

Subject selection in psychological events

— experiencer subject vs. stimulus subject —*

Keiko Shimizu

1. Introduction

The category of English verbs called “psychological verbs” or “mental verbs” describes dynamic or stative psychological events. These events typically take two arguments which are usually characterized as the experiencer and the stimulus in terms of semantic roles, although there is still some room for disagreement over the notion of “semantic roles”. English transitive psychological verbs (henceforth psych verbs) can be classified into two subcategories according to which of the two semantic roles is chosen for the sentential subject as shown in (1) and (2).

- (1) a. I like classical music.
 experiencer stimulus
- b. Classical music pleases me.
 stimulus experiencer
- (2) a. Ed fears the police.
 experiencer stimulus
- b. The police frighten Ed.
 stimulus experiencer

Sentences (1a) and (2a) above both contain a different transitive psych verb with the experiencer as subject while sentences (1b) and (2b) take the stimulus as subject, and thus type (a) is apparently the mirror image of type (b). In this paper type (a) sentences with the

experiencer as subject will be called 'E sentences', the verbs which are used in this type of sentence will be called 'E psych verbs' and the events that E sentences describe will be called 'E psych events'. Similarly type (b) sentences with the stimulus as subject will be called 'S sentences' and the corresponding 'S psych verbs' and the corresponding events will be called 'S psych events', as in (3).

(3)a. Experiencer – E psych verb – Stimulus

→ E sentence (E event)

b. Stimulus – S psych verb – Experiencer

→ S sentence (S event)

The question then arises as to whether there is any good reason for the fact that the category called psych verb is distinguished into two subcategories.

One of the central themes for the study of verb meanings and argument structure is to find a unified and universal principle which regulates assignment of semantic and/or grammatical roles in encoding events, and to search for the motivation for such a principle. A naïve but intuitively valid hypothesis is that the verbs which occur in the same sentence construction have something in common with respect to their semantic contents. In other words, the behavior of a verb is to a considerable extent determined by its meaning.¹⁾

What causes psych verbs to appear in the two different construction types, or what determines subject selection in psychological events? In this connection, Talmy (1985:101) proposes a semantic-cognitive principle, which says;

“...subjecthood, perhaps because of its frequent association with agency, may tend to confer upon any semantic category expressed in it some initiatory or instigative characteristics. Accordingly, with Stimulus as subject, an external object or event (the stimulus) may be felt to act on an Experiencer so as to engender within him/her a particular mental event. Conversely,

with Experiencer as subject, the mental event may be felt to arise autonomously and to direct itself outward toward a selected object."

But is it just because of agency? It seems that E psych verbs and S psych verbs have inherent differences in event structure and that "agenthood" is not enough to determine subject selection.

The number of pair-like psych verbs which express the same kind of mental experience but take an alternative argument as subject, such as *fear - frighten* and *like - please*, is relatively small. In fact, the grammatical device generally used for altering the subject argument is passivization as in (4).

- (4) a. John surprised Mary.
- b. Mary was surprised by/at John.

As for the verb *surprise*, the unmarked active construction describes an S event as in (4a) and in order to put the experiencer *Mary* in the subject slot with no change in its objective content, a marked derived pattern (passive construction) should be the most appropriate as in (4b). So it can be assumed that E psych verbs describe a certain type of mental event while S psych verbs another type of mental events. To put it differently, psychological events can be classified into at least two classes based on the differences in the characteristics of event structure. Then a question arises; is the classification of English psych verbs universal because it is motivated by the extralinguistic characteristics of psychological events? If the answer is yes, then the demarcation of English psych verbs between E verbs and S verbs should also be observable in Japanese psych verbs and in the psych verbs of other languages. The corresponding Japanese sentences for (4) would be something like (5).

- (5) a. Jon ha Mari o odorokaseta.
- b. Mari ha Jon ni odoroiteta.

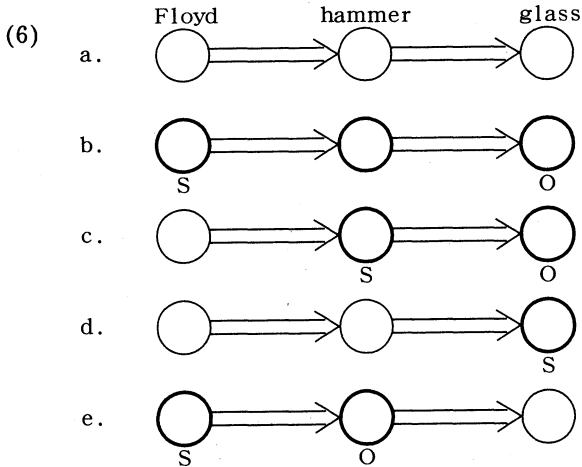
In Japanese, the morphologically unmarked verb *odoroku* (get surprised) in (5b) is an intransitive verb with the experiencer as subject while the English unmarked verb *surprise* is an S verb, which is transitive. Japanese and English differ in terms of which event type is described by an unmarked, non-derived verb form.

