The Notion of Turning Point: Against a Stage/Individual Approach to Adjectives*

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In this paper we will investigate the issue of the semantic restrictions on some constructions which contain a predicative adjective. In previous studies, most linguists have made use of the notion of stage-level vs. individual-level for explication of semantic properties of the constructions. However, this notion fails to take care of exceptional cases and leaves many problems unsolved, being inappropriate for limiting the occurrence of adjectives in the constructions. As an alternative analysis, we propose an idea that every adjective has a semantic property which potentially indicate a prominent point in time, i.e., Turning Point. By considering the type of Turning Point together with the meaning inherent to each construction, we argue that the semantic restrictions on the constructions are properly predicted and motivated with full generality.

KEYWORDS: stage-level predicate, individual-level predicate, resultative construction, there-construction, perception verb

1 Introduction

The notion of stage-level and individual-level has often been appealed to in explaining the semantic restrictions on constructions which involve an adjectival predicate. It is argued by Chierchia (1995), Diesing (1992), and Rapoport (1992), for example, that complements of perception verbs (hereafter, CPV) are limited to stage-level predicates.

(1) a. I saw John drunk.
   b.* I saw John tall.

Chierchia (1995: 178)
ibid.

As is clear from (1a), drunk can work as a complement of a perception verb see. This is because drunk, which is supposed to denote a transitory, not a permanent, state, is interpreted as stage-level. By contrast, tall cannot occur as a CPV, as in (1b), for the reason that it denotes an inherent and unchangeable state, hence, it is interpreted as individual-level.

A similar restriction seems to hold for there-constructions. Diesing (1992) says that it is stage-level predicates, not individual-level predicates that function as predicates of there-constructions. The pair of sentences in (2) illustrate this point well.

(2) a. There were firemen available.
   b.* There are many people tall.

Milsark (1977: 11)

Available can be regarded as stage-level in that it denotes a state of something which is to be temporarily obtained. Hence, when one says that firemen were available, it is reasonable to suppose that the state of firemen being available was good for some temporal interval. This is semantically compatible with the semantic characteristic of there-constructions which especially describes the existence of an entity at some temporal point. On the other hand, a state which is described by tall is supposed to be an inherent property of something. Consequently, this is not appropriate for the semantic function of there-constructions.

Furthermore, similar considerations apply to resultative constructions (hereafter, resultatives) as well, in which Rapoport (1990, 1992) argues that only stage-level predicates are permitted. Notice what emerges when flat and happy follow objects of the verb hammer in (3).

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(3) a. Mary hammered the metal flat.
   b. *He hammered the metal beautiful.

At a superficial level, both of them seem to serve as resultative phrases. However flat is permitted as a resultative phrase on one hand, and beautiful is not on the other. We can attribute this discrepancy to the fact that the adjectives belong to different classes: flat is stage-level and beautiful is individual-level.

In each of these cases, since the predicate which enters into each construction refers to the temporary or transitory state of the entity denoted by NP, they seem to be restricted by the notion of stage-level and individual-level. However, if we look at a wider range of data, we immediately face cases which cannot be accounted for solely in terms of this notion. Under the dichotomy of stage-level/individual-level, the adjective tall is classified as individual-level. So, a sentence which contains tall as a CPV should be wrongly predicted to be unacceptable. But contrary to the expectation, the sentence is acceptable, as is shown in (4).

(4) I've often seen the grass tall around that house.

A similar fact is observed in there-constructions as in (5).

(5) There are many people tall enough to touch this ceiling.

The difference between (1b), (2b) on the one hand and (4), (5) on the other lies in whether the predicative adjectives take additional expressions as their modifiers, and it seems that the presence or absence of those expressions affects the acceptability of those sentences. Previous analyses cannot handle the sentences in (4–5). Our purpose of this paper is to show that semantic explanations which are based on the dichotomy of stage-level/individual-level are inappropriate for restricting the occurrence of predicative adjectives in the three types of constructions, and to propose an alternative analysis for explaining the restrictions in other justifiable semantic terms. I will claim that the semantic restrictions on the occurrence of adjectives must be stated by referring to the meaning of constituents of constructions, in particular by resorting to the semantic correspondence between the meaning of the constructions and that of the adjective predicates.

