

THE DATIVE ALTERNATION IN ENGLISH

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In English, there is a dative lexical alternation between a prepositional dative (PD) and a double object dative (DOD): *I gave a book to John* alternates with *I gave John a book*. However, the dative alternation in English is more complex than this appears. There are three dative lexical structures and two alternations with four different types of constraints on how productive the DOD is. Fourteen different verb classes are affected by these constraints, leading to a complex picture that is verb dependent. In this paper I will discuss the syntactic and semantic characteristics of the alternation, the constraints and dative verb classes, and finally, the issue of markedness. It is important for language practitioners and acquisition researchers to understand the complexity of this alternation and the learnability issue. Acquisition of the dative alternation is not merely the acquisition of alternative syntactic structures, but the acquisition of the lexical characteristics of individual verbs, which is a far more complex task.

I. The dative alternation

The dative alternation is a lexical alternation between several types of clauses that are related to one another both grammatically and semantically. The structure of these clauses is referred to as lexical structure, argument structure, or lexicosemantic structure (Pinker, 1989). Dative lexical structures can be related to one another because they refer to the movement of some object to an animate goal and they are associated with particular verbs, like *give*, the prototypical dative verb.

Dative lexical structures

There are three dative lexical structures in English: two prepositional datives (PD) and one double object dative (DOD). All three lexical structures share the meaning that there is intended transfer of an object to an animate goal, but the semantic role of the goal differs:

Grammatical structure	Semantic role of the goal	Examples
PD	Recipient	Mary gave a book to John .
PD	Beneficiary	Mary bought a book for John .
DOD	Possessor	Mary gave/bought John a book.

Grammatically, there is a two-way distinction between the PD and DOD lexical structures. In the two PD lexical structures, the theme object (*a book*) is next to the verb, and the goal (*John*) is encoded in a prepositional phrase (*to/for John*). Because the goal is governed by a preposition rather than the verb, this is called a 'prepositional' dative.¹ This contrasts with the DOD lexical structure, in which the goal (*John*) occurs directly next to the verb, without a preposition. When there are two objects that are both governed by the verb (*John, a book*), it is called a 'double object' dative.²

Semantically, there is a three-way distinction between the role of the goal in the three dative lexical structures. One goal is a 'recipient' of the object, expressed with the preposition *to* indicating movement directly towards the

¹The term 'prepositional dative' stands for any lexical structure containing an animate goal that is case-marked for dative case, whether by means of a preposition, clitic, or affix.

²In traditional grammar, the theme object is called a direct object (DO) and the animate goal is called an indirect object (IO). Other grammatical approaches distinguish between objects and obliques (Bresnan, 1978), objects, indirect objects and obliques (Keenan & Comrie, 1977), primary objects and secondary objects (Dwyer, 1986), or objects, secondary objects, and obliques (Kanno, 1983). The differences can be confusing, because the terms do not exactly correspond to one another across approaches. For example, the traditional IO may be called an indirect object or oblique when it is in the PD, but an object or primary object when it is in the DOD.

goal. Another goal is a 'beneficiary' that benefits from receiving the object, expressed with the preposition *for* indicating action on behalf of someone. These roles are the traditional semantic roles assigned to prepositional datives, but there has been no traditional role for the goal when it occurs as a direct object in the DOD. Stowell (1981) assigns this goal the semantic role of 'possessor,' because the DOD lexical structure indicates that the goal is the intended possessor of the object being transferred (Gruber, 1976; Oehrle, 1976, and see the section on the possession constraint below).

In most grammatical theories, lexical structures are analyzed grammatically with semantic roles appended to the grammatical constituents. For example, the lexical-functional approach appends semantic roles to grammatical functions, shown below for the datives (based on Pinker, 1984).

recipient PD	SUBJ	OBJ	OBL _{to}
	agent	theme	goal
benefactive PD	SUBJ	OBJ	OBL _{for}
	agent	theme	goal
possession DOD	SUBJ	OBJ2	OBJ
	agent	goal	theme

However, Pinker (1989) turns the traditional conceptualization of lexical structure on its head, because he argues that lexical structures are semantic, with the semantic constituents mapped to their grammatical functions via linking rules. He calls these semantic structures 'thematic cores', because they represent the core thematic meaning of each lexical structure. The dative thematic cores and linked grammatical functions are shown below.

recipient PD	X acts on Y causing Y to go to Z		
	SUBJ	OBJ	OBL _{to}
benefactive PD	X acts on Y for the benefit of Z		
	SUBJ	OBJ	OBL _{for}
possession DOD	X acts on Z causing Z to have Y		
	SUBJ	OBJ	OBJ

In these lexical structures, the semantic roles are not labeled as agent, theme, goal, or possessor, but can be determined from the role that the arguments (X,Y,Z) have in relation to one another. Agents are the entities that act, themes are the entities that are acted on, goals are the entities that objects move towards, and possessors are the entities that possess other entities. Both types of approach to lexical structures include grammatical and semantic information; the difference is in which aspect of lexical structure is viewed as primary.

