

Contact Verb Constructions in English: A Cognitive Grammatical Approach*

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1. Introduction

It is widely observed, as in Fillmore(1970), Quirk et.al.(1985), Levin(1993), and others, that verbs of contact in English appear in the constructions like those in (1). We will call them Body-Part Possessor Ascension Alternation (henceforth, BPA), following Levin(1993).

- (1) a. Paula hit Deirdle on the back.
b. Paula hit Deirdle's back.

Levin(1993)

This alternation involves inalienable possession relationship. Koine(1958) and Goto(1978, 1993) observe the slight difference in meaning in this alternation. According to Goto(1993), (1a) type is used when we focus on the body part possessor (henceforth, possessor) – Deirdle, in this case, in direct object position. (1b) type is used, on the other hand, when we focus on the body part (henceforth, part) – in this case, back, in direct object position.

Within the framework of cognitive grammar, it is assumed that language is an integral part of human cognition (Langacker 1987: 12). This stance also leads to the assumption, as Goldberg(1996) summarizes, that semantics is based not on objective truth conditions, but on speaker's construals of situations. Hence, following these assumptions, we might postulate that what motivates the difference in meaning cited above could be ascribed to the human cognition.

In this paper, I will adopt the framework of cognitive grammar, and point out first that Langacker(1993)'s reference point model (henceforth, RP) works well in explaining the difference of the conceptualizer's attention between (1a) and (1b).

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Second, we will see how Langacker(1990)'s "action chain" differentiates the profiles of energy¹ in the event concerned. Finally, we will indicate that both RP and the "action chain" enable us to explain the grammaticality in (1) and the ungrammaticality in (2).

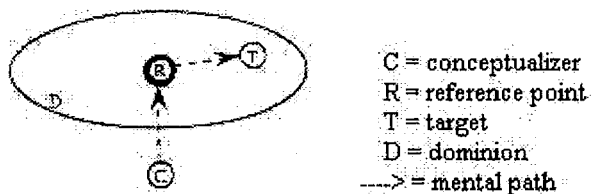
- (2) a. *I broke/bent/shattered him on the leg.
b. I broke/bent/shattered his leg.

Fillmore(1970)

2. An Analysis of BPA from the Perspective of RP

In this section, I will show that the conceptualizer's attention in BPA could be explained by Langacker(1993)'s RP. Langacker(1993) asserts that any properties of possessive expressions could be accounted for by RP. The model is illustrated as in (3).

(3)



Langacker(1993)

The conceptualizer uses the reference point when he/she establishes mental contact with the target. It is this relationship that Langacker(1993) calls RP, involving the conceptualizer, reference point, and target. Let us consider the expression *Sally's dog*, for example. In this case, *Sally* will be the reference point, and then *dog* the target.

Based on this model, let us examine BPA. Consider (4).

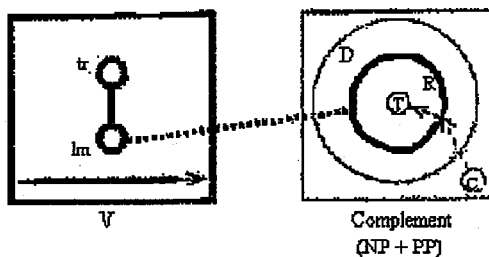
- (4) a. The horse kicked Penny in the shin.
b. The horse kicked Penny's shin.

Levin(1993)

¹ A similar model called "causal chain" is proposed in Croft(1990), which shares Langacker(1990)'s "action chain" with almost the same view as to event construal. We will take a closer look at these two models later in section three.

First, we consider (4a). Let us look at the (5) below.

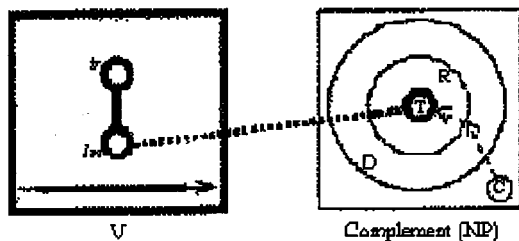
(5)



On the RP level, the possessor *Penny* in the direct object position will be the reference point, and then the part *shin* in the prepositional object the target. On the level of the sentence involving transitive verb, it is the subject that will be the trajector, and the direct object will be the landmark. As observed in Goto(1993), the conceptualizer focuses on the possessor in (4a) type, and so it is the possessor *Penny* that will be profiled. This relationship is illustrated in (5) above.

