby*)
     b. Maria gave a bottle to every baby. (*every baby* can distribute over *a bottle*)
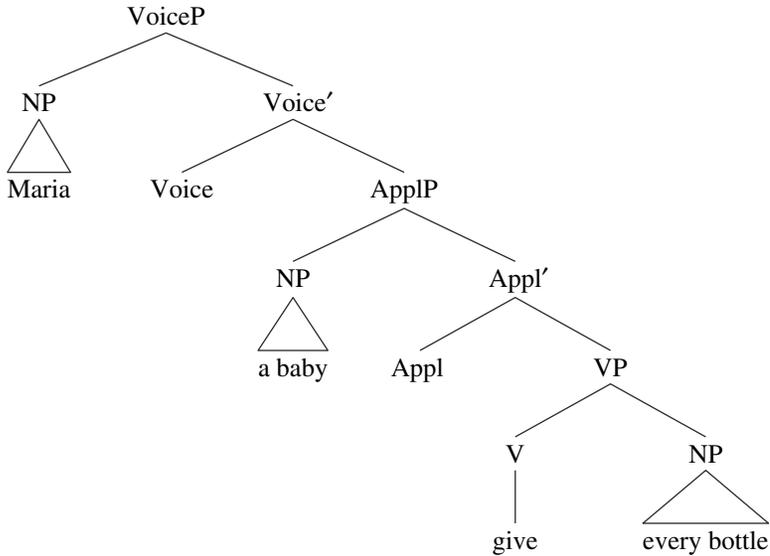
In Bruening 2001, I argue that this difference between the double object construction and the prepositional dative receives a simple account in the asymmetric theory. In (4), adapted to the quantifier examples in (13), the first object asymmetrically m-commands the second. Hence, the second object will be unable to cross over the first in any scope-taking movement, given standard theories of the locality of movement (where two syntactic objects that are of the same type, in this case quantificational NPs, compete). In contrast, in the prepositional dative structure in (5), adapted in (14), the first NP and the PP m-command each other (they are both minimally contained within the same maximal projection) and are equidistant for movement to higher positions to take scope. Hence, either the first NP moves first and takes higher scope, or the PP moves

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[6] In addition, Pesetsky (1995:157–159) presents data from selectional patterns that indicate that both the NP and the PP are arguments of the verb. His arguments appear to be sound.
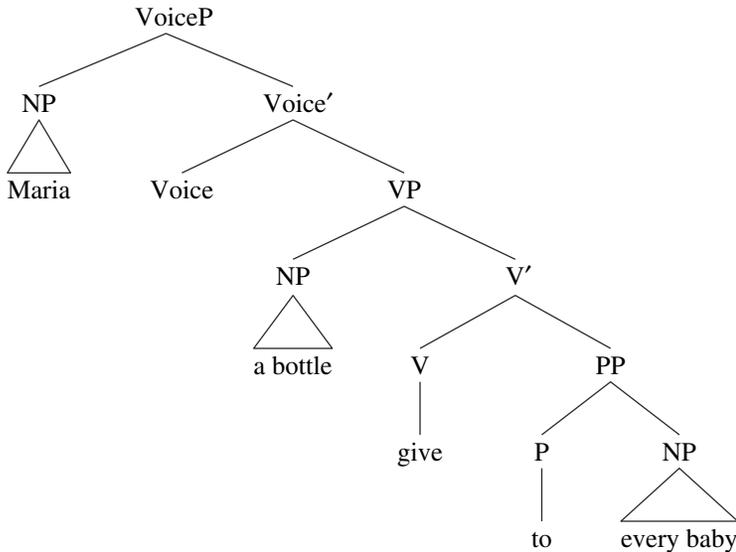
[7] There is also an extraction asymmetry: the first object of a double object construction cannot be extracted, at least for most speakers of English, and it also cannot be extracted from. However, neither the symmetric nor the asymmetric theory has an account of this, so I do not discuss it here. (But see Bruening 2010, where I argue that the first object of the double object construction *can* undergo extraction; it just has to undergo a process called ''R-dative shift'' first.)

and takes scope higher than the first NP. (See Bruening 2001 for details, especially pages 264–265, where it is shown that pied-piping of the preposition seems to be crucially involved in allowing the second NP to move over the first.)
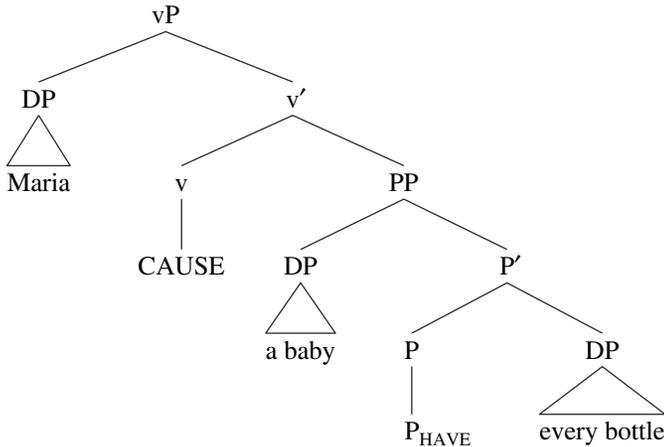
(13) Maria gave a baby every bottle.

```
                    VoiceP
                   /      \
                 NP        Voice′
                 |        /      \
               Maria   Voice      ApplP
                              /          \
                            NP            Appl′
                            |            /      \
                         a baby       Appl       VP
                                               /    \
                                              V      NP
                                              |       |
                                            give   every bottle
```
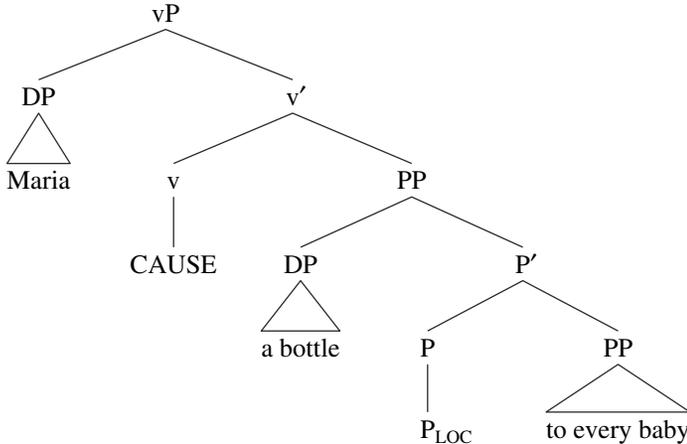
(14) Maria gave a bottle to every baby.

```
                    VoiceP
                   /      \
                 NP        Voice′
                 |        /      \
               Maria   Voice      VP
                              /        \
                            NP          V′
                            |          /    \
                        a bottle      V      PP
                                      |     /    \
                                    give   P      NP
                                           |       |
                                          to    every baby
```

No such explanation is available to the symmetric theory. In both the double object structure and the prepositional dative structure ((2)–(3), adapted in (15)–(16)), both NPs are contained

within the same maximal projection, PP (actually, there are two PPs in the prepositional dative structure in (16), so, if anything, that should be the one that is unambiguous). Either both structures should be ambiguous, or both should be unambiguous. There is no difference in structure that the symmetric theory could exploit to explain the asymmetry in quantifier scope. Something additional would have to be stipulated, and it is unclear what that would be.

(15) Maria gave a baby every bottle.

```
                        vP
                   ┌─────┴─────┐
                  DP           v′
                  △      ┌──────┴──────┐
                Maria    v            PP
                         │      ┌──────┴──────┐
                       CAUSE   DP            P′
                               △       ┌──────┴──────┐
                             a baby    P            DP
                                       │            △
                                    P_HAVE      every bottle
```

(16) Maria gave a bottle to every baby.

```
                        vP
                   ┌─────┴─────┐
                  DP           v′
                  △      ┌──────┴──────┐
                Maria    v            PP
                         │      ┌──────┴──────┐
                       CAUSE   DP            P′
                               △       ┌──────┴──────┐
                             a bottle   P            PP
                                        │            △
                                     P_LOC       to every baby
```

Hence, the symmetric theory fails to account for the asymmetry in quantifier scope.

3.2 Second Asymmetry: Nominalizations

As was shown by Kayne (1984) and discussed extensively by Pesetsky (1995), double object constructions do not permit nominalizations where the first object either is introduced by *of* or is the possessor.

(17) a. *the gift of Mary (of) a statue
     b. *(Kayne 1984:146, (62))*
        *Mary's gift of the letter by her teacher

(18) a. *the sale of us (of) a defective car
     b. *(Kayne 1984:146, (62))*
        *our sale of a defective car by this salesman

In contrast, the prepositional dative allows nominalizations.

(19) a. the gift of a statue to Mary
     b. the sale of a defective car to us

Various proposals have been offered to explain this asymmetry, the most prominent of which is due to Pesetsky (1995). Pesetsky argues that affixation of null morphemes to a verbal root prevents further derivation—for instance, nominalization (Myers 1984). In the asymmetric theory, the double object construction has a null morpheme, Appl, that combines with the verb (see (4)/(13)). The affixation of null Appl to V prevents further derivation,[8] and the [V Appl] combination cannot have a nominalizing morpheme attach to it. In contrast, there is no Appl in the prepositional dative (see (5)/(14)), so nominalization can take place.

No such explanation is available to the symmetric theory. In Harley's structures in (2)/(15) and (3)/(16), both the double object construction and the prepositional dative involve null heads: CAUSE and P (either P_{HAVE} or P_{LOC}). The symmetric theory would have to stipulate that P_{HAVE} prevents further derivation, but P_{LOC} does not. There could be no principled reason for this; it would just have to be stipulated. In contrast, the asymmetric theory posits additional structure in the double object construction that can naturally be assumed to be behind the nominalization contrast.[9]

4 The Idiom Asymmetry

The third asymmetry that argues for an asymmetric account of ditransitives involves possible and impossible idioms. There is a logically possible class of ditransitive idioms that is systematically missing. I show here that only the asymmetric theory can account for the existing and nonexisting classes of idioms, as well as the alternations that some undergo. The symmetric theory cannot capture the patterns.

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[8] Note that V combining with Appl does not prevent further head movement (including affixation), since I am assuming that the [V Appl] combination moves on to Voice. Rather, what Appl prevents is the addition of further *derivational* morphology, like nominalization.

[9] Another account might try to build on the following constraint: that an NP that is a syntactic object of a verb may only be expressed as an *of*-PP in a nominalization if it is also a *thematic* argument of the verb. Thus, exceptional-case-marking objects may not (Kayne 1984), nor may objects of *make*. The first object of a double object construction then may not be expressed in an *of*-PP, either, because it is an argument of Appl, not of V. (See also Beck and Johnson 2004: 99, especially footnote 2.) Note that an explanation in these terms is also unavailable to the symmetric theory, because it treats the two NPs identically in the two constructions, both of them being arguments of a small clause in either case.

First, I present the claim made by Richards (2001) and Harley (2002) that the symmetric theory does provide an elegant account of ditransitive idioms—in particular, the *give-get* alternation. I then show that the account does not rule out a nonexistent class of idioms. Next, I construct a theory of idiom formation generally, which I show can account for the ditransitive patterns in conjunction with the asymmetric theory.

4.1 The Give-Get Alternation

Richards (2001) argues that the symmetric theory—in particular, the lexical decomposition component of Harley's (1997, 2002) account of the verb *give*—provides an elegant account of idioms that occur with ditransitive verbs. There is a large class of idioms like *give X the boot*, *give X the creeps*, where *give* plus its theme argument form an idiom to the exclusion of the goal argument. These idioms typically alternate with *get*, as in *get the boot*, *get the creeps*. Harley's double object structure is repeated in (20), followed by her structure for *get* in (21).