The dative alternation

Because some verbs (e.g., *give* and *buy*) occur in more than one dative lexical structure, there is a dative alternation. The alternation may be treated as an alternation between grammatical structures (Pinker, 1984), or as an alternation between semantic structures (Pinker, 1989). The grammatical alternation is generally viewed as one alternation between two types of verb complements: in generative grammar, [NP PP] alternates with [NP NP]; in lexical-functional grammar, [OBJ OBL] alternates with [OBJ2 OBJ]:

PD	\leftrightarrow	DOD
[NP PP]		[NP NP]
[OBJ OBL]		[OBJ2 OBJ]
Mary gave a book to John		Mary gave John a book

However, if the dative alternation is viewed as a semantic alternation, then there are actually two dative alternations: an alternation between the recipient and possession lexical structures, and an alternation between the benefactive and possession lexical structures.

recipient	↔	possession
X acts on Y causing Y to go to Z		X acts on Z causing Z to have Y
Mary gave a book to John		Mary gave John a book
benefactive	↔	possession
X acts on Y for the benefit of Z		X acts on Z causing Z to have Y
Mary bought a book for John		Mary bought John a book

In this semantic approach, recipient and benefactive verbs take different lexical structures and participate in a different lexical alternation. The difference between the recipient and benefactive lexical structures is evident when the interaction between the dative and passive alternations is considered.

Interaction with the passive

In the PD structure, the object can be passivized, but in the DOD lexical structure, the first object is more likely to be passivized if it is a recipient goal. A beneficiary goal can occur in the DOD, but it is far less acceptable in the DOD-passive. Some native speakers reject benefactive DOD-passives altogether (Fillmore, 1965; Emonds, 1976); others accept them to varying degrees (Hudson, 1992); still others reject some recipient DOD-passives (Culicover & Wexler, 1973; Ertischik-Shir, 1979). In contrast to the recipient and beneficiary goals, a location goal clearly cannot occur in either the DOD or the DOD-passive:

1. A recipient goal can occur in both the DOD and the DOD-passive.

PD	Mary gave a flower to John.
PD-passive	A flower was given to John.
DOD	Mary gave John a flower.
DOD-passive	John was given a flower.

2. A beneficiary goal can occur in the DOD, but less easily in the DOD-passive.

PD	Mary bought a flower for John.
PD-passive	A flower was bought for John.
DOD	Mary bought John a flower.
DOD-passive	?*John was bought a flower.

3. A location goal cannot occur in either the DOD or the DOD-passive.

PD	Mary brought a flower to the park.
PD-passive	A flower was brought to the park.
DOD	*Mary brought the park a flower.
DOD-passive	*The park was brought a flower.

In 1 and 2, John is the recipient or the beneficiary of a flower, and so the DOD is grammatical. The DOD-passive is clearly grammatical for the recipient goal but questionably grammatical for the beneficiary goal. In 3, a park is an inanimate location and cannot possess the object being moved, so neither the DOD nor the DOD-passive are possible.

The explanation for the difference in grammaticality of recipient and benefactive DOD-passives most likely can be found in the semantics of the passive alternation. For an object to be passivizable, it must be in a state of being acted on by an agent (Pinker, 1989). In the recipient DOD-passive *John was given a flower*, John not only received a flower, he was on the other end of the action of giving as well - the action was directed to him and he was affected by it. However, in the benefactive DOD-passive **John was bought a flower*, there is a different semantic relationship between John and the action of buying. John came into possession of the flower, but he was not the target of the act of buying. It would be possible for Mary to buy a flower for John and then keep it herself, in which case John wouldn't be affected at all. It appears that the DOD-passive is grammatical only if one can view the goal as being acted upon in the process of coming into possession of the object.³

³Hudson (1992) claims that there are three non-dialectal dative grammars that coexist among

Approaches to analysis

The distinction between a grammatical and a semantic approach to datives simplifies the historical and theoretical differences between alternative analyses. In early generative grammar, the alternation was treated as a transformational rule of dative movement that derived the DOD structure from the underlying PD structure (Fillmore, 1965; Erteschik-Shir, 1979). However, because researchers realized that the dative rule didn't generalize to every dative verb, it was reformulated as a lexical rule that is associated with certain verbs in the lexicon (C. Baker, 1979; Green, 1974; Oehrle, 1976; Grimshaw, 1989). Larson (1988) has proposed both a lexical and a transformational analysis with two different underlying dative structures, the PD derived from one of them via V-raising and the DOD derived from the other by means of NP-movement and V-raising. M. Baker (1988) has proposed a different sort of transformational analysis, with the DOD arising from the PD via preposition incorporation. Dryer (1986), a typologist, proposes that there are both 'dative' and 'antidative' rules in English within a relational grammar analysis. The dative rule applies to benefactive lexical structures, and the antidative rule applies to recipient lexical structures, with the direction of derivation in the reverse: the DOD structure is underlying, and the PD structure is derived by a rule of secondary object advancement. And Pinker (1989) has proposed a semantic analysis, treating the dative alternation as an alternation between thematic cores, with no specified direction of derivation. However, regardless of whether the analysis is primarily transformational or lexical, grammatical or semantic, each approach must include information in the lexicon that restricts dative structures to particular verbs.