Next, we will examine (4b). Consider (6) below.

(6)



In this example, the possessor *Penny* and the part *shin* are linked with what Langacker(1993) calls "possessive morpheme", that is, 's. As mentioned earlier, in the sentence involving transitive verb, the direct object will be the landmark. So, in this case, the landmark will be the NP *Penny's shin*. As Goto(1993) mentions, the conceptualizer focuses on the part in (4b) type, and so it is the part *shin* that will be profiled. Figure (6) designates this relationship.

So far, we have examined BPA from the viewpoint of RP, and showed that the difference in meaning reflects our human cognition. However, if we focus solely on the conceptualizer's attention motivated by RP, then we should expect the

examples in (7) to be grammatical.

- (7) a. *I broke/bent/shattered him on the leg.
b. I broke/bent/shattered his leg.

Fillmore(1970)(=2))

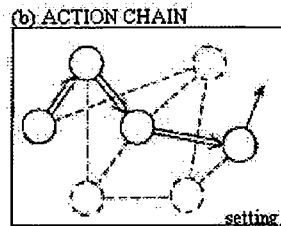
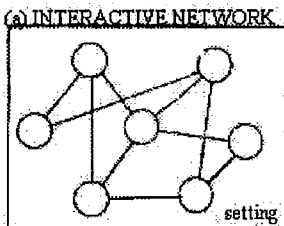
In order to exclude these ungrammatical sentences as in (7a), we must explore other conditions. Sentences in (7) are different from those in (1) and (4) in that they include verbs of change such as *break*, *bend* and *shatter*. In the next section, we will introduce another cognitive model called "action chain", on the basis of Langacker(1990), and then, we will suggest that the (un)grammaticality could be reduced to our cognitive ability: RP and the "action chain".

3. The Action Chain and the Selection of Verb

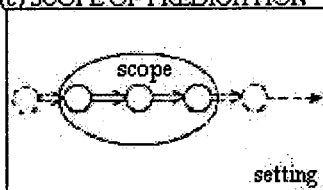
It is suggested that linguistic coding is highly selective (Langacker(1990: 213)). To put it more concretely, it is impossible for a speaker to exhaust all the aspects of the conceived event in a finite clause. Therefore, the speaker must be confronted with the determination of what kinds of entities should be participants in the event.

To explain the selective options in question, Langacker(1990) introduces a cognitive model, "billiard-ball model", assuming that the participants generally interact in innumerable ways and are forming an "interactive network" as in (8a). Especially, Langacker focuses on asymmetrical interactions of energy transmitted from one participant to another. He names such a configuration "action chain" as illustrated in (8b). A finite clause corresponds to certain limited facets of the action chain, a scope, as sketched in (8c). Finally we will have a finite clause by profiling certain participants or segments of action chain within a chosen scope. This is shown in (8d).

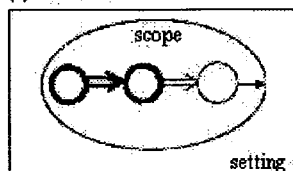
(8)



(c) SCOPE OF PREDICATION



(d) PROFILING



Langacker(1990)

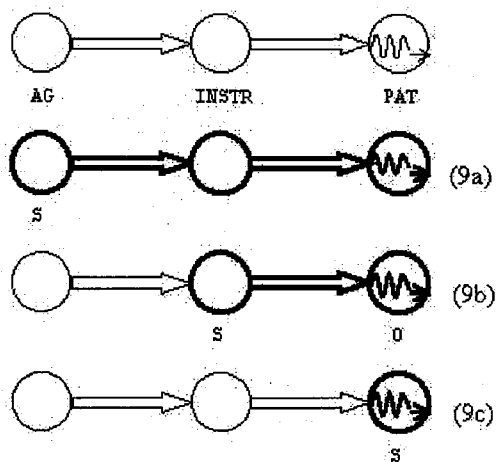
It should be noted here that in a prototypical transitive clause, the profiled process constitutes an action chain (Langacker(1990: 215)). Let us examine the following, for example.

