

A Usage-based Analysis of the English Ditransitive Construction*

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1. Introduction

It is well-known that the ditransitive pattern NP-V-NP-NP conveys different but related senses. Limiting our attention to the case where a person is involved in transferring an object to another person, we can multiply examples showing that the pattern is associated with several types of scene. Let us compare the sentences in (1):

- (1) a. John gave his wife a ring.
 b. John threw his son a ball.
 c. John baked his wife a cake.
 d. John promised his daughter a toy.

The (a) and (b) examples in (1) are known as implying that John was successful in transferring the object to its receiver, while the other sentences do not necessarily entail such a reading. The sentence in (1c) implies John's intention to give the cake to his spouse, while (1d) implies the statement John made to his daughter in which he said that he would definitely give her a toy. Goldberg (1995), taking a construction grammar approach to the ditransitive construction, posits that the ditransitive construction is a case of constructional polysemy, and differences in implication among ditransitive expressions are attributed to differences among senses associated with the construction.

The objective of this paper is to reconsider the network structure of the ditransitive construction.¹ If we describe Goldberg's examination of the ditransitive construction as a 'horizontal' analysis, we need a 'vertical' analysis to get the whole picture of this construction. After reviewing her analysis in section 2, we will look 'downwards' in section 3, and discuss what relation the ditransitive construction subclasses assumed by Goldberg bear to their related classes of verbs. As space is limited, we will concentrate on two of the classes and pay scant attention to the others. In section 4, then, we will look 'upward,' and consider the possibility of a schematic sense abstracting away from the ditransitive subclasses. Finally, we will get the whole picture of the

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¹ We are concerned here with linguistic data as shown in (1), and ditransitive expressions with non-agentive subjects and ones taking action nouns (e.g., *a kiss*) or abstract nouns (e.g., *thought*) do not come in the scope of this paper.

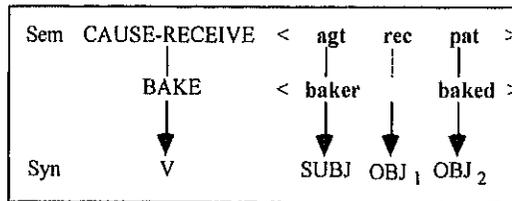
ditransitive construction. Granted the dynamic usage-based model of language proposed by Langacker (2000), the "vertical" way of approaching the ditransitive construction we will take in this paper is naturally motivated by the bottom-up nature of language.

2. Goldberg's (1995) Analysis of the English Ditransitive Construction

In this section we will briefly review the analysis of the ditransitive construction within the construction grammar framework proposed by Goldberg (1995). She assumes that that construction is a case of constructional polysemy. As is widely recognized, the construction's form is paired with several senses. According to her, "the various senses are not predictable and must be conventionally associated with the construction" (p.34). An advantage that Goldberg claims for her approach is that there is no need to posit 'implausible' verb senses.

Take the verb *bake* for instance. The prototypical event is the act of creation where two participant roles, **baker** and **baked**, are involved. Goldberg (1995:65) says that the act of baking itself is not causally related to the transfer of possession, but it is "a necessary precondition of the transfer". Thus, it is the ditransitive construction that contributes the recipient role when the verb is fused with the construction, as in (2):

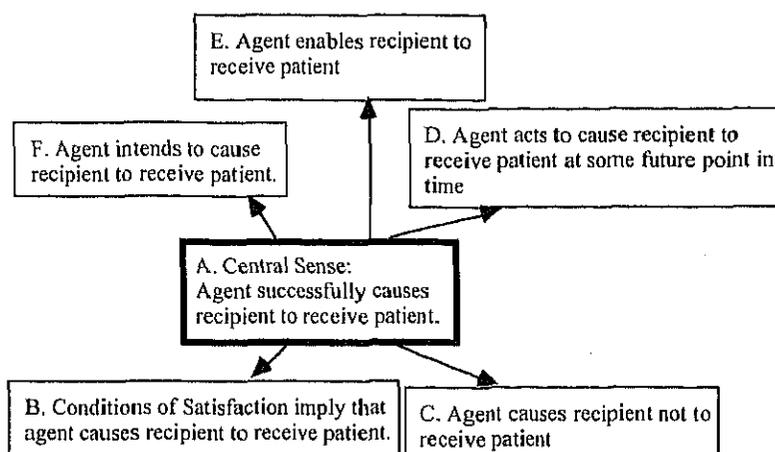
(2)



I will simply point out here that this approach will give rise to a problem. As she states in her monograph, the semantics of verbs should be understood against rich frame-semantic knowledge. Given that, there is no reason to posit that the semantic structure of *bake* is so simple that the construction helps provide the verb with the recipient role. As we will see in section 3, its semantic structure is internally complex enough to appear in that construction.