English speakers, giving rise to differences in grammaticality judgments for the benefactive DOD-passives. In my view, the differences depend on how one interprets the relationship between the semantic concept 'X acts on Y' and real-world events. If you view the beneficiary goal as being acted upon, then the passive is acceptable. Note that Pinker (1989) proposes that the lexical structure of all DOD sentences is 'X acts on Z causing Z to have Y,' which would mean that all DOD sentences should be passivizable. For me, the benefactive DOD lexical structure is more like 'X acts on Y for the benefit of Z, causing Z to have Y.' In this latter interpretation, the benefactive DOD-passive is unacceptable, because Z is not directly acted upon by X. However, Pinker's proposal is neater with respect to linking the semantic argument Z with the syntactic direct object.

II. Constraints on productivity and verb classes

In English, many more verbs permit the PD lexical structure than the DOD lexical structure. Four types of constraints determine whether or not a dative verb can occur in the DOD. These constraints include a broad semantic restriction related to possession, narrow semantic restrictions based on verb class membership, a morphological restriction that depends on the phonological characteristics and semantic subclass of the verb, and a discourse preference related to topic and focus.⁴ This means that in order for a verb to occur in the DOD, all of the following conditions must be met: the action of the verb must affect possession of an object by a goal, the verb must be a member of a small set of semantically similar words that all permit the DOD, the verb must be of Old English origin, be phonologically similar to Old English words, or part of a semantic subclass that ignores phonology, and the theme object must occur as full noun phrase rather than as a pronoun. These are stiff requirements indeed.

Possession

There is a possession constraint on occurrence of the double object dative (Bresnan, 1978; Goldsmith, 1980; Green, 1974; Gruber, 1976; Mazurkewich and White, 1984; Oehrle, 1976; Pinker, 1989; Stowell, 1981). The DOD is possible only if possession of an object by a goal is affected by the action of the verb. There must be change of possession to the goal, or else possession by the goal must be affected in some way. Generally the goal is an animate being, and if an object is moved to an inanimate location or the action indirectly benefits someone without possession being affected, the DOD lexical structure cannot occur.

⁴Many researchers have discussed the dative in terms of two constraints: the possession and morphological constraints (Green, 1974; Oehrle, 1976; Mazurkewich & White, 1984; Pinker, 1984). Pinker (1989) also examines semantic verb classes as part of a broader discussion of the semantic criteria that constrain the DOD, and Erteschik-Shir (1979) discusses the discourse properties of the dative. For the sake of clarity, I have chosen to treat these as four separate constraints.

There is an animate goal capable of possession:

4. Mary sent a package to the boarder/border.
 Mary sent the boarder the package.
 *Mary sent the border the package.

5. Mary sewed a shirt for John/covers for the cushions.
 Mary sewed John a shirt.
 *Mary sewed the cushions covers.

Examples 4 and 5 show that if there is no possessor for the object, the DOD isn't possible. The verbs *send* and *sew* can occur in the DOD when the object is being moved to the boarder or John, but not if it is going to the border or the cushions, because these are inanimate locations.

The action leads to change of possession of an object:

6. John opened a beer/a window for Mary.
 John opened Mary a beer.
 *John opened Mary a window.

7. John drove the car for Mary.
 *John drove Mary the car. (benefactive reading)
 John drove the car to Mary.
 ?John drove Mary the car. (recipient reading)

Examples 6 and 7 show that there must be a change of possession to the goal for the DOD to be grammatical. In 6, it is possible to use *open* in the DOD when the object being opened is a beer but not a window, because the benefit of beer-opening is evident only if a can of beer is transferred to a beneficiary, whereas the benefit of window-opening is not linked to possession of the window by anybody. In 7, the benefactive action (driving a car on behalf of someone) does not result in a change of possession, so the DOD is not possible.

However, the recipient action (transfer of a car from one person to another by driving it to them) can result in a change of possession, but because the benefactive non-possessional interpretation is more common, the DOD probably is dispreferred.

There are several idiomatic benefactive phrases in the DOD that appear not to follow the constraint on possession (Pinker, 1989: 115f.). These phrases belong to certain semantic types, e.g., the class of artistic performances (*play someone a tune, dance someone a waltz*), and the generic *do someone a favor* which can stand for any type of favor, including both *John opened a window for Mary* and *John opened a beer for Mary*, so possession doesn't seem to be a factor. However, when specific benefactive favors are identified, the possession constraint does appear to hold, as shown in 8.

A specific favor must indicate change of possession to a goal:

8. John did Mary a favor.

John drew Mary a picture (that he gave to her).

John typed Mary a letter (that he gave to her).

*?John typed Mary a letter (that he mailed directly to her boss).

*John washed Mary the clothes (because she didn't have time).

In 8, the specific favors differ in whether or not Mary received an object as a result of the favor. In the case of *draw a picture*, Mary received the picture. In the case of *type a letter*, grammaticality depends on the intended meaning: whether John put the letter into Mary's hands or sent the letter to someone else on behalf of Mary. In the case of *wash the clothes*, it is a favor in which the action does not result in a change of possession. If the intent is to indicate that John washed some clothes as a favor to Mary, it would be better to say *John washed Mary's clothes*. Benefactive actions are not compatible with the DOD unless the goal comes into possession of the object.