The purpose of this paper is to give a semantic analysis of the two classes of psychological verbs, E verbs and S verbs, and to try to explain the way subject selection occurs not in terms of semantic roles but in terms of cognitive viewpoints. It will be claimed that different constructional patterns found in E and S psych sentences are linguistic manifestations of differences in the cognitive configuration of psychological events/relations. The two construction types are not two alternate linguistic ways of expressing one and the same event but symbolically reflect two distinct types of events.

2. Action chain, base and profile

First let us look at the notion of an action chain (Langacker 1990, 1991) as a theoretical tool for analyzing the internal structure of events. According to Langacker (1990), a prototypical transitive clause profiles an action chain involving the transmission of physical energy from subject to object. The action chain can be depicted as in (6a). Taking (6a) as a base for predication, there are multiple possibilities in the choice of subject and object for its profile. These possibilities are depicted as in (6b) - (6e), which linguistically correspond to (7a) - (7d). The objective content of an event depicted by thin lines in (6a) is "base". From this base a conceptualizer chooses a "profile" as an actual linguistic expression. Profiles are drawn by means of heavy lines in (6b) - (6e). One and the same event (base) is allowed to be expressed in different constructions (profiles) because it can be conceived differently in terms of the degree of prominence. Typically linguistic coding is highly selective and a conceptualizer usually has alternative constructional choices depending upon which argument is given the primary salience. It means that semantic roles such as agent, instrument or patient do not determine or predict sub-

ject selection.



- (7) a. Floyd hit/broke the glass with the hammer.
 b. The hammer hit/broke the glass.
 c. The glass (easily) broke.
 d. Floyd hit the hammer against the glass. (Langacker 1990: 220 - 221)

Language has lexical options to accommodate alternative ways of construing what is objectively the same event. Typical examples are verb pairs such as *give-receive* and *sell-buy*. *Give* assigns the primary prominence to the giver, while *receive* assigns it to the receiver as in (8).

- (8) give - receive
 a. Mary gave John the book.
 b. John received the book from Mary.

Now consider psych verb pairs such as *like-please* and *fear-frighten* exemplified in (1) and (2) in section 1. Are these apparently

pair-like psych verbs actually alternative profiles with the same base? The answer seems to be no because an event described by the verb *frighten* does not necessarily imply or include an event described by the verb *fear*. Sentence (9a) typically describes an event in which the devil did something to *me* and as a result made *me* afraid. The verb *frighten* has a causer as its subject. On the other hand, sentence (9b) does not necessarily involve a causer. You may fear the devil all your life without any actual experience of being frightened by the devil (Schlesinger 1995:144).

- (9) a. The devil frightened me.
b. I fear the devil.

If one wants to shift the primary prominence from *the devil* to *me*, i.e. to select an alternative profiling on the same base, the most common way is to put it into passive voice as in (10).

- (10) I was frightened by the devil.

Therefore, it can be concluded that pair-like psych verbs such as *frighten-fear* are not simply a matter of deleting the causer from an S sentence as in causative-inchoative alternation.²⁾ Two sentences involving verbs such as *frighten/fear* do not always have the same semantic content as the active/passive pair. Rather, the two types of psych verb encode two distinct types of psychological events and the demarcation should be based on some kind of difference in semantic/conceptual content. The difference in subject selection between S psych verbs and E psych verbs is better described as reflecting their inherently different characteristics. In the next section the two types of psych event will be analyzed in terms of "transitivity" in order to clarify the semantic characteristics of S and E psych events.

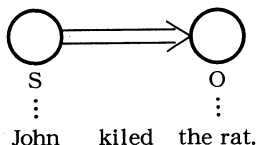
3. Transitivity

S psych sentences and E psych sentences both contain transitive constructions but have essentially distinct internal structures. Specifically, one of the aspects in which they differ is the degree of transitivity.

3.1. Prototype of a transitive event

The prototypical transitive event is diagrammed schematically in (11).

(11)



The prototypical transitive event has the following characteristics.