Goldberg proposes that the senses associated with the construction are structured radially with respect to extensions from the central, or prototypical, sense. The relation of those senses is diagrammed in (3).

(3)



The list of verb classes is given in (4). Each ditransitive subclass in (3) is fused with the corresponding verb class members.

- (4) A. Verbs that inherently signify acts of giving:
give, pass, hand, serve, feed,...
 Verbs of instantaneous causation of ballistic motion:
throw, toss, slap, kick, pork, fling, shoot,...
 Verbs of continuous causation in a deictically specified direction:
bring, take,...
- B. Verbs of giving with associated satisfaction conditions:
guarantee, promise, owe,...
- C. Verbs of refusal:
refuse, deny
- D. Verbs of future transfer:
leave, bequeath, allocate, reserve, grant,...
- E. Verbs of permission:
permit, allow,...
- F. Verbs involved in scenes of creation:
bake, make, build, cook, sew, knit,...
 Verbs of obtaining:
get, grab, win, earn,...

The relation of the verb semantics with the construction's semantics is assumed to follow some conventional patterns, as in (5).

(5) Elaboration >

Force-dynamic Relation (means, instrument, result, denial) >

Precondition, Co-occurring activity (Goldberg 1997: 396)

The verb *bake* is associated with the construction by precondition. The most conventional pattern of integration is elaboration. In this case the event type designated by the verb is viewed as a subtype of the ditransitive event type. Let us consider *hand*. It refers to the scene where one puts an object into another's hand from his/her hand. Given that we represent the ditransitive event type as Agent CAUSES Recipient to RECEIVE Patient, the designated scene can be regarded as an instance of that type. In this case the number of participant roles provided by the verb and that of the argument roles contributed by the construction are the same.

3. The Relation of Verbs and the Ditransitive Construction

In this section we will consider the relation of verbs to the ditransitive construction. Goldberg attempts to avoid positing 'implausible' verb senses by implementing a division of labor between the construction and the verbs that can enter into it. We will argue against this view. The conclusion we will reach is that the characterization of the constructional senses in (3) is inextricably connected with the verbs listed in each class. In developing the argument, we will see that the semantic information of a verb is intricately structured. We will also see that a verb can be fused with the ditransitive construction when the scene encoded by the verb can be regarded as a subtype of the event designated by the construction. Hence I will claim that the ditransitive construction should be motivated by verb semantics. Even the notion of successful transfer, which seems to be specific to the construction, abstracts away from the semantic properties of the verbs that can be incorporated with class A.

3.1. Where Differences among Constructional Senses Stem from

Goldberg's approach to the ditransitive construction appears attractive at first sight. It seems to me, however, that she does not adequately explore what semantic contribution a verb makes to the construction. A question arises as to how the constructional senses in (3) are motivated. Do they exist independently of verb semantics? Let us see the pair of sentences in (6):

- (6) a. John brought Mary a cake.
 b. Chris baked Pat a cake.

The observable difference between them is that (6a) implies successful transfer of possession while (6b) does not. Goldberg attributes it to the difference in implication between the construction senses. Taking a careful look at those two verbs in (6), however, we will notice that *bring* lexically denotes motion while *bake* does not

involve motion as its lexical meaning.

To take another example, let us consider class C, which implies negation. Taking it into account that such verbs as *refuse* and *deny* are inherently involved in negation, we will have difficulty in claiming that the pair of the ditransitive form with sense C is a linguistic unit independent of the verbs. It is similar for the other classes. Thus it is not surprising to say that semantic differences among verbs (partially) explain the observed differences in implication among the constructional subclasses. We will see the lexical properties of verbs of creation/obtaining and verbs of change of possession in more detail in sections 3.2 to 3.4.

3.2. *Prior Intentionality*

In order to take an in-depth look at the way of interacting verb semantics with the ditransitive senses, we will examine the *bake* case. According to Goldberg, the verb only contributes "a necessary precondition of transfer" when it occurs in a ditransitive sentence like that in (7):

(7) David baked Elena a cake.