There are some verbs and phrases in English that only take the DOD; the PD is ungrammatical. The verbs comment on possession without transfer being involved, so they don't take the PD. These verbs generally carry a meaning that possession has been affected in a negative way (called 'verbs of future not

having' in Green, 1974, 'malefactive' or 'adversative' in Pinker, 1989).

Possession is negatively affected:

9. Mary cost/denied/envied John his promotion.

*Mary cost/denied/envied John's promotion to/for him.

In 9, there are a variety of negative meanings associated with these verbs. For *cost* and *deny*, the meaning is that John couldn't get the promotion, because of Mary's malefactive behavior (in contrast to the benefactive meaning implied by the use of *for*). For *envy*, the meaning is that John did get the promotion, but that Mary has envious feelings and would like to possess the new job herself. There is no transfer of the promotion between John and Mary, but John's possession of the promotion is negatively affected by Mary's envy. The DOD structure is a commentary on possession or lack of possession, but the PD is not possible because there is no transfer between the two parties.

In addition to these verbs, there are idiomatic expressions using verbs that otherwise are able to take a recipient goal, but in their idiomatic use they can only occur in the DOD. These phrases convey a sense of inalienable or metaphorical possession, in that possession isn't transferred from one person to another, but the goal does come into possession of something previously unpossessed (Oehrle, 1976; Mazurkewich and White, 1984; Pinker, 1989).

The goal comes into possession without transfer:

10. Mary gave John a present/a headache.

Mary gave a present to John.

*Mary gave a headache to John.

11. Mary taught John the lesson/ a lesson.

Mary taught the lesson to John.

*Mary taught a lesson to John. (in the idiomatic sense)

12. Mary gave the house a coat of paint.
 Mary gave the car a tune-up.
 *Mary gave a coat of paint to the house.
 *Mary gave a tune-up to the car.

As shown in 10, a headache is something that inherently belongs to one person; you cannot transfer a headache across people. However, a person can come into possession of their headache as a result of another person's action, and that is why the DOD is possible. In 11, a person can be taught a lesson as a result of someone else's action, but it is an awareness that the person comes to of himself. In the idiomatic use of these verbs, the DOD is grammatical because possession by the goal has been affected; the PD is not grammatical because there is no transfer of the headache or lesson. However, in the non-idiomatic recipient use of these verbs, where there is transfer of an object (a present) or specific information (the lesson), then the PD is grammatical.

Example 12 shows a special use of *give*, in which inanimate goals (the house, the car) have been altered, yet only the DOD is possible. I believe that the explanation is that because the DOD means 'X causes Z to have Y,' *give*, as the prototypical dative verb, can be used for any part-whole relationship in which there is inalienable possession of the part, as in *the house has a coat of paint*, or *the car had a tune-up*. The crucial meaning is inalienable possession rather than transfer to a recipient. It is not possible to use *give* in **Mary gave the border the package* nor in **the border has a package*, because there is no inalienable part-whole relationship between the border and the package. Thus the concept of goal as possessor must include both animate goals and goals that are able to possess parts of themselves inalienably, but not other inanimate goals, particularly locations.

These examples show that the DOD carries the meaning of possession, and that the PD carries the meaning of transfer. In those prototypical cases in which the transfer of an object results in possession by an animate goal, either the PD or the DOD is possible. In those cases in which there is transfer of an object (to a location) without possession by an animate goal, only the PD is possible. In those cases in which there is possession of an object by a goal without transfer

being involved, perhaps inalienably, only the DOD is possible. The semantic concepts of possession ('X has Y') and transfer ('X goes to Y') act as constraints on whether the PD or DOD are grammatical for a particular verb, depending on the verb's semantic characteristics.

However, the necessity of expressing that possession by a goal has been affected is not the only constraint on grammaticality of the DOD; possession is a necessary condition but not sufficient. There are three additional constraints on whether a verb can occur in the DOD even when the verb clearly indicates that possession has been affected.

Semantic verb class

Pinker (1989) identifies certain verbs that one would expect to be grammatical in the DOD lexical structure because they are capable of implying transfer of possession to an animate goal, yet they do not permit the DOD. Some of the contrasts between verbs that differ in their grammaticality are shown in 12-15.

Semantic class differences among verbs capable of expressing possession:

12. Mary told/whispered a secret to John.
Mary told John a secret.
*Mary whispered John a secret.
13. John kicked/pushed a ball to Mary.
John kicked Mary a ball.
*John pushed Mary a ball.
14. John took/carried an ice cream cone to Mary.
John took Mary an ice cream cone.
?*John carried Mary an ice cream cone.