- (9) a. Floyd broke the glass (with the hammer).
 b. The hammer (easily) broke the glass.
 c. The glass easily broke.

Ibid.

Langacker(1990) explains that *break* in (9a) profiles the entire action chain, that (9b) designates the interaction between the instrument *the hammer* and the patient *the glass* and that in (9c), only the patient's change of state is selected as scope. Each of these is schematized in (10), respectively.

(10)



AG: Agent INSTR: Instrument PAT: Patient

S: Subject O: Object

Ibid.: 217

So far I have reviewed Langacker(1990)'s action chain. As mentioned earlier, Croft(1990) proposes "causal chain", involving a causal structure such as CAUSE-BECOME-STATE. While Langacker and Croft share almost the same view of event construal, Langacker has no causal structure in his model, but, in contrast, Croft's does not have the energy transmission relationship between the participants in his model. Taking this into consideration, as is suggested in Kawakami ed.(1996), we might integrate the advantages of both models in order to have a more effective framework in explaining the relevant linguistic phenomena.

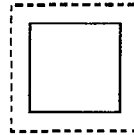
Following this, in this paper, we will adopt another model, proposed by Nakamura(1993), which is a refinement combining Langacker(1990)'s action chain and Croft(1990)'s causal chain. Let us take a look at this in detail.

It is assumed in Nakamura(1993) that we construe the events in our world basically as three different ones: stative, inchoative, and causative². Each of the image schematic representations is illustrated in the following figures. The dashed

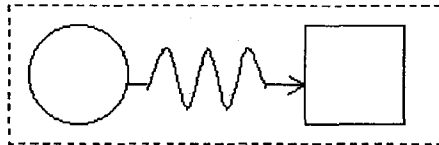
² These terms parallel the ones used in such theories as event structure and conceptual

square in each figure represents the cognitive scope, which corresponds to Langacker(1990)'s action chain, scope selection and profiling of the participants in the sense of (8) above.

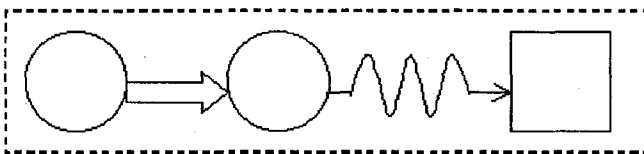
(11) Stative



(12) Inchoative



(13) Causative



Nakamura(1993)

According to Nakamura(1993), "stative" represents the locative relationship between the two entities, or the atemporal condition. This is schematized as a solid square in (11). "Inchoative" represents the change of state from time t_1 to time t_2 . The circle in (12) depicts the initial state of the entity, the squiggly arrow indicates the changing process of the entity, and the square designates the state after the change. "Causative" is the event in which one entity turns the other entity from one condition into another. Thus, it could be suggested that we have a causative schema on the basis of the inchoative schema. That is, we have a causative schema

by adding to an inchoative schema the following: a causer which is indicated by the circle at the left side, and energy transmission from a causer to a causee by the double arrow. Figure (13) designates this relationship.

Now, let us consider the following examples. Nakamura(1993) compares *kill* with *kick*.

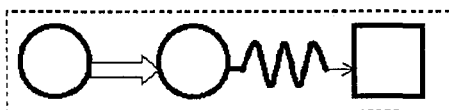
- (14) a. *John killed the dog, but it didn't die.
 b. John kicked the dog, but it didn't die.
 c. John killed the dog by kicking it.

Ibid.

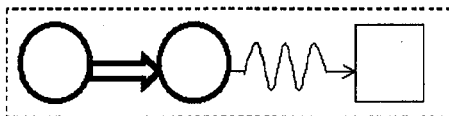
Semantically, "X kill Y" has the same properties "X causes Y to die" has. Specifically, "X kill Y" entails "Y die." Then there would arise a contradiction if we cancel the resulting state "Y die," in (14a). On the other hand, "X kick Y" does not specify the same resulting state as "X kill Y," and then we will have a grammatical sentence (14b). Moreover, (14c) indicates that causative verbs such as *kill*, *open*, *break* do not specify the means which lead their direct object to the resulting state.