Let us begin with imposing an unfavorable interpretation on "a necessary precondition of transfer" to show that it may cause a problem. If the verb's meaning is only associated with a precondition of transfer, the situation described in (7) could be decomposed into the following two phases:

(8) Phase I: David caused the cake to come into existence.

Phase II: David intended to give the cake to Elena.

And we could say that phase I is associated with the verb's meaning and the phase II is contributed by the constructional meaning. Furthermore, we can infer from the word 'precondition' that phase I preceded phase II.

The interpretation given above, however, does not match the meaning that sentence (7) actually carries. This sentence cannot be uttered in the context where the intention of giving the cake to Elena was formed after the cake was baked nor while it was being baked. The volitional agent must form the intention of giving the patient to the recipient *prior to* the relevant action being performed. I would like to adopt the term "prior intentionality" from Searle (1983) to refer to this characteristic of the volitional agent.² This point is demonstrated by (9). The sentences in the square brackets provide inappropriate contexts for the sentence concerned.

(9) #David baked Elena a cake.

uttered in the following contexts:

a. [Yesterday David baked a cake. He then decided to give it to Elena.]

² The concept of prior intentionality used in this paper is not exactly the same as given in Searle (1993) though it is somewhat related.

- b. [Yesterday David baked a cake. While he was baking it, he decided to give it to Elena.]

We can say that the final state of being owned by the recipient as well as the agent's initial action must fall within the agent's scope of prior intention. This suggests that the act of baking and the intention of giving cannot be sharply divided into a sense associated with the verb and one contributed by the construction. We reach the conclusion that it is wrong to suppose that the construction provides the verb *bake* with the recipient role.

The same is true with verbs of obtaining. The sentence *George bought his mother a book*, for instance, sounds odd within a context like "George bought a book but found it rather boring; he gave it to his mother."

The sentence in (10), cited from Goldberg (1995:143), shows that the same thing is true with the prototype case.

- (10) *Joe threw the right fielder the ball he had intended the first baseman to catch.

This sentence does not work because the agent's prior intention does not cover the final stage of the series of events, that is, Joe's giving the ball to the right fielder. The argument here suggests that this semantic property of the subject entity is not specific to a particular class of the ditransitive construction; but rather it is a characteristic observable across the ditransitive subclasses. We will return to this point in section 4.1.

We can say from what we have seen that it is not easy to identify which semantic part of the whole meaning a sentence bears is contributed by the construction and which part is associated with the verb. Both the verb meaning and the constructional meaning are closely related to each other. We can hence say that no precondition relation is necessary for accounting for the way of incorporating some verbs into the ditransitive construction. This suggests that the ditransitive construction has no power to augment the valency of a verb's argument structure. Although the question of whether a force-dynamic relation can be eliminated from Goldberg's framework will be left open in this paper, the strongest hypothesis would hold that elaboration is the only possible relation between constructions and verbs.

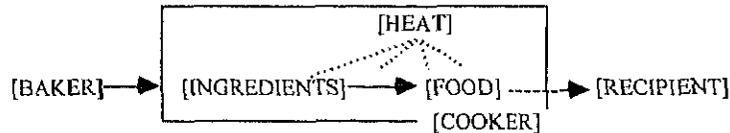
3.3. *The Internal Semantic Structures of Verbs of Creation/Obtaining*

Now that we are sure that even the verbs whose intrinsic nature is seemingly a 'two-place predicate' are burdened with more semantic loads, the next step is to explore in what way the semantic structure of a verb is organized. Taking a frame-semantic approach to word meanings (cf. Fillmore (1982), among others), we will posit the premise that we understand verb meanings against our rich frame-semantic knowledge.

Then, as I have suggested, in the previous subsection, the semantic information which is presupposed for, say, *bake*, includes not only cooking food in an oven but also the intention of making it for someone. I will claim here that the scene encoded by a verb of creation/obtaining instantiates the event type designated by the construction.

Let us begin with *bake*'s semantic structure, diagrammed in (11):

(11)



The diagram in (11) schematically represents the process of a BAKER preparing a FOOD from its INGREDIENTS in a COOKER. The act of baking is often carried out for the purpose of giving the baked food to someone else though it does not necessarily entail the actual transfer of the food. This aspect is represented by the dotted arrow from [FOOD] to [RECIPIENT]. The broadest scope of predication includes the whole process just mentioned above, and thus the verb is semantically compatible with the ditransitive syntactic frame. The point I have made here is that the recipient argument comes from the verb's semantics, not the construction.