(20) The boss gave Maria the boot.
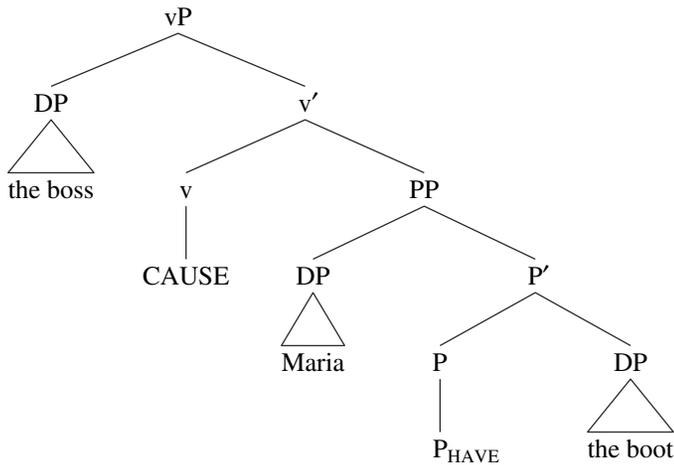
(21) Maria got the boot.
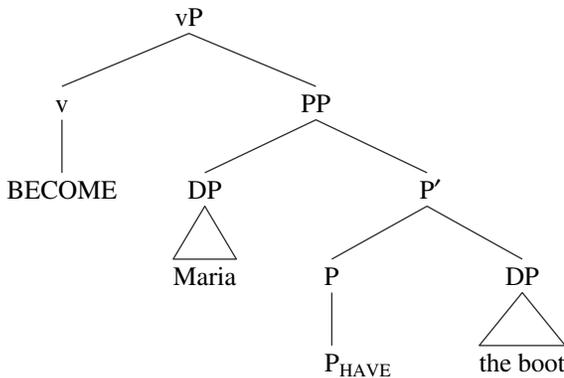
In Harley's theory, *give* and *get* have a piece of structure in common, P$_{HAVE}$, a preposition that encodes possession. When this combines with a v$_{CAUSE}$ (which projects an external argument), it is pronounced as *give*; when it combines with v$_{BECOME}$ (which projects no external argument), it is pronounced as *get*. On this account, the idiomatic part of *give/get the boot* is [P$_{HAVE}$ the boot]. This phrase can combine with either v$_{CAUSE}$ or v$_{BECOME}$, resulting in the *give-get* alternation.

This is a very simple and elegant account of the *give-get* alternation, and I will adopt something like it here. However, Harley's analysis of ditransitives runs into trouble once more ditransitive idioms are considered.

4.2 Nonexistent Idioms Not Accounted For

In particular, there is a class of idioms like *give the lie to X*, *give birth to X*, where the verb plus theme of the prepositional dative is interpreted idiomatically, excluding the goal. Harley's (1997, 2002) structure for the prepositional dative is repeated in (22), for the idiom *give birth to*.

(22) Maria gave birth to a son.
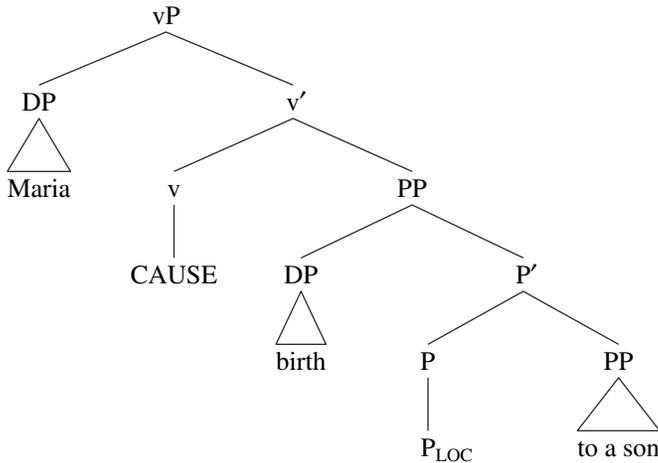
Somehow, the verb (the combination of v$_{CAUSE}$ and P$_{LOC}$) plus Spec,P$_{LOC}$ have to be interpreted idiomatically here, excluding the complement of P$_{LOC}$. It is not clear what the principle is that determines what can and what cannot be interpreted idiomatically in Richards 2001 and Harley 2002, but somehow this has to be allowed. The problem is, once it is allowed, nonexistent idioms like *give the wolves X* or *give the devil X* should be allowed as well (the asterisk here and below means that the expression lacks an idiomatic interpretation). As I will show, this class of possible idioms is systematically missing, where the verb plus the first argument of the double object construction are interpreted idiomatically, excluding the second NP. In Harley's theory, these would have an entirely comparable structure, with Spec,P$_{HAVE}$ interpreted idiomatically but not the complement of P$_{HAVE}$.

(23) The boss *gave the wolves* Maria. (nonexistent idiom)

```
                      vP
                   /      \
                 DP        v′
                 |        /    \
              the boss   v        PP
                         |      /    \
                      CAUSE   DP       P′
                              |       /   \
                          the wolves P      DP
                                     |      |
                                  P_HAVE  Maria
```
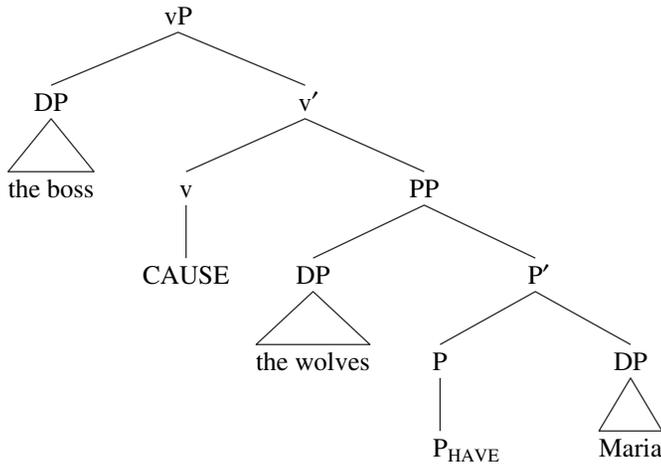
There is no way for Harley's analysis to allow an idiomatic interpretation for *give birth to X* without also allowing one for **give the wolves X*. In both cases, the idiom would consist of v_{CAUSE}, Spec,P, and P, excluding the complement of P. If this is allowed in one case, it has to be allowed in both. Harley's theory therefore fails as a predictor of possible and impossible idiom patterns.

The problem with Harley's analysis is that it assigns entirely symmetric structures to the double object construction and the prepositional dative. The only difference between them is that the roles of the two NPs are reversed. Hence, Harley's theory should expect symmetry between the double object construction and the prepositional dative, but this symmetry is not observed.

In contrast, the asymmetric theory does have the means to account for both existing and nonexisting idioms, and the alternations that they undergo. First, however, we need a theory of idiom formation in the syntax.

4.3 A Theory of Idiom Formation

I propose a simple and explanatory principle governing what can be interpreted idiomatically in the syntax, as well as a constraint. The principle and constraint that I propose will account for possible and impossible idioms in all contexts, including the well-known asymmetry between subjects and objects (Marantz 1984), as well as the ditransitive patterns laid out in detail in section 4.4. The ideas and discussion here lean heavily on O'Grady 1998, which I take as my point of departure.[10]

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[10] O'Grady (1998) proposes a constraint similar to (24), but not one like (25). His Continuity Constraint (O'Grady 1998:(12)) also fails to rule out ditransitive idioms like **give the wolves X*, although he does attempt to rule them out by means of a thematic hierarchy constraint.

I propose that two syntactic constituents, X and Y, can be interpreted idiomatically only if one selects the other. That is, idiomatic interpretation is governed by the same principle that regulates interpretation and composition generally: selection. I formalize this as the following principle:

(24) *The Principle of Idiomatic Interpretation*
     X and Y may be interpreted idiomatically only if X selects Y.

In addition, the following constraint holds:

(25) *Constraint on Idiomatic Interpretation*
     If X selects a lexical category Y, and X and Y are interpreted idiomatically, all of the
     selected arguments of Y must be interpreted as part of the idiom that includes X and Y.

(26) Lexical categories are V, N, A, Adv.

The principle in (24) is simply the default hypothesis about how idiomatic interpretations arise, since selection is exactly the mechanism that combines two elements and determines their contextual interpretation. The constraint in (25) simply says that interpreting a head as idiomatic in combination with something else will naturally affect the interpretation of that head's own selected arguments. This effect is limited to lexical categories, though, because functional categories have much less in the way of lexical meaning.

A very large class of idioms consists of a verb and its object (*pull strings*, *kick the habit*, *kick the bucket*, *take a powder*, *pack a wallop*). This pattern just follows from (24). In contrast, there are no idioms that include the subject and the verb but exclude the object of the verb. The two principles in (24) and (25) will together account for this lack, in conjunction with the theory that the external argument is not an argument of the verb at all but is introduced by a functional head, Voice (Kratzer 1996). Consider an idiom that has been claimed to be of this type (Nunberg, Sag, and Wasow 1994).

(27) A little bird told me.
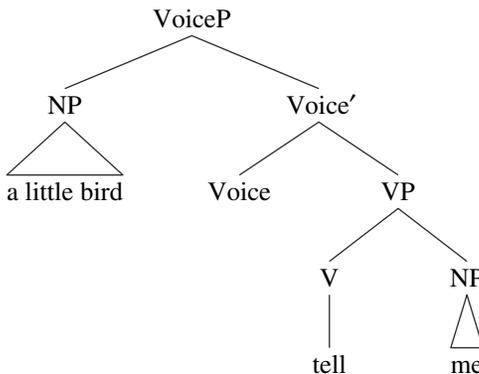
A little bird(ie) told X has been claimed to be an example of an idiom that includes the subject and verb but not the object. In terms of structure, this idiom would have to be Spec,VoiceP,

Voice, and V, but exclude the object of V. Voice selects Spec,VoiceP and V, so they can be interpreted idiomatically, given (24). But Voice selects V, V a lexical category, so all of V's selected arguments must be part of the idiom, too, given (25). It is clear that the idiom here is *not* the subject and the verb, but just the subject, because the verb has its usual meaning (it is not idiomatic at all), and in fact the *a little bird(ie)* part can occur with other verbs.

(28) a. A little bird whispered/e-mailed it to me.
    b. A little bird is broadcasting that.
    c. I heard it from a little bird.

The same is true of every putative idiom that includes the subject and verb but not the object (*the spirit moved X*, *what's eating X?*, *the love bug bit X*); see O'Grady 1998:295–297. The principles given above rule them out, because any idiom that includes the subject and the verb will have to include all of the selected arguments of the verb, as well. This seems to be correct.

Note that, in stating the principles in terms of selection, we expect nonselected items, like adjectives, possessors, and determiners, to vary freely within an idiom, and they do.

(29) a. pull *some discreet* strings
    b. pull *a few* strings
    c. pull *yet more* strings

(30) *(O'Grady 1998:(4c–e))*
    a. lose X's cool
    b. get X's goat
    c. fill X's shoes

(31) *(O'Grady 1998:(5a,c,d))*
    a. kick the *filthy* habit
    b. leave no *legal* stone unturned
    c. jump on the *latest* bandwagon

The idiom in (29), for example, is just *pull strings*, which consists of a verb and its selected object. The determiner and any adjectives are not part of the idiom. Note that I explicitly do *not* adopt the DP Hypothesis, precisely because it gets this wrong (and many other things, too; see Payne 1993, Sportiche 2005, Bruening 2009). Verbs select noun phrases, not determiners.

Note that the common view that idioms must form underlying constituents excluding all nonidiomatic material cannot deal with such facts. In contrast, if the principle behind idiomatic interpretation is selection, then such free variation within an idiomatic constituent is expected.

Modifiers *can* be part of an idiom, like *hot* in *(be) in hot water*. I assume that there is a selectional relationship between modifiers and what they modify, such that the modifier selects the category it modifies. It is clear that adjectives only occur with elements of category N, while adverbs only occur with elements of category V; I view this as an instance of categorial selection. Nevertheless, I also assume that when an adjective or adverb merges with a nominal or verbal projection, it is the nominal or verbal one that projects, not the adjective or adverb. Therefore, I

do not adopt Chomsky's (2000) principle that says that selection determines projection. Rather, when an argument merges with its selector, the selector projects; but when a modifier merges with a category that it selects, that category projects. I therefore divide syntactic categories as selectors into two classes:

(32) *Selectors*
    a. Modifiers: A(P), Adv(P)
    b. Argument takers: C, T, Asp, Appl, V, P, N, . . .

(33) *Principles of Projection*
    a. If X selects and merges with Y and X is an argument taker, X projects.
    b. If X selects and merges with Y and X is a modifier, Y projects.

(Semantically, we might think that selectors that combine with their selectee by predicate modification, or conjunction, are exactly the ones that do not project.)