15. Mary bought/chose a new tie for John.
 Mary bought John a new tie.
 ?*Mary chose John a new tie.

It is possible for the action denoted by any of these verbs to result in possession by a recipient or beneficiary. However, the verbs *whisper*, *push*, *carry*, and *choose* don't permit the DOD, despite apparent similarities to verbs that do (*tell*, *kick*, *take*, and *buy*). However, there are some disagreements among native speakers about the grammaticality of these sentences, possibly due to dialect differences. Some native speakers that I have talked to accept sentences like *reach me the book* (Pennsylvania) or *carry me a glass of tea* (South Carolina; *carry* in the DOD is also accepted by Green, 1974:78). This disagreement shows that these verbs are indeed compatible with the possession constraint, and that inclusion or exclusion is due to other more subtle differences.⁵

Pinker (1989) suggests that there are very finely-tuned semantic differences that distinguish between classes of verbs. Each verb class is defined by a set of universal semantic features that represent elements of the action involved. These features include manner, motion, means, accompaniment, illocution, causation, intention, etc. Combinations of semantic features are assigned to the lexical entry of each verb based on how it is used, and verbs become members of the same verb class when they share all grammatically relevant features in common. Particular combinations of these semantic features determine which lexical structures a verb class can occur in. Pinker identifies fourteen classes of dative verbs that exhibit different combinations of these universal semantic properties, shown in Table 1.

⁵There are two areas of native speaker disagreement in judging the grammaticality of datives. One is whether or not a particular verb can occur in the DOD; the other is whether or not the DOD can be passivized. Either of these differences could be due to dialect differences or to differences in individual grammars (for the latter claim see Ertischik-Shir, 1979 and Hudson, 1992). It may also be possible that the passivizability of a particular dative verb interacts with its semantic verb class, just as the morphological constraint does.

Table 1

Dative verb classes (based on Pinker, 1989:110f.).

GENERAL TRANSFER

Physical transfer:

Mary gave/passed/handed a doughnut to John.

Mary gave/passed/handed John a doughnut.

Future intention to transfer:

Mary offered/promised the coffee to John.

Mary offered/promised John the coffee.

Transfer of something needed/deserved (DOD is ungrammatical):

Mary rewarded/presented/supplied a watch to John.

Mary rewarded/presented/supplied John with a watch.

*Mary rewarded/presented/supplied John a watch.

MEANS, MANNER, DIRECTION OF TRANSFER

Means of transfer:

Mary sent/shipped/mailed a present to John.

Mary sent/shipped/mailed John a present.

Manner of instantaneous causation of transfer:

Mary kicked/threw/tossed/lobbed the ball to John.

Mary kicked/threw/tossed/lobbed John the ball.

Direction of continuous causation of transfer

Mary took/brought a package to John.

Mary took/brought John a package.

Manner of continuous causation of transfer (DOD is ungrammatical):

Mary carried/pushed/lifted the box to John.

*Mary carried/pushed/lifted John the box.

TRANSFER OF INFORMATION

General communication:

Mary told/showed/wrote/taught the lesson to John.

Mary told/showed/wrote/taught John the lesson.

Instrument of communication:

Mary radioed/telegraphed/telephoned the news to John.

Mary radioed/telegraphed/telephoned John the news.

Manner of verbal communication (DOD is ungrammatical):

Mary whispered/shouted/murmured the news to John.

*Mary whispered/shouted/murmured John the news.

BENEFACTIVE TRANSFER

Transfer of something created:

Mary made/baked/built/sewed a present for John.

Mary made/baked/built/sewed John a present.

Transfer of something obtained:

Mary bought/got/found a present for John.

Mary bought/got/found John a present.

Transfer of something selected (DOD is ungrammatical):

Mary chose/picked out/selected a present for John.

*Mary chose/picked out/selected John a present.

MALEFACTIVE POSSESSION

Negatively affected possession (PD is ungrammatical):

*Mary cost/envied/denied/refused a job to John.

Mary cost/envied/denied/refused John a job.

Within each of these verb classes, the verbs are semantically similar to one another, differing only in idiosyncratic properties (e.g., the difference between *handing* and *passing*), and they pattern together as a class. That is, verbs with the same semantic properties occur in the same lexical structures. For example, verbs that refer to a continuous motion that causes transfer of an object (e.g., *carry*, *push*, and *lift*) occur only in the PD, but verbs that refer to an

instantaneous motion that causes transfer of an object (e.g., *throw*, *toss*, and *kick*) occur in either the PD or DOD. When new verbs enter the language, they can participate in an existing alternation only if they are semantically similar to other verbs that do. For example, as technology has developed, it has become possible to say *Mary xeroxed/faxed John the information*, on analogy with the class of verbs that are derived from instruments of communication. So even if a particular verb is capable of expressing a possessional meaning, it can occur in the DOD only if it happens to belong to a semantic class of verbs that permits the DOD. The semantic characteristics of a verb act as constraints on whether or not a lexical structure is grammatical for that particular verb.

Morphology

In addition to the possession and semantic verb class constraints on the DOD, there is also a morphological constraint (Green, 1974; Oehrle, 1976; Mazurkewich & White, 1984; Pinker, 1984). Verbs with a Latinate origin generally do not occur in the DOD, even if they are capable of a possessional meaning and belong to a semantic class that alternates. Historically, the PD was introduced with borrowings from French, and the DOD continued to be identified with native English verbs (Visser, 1963). In 16-18, although the meaning of each pair of words is semantically similar (e.g., *tell* vs. *report*), only the native English word permits the DOD structure.

Verbs must be of native English origin:

16. Mary gave/donated a painting to the museum.
Mary gave the museum a painting.
*Mary donated the museum a painting.
17. Mary told/reported the news to the public.
Mary told the public the news.
*Mary reported the public the news.