Note in passing that *bake* enters into syntactic frames as illustrated in (12):

- (12) a. Bake the cake for 35 to 50 minutes. (COBUILD³)
 b. Bake the mixture for 30 minutes.... (COBUILD³)
 c. I made the icing while the cake was baking. (CIDE)
 d. Bake at 180°C for about 20 minutes. (CIDE)
 e. Mrs. Loft would bake them into the best pies... (Bank of English)

The participants in the scene highlighted in (12a) is BAKER and FOOD. In (12b) the interaction between BAKER and INGREDIENTS is profiled. The verb appears in the intransitive syntactic frame when the change in state of a baked thing is profiled, as in (12c). The highlighting of the baker's act is also captured by the intransitive template, as in (12d). When it refers to the baker's causing the change in state of a baked thing as a salient portion of the cognitive frame structure, the verb appears in the caused-motion construction, as illustrated in (12e). The verb *bake* can be associated with these syntactic frames because we understand a series of events that can be encoded by *bake* against our rich frame-semantic knowledge of the act of baking.

Once we begin to inquire into verbal semantics in the way just suggested, a careful examination of subtle meanings of verbs will reveal verbs' syntax. To take an example, the discrepancy between *get* and *obtain* with respect to the ditransitive construction, as in (13), can be explained from a frame-semantic viewpoint.

- (13) a. John got his wife a ring.
 b. *John obtained his wife a ring.

Some linguists (cf. Oehrle (1976), Pinker (1989), among others) attribute the inability of *obtain* to appear in the ditransitive construction to its Latinate character. A question that immediately presents itself is why Latinate verbs cannot be integrated into the ditransitive construction. To answer this question, we need to mention a general tendency of borrowings. When the new vocabulary was borrowed into a language, there are many cases where borrowings and native words semantically overlap. In such cases there were two outcomes. Either one word would replace the other, or two words would survive in the language. In the latter case, the meaning of those words would begin to differ. For example, Old English *cow* and French *beef* no longer mean the same thing.

If the same is true of the relation between *get* and *obtain*, in what respect are they different from each other? The definition of *obtain* in English dictionaries gives a clue in answering this question. According to *OALD*⁶, for example, it means "to get something, especially by making an effort". The point to notice is that *obtain* differs semantically from *get* in that it includes more precise specification concerning effort. This semantic characteristic is significant in accounting for the syntactic behavior in terms of prior intentionality. The scope of the prior intention formed by the obtainer, the agent involved in the act of obtaining, cannot be widened to cover transfer, because the activity of getting what the obtainer really needs is the ultimate goal of obtaining, and the potential difficulty in achieving the goal leaves no room for his or her conceiving what he or she will do after the goal is fulfilled. Therefore, *obtain* cannot enter into the ditransitive construction.

We have argued that the possibility of the fusion between the construction and verbs of creation/obtaining results from the complexity of the verbs' internal semantic organization.

3.4. *Successful Transfer*

Let us turn to the prototype of the ditransitive construction, that is, class A in Goldberg's framework. The description of the semantic property of the class is often based on the notion of successful transfer or the like. However, few linguists give a clear definition of that. Oehrle (1977), for instance, gives the examples in (14) to illustrate that what Green (1974) calls a 'have'-relationship does not hold between the first and the second object. He appears to understand the 'have'-relationship with respect to whether or not an object is physically with a recipient.

- (14) a. Max handed her a cigarette, but she wouldn't take it.
 b. When I took him his mail, I found that he had disappeared.

Similarly, in reviewing Goldberg's theory, Kay (1996) concludes that *throw*, unlike *give*, does not entail successful transfer after observing a semantic difference between *give* and *throw*. Let us take a look at the sentence with *throw* he gives in his paper:

- (15) I threw {you the ball/the ball to you} but it was intercepted by an opponent.

Implicit in his analysis is the idea that if the recipient receives the patient, the patient is physically with the recipient. If so, the sentence in (16), cited from Oehrle (1976:128), would cause a problem.

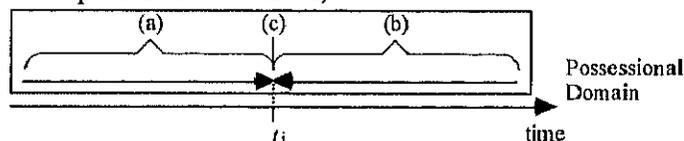
- (16) ??John threw the catcher the ball, but the throw went wide.