So, in *(be) in hot water*, *hot* selects a projection of the N *water* and merges with it, but because *hot* belongs to the category of modifiers, N projects. The NP is in turn selected by the preposition *in*, and the whole resulting phrase can be interpreted idiomatically, because there are selectional relations holding within every pair of elements in the phrase (so idioms can be quite large, as long as every element within them is selected by another element).[11]

The same will hold with adverbials, which select verbal arguments but do not project. For instance, the idiom *strike while the iron is hot* has an adverbial clause (*while the iron is hot*) selecting a verb, and the whole is interpreted idiomatically. Note that, as predicted by (25), no selected argument of the verb is allowed, because any such argument would have to be part of the idiom (**You've got to strike him/it while the iron is hot*). In addition, every selected argument of the adverbial clause also has to be part of the idiom. In such adverbial idioms, an open nonselected position *is* allowed, like the genitive in *count X's chickens before they hatch*. In this idiom, the adverbial clause selects V, and V selects N, so all of them can be interpreted idiomatically. The genitive is not selected at all, so it does not have to be part of the idiom.

Note that genitives *can* be interpreted idiomatically, but only if they are selected. This seems to be correct: there are numerous idioms with an open possessor spot (like those in (30), and *cook X's goose*, *cat got X's tongue*, *kick X's ass*), but they all seem to be simple possessors,

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[11] I do not discuss determiners here, because it is still unclear to me whether determiners are ever part of an idiom. There are many cases where they appear to be, like *no* in *leave no stone unturned*, but this one at least also allows *any* and *a*, as in *don't leave any stone unturned* (http://www.topix.com/city/satsuma-fl/2009/07/investigators-dont-leave-any-stone-unturned-in-haleigh-case). Moreover, many idioms appear to have a fixed *the*, like *kick the bucket*, but my own guess is that this is because of the usual rules of English for using *the*, and not because *the* is a crucial part of the idiom. Showing this would take us too far afield, but I will note two indications that this conjecture is correct: first, many V-NP idioms with *the* can be rephrased as compounds without *the*, like *habit-kicking* or *hatchet-burying*; and second, *the* can be replaced with another determiner or left out if the conditions are right. For instance, I have found *beat the crap out of X* used with a bare plural partitive instead, as ''he would beat ten kinds of crap out of them,'' in Kate Atkinson's novel *One Good Turn*. I therefore leave aside the issue of selection between determiners and nouns, but it is crucial that I do not adopt the DP Hypothesis; whether there is selection or not, it is the N that projects when a determiner is merged.

rather than arguments of the noun.[12] In those idioms that do have the genitive as part of the idiom, like *play the devil's advocate*, the genitive is an argument of the noun. Here, the possessor is interpreted as the one on whose behalf the advocate advocates. This means that the genitive is a thematic argument of the noun *advocate*. Since *advocate* selects *the devil*, the two can be interpreted idiomatically. Since *play* selects the NP *the devil's advocate*, the whole thing can be interpreted as an idiom. Note that all of the selected arguments of *advocate* have to be included in the idiom, by (25), and they are; the principles given here predict that there could be no idiom like *play the devil's advocate*, but with a free possessor that is interpreted as an argument of the noun, which seems to be correct.[13]

These principles also correctly disallow idioms that would consist of a verb and the possessor of the object, while excluding the object itself. Such an idiom would be like **play the devil's X* (O'Grady 1998:287); it would be ruled out because V does not select the possessor of the object, and so the two cannot be interpreted idiomatically, by (24).

The reason to exclude *functional* categories from (25) is that there is a large class of idioms that consist of some verb and a preposition that it selects, but the object of the preposition is not part of the idiom. These include idioms like *throw the book at X*, *build a fire under X*, where the verb, a selected object, and the preposition are all part of the idiom, but the object of the preposition is not. The preposition must be part of the idiom, because, in nonidiomatic uses, these same verbs allow many different prepositions, but in these idioms the preposition is fixed (O'Grady 1998: 300–301). Such idioms are allowed by the principles above, because V selects N and P, so all three can be interpreted idiomatically by (24); but, because P is not a lexical category, (25) does not force its selected arguments to be part of the idiom.

Another such case has the subject as part of the idiom: *fortune smiled on X*, *the ceiling caved in on X*, *the bottom fell out of X*, *time's up for X* (O'Grady 1998:298–299). While some of these might be unaccusative, with the subject selected by the verb, *smile on* is probably not, and includes Voice. This is allowed by the constraints. Voice selects the subject (*fortune*) and the verb (*smile*), and the verb selects the preposition. V is a lexical category, so all of its selected arguments have to be part of the idiom, and they are. P is not a lexical category, so its argument does not have to be part of the idiom.

The principles in (24) and (25), then, are quite successful in accounting for possible and impossible idioms. With these principles in hand, we are now in a position to turn to ditransitive idioms.

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[12] Many of these involve an inalienable possessor of a body part noun, which is often viewed as an argument of the noun. If there is a selection relation with such nouns, I suggest that it actually goes the other way, as with modifiers above: the inalienable possessor selects the body part noun, but the possessed noun projects when they merge.

[13] There do seem to be some idiomatic NPs that include a nonargumental possessor, like *the cat's meow* and *the cat's pajamas*. I leave the proper treatment of these for future research, but note that all of them seem to consist only of an NP, and do not include a verb as well.

4.4 Accounting for Ditransitive Idiom Patterns

There are six logically possible classes of idiomatic expressions involving (a) a ditransitive verb that can occur in two different frames and (b) one of its internal arguments. Four classes are fixed and two alternate. I indicate which elements are interpreted idiomatically by underlining, and an example of each appears in parentheses.[14]

(34) *Logically possible fixed ditransitive idiom patterns*
  a. Class 1: <u>Verb</u> NP <u>NP</u> (*give X the creeps*)
  b. Class 2: <u>Verb NP</u> to NP (*give rise to X*)
  c. Class 3: <u>Verb</u> NP <u>to NP</u> (*send X to the showers*)
  d. Class 4: <u>V NP</u> NP (nonexistent)

(35) *Logically possible alternating ditransitive idiom patterns*
  a. Alternating 1~2: <u>Verb</u> NP <u>NP</u> ~ <u>Verb NP</u> to NP (*read X the riot act/read the riot act to X*)
  b. Alternating 3~4: <u>V NP</u> NP ~ <u>Verb</u> NP <u>to NP</u> (nonexistent)

Four classes are robustly attested: three fixed, and one that alternates (with some that seem to prefer one frame, and some another). One class is nonexistent, as is the alternating class that would include this frame: <u>Verb NP</u> NP (the nonexistent **give the wolves X* discussed above). The principles of idiom interpretation given above, in conjunction with the structures posited by the asymmetric theory, are sufficient to account for the existence of the classes that do exist and the alternations that they undergo, while ruling out the nonexistent class. The symmetric theory is unable to account for these idiom patterns, and it is particularly ill equipped to account for idioms that alternate between the double object and prepositional dative frames. In what follows, I go through each class and show how the asymmetric theory accounts for it, and why the symmetric theory is unable to.

Before proceeding, however, I should say something about recent work by Rappaport Hovav and Levin (2008) and Bresnan et al. (Bresnan 2007, Bresnan et al. 2007, Bresnan and Nikitina, to appear). These authors claim that most, if not all, expressions that occur in one ditransitive frame can also occur in the other alternant, including idioms. As I will show, this is true to some

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[14] I have only been able to find two possible examples of both internal arguments being idiomatic. The first is *give the devil his due*, and it is not clear how idiomatic this actually is: one can also say, ''You've got to give him his due,'' with no notion that *him* is *the devil*. It therefore appears that the idiom is just *give X X's due*, with *the devil* being used in its very common metaphorical sense (a miscreant). The second, suggested by a reviewer, is *send coals to Newcastle*. However, I find this occurring as *carry coals to Newcastle*, as well, which makes me suspect that the particular verb is not really part of this idiom (only the semantic notion of caused transfer of location is). Ditransitive idioms including both internal arguments should be possible on the account advocated here, in either frame, so I would guess that they are rare just because there are far more idioms consisting of a verb and one NP than two.

extent, but not always. As I show in other work (Bruening 2010), some apparent instances of the prepositional dative are actually double object constructions plus heavy shift, which requires that the preposition *to* appear. Although they look identical to prepositional datives on the surface, they can be discerned to be double object constructions by their scopal behavior (and other phenomena discussed below). So, if an idiom typically occurs only in the double object construction, it is not good enough to simply find some occurrences of that idiom in an apparent prepositional dative frame to show that the idiom truly does alternate. Many do alternate, but others do not. I will use a few tests below to decide whether a given idiom alternates or not.

In most cases, moreover, whether an idiom alternates or not is just going to be a property of that particular idiom, with little to say about the syntax of ditransitives generally. Hence, whether an idiom is properly classified as Class 1 or as Class 2, or as alternating Class 1~Class 2, will be debatable. What is important here is that it is true, as Rappaport Hovav and Levin (2008) acknowledge, that Class 4 is systematically absent and that Class 3 never alternates. This is the main asymmetry that I will account for here, and the main asymmetry that argues against the symmetric theory. (However, the fact that some idioms in Class 1 and Class 2 do alternate is also an argument against the symmetric theory, as shown below.)

4.4.1 Class 1 Class 1 involves a double object frame, with the verb and its theme having an idiomatic interpretation, although they are separated by the other NP.[15]
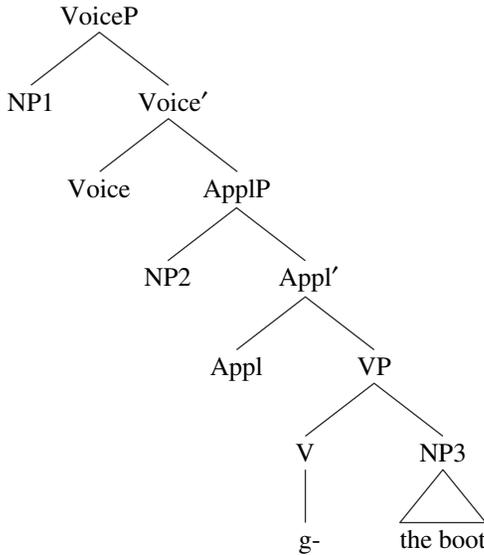
(36) *Verb NP NP*
    a. give NP the boot
    b. give NP the sack
    c. give NP the creeps
    d. give NP a headache
    e. give NP pause
    f. give NP a piece of one's mind
    g. promise NP the moon

Class 1 with *give* alternates with *get/take*, as in *get the boot/the sack/the creeps/a headache* (but not **get pause*; see Richards 2001).
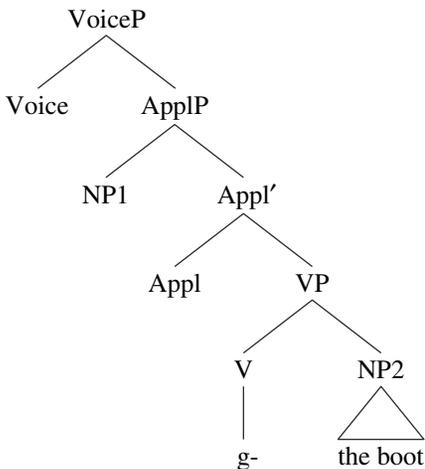
The structure assigned to this class of idiom by the asymmetric theory is shown in (37), with *g-* as the verbal root underlying both *give* and *get*.

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[15] I do not actually consider *give NP a headache* to be idiomatic, because neither the verb nor the NP has anything but its usual sense, and *a headache* can occur with many other verbs (*a headache gradually crept up on me*); in contrast, a phrase like *the creeps* really does not occur outside the idioms *give/get the creeps* (??*The creeps stole over me*). I include *give NP a headache* here because it patterns with this class of idiom and is useful for showing that Class 1 idioms do not alternate, despite apparent examples of their use in the prepositional dative. For an explanation of why *give NP a headache* does not alternate, see below.

(37) *Class 1:* give NP the boot

```
                        VoiceP
                       /      \
                    NP1      Voice′
                            /      \
                        Voice     ApplP
                                 /      \
                              NP2      Appl′
                                      /      \
                                   Appl      VP
                                            /    \
                                           V     NP3
                                           |      △
                                           g-   the boot
```

The idiom here consists of Appl-V-NP3 (Appl must be included because the verb can only occur in the double object frame, not the prepositional dative; see below). This satisfies the conditions on idiomatic interpretation in (24) and (25): Appl selects V, and V selects NP3. Appl and V are interpreted idiomatically, but this satisfies (25), because all of the selected arguments of V are also part of the idiom.