18. John built/constructed a house for his family.
 John built his family a house.
 *John constructed his family a house.

The morphological constraint doesn't depend solely on etymology, however. In general, the phonological properties of native and Latinate verbs differ: native verbs are generally one metrical foot (a single stressed syllable, or stress on the first syllable of two); whereas Latinate verbs tend to be more than one metrical foot (Grimshaw and Prince, 1986). Pinker (1989:46) notes that Latinate verbs that have only one metrical foot often do permit the DOD. This includes verbs that have an unstressed schwa before the single metrical foot.

Latinate verbs of one metrical foot behave like native verbs:

19. Mary promised/offered/recommended/described a book to John.
 Mary promised/offered John a book.
 *Mary recommended/described John a book.

Latinate verbs with an initial unstressed schwa also behave like native verbs:

20. Mary assigned/awarded/explained/returned a book to John.
 Mary assigned/awarded John a book.
 *Mary explained/returned John a book.

In 19, the Latinate verbs *promise* and *offer* are grammatical in the DOD because they have only two syllables with stress on the first syllable. In 20, the Latinate verbs *assign* and *award* are grammatical in the DOD because they have only one stressed syllable, and the initial unstressed syllable is a schwa. The relatively stronger syllables in *ex-* of *explain* and *re-* of *return* do constitute a second metrical foot, so these verbs cannot occur in the DOD.

The morphological constraint also apparently interacts with the semantics of particular verb classes. For the four verb classes that do not permit the DOD,

the morphological constraint is irrelevant. Among the nine verb classes that do permit the DOD, the verb classes that indicate the direct physical transfer of an object are more likely to respect the morphological constraint than classes that are more abstract in nature (Pinker, 1989; Gropen, Pinker, Hollander, Goldberg, and Wilson, 1989; Yoshinaga, 1990). There are six classes that obey the constraint, and three that do not (Pinker, 1989, p. 119).

VERB CLASSES THAT OBEY THE MORPHOLOGICAL CONSTRAINT

Physical transfer:

Mary gave/*donated/*contributed John the money.

Means of transfer:

Mary sent/shipped/*transported/*delivered John the package.

Manner of instantaneous causation of transfer:

Mary threw/tossed/*released/*propelled John the ball.

General communication:

Mary told/*reported/*announced/*described John the news.

Transfer of something created:

Mary made/built/*constructed/*created/*designed John a present.

Transfer of something obtained:

Mary bought/got/*purchased/*obtained John a present.

VERB CLASSES THAT DON'T OBEY THE MORPHOLOGICAL CONSTRAINT

Future intention to transfer:

Mary promised/bequeathed/guaranteed John the money.

Instrument of communication:

Mary radioed/telegraphed/telephoned John the news.

Negatively affected possession:

Mary envied/begrudged/denied John the job.

In the six verb classes that obey the morphological constraint, the native verbs (with a single metrical foot) do permit the DOD, but the Latinate verbs

with similar meanings do not (e.g., *give* vs. *donate*). However, in the other three verb classes, the Latinate verbs do permit the DOD, even though they may contain several metrical feet (e.g., *guarantee*, *telephone*). In these sentences, the transfer involved is less direct, in that it is a future intention (*bequeathed*), or transfer over air waves (*radioed*), or an emotional state (*begrudded*). These verbs all meet the conditions of the possession and verb class constraints, but it appears that the morphological constraint may apply selectively to those classes of verbs that denote more direct transfer (Gropen et al., 1989).

So there is a morphological constraint, but it applies only to some of the semantic verb classes that permit the DOD. Originally, the distinction between alternating verbs was based on the Latinate versus native origin of the verb. This distinction has been reanalyzed by speakers of English to one based on the interaction between the morphophonological structure (metrical feet) and the semantic class of the particular verb (Pinker 1989).

Discourse function

In addition to the possession, semantic class, and morphological constraints on occurrence of the DOD, there is a discourse constraint that prohibits the DOD if the object being transferred occurs as a pronoun (e.g., **John bought Mary it*). This constraint is based on the more general function of the DOD in discourse to put the goal in the leftmost position as the current topic (Creider, 1979) and the object in the rightmost position as the focus (Erteschik-Shir, 1979). Current topics are generally referred to by the most minimal structure available to a language, which in English is an unstressed pronoun (Givón, 1983). The example below illustrates the progression from focus to topic for both *Mary* and *a sweater*.

Once *Mary* is introduced by means of the PD sentence, reference in the subsequent DOD sentence occurs naturally with the pronoun *her*. In this DOD sentence, *a sweater* is introduced in the focusing position, and so in the subsequent sentence can be treated as the topic and referred to by the pronoun *it*. This illustrates the function of the DOD as it is situated in both a preceding and following discourse context.

The verb *buy* permits the DOD because it meets the first three constraints on the DOD: it indicates a possession change, it belongs to an appropriate verb class ('transfer of something obtained'), and it is morphologically derived from Old English and is one metrical foot. However, the DOD is ungrammatical even for a verb like *buy* if the object being transferred occurs as a pronoun, because the pronoun indicates that the object is old information. A pronoun object is incompatible with the rightmost focusing position of the DOD.