Sentences (15) and (16) are truth-conditionally equivalent in that in both cases the recipient did not catch the ball. Where does the difference lie between these two examples?

Transfer of possession should be characterized with reference to the possessional domain. Jackendoff (1992) well argues about that domain. According to him, transfer of possession is not continuous, since change of possession does not have any intermediate stages. On the basis of his insight, we can say that it only consists of these three parts: the initial state of the agent having an object, the result state in which the object is in the possession of the recipient, and the instantaneous change from the first state to the second. This can be shown schematically, as in (17):

- (17) Schema of transfer of ownership:

In the possessional domain,



- a. prior to t_i , $P(\text{Ag}, \text{Pt})$
- b. after t_i , $P(\text{Rec}, \text{Pt})$
- c. at t_i , Ag causes the transition from (a) to (b) instantaneously.

In (17) P stands for a possessive relation between two arguments in the possessional domain.³ Ag , Pt and Rec are abbreviated from *Agent*, *Patient* and *Recipient*, respectively. $P(\text{Ag}, \text{Pt})$ in (17a) is read as Agent 'has' Patient in the possessional domain. The small letter t_i stands for the time when transfer of ownership occurs instantaneously.

3.4.1. Give as a Verb of Change of Possession

The verb *give* inherently refers to change of possession. Thus once a person gives an object to another, the object's ownership 'successfully' moves to the recipient.

³ I will use the term "possessive relation" in the broadest sense.

This is due to the nature of the possessional domain. When ownership is transferred from a person to another, it cannot occupy any intermediate positions between them. Thus "one cannot give an object toward, much less partway toward, [anyone else]" (Jackendoff 1992:64). But notice that change of ownership does not imply that an object has to undergo change of location. Hence we can say sentence (18):

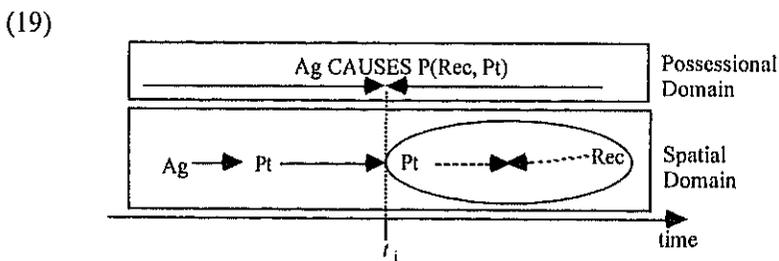
- (18) John gave Harry his bicycle for the day: but the bicycle just sat there the whole day. I guess Harry didn't need it. (Oehrle 1976:24)

In (18) Harry got the ownership of the bike for a particular day, but he didn't enjoy it.

3.4.2. *Throw as a Verb of Change of Possession Accompanied by Change of Location*

Now compare *give* with the verbs in (14). They denote transfer of ownership accompanied by change of location. The point to notice is that ownership transfer with location change does not always mean that the agent has put an object right into the hands of the recipient. Crucial for the transfer of the ownership of the object in this case is the point in the process of changing its location where the agent views its ownership as being successfully transferred. Take the verb *throw* for example to consider this point.

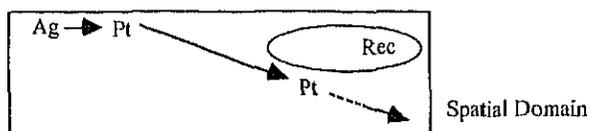
The sentence *I threw you the ball* in the prototypical sense can refer to the situation where the ball flew straight to the receiver. It is also consistent with the case where the ball was thrown to an estimated point where the collaborative receiver was expected to field it, even if the ball did not go straight toward the receiver. This can be demonstrated by the schematic diagram in (19):



The bottom rectangle represents the spatial domain. The agent had set the patient in motion by imparting a force. The region where the receiver could field the ball is represented by the ellipse. At the moment when the ball had just come into the receiver's region, the thrower regarded himself as administering his responsibility. This corresponds to the state at t_i in (19). At this point the ownership was transferred to the receiver in the possessional domain, which is represented in the upper rectangle. In the spatial domain, however, the ball continued to travel till it fell into the receiver's hands. Unfortunately, in (15) the ball was intercepted, but after the ownership was transferred.