Based on this consideration, he summarizes that "X kill Y" construction designates the Y's changing process and resulting state, but it does not describe how the energy is transmitted from X to Y. In contrast, "X kick Y" construction specifies the way of energy transmission from X to Y, but it does not specify changing process and resulting state. These characteristics are schematized as in (15) and (16), respectively. In each figure, the profiled portion is *figure* and represented in a bold line, and the thin line represents *ground*.

- (15) X kill/open/break Y



(16) X kick/hit/touch Y



Ibid.

Clearly, as Nakamura(1993) mentions, these two figures contrast each other in the portion of profile.

From now, I will again examine BPA in terms of this assumption. I have already analyzed BPA from the viewpoint of RP in section two, but left open those examples as in (17) and (18).

(17) a. *Tony broke herself on the arm.

b. Tony broke her arm.

(18) a. *Tony bent Mary in the arm.

b. Tony bent Mary's arm.

(17) and (18) are from Levin(1993)

I assume that the ungrammaticality in (17a) and (18a) could be reduced to the following argumentation.

As Nakamura(1993) points out, verbs such as *bend*, *break* profiles the changing process and the resulting state, which is reflected in the bold lines in (15). This leads us to suggest that the state change of the possessor, who must function as a reference point, has already been specified. Langacker(1993: 9) argues that "a part -- as such -- can only be conceived in relation to the whole, which functions as a natural reference point for its conception and characterization." Moreover, he also notes that "the reference point has a certain cognitive salience, either intrinsic or contextually determined" (Langacker(1993: 6)). Hence, we cannot conceive an entity which has "already been broken" but remains recognizable as a whole, because of the context. Consequently, the conceptualizer has already lost an entity to be selected as a reference point, and so cannot form a mental contact with a target -- in this case, part -- ; thus the a-type constructions are excluded as ungrammatical.

Then, how do we give an account for the constructions as in (19) from this perspective?

- (19) a. Paula hit the naughty child on the back.
 b. Paula hit the naughty child's back.

Levin(1993)

This example includes verbs of contact, *hit*. As we have seen in (16), this type of verbs designate merely the energy transmission, not the changing process or the resulting condition. Hence, contrary to the "break" case above, the possessor in direct object position of a-type construction can function as a reference point. In contrast, it is the target *part*, not the reference point *possessor*, that will be the goal of energy transmission in the b-type construction. For this reason, both (19a) and (19b) are grammatical.

4. Conclusion

In this paper I have showed that the difference in meaning and grammaticality of body-part possessor ascension alternation could be reduced to the image-schematic abilities, such as the reference point model and the action chain. I have suggested first that the conceptualizer's attention affects the selection of BPA. Then I have also designated that the meaning of the verb is accounted for by the action chain and that the difference of energy transmission enables us to spell out the ungrammaticality observed in BPA.

As is well known, there are many other constructions which clearly involve inalienable possession relationship. Consider (20) and (21) below.

- (20) a. Sydney increased in weight.
 b. Sydney's weight increased.

van Oosten(1980)

- (21) a. I admire him for his courage.
 b. I admire his courage.

Levin(1993)

In (20a), an inalienable relation is realized as the subject NP *Sydney* and the prepositional object NP *weight*, whereas in (20b) it is the subject NP *Sydney's weight*. By the same token, we find a parallel relation in (21): the relationship found between *him* and *courage*, or within *his courage*. (21) is only different from BPA in that there appears a preposition *for* in this construction, instead of the locative preposition observed in BPA. Although we applied the RP model to BPA and explained its involving inalienable possession relationship, we need further consideration to show

how the relationship observed here should be represented in terms of the image-schematic ability.

We have also examined in this paper contact verbs and change-of-state verbs from the perspective of action chain. However, we are not sure right now whether or not we could treat the intransitive verbs as in (20) and the psychological verbs as in (21) within the same framework. As to the case of the intransitive verbs, it is clear that we cannot classify them merely into two categories: stative or inchoative. On the other hand, the psychological verbs do not specify any physical process, suggesting that there might be a problem raised about whether or not to explore the relevant cognitive domain.

I will leave these issues for future research.

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