THEMATIC ROLES: A SEMANTIC FEATURE ANALYSIS

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0. Introduction

Theta theory is a means of showing the semantic relationship between a predicate and the participants minimally involved in the activity or state it expresses, referred to as arguments (Haegeman, 1991). By assigning a *thematic role* to an argument, the said relationship can be expressed. The inventory of thematic roles has not been universally agreed upon; I will base this paper on the roles identified in Frawley's *Linguistic Semantics* (1992).

Frawley divides thematic roles into two groups — participant and nonparticipant roles. Participant roles are required by the predicate and usually appear as a subject or object of the verb; nonparticipants are usually found as adjuncts to the verb. Within the category of participant roles are two subgroups: logical recipients and logical participants. Logical participants are the arguments which carry out the action, whereas logical recipients undergo the action. Several variations have been proposed as to what roles are in these subgroups and what their defining characteristics are. Frawley has proposed three argument roles which are grouped under the category of *logical actors:* the roles of agent, author and instrument. Based on his descriptions of the category of logical actors, and the roles themselves, I propose to make two points in this paper. First, I will show that based on syntactic evidence there exists a fourth role in this category, which I will name *causer*. Secondly, in my opinion there is not a clear theoretical discussion of the relationship between the roles in the category of logical actors. I will propose that, through use of a binary feature system, we can show more clearly the relationship the roles have to each other with respect to their semantic and syntactic function.

This paper is organized as follows: in section 1., I will outline the subgroup of active participants as defined in Frawley (1992). In section 2., I will introduce and justify the existence of the role of *causer*, which I feel is missing from the sub-group of logical participants. In section 3., I will propose a binary feature system to classify and organize these roles. In section 4., I will give syntactic evidence for the grouping of the roles as such.

1. Participant Roles in Frawley

Logical Actors, as stated in the introduction, are a subgroup of participant roles — they are the "doers" of the predication. Frawley recognizes three roles in this category. They are as follows:

1. Agent - deliberate and intentional actor; *volitionally carries out action and is the primary "doer"*
2. Author -also the primary 'doer', however while an agent carries out an action for internal reasons, the author carries them out for external reasons. *No volition is involved hence an author is not usually animate.*
3. Instrument- the means by which the predicate is carried out. It must be acted upon by someone or something else because it *cannot act independently.*

2. The Role of *Causer*

As stated in section 1, instruments cannot carry out an act independently, but must be *acted upon*. The 'actor' may be overtly realized in the sentence or may be simply implied, as we see in examples (1a) and (1b) below:

      1a. John brewed a fresh pot of coffee with his new coffeemaker. (Overt actor)
        b. The coffeemaker brewed a great pot of coffee.

In (1a) both the 'actor' and the instrument are overtly stated. In (1b), however, the 'actor' is not overt. The sentence is still perfectly grammatical even though the reader knows that there must be an actor; the coffeemaker cannot make coffee on its own. Now we can look at (1c):

      1c. John brewed some more coffee.

Here, it is the actor who is overt in the sentence and the instrument is only implied. However, once again the reader is aware of the instrument's participation in the predication. We know that John does not have a special body part from which he can brew coffee. The instrument, *the coffeemaker*, is a necessary component semantically (although not syntactically) and is implied even when not overtly stated.

It has been stated that the actor who acts upon the instrument in order to complete the predication is an agent. This role does involve volition, as does the actor who acts upon the instrument. We remember that the agent is the "primary involved doer" of the action. In a sentence such as *John put the coffee in the filter* or *John turned on the coffee machine,* we can agree that John is the agent. However, in a sentence such as (1a) or (1c) it is clear that both *John* and *the coffeepot* are required to carry out the predication. Furthermore, in (1b) it is evident that *John* is not even a required overt element in an active sentence. If we can freely omit either *John* or *the coffeemaker* and still have a grammatical sentence, then we cannot say that one or the other is the *primary, involved doer* of the action. It seems they both play an important part in the action of brewing the coffee.