Essentially adopting Harley's (1997, 2002) analysis of the *give-get* alternation, the structure for the *get* variant in (38) is just an unaccusative version of (37).

(38) get the boot

```
                    VoiceP
                   /      \
                Voice    ApplP
                        /      \
                     NP1      Appl′
                             /      \
                          Appl      VP
                                   /    \
                                  V     NP2
                                  |      △
                                  g-   the boot
```

The idiom is the same chunk of structure: Appl-V-NP2. This is also allowed by the constraints on idiomatic interpretation. Like Harley, I assume that V-Appl-Voice is pronounced as *give* if Voice is active, projecting an external argument, but as *get* if Voice is unaccusative. (Appl actually does not matter at all. The complex head is pronounced as *give* if there is a transitive Voice, but *get* if there is an unaccusative Voice, whether or not Appl is present: *Jorge gave the ball to Maria*, *The ball got to Maria*.) Hence, the asymmetric theory is as able to account for the *give-get* alternation as the symmetric theory.

Returning to the question of whether these idioms alternate, it is true that one can find instances of *give the boot to*, *give the creeps to*, *give a headache to*, and *promise the moon to* using Google (but I find very few examples of *give the sack to*). However, I contend that these are not true alternations. Rather, they involve shift from a double object construction, as in Bruening 2010. If these idioms truly did alternate, we would expect them to retain their idiomatic interpretation in a passive prepositional dative, but they do not.

(39) a. *The creeps were given to him. (no examples found using Google)
    b. *A piece of your mind should be given to him. (no examples found using Google)
    c. *A headache will be given to anyone who enters this room. (no examples found using Google)
    d. *The boot was given to him. (no examples found using Google)
    e. *The sack was given to him. (no examples found using Google)
    f. *The moon was promised to him. (no examples found using Google)

In contrast, idioms that truly do alternate do appear in the passive (these are discussed in more detail below).

(40) a. The riot act was read to the protesters. (examples can be found using Google)
    b. A hand was lent to those who returned to New Orleans. (examples can be found using Google)
    c. A wide berth should be given to those who use mediation . . . (examples can be found using Google)
    d. A bone was thrown to the fundamentalist Christians. (examples can be found using Google)

Similarly, truly alternating idioms can undergo locative inversion, but nonalternating ones cannot (see Bruening 2010 on locative inversion).

(41) a. To the ministers should be read the proverbial riot act.
    b.   To the accident victims was lent a sympathetic ear.
    c. ?To skittish horses should be given a wide berth.

(42) a. *To people who enter this room are given headaches.
    b. *To people who hate spiders are given the creeps.
    c. *To people without union affiliation will be given the boot/the sack.
    d. *To the umpires will be given a piece of my mind.
    e. *To the Native Americans was promised the moon.

I conclude that, while many idioms do alternate, others do not. Apparent instances of alternation actually involve something like heavy shift, as I argue in Bruening 2010.

Rappaport Hovav and Levin (2008:153) argue against any account of these alternations as involving heavy shift, because the outcome of the putative heavy shift can itself undergo heavy shift.

(43) *(Rappaport Hovav and Levin 2008:153)*
     You want to lend to the victims of the disaster the most sympathetic ear possible.

But notice that their example is one that I classify as truly alternating. Moreover, the argument is not a valid one, because it assumes that heavy shift should not be able to feed heavy shift. But in other cases this is clearly possible.

(44) John gave t_1 t_2 on Saturday [to those who were willing to accept it]$_2$ [a sculpture so ugly as to make anyone who saw it wince]$_1$.

In this example, the PP *to those who were willing to accept it* shifts over the PP *on Saturday*, and then the direct object shifts over that. So multiple instances of heavy shift can indeed take place at the same time.

I therefore conclude that while there are idioms that alternate between Class 1 and Class 2 (discussed in more detail below), there are also idioms that belong only in Class 1. I account for these by saying that the idiom includes the Appl head. Since Appl is part of the idiom, the idiom can only appear in the double object construction; it cannot appear in the prepositional dative. Idioms in Class 1 with *give* also appear with *get*, which I accounted for above.

4.4.2 Class 2   Class 2 involves the prepositional dative. This time the idiom is continuous, consisting of the verb and the theme NP, excluding the prepositional phrase.

(45) <u>*Verb NP to NP*</u>
     a. give it to NP
     b. give rise to NP

There seem to be very few idioms of this sort that do not alternate; the two in (45) are the only ones that I have found (but see below on *give birth to*, *give way to*, and *give the lie to*).

The structure that the asymmetric theory assigns to the prepositional dative is shown in (46).
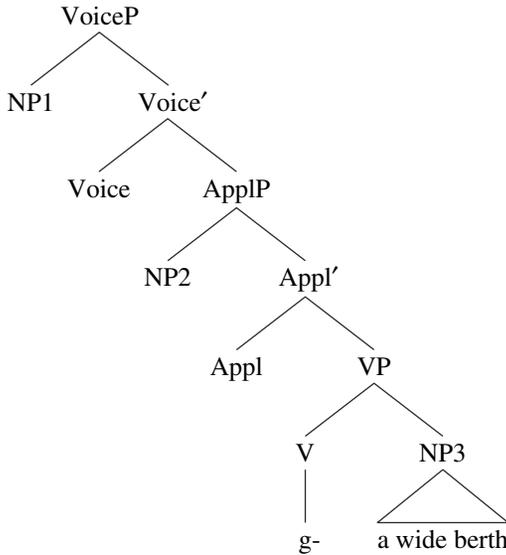
(46) *Class 2:* give it to NP

```
                      VoiceP
                    /        \
                 NP1          Voice′
                            /        \
                        Voice          VP
                                     /    \
                                  NP2      V′
                                   |      /   \
                                   it    V     PP
                                         |    /   \
                                         g-  P     NP3
                                             |
                                             to
```
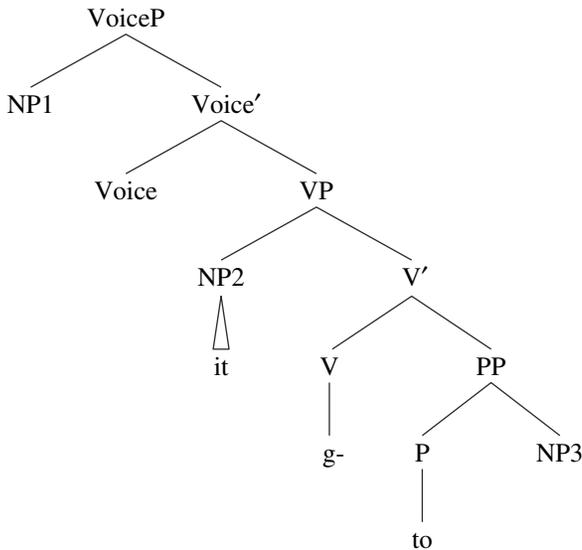
Because these two idioms do not alternate with *get*, I will assume that Voice is part of the idiom. The idiom is therefore Voice-NP2-V-P. Voice selects V, and V selects NP2 and P, so this is allowed. Because P is not a lexical category, its argument (NP3) does not have to be part of the idiom.

4.4.3 Alternating Class 1~2   A larger class of idioms alternates between Class 1 and Class 2. In some cases, either alternant seems to be equally available, but in other cases, the prepositional dative is preferred.

(47) a. throw NP a bone ~ throw a bone to NP
     b. read NP the riot act ~ read the riot act to NP
     c. lend NP a hand ~ lend a hand to NP
     d. lend NP a sympathetic ear ~ lend a sympathetic ear to NP
     e. give NP a wide berth ~ give a wide berth to NP
     f. give NP the cold shoulder ~ give the cold shoulder to NP
     g. lend NP color ~ lend color to NP

(48) a. give the lie to NP (preferred) ~ give NP the lie
     b. give birth to NP (preferred) ~ give NP birth
     c. give way to NP (preferred) ~ give NP way

The structures that the asymmetric theory assigns to the two alternants are shown in (49) and (50).

(49) give NP a wide berth

```
                    VoiceP
                   /      \
                 NP1      Voice′
                         /      \
                      Voice     ApplP
                               /      \
                             NP2      Appl′
                                     /      \
                                  Appl       VP
                                            /    \
                                           V      NP3
                                           |      /\
                                           g-   a wide berth
```

(50) give a wide berth to NP

```
                    VoiceP
                   /      \
                 NP1      Voice′
                         /      \
                      Voice      VP
                               /      \
                             NP3       V′
                             /\       /    \
                      a wide berth   V      PP
                                     |     /   \
                                     g-   P     NP2
                                          |
                                          to
```
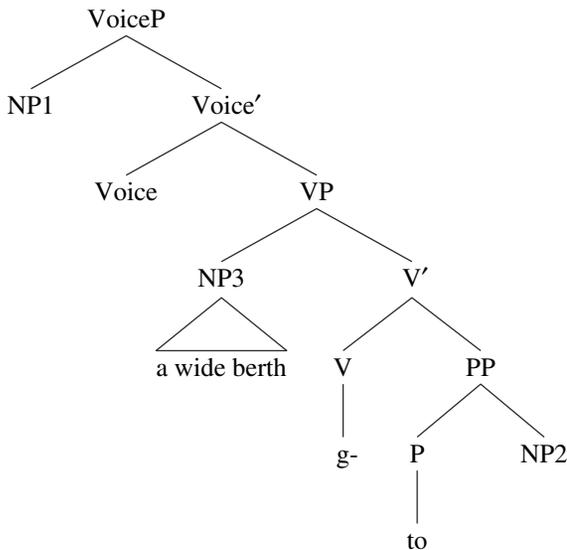
These idioms consist only of the root V (*g-*) and NP3. Because nothing higher than V is part of the idiom, not all of the selected arguments of V need to be included in the idiom. And, since the idiom consists of just V-NP3, these two can appear together as part of either the double object structure or the prepositional dative. Hence, the asymmetric theory can account for this class of alternating idioms. It also predicts that ones with *give* will be able to alternate with *get*, and this is true for some of them: *He got a wide berth after that* (many such examples can be found using

Google), *He got the cold shoulder* (many such examples can be found using Google). However, it is not true of the ones that prefer to appear in the prepositional dative (**that got the lie*, **she got birth*, **she got way*). At the moment, I have no account of this (but I suspect that these do not truly alternate, and really belong in Class 2; I personally would not actually allow the examples of these in the double object frame that I have found using Google).

This alternating class of idioms is just as problematic for the symmetric theory as is the missing Class 4, discussed below. The structures that the symmetric theory would posit are given in (51) and (52).

(51) give NP a wide berth
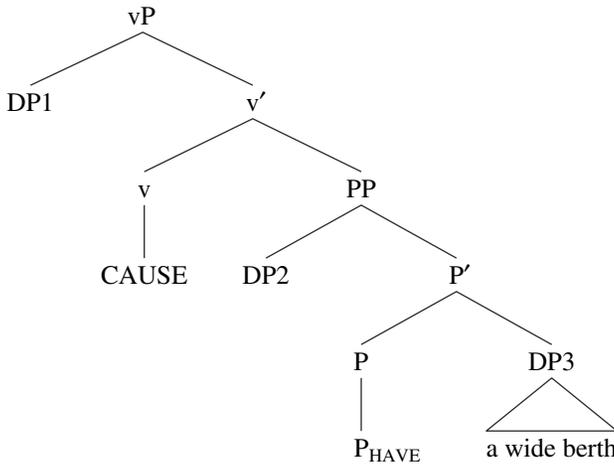
(52) give a wide berth to NP
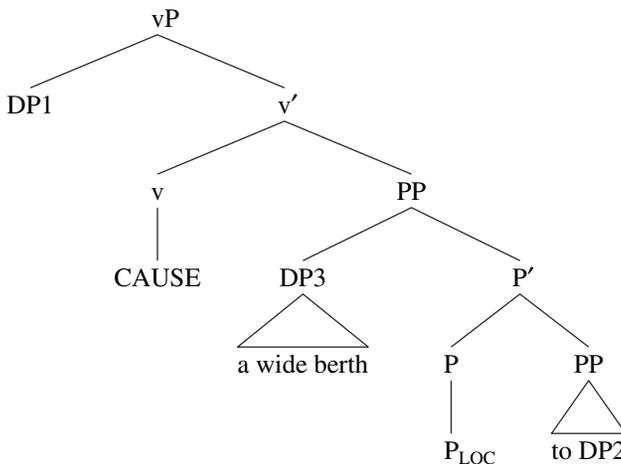
In one case, the idiom would have to include P_{HAVE} and DP3, but in the other case, it would have to include P_{LOC} and DP3. There is no piece of structure common to both the double object construction and the prepositional dative that could correspond to the verb and DP3. It also will

not do to claim that only the NP is idiomatic, because the verb is a crucial part of all of these idioms (e.g., *kick NP a bone* cannot be interpreted in the same way as *throw NP a bone*). The symmetric theory is simply incapable of accounting for this class of alternating idioms.