This paper is organized as follows: in Section 2, we will critically review previous studies on the constructions and point out the inadequacy of the approaches adopted therein; in Section 3, we will elaborate the semantic analysis of adjectives which occur as complements of the constructions. And then, in Section 4, we will explain the occurrence restriction on adjectives in each construction by taking into consideration the correspondence that is observed between lexical and constructional meanings.

2 Problems with Previous Analyses

The notion of stage-level/individual-level was originally proposed by Carlson (1976). Approximately speaking, stage-level adjectival predicates describe transitory or temporary states of objects, while individual-level adjectival predicates denote states which are inherently given and last eternally.

This leads to the familiar treatments of some constructions which are made up of the syntactic string NP-V-NP-AP. These constructions are generally thought to permit stage-level predicates to occur in the AP position. As Chierchia (1995), Diesing (1992), and Rapoport (1990, 1992) argued, only stage-level predicates are permitted as CPVs. Diesing (1992) noted that predicates of there-constructions are of stage-level. And Rapoport (1990, 1992, 1993) and Pustejovsky (1991) suggested that resultatives also select stage-level predicates as their predicates. In this section, we will review the details of these data, and point out that the stage-level/individual-level dichotomy fails to capture the facts with full generality.

To begin with, let us consider examples of CPVs.¹

(6) a. I saw John drunk.
   b. *I saw John crazy.
   c. *I saw John tall.
   d. *Matilda saw Max intelligent.

It should be noticed that of the four adjectives given in (6), drunk and crazy in (6a–b) make one class and tall and intelligent in (6c–d) another: the former belong to a class which denotes a temporary state of objects, while the latter fall into a class which denotes a permanent state of objects. This contrast has been thought to reflect the difference in acceptability in (6). That is, grammarians seem to have agreed that only stage-level predicates,

¹ In addition to the verb see, there are many kinds of perception verbs. For example, hear, listen, watch, and look etc. In this paper, we will limit our discussion to the verb see.
not individual-level predicates, are permitted as CPVs.

A similar restriction appears to be imposed on there-constructions, as is seen in (7).

(7) a. There were firemen available. Kaga (1997: 16)
b. ?? There are children hungry.2 Milsark (1977: 11)
c. * There are many people crazy. ibid.
d. * There are many people tall. ibid.

Note that available in (7a) describes a temporary state of firemen. This is supposed to make the sentence acceptable. But the sentence in (7b) is less acceptable although hungry denotes a temporary state just as available does. Furthermore, the sentences in (7c-d) are not acceptable at all, because crazy and tall are adjectives which denote an inherent or everlasting property of entities. If the distinction of stage-level/individual-level is applied to the semantic restriction on there-constructions, it may be said that the sentence in (7a) is acceptable because the adjectival predicate is of stage-level, while the sentences in (7c-d) are bad because the predicates are of individual-level.

Resultatives are restricted in the same way: it seems that the adjectival predicates must denote a transitory state of affected objects.

b. * He hammered the metal beautiful. Green (1972: 84)

Flat in (8a) denotes a resultant state of the metal which was brought about by the action of hammering. In contrast to flat, beautiful in (8b) cannot express a state which the action of hammering directly brings about. This indicates that flat is a member of stage-level adjectives and that beautiful is one of individual-level adjectives.3

Under the approach based on the stage/individual dichotomy, however, we are faced with an undesirable situation in explaining the co-occurrence restriction in semantic terms. First of all, there are cases which cannot be accounted for solely by this dichotomy.

(9) a. I’ve often seen the grass tall around that house. Siegel (1979: 239)
b. ?? I saw John intelligent enough for the job.4

Under the previous analyses, the sentences in (9) would be wrongly predicted to be unacceptable because tall and intelligent, which are of individual-level, are not permitted to occur in CPVs. But the fact is that the sentences in (9) are flawless. Similarly, it would be predicted that the occurrence of individual-level adjectives makes sentences such as (10) unacceptable.

(10) a. All over the world there are people hungry. Milsark (1977: 11)
b. There are many people crazier than Bill. ibid.
c. There are many people tall enough to touch this ceiling. Milsark (1976: 20)

But contrary to the expectation, the sentences in (10) are completely acceptable. The problem here is that the notion of stage-level/individual-level is semantically related only to a temporary state or transitory state so that it cannot characterize the semantic properties under consideration. Therefore, a semantic restriction which is based on the stage-level/individual-level is not applicable in the examples in (9-10).