- (12) a. prototypical transitive event: it involves two participants, namely the agent and the patient. The agent transmits physical energy to the patient. The relation between the two participants is asymmetrical.
- b. prototypical subject: it is the head of the action chain, i.e. the energy source and it typically has an agent role.
- c. prototypical object: it is the tail of the action chain, i.e. the energy sink and it typically has a patient role. The object entity undergoes some change of state.

We can now contrast psych events with the prototypical transitive event to seek motivation for their subject selection.

3.2. S psych events

Selected examples of S psych verbs are shown in (13).

- (13) John pleases /annoys /amuzes /satisfies /horrifies /irritates /
fascinates /worries Mary.

Most psychological events do not involve physical contact or transmission of energy. However, most if not all S events share the characteristics of the prototypical transitive event shown in the previous section, though with some deviation or to much smaller degrees. For example, in the case of *John amused Mary* the subject *John* did something and his action caused the object *Mary* to undergo a change of mental state describable as *being amused*. The subject of an S sentence can be highly agentive in that it functions as the energy source and instigates a mental change in the object entity. The object in turn is conceived as very passive, something which is acted on, and which can therefore be easily seen as the energy sink. So some psychological events are conceived metaphorically as transitive events and expressed in a linguistic frame which reflects this conceptualization.

Consider cases in which originally non-psych verbs are used as psych verbs. The verb *move* in (14) describes a change in the location of an object when *move* is used non-metaphorically as in (14a). But if it is used metaphorically as a mental verb as in (14b), it describes a change in the mental state of the object person caused by the subject entity. The usage/meaning extension of caused-motion verbs to mental verbs is motivated by, or based on, a more general conceptual metaphor like [MENTAL STATE IS LOCATION].

(14) move

<physical>: move something to some other place

- a. I moved the box to the second floor.

<psychological>

- b. I was deeply moved by his speech.

- c. a moving story.

<conceptual metaphor>: MENTAL STATE(CONDITION) IS
LOCATION

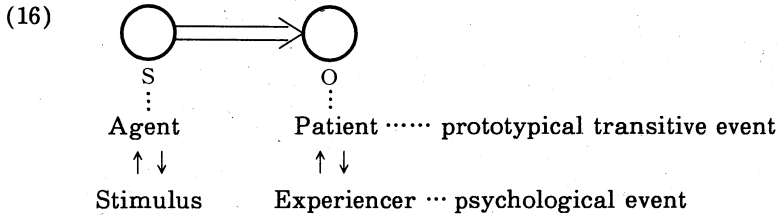
- d. I am in the shade. (non metaphorical)
- e. I am in a pleasant/bad mood. (metaphorical)

Some verbs other than caused-motion verbs can also be used to express psychological events. A highly conventionalized example is *touch* as shown in (15). What is operating here is that some feeling caused by physical sensation, such as touching or tickling, is mapped onto some other kind of feeling in the mental domain. The mapping relation between physical sensation and psychological sensation is either metaphoric or metonymic.³⁾ The subject of physical *touch* is an agentive actor and the object is a passive patient and this unidirectional transitive frame of the physical *touch* is inherited in the psych verb usage of *touch*.

(15) touch

- <physical>: make physical contact with someone/something
 - a. She touched my face.
- <psychological>: make someone feel sadness, sympathy, thanks etc.
 - b. The sad story touched her heart.
 - c. *Romeo and Juliet* is a touching story of young love.
- <conceptual metaphor>: MENTAL SENSATION IS PHYSICAL SENSATION
 - d. She tickled the baby's toes. (non metaphorical/non metonymical)
 - e. The clown's antics really tickled (=amused) the kids. (metaphorical/metonymical)

The examples shown above are sufficient to conclude that S psych events are patterned along the prototypical transitive template of event structure.⁴⁾ Here the semantic roles figuring in psych events, i.e. stimulus and experiencer, correspond to the agent and patient of the prototypical transitive event as shown in (16).



A significant point to be emphasized here is that subject/object selection is not determined by the type of semantic roles but motivated by the more abstract conceptual structure characterized in terms of the action chain or energy flow. Some psych events are coerced into the S event frame because the stimulus is conceptualized as agent, and the experiencer as patient.

3.3. E psych events

3.3.1. Stative E psych events

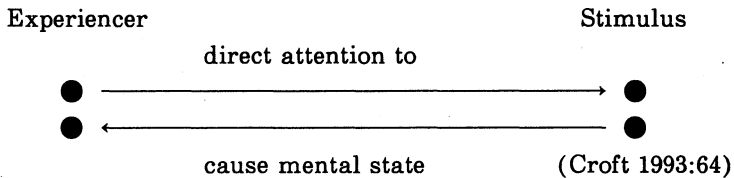
Some examples of stative E psych events are shown in (17).