Goal is old information; object is new information, DOD is grammatical:

21. What did John get Mary for her birthday?
 (PD) He bought a sweater for her.
 (DOD) He bought her a sweater.

Object is old information, goal is new information, DOD is ungrammatical:

22. Who did John buy that sweater for?
 (PD) He bought it for Mary.
 (DOD) *He bought Mary it.

Both object and goal are old information; DOD is ungrammatical:

23. Did John steal that sweater for Mary?
 (PD) No, he bought it for her.
 (DOD) *No, he bought her it.

In 21, *Mary* is old information in response to the question, so she is referred to by means of a pronoun. In this discourse context both the DOD and the PD are grammatical, with the DOD being preferred because it puts the new information in the focus position. In 21, the *sweater* is old information in response to the question, so it is referred to by means of a pronoun. In this case, not only is the PD preferred, but the DOD is absolutely ungrammatical, because the object pronoun is in the focus position. This constraint only applies to object pronouns, not goal pronouns, as shown in 23. When both the object and

the goal are pronouns, only the PD is possible.⁶ This confirms that the PD is the more neutral structure in discourse; the DOD is more likely to occur in a object-focus discourse context, and is constrained if the object is encoded as a pronoun.

Approaches to representation

There are three types of proposals for how constraints on the dative are represented in the grammar of English (Pinker, 1989). In one early proposal, Baker (1979) suggested that lexical structures are attached to individual verbs based on whether they have been heard to alternate; thus no separate criteria for alternation are needed. However, Pinker (1989) notes that this proposal doesn't work because of the ability of speakers to generalize dative structures to novel verbs as well as the existence of overgeneralization errors on the part of language learners. So there must be a general dative rule of some sort, with constraints on its operation represented in the grammar. Mazurkewich and White (1984) and Pinker (1984) proposed that the possession and morphological constraints are appended to a grammatical lexical rule, so that only verbs that fulfill the criteria can alternate. Ertischik-Shir (1979) also proposed that the feature [+ dominant] be assigned to the second NP in the DOD structure to prevent pronouns from occurring in that position. This approach is capable of representing the possession, morphological, and discourse constraints at a broad level, but is not able to account for the semantic verb class differences or the interaction between morphology and semantic verb class.

Pinker's (1989) semantic analysis of lexical alternations leads to a different approach to representation of the constraints. In this approach, none of the constraints have to be stated as conditions on a rule. There is a broad dative rule that contains information about possession as part of its semantic structure ('causing Z to have Y'). Discourse information could also be included as part of the semantic structure. However, whether a verb can participate in the dative alternation is not decided by the broad dative rule, but by verb class membership. Verb lexical entries contain semantic and morphological

⁶Some native speakers accept *give me them* when the goal pronoun is *me*, but not for other pronouns.

information, and verbs with the same features share lexical alternations. A lexical alternation can be generalized from one verb to another only if the semantic and morphological structure of the verbs is similar. Thus the possession and discourse constraints are built into the lexical structure of the broad dative rule, and the semantic verb class and morphological constraints are built into the information contained in verbs' lexical entries. The key difference between Pinker's (1989) approach and earlier ones is that lexical alternation is decided by verb class membership rather than by the lexical rule.

III. Markedness and the dative alternation

Five criteria for markedness have been applied to the English dative alternation: productivity, constraints (Mazurkewich, 1984), the universal grammar (UG) analysis, learnability, and a typological hierarchy (White, 1987). Mazurkewich (1984) treated the DOD as marked in English because the majority of dative verbs allow the PD structure, with the DOD structure being restricted based on the possession and morphological constraints. Certainly, the frequency of a structure and the nature and complexity of the constraints that restrict it are productivity factors that determine its markedness relative to other structures.

White (1987) treated the DOD as marked in English because of the grammatical analysis within UG. According to Stowell (1981), the DOD structure requires the first NP to be incorporated into the verb so that the resulting verbal unit can assign case to the second NP. In the more recent government and binding version of UG (Haegeman, 1991), a DOD verb assigns structural case to the goal object but inherent case to the theme object, because the goal object can passivize but the theme object cannot. In the PD, the verb and the preposition both assign structural case. Since inherent case is lexically marked, this makes the DOD structure more marked than the PD structure. White also argues for the markedness of the DOD on the basis of learnability within universal grammar, in that dative case assignment cannot be universally unmarked or learners would arrive at the incorrect hypothesis that all dative verbs can take the DOD.

White's UG and learnability markedness claims depend upon a particular grammatical theory. However, if Pinker's (1989) theory of semantic lexical structures is adopted, then neither dative lexical structure could be considered marked across the grammar – it depends on the verb. Different verbs subcategorize different lexical structures, and each lexical structure is listed in the lexicon with any verb that permits it. The markedness of a lexical structure for a particular verb would be based on how closely the prototypical transfer or possession characteristics of the dative lexical structures match the semantic characteristics of the verb. Support for this view comes from Gropen et al. (1989), who show in spontaneous speech data that some children acquire the DOD first and others the PD first, and that each structure is associated with particular verbs. Here, learnability is not concerned with markedness, but with accounting for how a learner creates verb lexical structures and generalizes them to other verbs with the same semantic and morphological features. Semantic characteristics determine the relative ease of learning different verb and structure combinations. It would be impossible to make markedness claims about the PD and DOD lexical structures independently of the verbs that take them.