To sum up, it is clear that previous analyses make incorrect predictions about the occurrence of adjectives in three constructions. The reason seems to lie in the way they are treated. Indeed, these constructions share the same syntactic pattern (NP-V-NP-AP), but previous studies seem to place special emphasis on this point to make up a single semantic restriction which they forced to apply to the three constructions blindly. In so doing, linguists overlooked semantic properties which are inherent to each construction. A careful observation will rea-

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1 Kaga (1997) suggests that if hungry occurs in the predicate of there-constructions without any contexts, it tends to be interpreted as denoting a change of state of objects. This interpretation makes (7b) hardly acceptable. But if some context is added to (7b), the sentence is completely acceptable. We will return to the discussion in Section 4.

2 An anonymous reviewer comments that it is clear why flat is a stage-level predicate, while beautiful is individual-level. In this paper, the predicate of flat is supposed to denote a transitory state, while the predicate of beautiful is supposed to denote a non-temporary state. In this sense, we take the predicate of flat to be stage-level and the predicate of beautiful to be individual-level.

3 My informant tells me that the reason for (9b) being less acceptable stems from the difficulty of our inferences. Nevertheless, the sentence in (9b) is more acceptable than a sentence which takes a simple form of an adjective intelligent.

4 (i) I saw John intelligent.

Clearly, addition of some expressions increases the acceptability of the sentences. This prediction will be shown in Section 4 to be correct.
dily reveal that the meanings peculiar to these constructions are quite different from each other: CPV constructions convey a situation in which an entity which is denoted by the subject perceives with his/her senses an event denoted by the complement; *there*-constructions express a situation where a thing exists in the state denoted by the adjective; resultative constructions express a situation where the subject’s action brings about a certain transient state of the object. It seems to me that in this point lies a possible reason why previous studies cannot offer satisfactory account for these constructions.5

3 Turning Point of Adjectives

This section attempts to explore a semantic property of adjectives which makes it possible for them to occur in a position adjacent to the object NPs.

In analyzing the semantic structure of adjectives, it has been taken for granted that when an adjectival predicate is to denote a state, it has no relation to other states which possibly exist on a time axis. In other words, the semantic function of adjectives has been thought to merely denote a state of an entity, excluding considerations on change of states. Thus, adjectives have been taken to be different from verbs in aspectuality.

But if we closely examine some adjectives, we will see that this is not the case. Consider the situation when we utter the sentence in (11):

(11) John is dead.

 Needless to say, (11) means simply that John is not alive. But we can say that in recognizing the state denoted by the adjective, we are unconsciously comparing it with a conceivable state of opposite nature. That is, when we utter the sentence *John is dead*, we are comparing the state of John being alive with that of John being not alive. This means that in recognizing a state, we unconsciously define a point in time at which it begins or ends.

With regard to the defining of a point in time, i.e., the beginning or end point in action, the classification of verbs by Vendler (1967) is well known. In his work, verbs are classified into four types from the aspectual point of view: achievement, accomplishment, state, and activity. It seems to me that a similar thing can be applied to states which are to be denoted by adjectives. We will call this *turning point*, which is defined as follows:

(12) **Turning Point**

There exists a prominent point which distinguishes the state denoted by an adjective (hereafter, S₁) from a state prior to S₁ (hereafter, S₁₋₁). This prominent point is called *Turning Point*.

Turning Point (hereafter, TP) serves to identify a point in which a state begins or ends. An adjective *dead* provides a good example for illustrating TP. This adjective is used when it is meant that someone is not alive any longer. Recall what is conveyed by the sentence *John is dead*. Whenever we hear the sentence, we are unconsciously comparing the state of John being alive with that of John being not alive, and defining a point in time at which the former ends and the latter begins without time interval. Therefore, the state of John being alive is represented as S₁₋₁, and that of John being not alive as S₁, respectively. When the S₁₋₁ and S₁ are defined, a point between them is the TP of *dead*, which is inherently specified as a part of its lexical meaning.