Let us compare this with (16). The trajectory that the ball followed in (16) is diagrammed in (20):

(20)



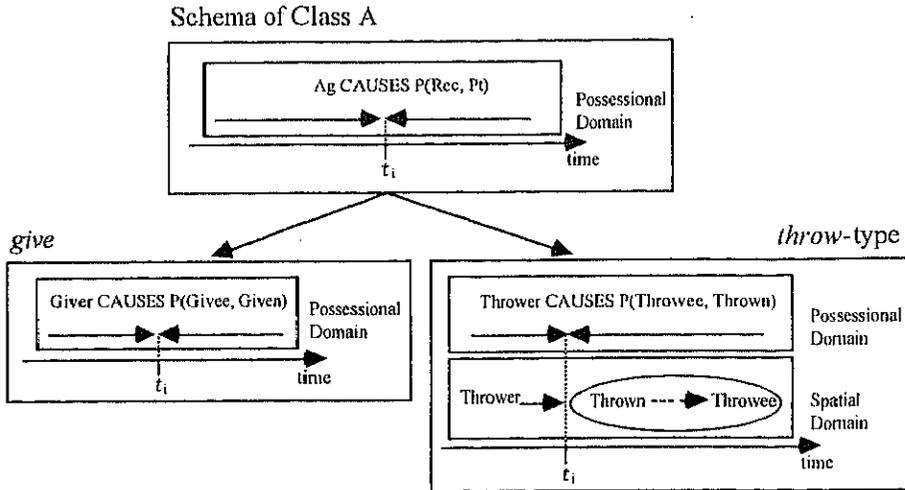
No one judges from the ball's trajectory that the receiver could handle it. The ownership thus failed to be transferred, and the scene cannot be described by the ditransitive construction.

Now we are in a position to say what successful transfer of possession is. Since change of possession is discontinuous (by the nature of the possessional domain), transfer of possession is always successful. The same holds true for the case where change of possession is accompanied by change of location. What matters in this case is that something may happen in the spatial domain after ownership is transferred. This serves to mislead some linguists into believing that successful transfer is not a common semantic feature of the verbs in class A.

3.4.3. *Organization of the Ditransitive Prototypical Senses*

In previous studies the notion of successful transfer is often seen as being peculiar to the construction, but, as we have seen in sections 3.1 and 3.4, it is closely connected with the verbs' lexical properties. In addition, it is because the event type encoded by verbs of creation/obtaining matches that of the ditransitive construction that they are able to be incorporated with the ditransitive construction, as seen in section 3.3. I have also suggested that the part peculiar to each of the other constructional senses stems from the verbs associated with the class. It follows from these that the ditransitive construction subclasses bear a schema-instance relation with the related verbs. This approach to the ditransitive construction is theoretically motivated by the dynamic usage-based model of language proposed by Langacker (2000). Granted the bottom-up nature of language, each ditransitive subclass is assumed to be a conventionalized linguistic unit with high specificity and thus it expresses regularities of only limited scope. Then, the relation of class A to its corresponding verb classes can be represented as in (21):

(21)



The semantic structure in the top rectangle is schematic for the semantic structures of the verb *give* and *throw-type* verbs. This relationship fits easily into Goldberg's framework. In her framework participant roles, which are part of a verb's frame-semantic information, are considered to be instances of the more general argument roles, which are associated with the construction. The participant roles GIVER, GIVEE, and GIVEN of *give* instantiate the argument roles Ag, Rec, and Pt. The same applies to the association between the participant roles of *throw* and the argument roles.