As well, the main difference between an author and an instrument is that an instrument requires an outside force to act upon it in order to complete the predication. In (1) above, *John* requires an outside force to act upon in order to make the coffee. It seems this would distinguish *John* from an agent, which acts independently as the primary, involved doer.

Based on the above reasoning I would like to propose the existence of a fourth role in the 'logical actors' group: that of causer. As stated in Frawley, (1992), a causative event is, "abstractly an if/then relationship between two events". In other words, a causative event is a relation between two events: A caused B to do X. The sentences in (1) depict this relationship. John acts upon the coffeemaker by turning it on, filling it with water, etc. and the coffeemaker subsequently acts by brewing the coffee. In other words, John is *causing* the coffeemaker to brew the coffee; he is the *causer* of this event.

3. A Binary Feature System

In section two, the role of causer was proposed to define the role of an actor who is acting upon an instrument in order to complete the predication, or causing the instrument to complete the predication. So, the causer is a volitional actor who must act upon an instrument — who is dependent upon that instrument for successful completion of the predication. In turn, the instrument is a non-volitional role which must be acted upon for successful completion of the predication. The roles of agent and author are independent actors; they do not require 'assistance' from any other actor to act. I propose that these four roles can be classified by the use of binary features; the two features necessary are [+/- volitional] and [+/- independent]. Thus, the four roles would be classified as follows:

1. Agent: [+ vol], [+ind]
2. Causer: [+ vol], [-ind]
3. Author: [-vol], [+ind]
4. Instrument: [-vol], [-ind]

The feature [+vol] refers to the volition of the argument; as we see here, agents and causers are both volitional. The feature [+ind] refers to the ability of the actor in question to act independently without having to act upon something or be acted upon by someone (something). The roles of agent and author are both [+ind].

4. Evidence

In order to justify my classification of these roles it is necessary to show syntactic/semantic proof that roles which are grouped together as a result of these features somehow 'belong' together. We will first look at the feature [+vol]. This feature groups together the roles of causer and agent. My hypothesis can be justified through testing sentences with the prepositional phrase *on purpose*, as shown below:

2a. Bill hit Tom *on purpose*.
b. Diane photographed Eileen *on purpose*.
c. *The wave hit Tom *on purpose*.
d. *The camera photographed Eileen *on purpose*.

As we can see in (2a) and (2b), when we add the prepositional phrase *on purpose* to a sentence with either an agent or a causer as its subject, the sentence is perfectly grammatical. However, when we try to add *on purpose* to a sentence with a [-vol] subject, instrument or author, the sentence is at best silly (to most people!) and meaningless. Only subjects which are [+vol] can do something *on purpose*, which means only agents and causers. This test could of course be done with a number of prepositional phrases and adverbs which imply volition: *for a good reason*, *intentionally*, etc.

In order to justify the feature [+ind], I will not simply be showing what can be done with the roles it specifies, that of agent and author, but more importantly I will be showing what cannot be done with roles which are [-ind], causer and instrument. As previously explained, a causer requires an

instrument to act upon in order to complete the predication, although the instrument need not be overt, as was shown in (1c). Similarly, an instrument requires a causer to act upon it in order to complete the predication, and the causer need not be overt, as seen in (1b). Therefore, on the surface we may see the same syntactic structure for a sentence whether the subject is an agent, an author, a causer or an instrument, as shown in (3) below:

    3a. *Mary* hit John.—agent
     b. *Lightning* hit John.—author
     c. *Mary* hit John. (with the ball)—causer
     d. *The ball* hit John.—instrument

As is shown above, to simply omit the instrument in (3c) and the causer in (3d) does not render the sentence ungrammatical. However, the result is different when these roles are not simply omitted, but overtly rejected. In showing this we must use a predicate which cannot simply take an agent or author (as with *hit* above) but requires an instrument/causer, such as the verb *brew* as seen in (1). As shown in (4) below, we cannot reject the causer or the instrument in a sentence using this verb:

    4a. John brewed the coffee.
     b. ? John put the coffeemaker back in the cupboard, then proceeded to brew the coffee.
     c. ? John walked into the empty room and brewed some coffee.
     d. The coffeemaker brewed a pot of coffee.
     e. ? The coffeemaker on the third shelf in the kitchen cupboard began to brew a pot of coffee.
     f. ? As John drove home with his new coffeemaker in the trunk, he prayed it wouldn't start brewing.