The assumption sketched out above predicts that any adjectives should take TP as a part of their lexical meaning, in the same way as in verbs. But we do not mean that TP always emerges from the lexical meaning of an adjective. It is given as a potential within the lexical meaning of adjectives and comes to work in ‘certain circumstances’.

3.1 TP of Change of State and TP of Contrast

On the basis of the semantic property of typical adjectives in English, let us first divide TP into two types: **TP of Change of State** and **TP of Contrast**. They are defined as follows:

(13) i. **TP of Change of State**

TP of Change of State exists between S₁ and S₁₋₁; S₁₋₁ is prior to S₁, and denotes a state leading up to S₁.

ii. **TP of Contrast**

TP of Contrast also exists between S₁ and S₁₋₁; S₁₋₁ has no temporal relation with S₁, and denotes a

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5 Higginbotham and Ramchand (n.d.) also argue that the distinction of stage-level and individual-level cannot work in capturing the properties of some constructions. Thus, they try to account for bare plurals and the simple present, *there*-constructions, absolutes, perception verbs, and conditionals by taking into consideration semantic properties of each construction. See Higginbotham and Ramchand (n.d.).
state which is viewed as standard.\(^{6}\)

Which type of TP emerges depends on the inherent semantic nature of individual adjectives. The two types are alike in that both of them work to delimit states, but they are different in the characteristics of \(S_{-1}\) which has some relation to \(S_i\).

TP of Change of State can be characterized as a time point after which the state of \(S_i\) holds good and before which the state of \(S_i\) has not come into effect, i.e., \(S_{-1}\) holds. To take dirty for example, its meaning implies that the state of being dirty begins at a certain point. TP of Contrast is characterized in a different manner. This type of TP is considered as a point in scale after which the description of \(S_i\) takes effect in comparison with the description of \(S_{-1}\), which is viewed as a standard in some sense. Beautiful and tall are good examples which are characterized as a member of this type.

### 3.1.1 Inherent TP of Change of State

Of the two types of TP that are just defined above, TP of Change of State needs to be subdivided into two types: Inherent TP of Change of State and Derivative TP of Change of State. The difference lies in whether some additional expressions are required or not, when TP emerges from the lexical meaning. Adjectives which are considered to belong to the type of Inherent TP have semantic information enough to encode a change of state within their own lexical meanings. On the other hand, adjectives which are classified as the type of Derivative TP do not.

**Inherent TP of Change of State** can be formulated as (14):

\[(14) \text{ Inherent TP of Change of State (hereafter, ITP)}
\]

Without any additional expressions, TP can emerge in an adjectival predicate which describes change of state of entities denoted by NP.

\[(15) \text{ sick, drunk, dead, dirty, available, crazy, \ldots} \]

Imagine a situation where Taro is drunk. The state denoted by drunk is generally interpreted as a temporary one, unless we are in a world such that people always intoxicated. From our common knowledge about the world, it is appropriate to suppose that it is not the case that generally, people are always drunk. Thus, the state of being drunk necessarily has a starting point before which one is in a state of being not drunk, or being sober. When these states are encoded by \(S_i\) and \(S_{-1}\) in order, a point which distinguishes \(S_i\) from \(S_{-1}\) emerges from the meaning of drunk. This is a TP which is lexically specified in the meaning of drunk.

Sick is similar to drunk. Suppose that Mary sometimes catches a cold. In this context, the state of Mary being sick is inevitably preceded by a state of her being not sick, or being healthy. This makes it possible to set a temporal relation between \(S_{-1}\) and \(S_i\).

### 3.1.2 Derivative TP of Change of State

The second type of TP also concerns a change of state of objects. But the TP of this type differs from the Inherent TP in that the meaning of an adjective of this class is insufficient for encoding a change of state per se. Thus, additional expressions are required to do so satisfactorily. To put it another way, the state described by an adjective of this class is interpreted as one which can be regarded as normal in a sense, and so it cannot be viewed as a property which comes from the change of a state. The second type of TP which behaves like this is called Derivative TP of Change of State, and is defined as follows:

\[(16) \text{ Derivative TP of Change of State (hereafter, DTP)}
\]

Dependent on some additional expressions, TP can emerge in an adjectival predicate which describes the change of a state.