White (1987) also appeals to an implicational, typological definition of markedness to argue that the DOD is marked. She claims that there is no language that has only the DOD without the PD, suggesting that there is an implicational scale with the DOD in the more marked position. However, the implicational claim cannot be supported. Dryer (1986) discusses different dative systems across languages, showing that some languages only have the DOD lexical structure (e.g., Bantu languages, Ojibwa, Cree, Mohawk, Tzotzil, Huichol, Palauan, Lahu, and others). He also argues the position that for many languages with both the PD and DOD lexical structures (including English), the DOD is more basic because of the behavior of the goal object in verb agreement and passivization. Typological hierarchies are a valid criterion for determining markedness, but for the dative alternation no such hierarchy may exist.

In fact, a single markedness analysis for lexical structures may not be possible, just as there is no across-the-board application of lexical rules. In English, only when overall productivity is examined can the DOD be considered marked with respect to the PD, because of the semantic,

morphological, and discourse constraints. When individual verbs are examined, the markedness relationships become much more complex. The DOD is clearly **less marked** than the PD for verbs of negatively affected possession (*envy, cost, etc.*), and the DOD may also be less marked for recipient verbs than for benefactive verbs; within recipient verbs, the verb *give* may be less marked in the DOD than the verb *throw* because of prototypical semantic features; and across verb classes, classes that obey the morphological constraint may be less marked in the DOD than those that do not. In other words, markedness is a relative concept that indicates the relationship between members of different sets, and if Pinker is right, the sets may be very small indeed, with the semantic and morphological relationship between sets being far more interesting than mere markedness labels can indicate.

IV. Conclusion

English dative lexical structures differ dramatically in productivity. The PD is relatively unconstrained (only one of Pinker's fourteen verb classes cannot occur in the PD), whereas the DOD is constrained by four different factors in a complex interaction. These constraints range from a broad semantic constraint on possession, to narrow semantic verb classes, morphological structure, and discourse function:

Possession (Green, 1974)

throw John a ball but not **throw the wall a ball*

open me a beer but not **open me a window*

Morphology (Grimshaw & Prince, 1986)

he told me the answer but not **he explained me the answer*

Semantic verb class (Pinker, 1989)

he bought/found/stole me a sweater

but not **he chose/selected/picked me a sweater*

Discourse function (Ertischik-Shir, 1979)

*he bought me a sweater, but not *he bought me it*

Pinker has organized dative verbs into fourteen different semantic classes, nine of which alternate between the PD and DOD. Only six of these nine obey the morphological constraint. Furthermore, the DOD that is related to the recipient PD is more likely to passivize than the DOD that is related to the benefactive PD.

In the field of applied linguistics, the dative alternation is used both for pedagogical purposes and acquisition research. Pedagogically, English verbs are often grouped into three broad classes on the basis of whether or not a verb participates in the grammatical alternation, as these typical examples show (Celce-Murcia and Larsen-Freeman, 1983; Corder, 1988; Fotos and Ellis, 1991):

PD and DOD	give, tell, send, take, buy, build
PD only	donate, explain, carry, construct, obtain
DOD only	cost, envy, deny, ask ⁷

However, this pedagogical approach doesn't offer any help in understanding why certain verbs belong in one category rather than another, and it assumes that the process of learning is memorizing arbitrary facts. In a more sophisticated treatment, acquisition researchers have explored the possession and morphological constraints on alternation (Mazurkewich, 1984; White, 1987); however, in this approach the alternation is treated as a simple markedness description: The PD is more marked than the DOD. This results in the assumption that there are only two acquisition stages, which doesn't do justice to learner data (Hawkins, 1987). Neither of these approaches captures the complexity of the conditions under which the DOD appears in English.

The fundamental learning problem in the acquisition of datives is the learning of individual verb lexical features. In pedagogy, what is needed is a treatment of verbs that yields an understanding of their semantic and

⁷The verb *ask* has traditionally been considered a DOD verb, but it should be treated as a special category of its own, because it alternates between *John asked Mary a question* and *John asked a question of Mary*, with an *of*-source rather than a *to*-goal.

morphological characteristics and the conditions under which they can be used. In language acquisition, researchers who use the dative alternation as a test case for theoretical claims must consider the complexities of the alternation and the differences between verbs when analyzing their data. They need to examine the effect of the discourse context, the degrees of possessibility involved, the differences between recipient and benefactive verbs, the semantic differences between verb classes, and the interaction between the morphological alternation and these verb classes. A further complication is the first language of learners of English, in which there is the potential for an equally complex dative alternation (for example, see the description of Chinese datives in Wolfe-Quintero, 1992). No single, simple grammatical or markedness analysis of the dative alternation is possible.

In most linguistic theories, syntax is projected from the lexicon (Chomsky, 1982). This means that the lexical features of individual verbs control sentence structure. This couldn't be more true than in the case of dative verbs in English.

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