4 The Network Structure of the Ditransitive Construction

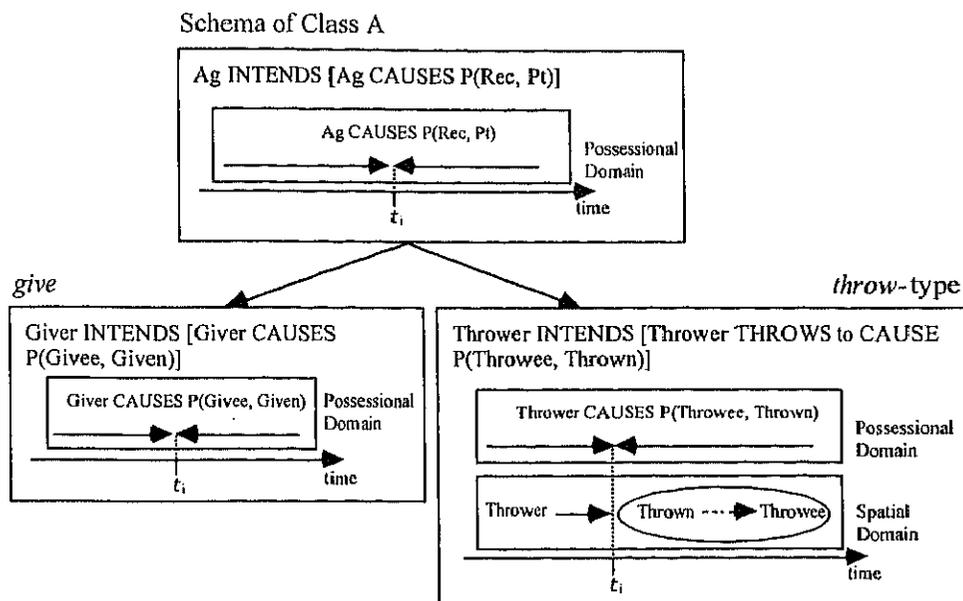
Since it has become clear that unique semantic properties of the ditransitive subclasses Goldberg describes have a schema-instance relation to verb semantics, the next thing to consider is the possibility of a more schematic sense abstracting away from those subclass senses. If possible, how is it characterized?

4.1. Prior Intention as a Common Semantic Feature among the Ditransitive Subclasses

4.1.1. Class A

In Goldberg's framework the specification of the agent's volition is included only in the sense of class F, as we can see from the description that begins with the phrase "agent intends to." As we have already seen in section 3.2, however, agent's intentionality is not a unique property of class F. We have argued that the same feature is also embodied in the semantics of class A. Accordingly, the network structure in (21) should include a specification concerning intentionality. The resulting structure is provided in (22):

(22)



I assume that THROW to CAUSE in the intentional domain of the *throw-type* is an instance of CAUSE of the higher-level schema. As the abstraction proceeds, the specific way of causing the intended possessive relation, that is, throwing, is discarded.

4.1.2. Entailment of Promise

The agent's prior intentionality also holds for the other classes though it cannot be discussed fully here for lack of space. Let us just take class B as a case in point to enforce this idea. To start with, it is useful to look closely at the analysis of the speech act verb *promise* by Nakau (1994:88-91). In discussing what relation the notion of illocutionary force, the central idea in speech act theory, bears to his modality theory, he argues that an act of promise entails an intention on the part of the person who makes a promise. He shows that the verbs *promise* and *intend* are linguistically parallel.

- (23) a. I promised your father that you should never know he had been in prison.
 b. We intend that the bill shall become law by the end of the year.

According to Nakau, the sentence in (23a) seemingly deviates from the prototypical use in these two ways: (i) the main clause subject of the verb *promise* does not coincide with the embedded subject, and (ii) the auxiliary *will*, showing the subject's intention, does not appear in the subordinate clause. But he notes that it is important to notice that the use of *should* and *shall* indicates the speaker's fixed intent. Both examples can hence be paraphrased as follows:

- (24) a. I promised your father that I would never let you know he had been in prison.
 b. We intend that we will let the bill become law by the end of the year.

(Nakau 1994:89)

Drawing on the insights in Nakau (1994), we will reach an understanding of the ditransitive *promise*. Inheriting the semantic characteristic of the speech act verb *promise*, the ditransitive counterpart implies an agent's firm intention of giving an object to a person. Accordingly, the description of class B given in Goldberg (1995) is insufficient for grasping this implication, since it centers on the condition that should be satisfied for transfer of possession. The point here is that its meaning should be characterized in terms of agent's intention, not with respect to whether or not patient is physically with recipient at the time referred to by *promise*.

4.1.3. *The Other Classes*

Similarly, the verbs *deny* and *refuse* in the ditransitive frame, i.e., verbs of class C, are closely associated with agent's intention. The sort of intention encoded by these verbs is negative intention, and agent has an intention of keeping receiver from enjoying the right to exploit patient.

Classes D and E are also involved in agent's intention. However, they flesh out the schematic structure of CAUSE-RECEIVE in different ways. The verb *bequeath*, for instance, specifies the time when transfer of possession occurs. The verb *allow* invokes letting, a type of causation (cf. Talmy 2000).