Adjectives which are characterized by (17) are:

\[(17) \text{ alive, intelligent, \ldots} \]

Take alive for example. This adjective is unable to express the meaning of a change of a state unless we provide a particular context for it, e.g., a change from someone being dead to being alive.

This intuition is justified by a pair of the sentences in (18):

\[\]

\[^{6}\text{An anonymous reviewer raises the question about the classification of TPs: can we say the adjectives in (13ii) have any turning points although there may be some turning point for the adjectives in (13i)? The answer to this question is that adjectives which are classified as TP of Contrast potentially have turning points in each of their lexical meaning, as well as adjectives of TP of Change of State do.}\]
(18) a. Taro is alive.
b. Frankenstein is alive again.

The sentences in (18) both mean that a person is living. But (18a) differs from (18b) with respect to the state prior to the state of alive. In the sentence where Taro is the subject, it is implied that he has been living until now, not that he is living now as a result of changing from being dead to being alive. By contrast, in (18b), a change of Frankenstein's state is highlighted: Frankenstein has been dead before he is living. The preferable interpretation comes from the adverbial phrase again and the semantic content which can express the noun phrase Frankenstein.

We can reduce the difference in the implication between the sentences in (18) to that of the behavior of TP in alive. In (18a), the TP cannot emerge from the meaning of alive, since there are no expressions to be added to the sentence and the requirement that TP emerge is not fulfilled. However, in (18b), the semantic function of again serves to clarify a change of state, making it possible for TP to emerge from the lexical meaning of alive.7

3.1.3 Turning Point of Contrast
The third type of TP comes from comparing the state of an object with what is considered to be standard in a sense. We will call this TP of Contrast.

(19) **TP of Contrast (hereafter, TPC)**
Dependent on additional expressions, TP can emerge in an adjectival predicate which indicates that something is compared with a standard state.

(20) *tall, beautiful, . . .*

The most salient difference between TPC and the other TPs is seen in the way the relation between $S_{i-1}$ and $S_i$ is defined. Recall that ITP and DTP involve a change of state in time. In the former cases, a state before undergoing change must precede the state described. In other words, $S_{i-1}$ must be prior to $S_i$. On the other hand, in the case of TPC, $S_{i-1}$ must be encoded as a standard state rather than as a prior state in time.

To illustrate TPC, it is useful to compare a sentence which includes a simple form beautiful with a sentence which includes a comparative form of an adjective *more beautiful than*.

(21) a. Hanako is beautiful.
b. Hanako is *more beautiful than* Susan.

The sentence in (21a) asserts the absolute beautifulness of Hanako. Since a comparison is not made explicitly, the degree of her beautifulness is left unspecified. On the other hand, the sentence in (21b) expresses a situation where a comparison is made explicitly through the comparative form of beautiful. This difference between (21a) and (21b) can be explained by the behavior of TP intrinsic in the lexical meaning of beautiful. While in (21a) TP of beautiful cannot emerge from its meaning in any way, in (21b) TP can emerge from the comparative form.

In addition to adjectives as mentioned above, adjectives which are originally classified as ITP or DTP can be considered as members of the type of TPC.

(22) i. *hungry, sick, drunk, dirty, available, crazy, . . .*
ii. *alive, intelligent, . . .*

Considering the meaning of adjectives in general, we can say that almost all adjectives have two types of TP: ITP + TPC or DTP + TPC. Then one might ask which types of TP can occur when an adjective appears in the predicate position. Our answer is that it depends on the meaning obtained from constructions which contain adjectival predicates. And adjectives are never classified into either of the types *a priori*.

4 Turing Point Approach to Constructions
Having discussed the semantic property of adjectives which follow the syntactic elements NP-V-NP, we will return to the discussion of the semantic constraints on some NP-V-NP-AP constructions. I have suggested that the notion of 'stage-level' and 'individual-level' does not work for explicating the semantic restrictions on the constructions. This is because linguists have made use of the notion without examining the relation of the semantics of constructions and the meaning of each element which constitutes those constructions.

7 An anonymous reviewer points out to me that TP is formulated as an optional property of an adjective, but that it should rather be as a property of combinatorially defined on the phrasal level, that is, on the adjectival phrase. We will commit this issue to future research.
As an alternative to previous analyses, we will formulate restrictions in terms of TPs which are guaranteed from the lexical meaning of objects and by combining them with the construction meaning. In this section, we will specifically explore three constructions: there-constructions, CPVs, and resultatives. We will make an assumption in (23), when the constructions are semantically constrained.8

(23) The inherent meaning of a construction must not be in conflict with the meaning of an adjective which appears in it.