4.4.4 Class 3   Class 3, like Class 2, involves the prepositional dative. The idiom is discontinuous, with the verb and prepositional phrase having an idiomatic interpretation, excluding the theme NP.

(53) *Verb NP to NP*
    a. send NP to the showers
    b. throw NP to the wolves
    c. take NP to the cleaners
    d. take NP to task
    e. feed NP to the lions

The structure of the prepositional dative in the asymmetric theory is given in (54).

(54) *Class 3:* throw NP to the wolves
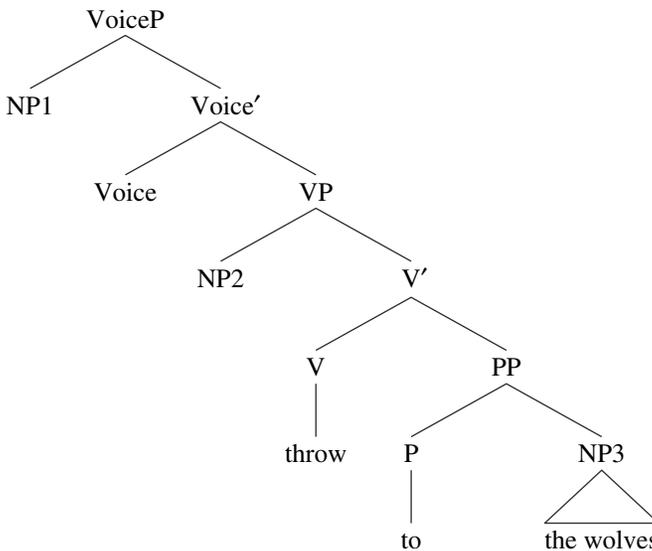
The idiom in Class 3 is V-P-NP3. This satisfies the conditions: V selects P and P selects NP3, satisfying (24). Not all selected arguments of V need to be part of the idiom, because nothing higher than V is part of the idiom (see (25)).

    Class 3 does not alternate with the double object construction. This is because V selects P and P's complement. In the double object construction, the NP corresponding to P's complement would instead be selected by Appl. There is simply no way that Class 3 could alternate, given the principles laid out above (see immediately below).

4.4.5 Class 4: Nonexistent The double object frame is the asymmetric one. In Class 1, the verb plus the theme NP form an idiom to the exclusion of the goal NP. If things were symmetric, we would expect the verb and the goal to be able to form an idiom to the exclusion of the theme NP. However, no idioms of this form exist. They would look like this if they did:

(55) <u>V NP NP</u>
    a. *give the wolves NP
    b. *send the devil NP
    c. *throw the lions NP

Ruling out this class of idioms but allowing the other three is an important desideratum of a theory of ditransitives. As shown above, symmetric theories like Harley's (1997, 2002) are not able to rule it out.

The structure hypothesized by the asymmetric theory to underlie the double object construction is shown in (56).

(56) *Class 4:* *give the wolves NP
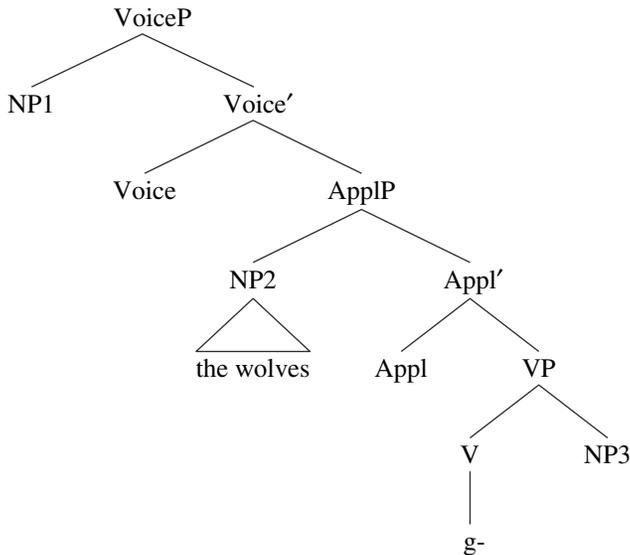
Class 4 would have to have NP2, Appl, and V be interpreted idiomatically, excluding NP3. Appl does select NP2 and V, and so these three could be interpreted idiomatically by (24). But since V is a lexical category, and it is part of an idiom with the category that selects it, all of its selected arguments have to be part of the idiom, too, by (25). Therefore, it is impossible to exclude NP3 from the idiom in this structure. Hence, the asymmetric theory, but not the symmetric theory, accounts for the lack of idioms of this form.

An anonymous reviewer suggests that the symmetric theory could be made to rule out this class of idioms by adopting the same constraints on idiomatic interpretation as argued for here, with

the stipulation that P$_{HAVE}$ counts as a lexical category, but P$_{LOC}$ does not. Then, the complement of P$_{LOC}$ could be excluded from idioms like *give the lie to NP*, but the complement of P$_{HAVE}$ could not, accounting for the nonexistence of idioms like **give the wolves NP*.

Such a move would be rather ad hoc. P$_{HAVE}$ and P$_{LOC}$ are supposed to be equivalent in their contribution to the ''lexical'' verb *give* (and *get*) in Harley's (1997, 2002) account, so calling one lexical and the other functional is unwarranted. If the idiom asymmetry were the only problem for the symmetric theory, this stipulation might not be such an unattractive move; but given the other problems listed above, including the lack of an account for the alternating class of idioms, it is simply too unappealing. It also does not serve to rescue the theory from any of the other problems raised above, such as the quantifier scope and nominalization asymmetries.

Before moving on, I should address one idiom that could be argued to belong to this class, namely, *pay the piper*. Since *the piper* has the role of goal rather than theme, and since *pay* can be used as a double object verb, it appears that a verb plus a goal can form an idiom to the exclusion of the theme. However, no theme can be expressed with this idiom: *You've got to pay the piper what he's owed* cannot be interpreted idiomatically, nor can any use of *pay the piper* with an expressed theme. This follows from the constraint in (25): the idiom consists of Appl-Spec,Appl-V; if V had an argument, it would have to be part of the idiom, by (25). The only way to have an idiom that consists of a verb and a goal argument, but no theme, is for there to be no theme at all. (Alternatively, there is a null object of V: *pay [$_{NP}$ the piper] [$_{NP}$ Ø]*.)

4.4.6 Alternating Class 3~4: Nonexistent   As hinted at above, Class 3 idioms do not alternate with the nonexistent Class 4. In the asymmetric theory, the NP that is selected by the preposition *to* in the prepositional dative is selected by a different head (Appl) in the double object construction. There simply is no piece of structure that is common to the two alternants that could underlie such an alternating class of idioms. Compare (54) with (56): the idiom in (54) consists of V-P-NP3, but that piece of structure is missing in (56). NP3 is selected by Appl in (56), not by P.

Hence, the asymmetric theory accounts for the nonexistence of this alternating class: there is no shared constituent that could alternate between the prepositional dative and the double object construction when the idiom includes the goal (in contrast with the theme).

4.5 Conclusion: Idiom Asymmetry

As shown above, there is a systematic gap in the logically possible ditransitive structures available to idioms in English. The symmetric theory cannot explain this gap. It also encounters difficulty with the idioms that alternate between Class 1 and Class 2. In contrast, the asymmetric theory is able to account for the missing Class 4 and for the alternating and nonalternating classes of idioms.

More generally, then, the asymmetric theory is much more successful than the symmetric one. The symmetric theory is unable to account for the asymmetries in quantifier scope, nominalizations, and idioms, while the asymmetric theory can account for all of these. I conclude that the symmetric theory, as represented in Harley 1997, 2002, is on the wrong track, and an asymmetric theory like that advocated in Bruening 2001 is called for.

Before moving on, we should address another possible asymmetric account, that proposed by Beck and Johnson (2004). These authors recognize some of the asymmetries between the double object construction and the prepositional dative and therefore propose two different structures for them. For the prepositional dative, they propose exactly the structure advocated here. But they adopt Harley's CAUSE-HAVE analysis of the double object construction. This mixed analysis does capture some of the asymmetries, but it fails to capture others—for instance, the difference in quantifier scope possibilities. In both frames, the two NPs are contained within the same maximal projection: in the double object construction, they are both arguments of HAVE, while in the prepositional dative, they are both arguments of the verb. The two constructions should therefore be expected to behave similarly with regard to quantifier scope.[16] This alternative could not capture the idiom asymmetry, either: it should allow the nonexistent Class 4 as consisting of HAVE and Spec,HAVE; since it has to allow V and Spec,V to together constitute an idiom for Class 2 (like *give rise to NP*), nothing could rule out an idiom consisting of HAVE and Spec,HAVE, while excluding the complement of HAVE. It would also fail to allow the class that alternates between Class 1 and Class 2 (*throw NP a bone*, *throw a bone to NP*), because there would be no piece of structure that they would have in common.

I conclude from all of this that not only is an asymmetric theory called for, but in fact only the version of the asymmetric theory that posits ApplP above VP can capture all of the asymmetries. The first and second objects of the double object construction have to be arguments of different heads, and the second one has to be an argument of the verbal root in order to allow the alternating class of idioms.

I now turn to the semantics of the double object construction. The best motivation for Harley's symmetric theory has come from semantics, and in particular from the adverb *again*. I show that the semantic facts are compatible with the asymmetric theory, in a way that makes interesting predictions for nonalternating verbs like *deny*, *spare*, *envy*, and *cost*.

5 Semantics and the Adverb *Again*

5.1 Arguments for a HAVE Component

The primary argument for Harley's (1997, 2002) symmetric theory has come from semantics. Various phenomena point to the conclusion that double object constructions include a predicate HAVE in their semantics, motivating Harley's treatment of their structure (CAUSE [NP HAVE NP]). I list some of these phenomena here.

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[16] However, as Satoshi Tomioka (pers. comm.) points out, inverse scope is very difficult to get with verbal *have*: *Someone has every book* lacks a distributive interpretation. This theory could therefore appeal to a mysterious constraint on HAVE to rule out inverse scope, but this constraint would remain mysterious.

First, as Beck and Johnson (2004) show, when the adverb *again* modifies a double object construction, it has two different interpretations (there are actually three, and a missing one not discussed by Beck and Johnson; see below).

(57) *(Beck and Johnson 2004:(48)–(49), modified)*
   Jorge gave Maria the ball again.
     a. Jorge gave Maria the ball, and that had happened before. (repetitive reading)
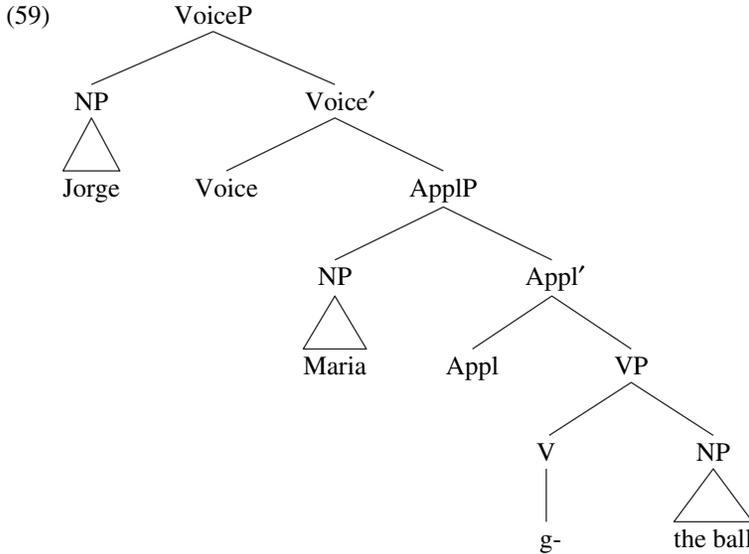   b. Jorge gave Maria the ball, and Maria had had the ball before. (restitutive reading)

On one reading, the *repetitive* reading, *again* presupposes that the entire event of Jorge's giving Maria the ball had happened before. On the other reading, the *restitutive* reading, what *again* presupposes is that Maria had had the ball at some previous point in time.