(17) I like/love/admire/hate/dislike Tom.

As is obvious in (17), E psych events are also framed in the transitive construction. However, there are several respects in which this type of psych event deviates from the semantics of a canonical transitive event. First, it does not involve any transfer of physical energy from subject to object. There is no energy flow between them. Second, the entity described by the object noun does not undergo any change of state whatever. Therefore, the degree of transitivity is much lower in E psych events than in S psych events. Then one naturally asks what it is that cognitively motivates the E psych event to take the transitive construction for its linguistic coding.

Croft (1993) argues that mental states are noncausal relations, having no a priori causal directionality but that the semantics of mental states can reveal why typological divergence is found in the coding patterns of mental states (E psych events) as in (18).

(18) There are two processes involved in possessing a mental state (and changing a mental state): (1) the experiencer must direct his or her attention to the stimulus, and (2) the stimulus (or some property of it) causes the experiencer to be (or enter into) a certain mental state. Thus, a mental state is actually a two-way causal relation, and is better represented as follows:



Directing attention to a stimulus entity as stated in (18-1) above is undoubtedly applicable to perceptual events as in (19),

- (19) a. I recognized the name instantly.
 b. I saw the movie star.
 c. I smelled something burning.

but hardly accommodates the following stative events, in which the subject entities do not actually direct attention to the object entities. The E psych verbs *like*, *hate* and *respect* in (20) all describe mental relations, not temporary bounded activities.

- (20) a. Tony likes Cherie.
 b. Hillary hates Bill.
 c. Susan respects Chloe.

What then motivates the asymmetrical relation between experiencer and stimulus? The entity expressed as subject has some “control” over a mental state denoted by the verb as seen in examples (21).

- (21) a. You shouldn't like Mary.
b. Don't hate Bill.
c. You should respect Chloe.

Consider sentence (20c) *Susan respects Chloe* in order to scrutinize which participant, subject *Susan* or object *Chloe*, has more control over the event described. Even if *Chloe* died a long time ago and no longer exists in the real world, the situation described by (20c) is conceivable. However, if *Susan* in the subject position has been dead, the same sentence contradicts the real world situation. So it seems that the semantic feature "control" is a significant factor in subject selection of E psych events. The feature "control" makes the experiencer role in psych events comparable, to some extent, to the agent role in the prototypical transitive event.

Another notion "topic" also affects subject selection (Taylor 1991:207)⁵⁾. Example (20a) *Tony likes Cherie* is a sentence telling something about *Tony* but not *Cherie*. If the object noun is a plural common noun denoting a generic category, for example *Tony likes cats*, the degree of transitivity becomes still lower and the sentence expresses nothing but one of Tony's personal characteristics, nothing different from a sentence like *Tony is animal-friendly*. So it would appear that stative E psych verbs are verbs which focus on the psychological characteristics of the subject entity and under its "control".

3.3.2. Active E psych verbs

Some E psych verbs do not describe mental states but psychological activities. These verbs can be used in the progressive aspect, unlike stative E psych verbs as shown in (22).

- (22) a. Bill enjoyed/was enjoying the concert.
b. I considered/was considering the offer seriously.
c. Tony liked/*was liking cats.

The experiencer in the subject position in this type of psych verb is explainable by the prototypical transitive event since the experiencer is engaging in an activity over which he/she has some volition or control and acts as the initiator of the action. On the other hand the object entity does nothing toward the subject entity. Thus the asymmetrical conceptualization is easily imposed.

4. Support from an experimental psychological study

In section 2 it was claimed that E psych sentences and S psych sentences are distinct from each other in the semantic contents of events. In this section we turn to Lee and Kasof's paper (1992), which is an empirical study on psych verbs conducted in psychological methodology. Their study investigates differences in the "latency" and "duration" of psychological experiences named by S psych verbs and E psych verbs; the "latency" refers to how quickly emotions arise, the "duration" how long they last. Their investigation has revealed the following characteristics for each type of psych verbs.

(23) S psych verbs:

- a. Stimulus - experiencer verbs [S verbs] seem to name experiences that arise somewhat rapidly in the course of interaction, and that also decay somewhat rapidly.
- b. [S verbs] refer to experiences of specific, discrete actions.
- c. Experiences of deceit, shock, astonishment and offence are evoked with immediacy by a single episode of behavior and are relatively transient.

(24) E psych verbs:

- a. Experiencer - stimulus verbs [E verbs] seem to name experiences that develop more gradually and also endure longer.
- b. [E verbs seem] to name subjective states that are abstracted from and temporally detached from specific identifiable ac-

tions.