4.1 CPVs and There-Constructions
This subsection deals with CPVs and there-constructions as exemplified in (24) and (25) respectively:

    b. I saw John tall. ibid.

(25) a. There were firemen available. Milsark (1977: 11)
    b. There are many people tall.

In examining these constructions, we notice that the meaning of CPVs shares something with that of there-constructions at some level where we recognize the events that they describe, as is given below.

(26) An event (Ei) is recognizable, only when a possible event (Ei−1) which denotes an opposite state to Ei exists.9

It is well known that CPV has a connotation that an event is directly perceived by the subject referent. For example, the sentence John saw Mary drunk indicates that John directly perceived the state of Mary being drunk. Suppose that John directly perceived the state of Mary through a process of comparison. In so doing, we can say that John is making some comparison, i.e., comparing the state of Mary being drunk with a state of her being sober.

A similar argument obtains for the analysis of there-constructions. That is, the meaning of there-constructions also involves the process of comparison when the sentence is interpreted.10 Consider the sentence there were firemen available in (25a). The existence of firemen, who were waiting at the office, cannot be recognized unless the state of other firemen being not available is not conceivable.

4.1.1 CPVs
As was pointed out in Section 2, a serious problem for previous semantic treatment of these constructions is a failure to provide a satisfying account for exceptional cases. Under the assumption presented here, the meaning that comes from the entire construction of CPVs is defined as follows:

(27) The entity denoted by the subject must perceive the event denoted by CPVs directly. In this case, the event must express either the change of a state or comparison of a state with a standard state.

Since the meaning of the whole construction specifies the kind of event which a perception verb describes, we can predict what kind of adjective follows the verb and the noun phrase in CPVs.

Notice that there are two types of events which are described by the complement of perception verb. The first involves the change of a state. As the typical case of this type, consider the following examples.

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8 As an anonymous reviewer points out, the assumption in (23) is quite similar to the general principle on 'fusion' proposed by Goldberg (1995: 50):
   (i) The Semantic Coherence Principle:
      Only roles which are semantically compatible can be fused. Two roles \( r_1 \) and \( r_2 \) are semantically compatible if either \( r_1 \) can be construed as an instance of \( r_2 \), or \( r_1 \) can be construed as an instance of \( r_1 \).

9 An anonymous reviewer states that (26) may be correct realization, but that it is not clear what is meant by 'opposite state'. In this paper, we represent 'opposite state' as referring to either the state of \( S \) holds good and before which has not come into effect or what is considered to be standard in a sense. For example, consider the sentence in (5), which is repeated as (i):
   (i) There are many people tall enough to touch this ceiling. Milsark (1976: 20)
   The sentence in (i) describes comparison of the height of many people with a standard state, in particular, the standard height of average people. Thus 'opposite state' in this example is a standard height of average people.

10 Higginbotham and Ramchand (n.d.) argue that the predicates of there-constructions involve the possibility of transition between states. They call these states boundary states. Also they note that boundary is involved in the complement of perception verbs. From their analyses, we can say that our assumption is something more than an intuition.
In the examples (28a–b), the state which is expressed by an adjective is a temporary one, a state which cannot continue eternally. In contrast, the adjective tall characterizes an unchangeable state of John.

From the meaning inherent in CPVs, the semantics of the sentences in (28) seems to be compatible with the requirement that the subject referent must perceive an event directly. At this point, the sentences are not different from each other. But if we look at the meanings of adjectives which compose CPVs in (28), we notice that the type of an event in (28a–b) is different from that in (28c). That is to say, the semantic type of adjectival predicates in (28a–b) involve a change of states, while the state in (28c) involves a comparison of states. In (28c), the height of John cannot be defined without comparing it with a certain standard height. This difference can be reduced to the difference of the type of TP which is specified within a lexical meaning of an adjective: the meanings of drunk and crazy in (28a–b) contain ITP, and the meaning of tall provides TPC. ITP is permitted to emerge in (28a–b), since the events involve a change of state. On the other hand, TPC in tall cannot emerge from its meaning because the simple form of the adjective cannot provide any notion of comparison.