So as we see in (4), although we are free to omit either an instrument or a causer in a sentence where they are both required thematically by the predicate, we cannot reject the presence of one or the other — in other words, we cannot overtly imply that the causer could or did effectively complete the predication without the instrument, or that the causer could do so or did so without the instrument.

When the subject of the sentence is [+ind], we cannot admit the assistance of another argument in the completion of the predication, as seen in (5) below:

    5a. John hit Jim.
     b. John hit Jim with a book.
     c. Lightning hit Jim.
     d. ?John hit Jim with lightning.

In (5b) when we show assistance to *John* by *a book* we now have a causer and an instrument rather than an agent. In (5d) when we show assistance to the author *lightning* by *John*, we simply have an meaningless utterance. Or, if (5d) were possible, as in a superhero cartoon perhaps, we would again no longer have an author, but a causer and an instrument. So as seen here, only arguments which are [-ind] are able to be assisted by another argument in completion of the predication and

cannot be overtly denied the said assistance. (The exception here is when assistance is given by an argument of the same role such as *John and Mary hit Jim* — however this does not form a causative structure).

A possible problem arises when we look at a causative sentence involving two volitional arguments such as in (6) below:

6. The sheriff ran Jim out of town.

Here the structure is causative: A caused B to do X. However, although the sheriff may be the causer, it is apparent that Jim is volitional and therefore is not an instrument, but an agent. Now if we look at (7):

7. A sudden storm made Timmy run home.

Here once again the structure is causative, however a storm is not volitional and hence is not a causer but an author. Somehow it must be accounted for that in causative sentences such as these, a causer or instrument may be replaced by an agent or an author, and possibly other roles.

Causatives like the ones shown in (6) and (7) are in fact different than the ones discussed earlier on. In part 2 of this paper when I discussed causation I pointed out that in sentences like *John brewed coffee with the coffeemaker* John and the coffeemaker are interchangeable as subject of the sentence, as seen in (1b) and (1c). However as shown below in (8), we cannot do so with sentences like those in (6) and (7):

8a. The sheriff ran Jim out of town.
 b. Jim ran out of town.
 c. ? The sheriff ran out of town. (different meaning)
 d. A sudden storm made Timmy run home.
 e. Timmy ran home.
 f. * A sudden storm ran home.

As seen in (8), the two arguments in these sentences are not interchangeable as subjects. As in each case, one can be omitted but the other cannot. It seems that one argument is really more directly responsible for the action than the other since it cannot be omitted. Furthermore, in sentences like (1b) and (1c) where either the causer or the instrument is not overt it is taken for granted to be involved in completion of the predication. Yet although sentences like (8b) and (8e) are consistent with the original sentences in (8a) and (8d), in the former the omitted 'causer' is not taken for granted to be partially responsible for completion of the predication. In fact, no one would even be able to guess (given no context) that there was any 'causer' making Jim run out of town or Timmy run home.

Hence I distinguish between the causer/instrument relationship as shown in sentences like (1), where there is a syntactically equal relationship between the causer and instrument, from other causative structures where arguments such as agent and author appear as logical actors. In keeping with the features I have proposed in order to classify causer and instrument, I refer to the type of

causative structures seen in (1). Here, the direct participants can only be a causer or an instrument, as a dependent causative, and the structures shown in (8) as independent causatives. Only in the former causative structures are the participant roles required to be filled by a causer and an instrument. In an independent causative structure other arguments may freely occur.

5. Conclusion

In light of what has been shown in this paper, I feel that the use of a feature system is an effective way to show the place each of the logical actors holds within that category and how they are alike or different. I have shown that there is syntactic and semantic evidence for grouping the roles with the features that I proposed, as well as the existence of the role of *causer* which has not been accounted for previously. Perhaps the use of a feature system could be as effective in classifying roles within the category of logical recipients and even non-participants. If so, all argument roles could be much more clearly defined and organized.

References

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