4.2. *A Higher-Order Schema of the Ditransitive Construction*

We are now ready to consider what a common semantic property shared by the ditransitive subclasses is. A higher-level schema of the ditransitive construction includes the semantic information in (25):

(25) In the intentional domain: Ag INTENDS [Ag CAUSES P(Rec, Pt)]

Let us call the dimension against which it is characterized "the intentional domain." The information in (25) can explain the intuition that the ditransitive class A is the prototype, since the semantic structure of class A and the higher-level schema in (25) overlap considerably. The only difference is whether the specification of the possessional domain is involved or not. But this difference is small in the sense that the argument of INTEND, that is, Ag CAUSES P(Rec, Pt) in the square brackets in (25), conveys substantially the same content as the semantic structure in the possessional domain.

In the case of the ditransitive with verbs of creation and obtaining, that is, class F, the semantic structure can be represented as (26):

(26) Ag INTENDS [Ag CREATES/OBTAINS Pt to CAUSE P(Rec, Pt)]

(Intentional Domain)

Ag CREATES/OBTAINS Pt (Spatial Domain)

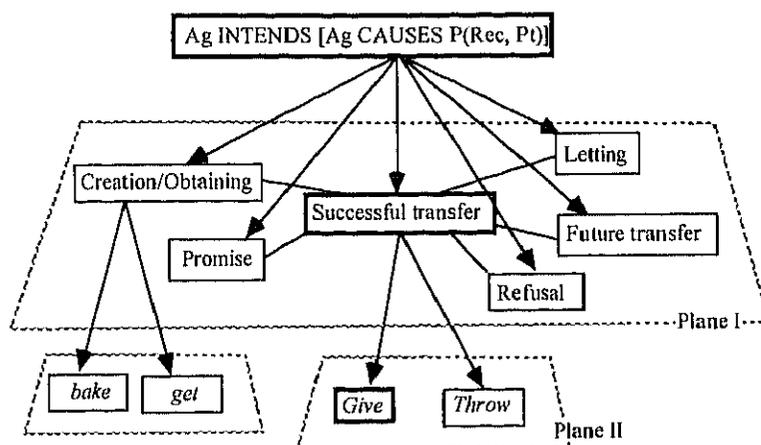
As with the relation of the *throw*-type and its higher-level schema, CREATES/OBTAINS Pt to CAUSE is a kind of CAUSE. It is interesting to point out here that the relation of the spatial domain to the intentional domain is similar to precondition in Goldberg's sense.

The other subclasses' semantic structures in the intentional domain can be represented as in (27):

- (27) a. B: *Promise*-type: Ag PROMISES [Ag CAUSES P(Rec, Pt)]
 b. C: *Deny*-type: Ag INTENDS [Ag NOT CAUSES P(Rec, Pt)]⁴
 c. D: *Bequeath*-type: Ag INTENDS [Ag CAUSES P(Rec, Pt) in the future]
 d. E: *Allow*-type: Ag INTENDS [Ag LETS P(Rec, Pt)]

The diagram in (28) is a rough sketch of (a portion of) the network of the ditransitive constructions with details left out:

(28)



Plane I is the focused area of research in Goldberg's monograph. The constructional sense at a higher level of specificity, i.e., Ag INTENDS [Ag CAUSES P(Rec, Pt)], is the sense abstracting away from the subclasses on plane I. The lexical entries fitting the ditransitive pattern, represented on plane II, are instances of each class on the above plane, as we have discussed. This picture is theoretically motivated by the dynamic used-based model of language.

⁴ The ditransitive verbs *refuse* and *deny* are likely to take as their direct objects abstract nouns rather than concrete nouns. On my preliminary investigation, using *English WordBank*, included on *Collins COBUILD English Dictionary on CD-ROM*, I found out that *refuse* shows a tendency to occur with nouns such as *right, chance, goal, access*; *deny* is often used with *entry, leave, license, permission* and so on. If this is right, class C should be characterized in a different way, probably in a different domain. I leave this to future research.

5. Conclusion

In this paper we have been concerned with these two points: (i) the ditransitive construction subclasses and the verbs associated with each of them are in a schema-instance relation; (ii) a higher-order schema, represented as Ag INTENDS [Ag CAUSES P(Rec, Pt)], can be extracted from the subclasses. I have analyzed the network structure of ditransitive construction in the 'vertical' way, following the dynamic usage-based model of language.

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