The second type of CPVs is concerned with a state which is compared with what is considered standard. Look at (29), where a simple form of tall in (29a) is not permitted as CPVs, whereas a complex form tall around on that house in (29b) is permitted.\footnote{An anonymous reviewer asks me whether the acceptability of the following sentence, and whether we can explain the judgments with our approach. My informant regards the sentence as unacceptable for the reason that the height of John cannot be changed temporarily. (i) I saw John taller than Bill. Although this example might be problematic to our analysis, I have no explanation of his judgment at the moment, and then I will leave the matter open.}

Generally speaking, the height of a person is characterized relatively, not absolutely. Thus, whenever we recognize that someone is tall, the height is unconditionally compared with the height of another person.

In (29a), since the sentence takes a simple form of tall in its complement, the sentence exhibits no comparison. In other words, since there is nothing which is to be compared with the height of John, the subject is not able to perceive the degree of the height of John. This means that the TP of tall cannot emerge from its lexical meaning. And the meaning of the adjective does not satisfy the meaning of CPVs, rendering the sentence to be unacceptable. Unlike (29a), the sentence in (29b) takes a complex form tall around on that house, and thereby implies that the height of the grass at issue is defined by comparing it with some standard. From this observation, we can say that TPC of tall meets a condition which is imposed on the occurrence of TPC and that the meaning of tall in question accords with the inherent meaning of CPVs.

It should be mentioned that one of the cases which cannot be handled by the notion of individual-level is more readily accounted for by our approach.

Since the state which is described by John drunk in (30a) is a clearly visible one, and can be perceived with the eyes of the subject, the sentence is permitted. A contradictory relationship between the perceiving entity and the perceived one is seen in (30b). No matter how Matilda tries to perceive with her eyes the state of Max being intelligent, she cannot perceive it directly.

4.1.2 There-Constructions

The same consideration can be extended to the semantic explanation for there-constructions. As was mentioned earlier in this section, the meaning of there-constructions resembles that of CPVs. Let us define the fundamental meaning of there-constructions as (31):

A state of the subject NP must be contrasted with something.

As in CPVs, considering the whole meaning of there-constructions, we can predict what type of adjectives occurs in the position which follows the subject NP. We can say that only there-constructions conforming to the
fundamental meaning in (31) will be taken as acceptable, on the basis of the type of TP which is specified in the meaning of adjectives.

The *there*-construction can take an adjective *available* as in (32a), but it cannot take an adjective *tall* as in (32b).

(32)  

a. There were firemen *available.*  
b.* There are many people *tall.* 

Milsark (1977: 11)

The sentence in (32a) means that some firemen were ready for fighting fire at the office. The occurrence of *available* in (32a) is permitted and delimits a state of firemen. When the adjective delimits a state, two states are involved: the state where some firemen were ready for fighting fire on one hand, and the state where others were fighting fire on the other. This is the very condition on occurrence of TPC of *available* which is included in its lexical meaning as itself. As is clear from the observation, the adjective which occurs in (32a) meets this condition, and agree with the inherent meaning of *there*-constructions in (31).

Unlike *available, tall* is not permitted to occur in *there*-constructions. Note that the unacceptability of (32b) is attributed to the semantic property of an adjective *tall.* Indeed, this adjective says something about the height of *many people,* but this does not say that information rich enough to determine the precise height of many people is given. For *tall* to specify the precise height of *many people,* TPC of *tall* needs to emerge from the meaning of *tall.* But in (32b), lack of such information prevents TPC from emerging from the lexical meaning of the adjective. Thus, the meaning of *tall* in question does not accord with the constructional meaning of *there*-constructions.

Because of the possible confusion created by the semantic property of an adjective like (32b), one might expect that *tall* cannot occupy a position which follows the subject NP. On the contrary, there is a case in which *tall* can appear in *there*-constructions, if additional expression is added to the sentence as in (33).

(33)  

a.* There are many people *tall.*  
b. There are many people *tall enough to touch this ceiling.* 

Milsark (1976: 20)

As already mentioned, the sentence in (33a) cannot describe the precise height of many people, because the simple form *tall* does not have enough information for specifying the state of height of *many people.* But in (33b), the additional expression makes it possible to delimit the height of *many people.* That is, the sentence in (33b) may be said to make a comparison of the height of *many people* with a standard state, i.e., the standard height of average people.