Beck and Johnson argue that the Harley-style analysis has a simple account of this ambiguity, illustrated in (58). *Again* can either adjoin to vP, giving the repetitive reading, or adjoin to PP, giving the restitutive reading.

(58) Jorge gave Maria the ball again.
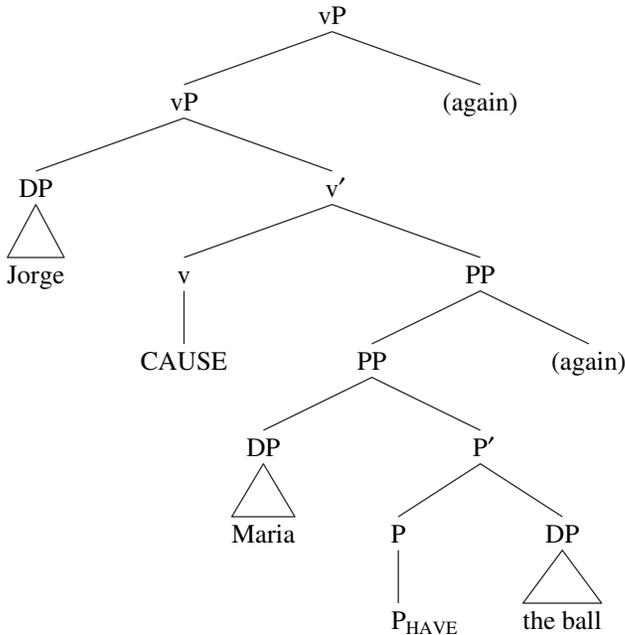
Because Harley's theory has a constituent consisting of [Maria HAVE the ball], it is a straightforward matter to capture the restitutive reading, on the assumption that *again* attaches to nodes that denote sets of eventualities and presupposes that an eventuality of that type happened or held previously. With such assumptions, it is not a straightforward matter to account for the restitutive reading in the asymmetric theory. The relevant structure is (59).

(59)

```
                    VoiceP
                   /      \
                  NP      Voice′
                  /      /      \
               Jorge  Voice    ApplP
                              /      \
                            NP      Appl′
                            /      /      \
                         Maria   Appl    VP
                                        /    \
                                       V      NP
                                       |       \
                                      g-     the ball
```

There is no constituent in the asymmetric theory that would be stative [Maria HAVE the ball].
ApplP includes the verbal root *g-*, so the transfer part of giving should be present in the minimal
phrase that contains both *Maria* and *the ball*. Hence, it appears to be a deficiency of the asymmetric
theory that it cannot account for the restitutive reading of *again*.

Other modifiers also point to a HAVE component in double object constructions. The focus-
sensitive adverb *too*, like *again*, can pick out just this component of the meaning.

(60) Johnny came to school with a lollipop. All the other kids were jealous, so *the teacher
gave each of them a lollipop too*.

In this example, what *too* means is not that the teacher gave someone else a lollipop, only that
someone else *had* a lollipop.

Certain facts from Ross 1978 also suggest that double object constructions involve a HAVE
predicate (see also Larson, Den Dikken, and Ludlow 1997). Ross attributes to David Perlmutter
the observation that certain abstract nouns like *cooperation*, *attention*, and *help* require that their
possessor be disjoint in reference from the subject of *have*, but not other verbs.

(61) a. I had their/*my cooperation.
b. You have my/*your full attention.
c. You have my/*your help.

(62) a. I mentioned my cooperation.
b. I played up my attention.
c. You boasted about your help.

This same disjointness effect appears in the double object construction.

(63) a. He gave me his/*my cooperation.
    b. He gave me his/*my full attention.
    c. I will give you my/*your help.

This suggests, again, that double object constructions include a HAVE predicate in their semantics.[17]

Harley (1997) gives other arguments for thinking that double object constructions involve a HAVE component. In addition, Pylkkänen (2008) argues that arguments added to the verb phrase by an Appl head of the English sort always involve a possession relation between two individuals, meaning that the Appl head that introduces the first object in the double object construction should not take the VP as an argument, as it does in the asymmetric theory advocated here. Rather, it should take two NP arguments and relate them in a possession relation. These mutually reinforcing conclusions both seem at odds with the structure that the syntactic arguments given above have led to.

I agree that the semantic arguments are sound and that it is desirable to include a HAVE component in the semantics of the double object construction. However, we saw above that Harley's particular structure is incapable of handling the syntactic facts. I will therefore attempt to couple a HAVE semantics with the asymmetric structure argued for here.

5.2 Proposed Semantics

I suggest that Pylkkänen (2008) is correct about the semantics of the Appl head, but that she is incorrect about the structure. Appl selects a VP complement and projects an NP in its specifier, as argued above. However, there is a mismatch between this categorial selection and what Appl calls for semantically. Appl takes two individual arguments (type $\langle e \rangle$) and relates them in a having eventuality.

(64) $[\![\text{Appl}]\!] = \lambda x \lambda y \lambda e.\text{HAVE}(e)$ & $\text{THEME}(e,x)$ & $\text{POSSESSOR}(e,y)$

Appl relates its two individual arguments, saying that one possesses the other.

I assume, following Kratzer (1996), that verbs that take internal arguments are functions from individuals to sets of events. Here is the semantics for the verbal root underlying *give* and *get*:

(65) $[\![\text{g-}]\!] = \lambda x \lambda y \lambda e.\text{G}(e)$ & $\text{THEME}(e,x)$ & $\text{RECIPIENT}(e,y)$

---

[17] Unlike the intensional transitive verbs discussed by Ross (1978) and Larson, Den Dikken, and Ludlow (1997), double object constructions do not allow conflicting time adverbials.

  (i) a. A week ago Bill wanted your car yesterday.
     b. *A week ago Bill gave me his car yesterday.

This is because, as argued by the above authors (and others), intensional transitive verbs embed an abstract *clausal* complement containing HAVE; but in my analysis (and Harley's), double object verbs do not involve a clausal HAVE, only a having eventuality. In the semantics I spell out below, there are two eventualities, but one is the direct cause of the other and cannot be separated from it in time. In sentences involving such direct causation in general, two conflicting time adverbials are always disallowed: *Yesterday Bill hammered the metal flat today*.

In this denotation, *G* stands for the completely bleached-out semantic content underlying *give* and *get*, basically some kind of transfer. The verbal root, then, denotes this G-ing event and takes two arguments of that event, a theme and a recipient.
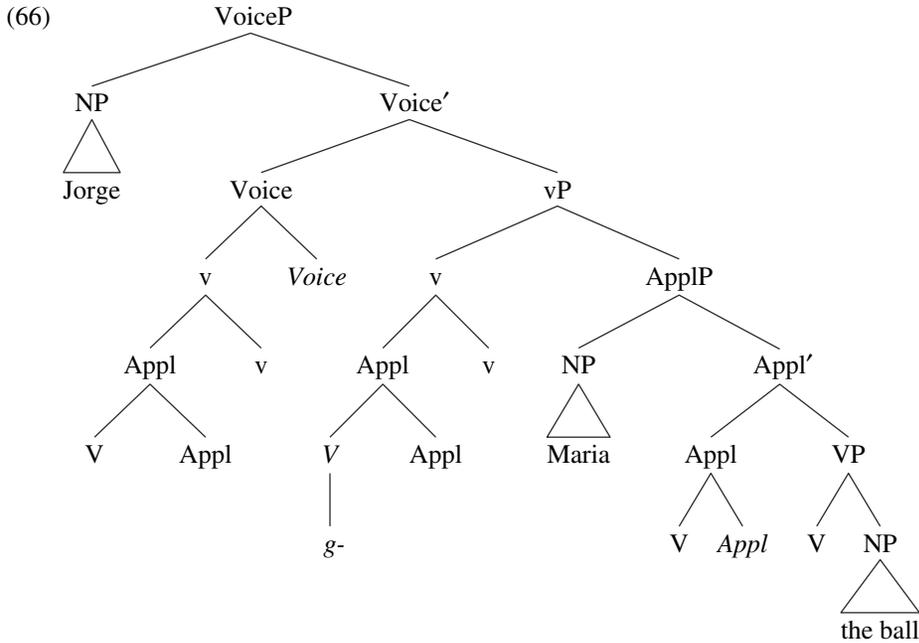
In the asymmetric structure, the V *g-* and the lowest NP (*the ball* in *Jorge gave Maria the ball*) form a constituent,[18] which then merges with Appl. However, Appl and VP cannot combine; they are the wrong types for one to take the other as an argument. Movement operations are available that can fix this type mismatch, however. First the verb moves to Appl and then it moves on to Voice. On the way, it will pass through another projection, which I will call *v*. I will assume that this functional head is semantically contentless and is only there to turn the phrasal projection so far built into a verbal category, as in Marantz 1997. I will further assume that, in chains built by head movement, the heads that are involved can be interpreted in any of the positions they move through. So, the verb *g-* can be interpreted at v, but Appl will be interpreted in its base position. The position in the verbal chain that is interpreted is italicized in tree (66) on page 552.[19]

In ApplP, the only nodes that are interpreted are Appl and the two NPs, *Maria* and *the ball*. These two NPs are exactly what Appl needs, so it will combine with them to create a set of having eventualities with possessor *Maria* and theme *the ball*. If *again* attaches to ApplP, then, the result will be the restitutive reading. ApplP is exactly the HAVE component that we can see semantic evidence for in the double object construction, once the verb moves out of the way.

Note that this device of head movement allowing different interpretive options lets us have our cake and eat it, too. The verb and its object still form an underlying constituent, as all the evidence presented above shows. Appl takes that VP constituent as its complement. However, by moving the verb out of the way, we create a HAVE predicate. We are able to account for all

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[18] Note that the two internal arguments of the verb combine in a different order in the prepositional dative and the double object construction. In the prepositional dative construction, the PP goal combines with the verb first, and the output of that combines with the theme. In the double object construction, the theme combines first, and then the goal. I assume that this is possible because the two internal arguments are essentially unordered, their ordering being determined by external considerations. In the prepositional dative, such considerations include the following: word order (inside the extended VP, NPs precede PPs in English); case/adjacency (the NP needs to be as close as possible to the verb after it moves to Voice); and other possible considerations. In the double object construction, I assume that complex predicates can only assign identical or compatible roles to a single argument. Here, Appl and V share their arguments (see below): possessor and theme for Appl, and recipient and theme for V. The only possibility is that the two theme roles are assigned to the same argument (because they are identical), while the possessor and recipient roles are assigned to the other argument (they are compatible, as are goal and possessor, below). Combining them in any other way (e.g., assigning theme and possessor to one NP and recipient and theme to the other), I assume, is banned for complex predicates generally (e.g., serial verbs). One way to implement this is to say that Appl selects for a VP with an unsaturated recipient or goal argument.

[19] Assuming the presence of the head v between ApplP and VoiceP does not affect the conclusions reached above, and it has two significant advantages: first, it will enable us to account for the subjectless repetitive reading discussed below; and second, it will allow more quantifier scope options than are allowed in Bruening 2001. After the two objects move to vP, the higher NP (the indirect object) will be able to move further, above VoiceP, and take scope over the subject, independently of the second NP, which can stay in Spec,vP. In the analysis proposed in Bruening 2001, both NPs obligatorily move to a position higher than the base position of the subject. This incorrectly predicts that, when the subject reconstructs to allow the first object to take scope over it, it will necessarily take scope below the second object, too. Assuming the presence of vP allows the subject to take scope between the two objects. (Note that, no matter what, the second NP can never cross over the first, as in Bruening 2001.)

(66)

```
                              VoiceP
                         /            \
                       NP              Voice′
                        |            /        \
                      Jorge       Voice          vP
                              /        \       /      \
                            v        Voice    v        ApplP
                          /   \            /    \     /       \
                       Appl     v       Appl     v   NP        Appl′
                      /    \           /    \        |        /      \
                     V     Appl       V     Appl   Maria   Appl       VP
                                      |                   /   \      /   \
                                      g-                 V   Appl   V    NP
                                                                         |
                                                                      the ball
```

the syntactic facts above as being about the base structure, while at the same time we have a derived HAVE predicate in the semantics.