- c. Love, respect, dread, and admiration generally take longer to develop, arise not from single instances of behavior but rather from a series or repetition of behaviors, and persist long after they arise.

(Lee and Kasof 1992)

From (23) and (24) we can find several motivations for different encoding of the two classes of psych events. First, in connection with the action chain, the characteristic of E events stated in (23a) that "those emotions are evoked by a single episode of behavior" seems to be related to one coherent action chain starting from a particular action of the stimulus entity and resulting in the change of mental state in the experiencer entity. It is then natural to conceptualize these events in the template of prototypical transitive construction. On the other hand the emotional change in E psych events is the kind of experience that arises "not from a single instance of behavior but rather from a series or repetition of behaviors" (24c). There seem to exist several causal events prior to the change of mental state in question and it may be difficult to identify the exact causal event(s) (24b). The causal actions and resultant psych event can be shown as something like (25). In this case it is impossible to choose one single causal head (=energy source=subject) entirely responsible for the resulting emotional state because the action chain is not a single coherent flow.

$$(25) \left[\begin{array}{l} \text{causal subevent (a)} \\ \text{causal subevent (b)} \\ \text{causal subevent (c)} \\ \vdots \end{array} \right] \Rightarrow [\text{Bill likes Hillary.}]$$

Secondly, in connection with aspects of the two psych verbs, (23) and (24) can provide extralinguistic motivations for the aspectual difference between S and E psych verbs. The characteristics of S verbs

such as “transient”, “rapidly decay” in (23a) fit the process aspect of S verbs while the characteristics of E verbs such as “to name experiences that develop more gradually and also endure longer” in (24a), “persist longer after they arise” in (24c), perfectly correspond to the stative aspect of most E verbs.

The findings of this experimental study clearly show that the psychological experiences encoded by S verbs and those encoded by E verbs are actually two distinct kinds of emotional experience and that difference in subject selection and aspect is, if not completely predictable, well motivated by the difference in experiential contents.

5. Concluding remarks

For a long time in the study of argument structure of verbs, many researchers have considered the question of subject selection in terms of semantic roles. However, this paper has attempted to seek a more general, cognitive/semantic rationale for subject selection which can accommodate the two types of psych verbs, i.e. S verbs and E verbs. It has been made clear that the two categories of psych events are not arbitrarily demarcated but reflect the fact that they actually carry different semantic contents of the psychological experiences/relations and that the distinct subject selections are based on those different semantic/conceptual contents. Here the significant notion for description/explanation was transitivity. Furthermore, from the experimental study mentioned in section 4 it can be said that the coherence of the action chain, i.e. one causal event leading to one resultant change of mental state, is also crucial for constructional selection.

It is highly likely that human psychological experiences are in large part universal among speakers of different languages and it is reported that the demarcation between S psych events and E psych events is maintained cross-linguistically although the actual linguistic realization of the psych events varies across languages typologically (Croft 1993). Especially stative E psych events are expected to be patterned in various constructions because their degree of tran-

sitivity is low compared with S psych events and thus E psych events are not a good candidate for categorization as transitive construction. An empirical study on the possible linguistic patterns for E psych events across languages still remains to be done. Such a study will shed more light on the semantic/cognitive characterization of the subject as well as the semantics of constructions.

Notes

- * This is a revised and extended version of a paper first published in *Nebulous* 27, 1999.
- 1. Levin(1993) is an extended study on the relationship between verb meanings and construction types in which verbs can occur.
- 2. The following sentences exemplify “causative-inchoative alternation”, sentences (1a) and (2a) being causative and sentences (1b) and (2b) inchoative;
 - (1) a. John broke the vase.
 - b. The vase broke.
 - (2) a. His words puzzled them.
 - b. They puzzled over his words.
- 3. The question whether metaphor and metonymy is mutually exclusive or co-operational and related to each other in cognitive process seems one of the current topics which are animatedly discussed in cognitive linguistics.
- 4. The prototypical frame of a transitive event in physical interaction is also extended metaphorically to non-physical domains other than psych events. Talmy(1985) introduced the notion of “force dynamics”, which accommodates even social interactions as follows;
 - a. They forced him to resign.
 - b. Irving persuaded me to clean the garage.
- 5. Taylor states that the subject NP is the sentence topic (1991:207).

Because the notion "topic" is an inter-sentential concept emerging in a discourse, this comment is compatible with Dowty (1991)'s Proto-role characterization; "[the Agent Proto-Role] exists independently of the event named by the verb" (p.572).

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