However, we are not done yet. The verb *g-* still has arguments that it needs to combine with. I hypothesize that both NPs within ApplP move to vP. This movement may be related to case or it may be driven solely by the semantic computation. Either way, the two NPs have to move such that they respect minimality, with the result that they must always recreate their hierarchical order (accounting for the scope facts; see Richards 1997, Bruening 2001). I assume the copy theory of movement (Chomsky 1993), so that identical copies of the moved NPs are left in their base positions, as shown in (67). The lower copies of the two NPs are interpreted semantically as individuals, as in Heim and Kratzer 1998 (and see more below), so ApplP is still a HAVE predicate with both arguments saturated.

The next step is to combine ApplP with v. The latter consists only of the verb *g-* (Appl was interpreted lower, and v is contentless), which is a function taking two individual arguments and an event argument (type $\langle e, est \rangle$). ApplP is a function from eventualities to truth values (type $\langle s, t \rangle$). These are the right types to combine by the interpretive rule proposed by von Stechow (1995) and called ''Principle R'' by Beck and Johnson (2004).[20]

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[20] For simplicity's sake, I leave out the BECOME component of von Stechow's rule. A more complete treatment would include it in the semantics of the double object construction (as well as something like a progressive operator; see Beck and Johnson 2004).

(67)
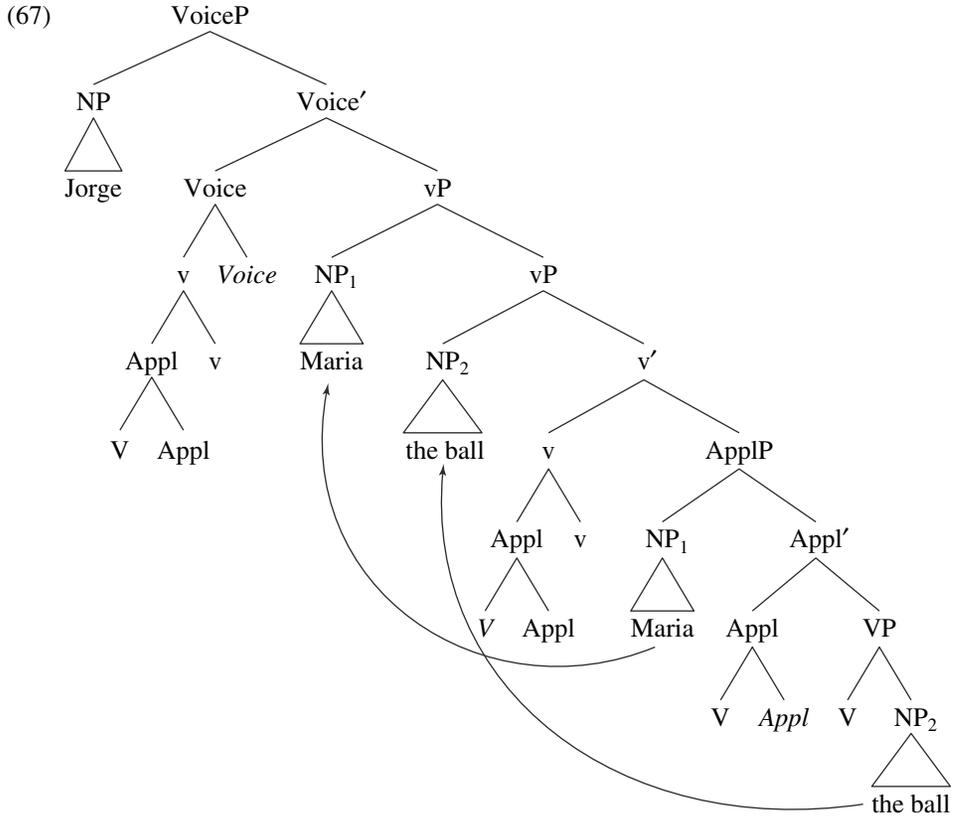
(68) *Principle R* (modified from von Stechow 1995:104, (57))

If $\alpha = [_X[_V \gamma]\ [_{SC} \beta]]$ and β' is of type $\langle s,t\rangle$ and γ' is of type $\langle e, \ldots \langle e\langle s,t\rangle\rangle\rangle$ (an n-place predicate), then

$\alpha' = \lambda x_1 \ldots \lambda x_n.\lambda e.\gamma'(x_1) \ldots (x_n)(e)\ \&\ \exists e'\ [\beta'(e')\ \&\ \text{CAUSE}(e')(e)]$

This rule will combine the verb and the predicate HAVE, and it will say that the verbal event causes the having eventuality. The result will also be a function taking as many arguments as the verb (here, type $\langle e,est\rangle$).

The trick now is to allow the two NPs to be interpreted simultaneously as arguments of Appl and arguments of the V *g-*. I propose that, just in cases of complex predicate formation like this, the grammar allows an argument to be interpreted as the argument of both components of the complex predicate. It does this by allowing the argument to combine with a predicate both in its base position and in its moved position. The way this will work is to interpret both copies of each moved NP. So, in tree (67), the denotation of ApplP will be as follows (TH = THEME, REC = RECIPIENT, PSSR = POSSESSOR):

(69) ⟦ApplP⟧ = $\lambda e.\text{HAVE}(e)\ \&\ \text{TH}(e,\text{ball})\ \&\ \text{PSSR}(e,\text{Maria})$

The verb *g-* will combine with ApplP by Principle R to yield v′.

(70) ⟦v′⟧ = λxλyλe.G(e) & TH(e,x) & REC(e,y) & ∃e′ [HAVE(e′) & TH(e′,ball) &
     PSSR(e′,Maria) & CAUSE(e′)(e)]

Combining the two NPs again will give the following denotation for the maximal vP:

(71) ⟦vP⟧ = λe.G(e) & TH(e,ball) & REC(e,Maria) & ∃e′ [HAVE(e′) & TH(e′,ball) &
     PSSR(e′,Maria) & CAUSE(e′)(e)]

Paraphrasing, vP denotes a set of G-ing events with theme *the ball* and recipient *Maria*, which causes a having eventuality with theme *the ball* and possessor *Maria*.

Voice will then combine as in Kratzer 1996, by the rule of Event Identification.

(72) ⟦Voice⟧ = λxλe.AGENT(e,x)

(73) ⟦Voice′⟧ = λxλe.G(e) & TH(e,ball) & REC(e,Maria) & AGENT(e,x) & ∃e′
     [HAVE(e′) & TH(e′,ball) & PSSR(e′,Maria) & CAUSE(e′)(e)]

(74) ⟦VoiceP⟧ = λe.G(e) & TH(e,ball) & REC(e,Maria) & AGENT(e,Jorge) & ∃e′
     [HAVE(e′) & TH(e′,ball) & PSSR(e′,Maria) & CAUSE(e′)(e)]

So, the whole VoiceP is a set of G-ing events with theme *the ball*, recipient *Maria*, and agent *Jorge*, which causes a having eventuality with theme *the ball* and possessor *Maria*.

Notice that there are now three nodes in this tree that are predicates of events (type ⟨s,t⟩): ApplP, vP, and VoiceP. Adjoining *again* to ApplP will result in the restitutive reading. Following von Stechow (1996) and Beck and Johnson (2004), I assume that *again* is of type ⟨s,t⟩ and adjoins to nodes of the same type. It is an identity function, adding nothing to the truth-conditional semantics, but it adds the presupposition that an eventuality of the type denoted by its sister held prior to the verbal event (the presupposition follows the colon).

(75) ⟦again⟧ = λf₍s,t₎λe.f(e):∃e′ [e′<e & f(e′)]

So, if *again* adjoins to ApplP, it will presuppose that there was previously a having eventuality with theme *the ball* and possessor *Maria*.

If *again* adjoins to VoiceP, the presupposition will be that there was a prior event of G-ing with theme *the ball*, recipient *Maria*, and agent *Jorge*, which caused a having eventuality with theme *the ball* and possessor *Maria*. This is the repetitive reading.

Notice that vP is also a suitable place for *again* to adjoin. This is exactly right, because there is actually a third reading not discussed by Beck and Johnson (2004), which would arise from *again* adjoining to vP. Adjunction to this node would result in the subjectless repetitive reading discussed by Bale (2007). On this reading, the G-ing event took place before (so it is repetitive, not restitutive), but not necessarily with the same agent. This reading arises because vP denotes only an event of G-ing with a theme and a recipient, and not an agent. This reading is available, as can be seen in (76), using a lexical verb rather than the verb *give*.[21]

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[21] This example highlights the fact that the HAVE component of the meaning of double object constructions is only *intended* and does not actually have to be realized. Beck and Johnson (2004) capture this intention by including a progressive operator in the semantics (see their article for discussion). This could also be incorporated into the semantics proposed here.

(76) No one can get the ball to Maria. First Angel kicked her the ball, but missed. Then Emilio kicked her the ball, but it was intercepted. A few minutes later, *Elena kicked her the ball again*, but this time Maria stepped out of bounds before she got it.

The presupposition of *again* in this example is that someone previously kicked Maria the ball. It is not that she previously had the ball, nor is it that Elena previously kicked her the ball. Tree (77) shows where *again* adjoins in this reading.

(77)
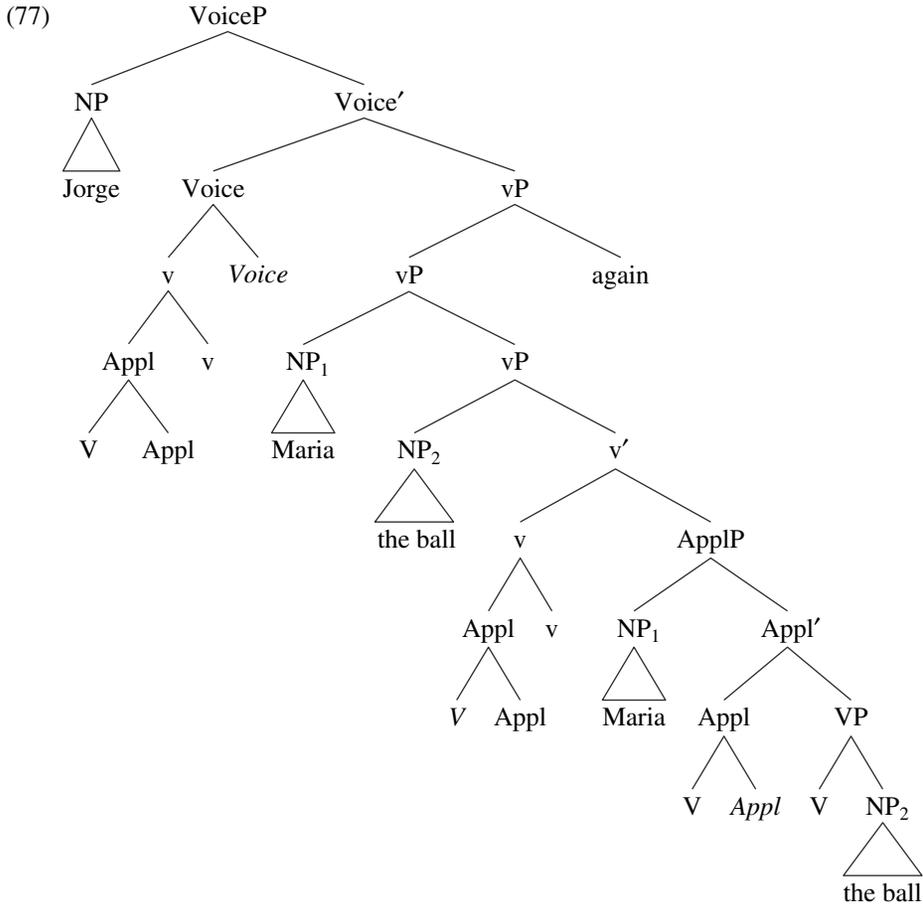
In (78) and (79), I give a denotation for *kick*, which takes an optional goal argument, and the denotation for the vP that *again* adjoins to.

(78) ⟦kick⟧ = λx(λy)λe.KICK(e) & TH(e,x) (& GOAL(e,y))

(79) ⟦vP⟧ = λe.KICK(e) & TH(e,ball) & GOAL(e,Maria) & ∃e′ [HAVE(e′) & TH(e′,ball) & PSSR(e′,Maria) & CAUSE(e′)(e)]

Again will presuppose that such an event previously took place. This is exactly the subjectless repetitive reading.

The asymmetric theory, then, can account for all three readings of *again* that exist. In addition, the theory also correctly rules out a nonexistent reading. This is the reading that only the kicking of the ball previously occurred, without any goal or possessor.

(80) I kicked the ball once, then #I kicked Maria the ball again.

This reading is not possible, because there is no node that is a set of eventualities (type ⟨s,t⟩) that includes only the verb and the theme argument. There are only three nodes that *again* can adjoin to in the double object structure (ApplP, vP, and VoiceP), and none of them include only the verb and the theme. There is no way to derive the presupposition that only the kicking of the ball took place before.

5.3 Discussion, and Advantages of the Account

The asymmetric theory is able to capture the syntactic asymmetries between the double object construction and the prepositional dative, as shown above, because it treats the two as having very different structures. In addition, it treats the verb and the theme object as an underlying constituent, while the first object is not an object of the verb at all, as the various asymmetries require. However, by making use of movement operations, it is also able to create a derived HAVE predication that relates the two objects, excluding the lexical verb. The theory is thereby able to account for all of the semantic facts, as well.

One might object that the movement operations made use of here are tricks, with no motivation other than to get the semantics to work out. This is not quite true. Head movement is an integral part of the account independent of the semantics, and it is a device generally acknowledged to be available in syntax. Interpreting elements of chains in different positions in the chain is also something that is independently required (see the vast literature on reconstruction). The one trick is to allow the two NPs to serve as arguments of both predicates, Appl and V, simultaneously. However, some mechanism to enable this is required for complex predicates generally, where we see argument sharing between predicates. A common analysis is to posit PRO, or to merge the two predicates prior to combining the arguments. However, we might pursue a movement account instead, as many have done. Ramchand (2008), for instance, allows movement from specifier to specifier of functional heads, enabling an NP to serve as the argument of more than one predicate. Numerous recent analyses allow movement into a θ-position (e.g., Hornstein 1999, 2001), which is the same idea. I would prefer to limit such movement to cases of argument sharing in complex predicates, but in any event some such device has been proposed in numerous cases and is a valid response to the phenomenon of argument sharing.

In addition, the semantics worked out above has several advantages. First, it captures the observations made by Pylkkänen (2008) regarding applicatives of the English type: that they may only attach to verbs that take internal (theme) arguments. In the analysis here (as in Pylkkänen's), this follows because the Appl head relates two individual arguments. Appl could therefore only combine with a VP that includes an internal argument. After the verb moves, the NP remains to serve as the first argument of Appl. If there were no internal argument, Appl would be missing

an argument.[22] While this theory accounts for Pylkkänen's observations, however, it does so without adopting the ''low applicative'' structure she proposes, which is problematic in other respects. As Georgala, Paul, and Whitman (2008) show, what are low applicatives in Pylkkänen's system really have to have the structure that she proposes for ''high applicatives,'' essentially the structure hypothesized here for English, where Appl comes between V and Voice, rather than below V. I propose that ''low applicatives'' universally have the structure and semantics proposed here for English. Pylkkänen's ''high applicatives,'' I suggest, have exactly the same structure, but a different semantics. It appears that high applicatives are actually not uniform; some seem to have the benefactive semantics proposed by Pylkkänen, but others are different and seem to involve non-truth-conditional meaning (see Bosse, Bruening, and Yamada 2009). Furthermore, this analysis goes beyond Pylkkänen's, and further requires that the verb that Appl combines with also take another argument at least optionally. That argument has to be something that is compatible with a possessor role (recipient or goal); hence, we generally see alternations between a double object construction with Appl, and a preposition without.

The second advantage of this account is that it captures the sensitivity of the dative alternation to the lexical semantics of the particular verb involved. Rappaport Hovav and Levin (2008) show that different verbs take different types of arguments: *give* always involves caused possession, and so its argument is always a recipient, whether in the double object construction or in the prepositional dative. This was captured above by saying that *give* always takes a recipient argument, which in the double object construction is the same NP that is the possessor of the having eventuality. In contrast, *kick* only takes an optional goal argument, not a recipient, so in the prepositional dative, the object of the preposition is simply a goal. However, in the double object construction, the goal argument is also the possessor of the having eventuality. More generally, the arguments of the verb are still part of the meaning of the derived double object construction; the double object construction just adds additional possessor and theme roles in a having eventuality. So, of course, the lexical semantics of the particular verb are always going to matter to the precise interpretation—more so in the prepositional dative, however, since the double object construction has a semantic component that is uniform but is missing from the prepositional dative. The differences between different verbs come out in the prepositional dative, where this component of meaning is missing. It is this semantic component (the caused having eventuality) that is behind the contrasts between the double object construction and the prepositional dative that have been noted in the literature (e.g., Green 1974, Oehrle 1976, Gropen et al. 1989). It is also the reason that certain combinations do not alternate; for instance, *give NP a headache* only appears in the double object construction (see Bruening 2010 on putative counterexamples), and I assume that this follows because one can only *have* a headache and not *receive* one. Thus, an NP that is to have a headache must be an argument of Appl, which is assigned the possessor role and cannot be assigned only a recipient role—for instance, by *give* directly (as a PP).

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[22] This means that the idiom *pay the piper*, discussed above, must have a null theme object.

Finally, the theory here is also able to account for certain verbs that occur exclusively in the double object construction (again, see Bruening 2010 on putative counterexamples), but that do not straightforwardly involve the semantics of a HAVE predicate. These include *deny*, *spare*, *envy*, and *cost*. It would be desirable to have a uniform structure for all double object constructions, but it is not entirely clear how to fit these into a Harley-style theory. The theory proposed here can account for them, though. I assume that, like all double object constructions in English, they involve an Appl merged with a VP. However, these verbs are higher-order functions that combine first with an individual argument, then with the unsaturated Appl function, and finally with another individual argument (the one projected in Spec,ApplP). Because these verbs require an Appl argument, they do not alternate.

Here is an attempt at a semantics for *spare* (cf. Beck and Johnson 2004:103n4):

(81) $\llbracket spare \rrbracket = \lambda x \lambda f_{\langle e,est \rangle} \lambda y \lambda e.DO(e) \ \& \ \neg \exists e' \ [f(x)(y)(e') \ \& \ CAUSE(e')(e)]$

Spare denotes a bare event of doing something such that no eventuality of the type denoted by its f argument is brought about. Since it combines with Appl, this is a having eventuality.

(82) They spared me that ordeal.

(83) $\llbracket ApplP(82) \rrbracket = \lambda e.DO(e) \ \& \ \neg \exists e' \ [HAVE(e') \ \& \ TH(e',that \ ordeal) \ \& \ PSSR(e',me)$
      $\& \ CAUSE(e')(e)]$

vP will be totally vacuous with these verbs, but Voice will add an agent, giving the following semantics:

(84) $\llbracket VoiceP(82) \rrbracket = \lambda e.DO(e) \ \& \ AG(e,they) \ \& \ \neg \exists e' \ [HAVE(e') \ \& \ TH(e',that \ ordeal) \ \&$
      $PSSR(e',me) \ \& \ CAUSE(e')(e)]$

So, with these verbs, none of the movement operations described above needs to take place, although I assume that head movement still does, but with no effect on the semantics (and the NP movements might take place, if they are driven by case or some other consideration besides the semantic computation). The verb combines in turn with every element in the tree up to ApplP, taking each as its argument.

If this is correct, then there is no node in the tree with verbs like *spare* that is of type $\langle s,t \rangle$ and denotes just a having eventuality. As can be seen in (83), ApplP with these verbs is not simply a having eventuality, it is a different kind of event. So we predict that *again* used with such verbs will not have a restitutive reading. This is correct.

(85) a. They spared me that ordeal again. (cannot mean I previously underwent that ordeal)
     b. He denied William a raise again. (cannot mean William previously had a raise)
     c. I envy you your equanimity again. (cannot mean you previously had your equan-
        imity)
     d. My obsession with work cost me my marriage again. (cannot mean I previously had
        a marriage)

When *again* is used with such verbs, it only has a repetitive reading.

The focus-sensitive element *too* is also unable to pick out just the having eventuality with these verbs, unlike with *give*.

(86) a. I'm jealous that you always have such a calm demeanor. Can you give me a calm demeanor, too?
   b. So many people have a calm demeanor. #I envy you your calm demeanor too. (can only mean that I'm envious of those other people in addition, not that you have a calm demeanor in addition to them)

Nevertheless, there is a having eventuality in the semantics (see (83)), so we might expect the disjointness effects discussed above with nouns like *cooperation*, *attention*, and *help* to still arise, and they do.

(87) a. I envy you his/*your cooperation.
   b. I denied you my/*your full attention.
   c. I will spare you my/*your help.
   d. That insult cost me your/*my cooperation.

If these verbs are higher-order functions that take Appl as an argument, then they act exactly as we would expect given the analysis outlined here.[23]

This account makes another prediction regarding these verbs, as well. These verbs are interpreted in their base position, unlike other double object verbs, so, although the verb undergoes head movement and is pronounced in Voice, only the lowest copy is interpreted by the semantics. This means that only the second object is within its scope, while the first object is not. So we predict that negative verbs like *deny* and *cost* that can license negative polarity items will only be able to license such an item within the second object and not the first. This is correct (Branigan 1992:54).

(88) a. They denied me any chance of redeeming myself.
   b. *They denied any worker a raise. (cf. They didn't deny any worker a raise.)

(89) a. That mistake cost me any chance of redeeming myself.
   b. *That mistake cost anyone their marriage. (cf. That mistake didn't cost anyone their marriage.)

This contrast is rather surprising, given that the surface position of the verb would lead one to expect that it takes scope over the first object. However, it follows from the theory outlined here,

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[23] Beck and Johnson (2004:103n4), in addition to suggesting a denotation for *deny* that is very similar to mine for *spare*, also suggest the possibility of treating these verbs like *elect*, as in *They elected me class president*. However, such verbs do allow a restitutive reading: *They elected the dictator president again* can be used where the dictator was not previously elected, but declared himself president after a military coup. They also allow *too* to pick out just the constituent [the dictator president]: *That dictator declared himself president. Then the neighboring country elected his brother president, too*. I take these differences to indicate that verbs like *elect* involve nominal small clauses ([NP the dictator president]) and no Appl, while verbs like *deny*, *spare*, *envy*, and *cost* are double object verbs with Appl. This is further supported by the fact that verbs like *elect* and *declare* create opaque domains for anaphora (*The king declared me him/*himself for a day*), but verbs of the *deny* class do not (*My friends envy me each other/*them*).

where only the second object is actually an object of the verb, and these particular verbs are interpreted in their base position. I take this as strong confirmation that the theory proposed here is correct.

6 Conclusion and Further Directions

In this article, I have examined several asymmetries between prepositional datives and double object constructions, and I have argued that they call for an asymmetric theory, not a symmetric one. There must be more structure in the double object construction than there is in the prepositional dative construction, such that the second object is an argument of the verb but the first object is not. This additional structure accounts for asymmetries regarding scope, nominalization, and possible idioms.

Regarding idioms, I have also proposed a comprehensive account of idiom formation, which accounts for patterns of idioms that exist and rules out those that do not exist. In conjunction with the asymmetric analysis of ditransitives, where the double object and prepositional dative constructions have very different structures, the theory of idioms also accounts for idioms in ditransitives, in particular ruling out nonexistent idioms of the form *throw the wolves X. It also allows for some idioms to alternate, something that the symmetric theory is unable to do.

Finally, I have proposed a semantics for the asymmetric theory that includes a derived HAVE component. With this semantics, the asymmetric theory can account for the possible (and impossible) readings of adverbs like *again*, and it can also be extended to nonalternating verbs like *deny*, *spare*, *envy*, and *cost*. These verbs furnish particularly striking confirmation of the theory proposed here.

Turning back to idioms, one place to look next is at benefactive ditransitives, where the double object frame alternates with the preposition *for* rather than the preposition *to*. A fact that has not been remarked upon before (to my knowledge) is that there are very few idioms with these ditransitives. They should look something like *bring NP a pipe*, *shoot NP a partridge*, but the only two possible cases that I have found are *cut NP some slack* and *cry NP a river*, and in the latter, the verb has its usual meaning and is not idiomatic at all. Since it only occurs in this syntactic frame (*cry a river for me* is not idiomatic), along with *cut NP some slack* (*cut some slack for me* is not idiomatic), there is something to be said about these two phrases, but in general the paucity of benefactive ditransitive idioms is a fact in need of an explanation. It does seem to indicate that benefactive ditransitives require a different treatment from the ditransitives discussed here, but I leave that for future research to determine.

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