The semantic difference in adjectives in (33) is to be reduced to the difference in the types of TP. For the adjective *tall* to describe a state relative to what is standard, it requires additional information which specifies the exact height of the people. However, this information is not given to the meaning of *tall* unless an additional expression is added to the sentence. This means that the meaning of *tall itself does not denote a state which can be compared with its corresponding state. Since TPC cannot emerge from the meaning of *tall,* the meaning of *tall* does not match the required meaning of *there*-constructions. On the other hand, the adjective in (33b) describes a state relative to the standard. The semantic property of the adjective meets the condition that TPC emerge from the lexical meaning of *tall.* This goes well with the essential meaning of *there*-constructions.

A similar argument applies to the case of *hungry:* a sentence with a simple form of *hungry* is less acceptable than a sentence with the adjective plus a restrictive expression.

(34)  

a.?? There are children *hungry.*  
b. *All over the world* there are people *hungry.* 

Kaga (1997: 16)  
Milsark (1977: 11)

In order to account for the contrast in (34), Kaga (1997) paid attention to the semantic behavior of the adjective *hungry* within *there*-constructions. He says that when under the absence of any additional expressions, *hungry* in (34a) functions as denoting a temporary state of individual people. So, the sentence is hardly acceptable. But the presence of some expression (*all over the world*) in (34b) permits *hungry* to occur in the sentence, because this expression has an effect of converting the interpretation of a temporary state into that of existence of the people. For the contrast in (34), we will be concerned essentially with the semantic properties of *hungry.* Suppose that the interpretation of (34a) involves the change of state of many people. In this case, the sentence implies that many people turned from being full to being hungry. This interpretation is by and large restricted to ITP which is possessed by the lexical meaning of *hungry.* Accordingly, since the occurrence of ITP of *hungry* accords with its condition, it would predict that the sentence in (34a) is acceptable. But in fact, this possibility is excluded because the inherent meaning of *there*-constructions is not congruent with the meaning of *hungry.* Thus, the sentence in (34a) is hardly acceptable. However, as was assumed in the previous section, *hungry* has TPC as well as ITC in its meaning. Owing to a presence of an additional expression, TPC can emerge from the lexical meaning.
of hungry. The type of TP meshes well with the meaning inherent in there-constructions.\textsuperscript{12}

4.1.3 Resultatives

As a last type of constructions having the form of NP-V-NP-AP, we will examine resultatives. The semantic restrictions on adjectives in resultatives can also be explained by the interaction of the type of TP of adjectives with the semantic property of resultatives. Let us define the inherent meaning of the resultatives as in (35):

\begin{align}
(35) \quad \text{The event expressed by the predicate must express the change of state of the entity denoted by the object NP.}
\end{align}

No one will deny that resultatives indicate that the state of the object is changed. Thus, it follows that the meaning of an adjective which occurs in the post-object position must meet this requirement. That is, an adjective which has nothing to do with a change of state cannot occur in resultatives.

It is well known that there is some restriction on the adjectives which can appear in the predicate position of resultatives.

\begin{align}
(36) \quad & \text{a. Mary hammered the metal flat.} \\
& \text{b.}\quad \text{He hammered the metal beautiful.}
\end{align}

Sentence (36a) can be used when Mary hammered the metal, and the metal became flat. If so, there would be no reason to rule out (36b), which describes a situation where the action of hammering the metal causes its state to change, specifically, to become beautiful. But this is not the case. Beautiful cannot be used as a resultative predicate.\textsuperscript{13}

Now a question immediately arises as to what is responsible for the difference between (36a) and (36b). Since the metal is affected by the act of hammering, its state must be something which is brought about by the action of hammering. In other words, the meaning of flat can be predicted from the meaning of hammer to some degree. Thus, the adjective flat can work to refer to a resultant state which is directly brought about by the action of hammering. By contrast, beautiful in (36b) cannot characterize the resultant state of the metal, because the meaning of hammer does not supply accurate information which requires a subjective judgment on the state of an affected object. That is, the action of hammering does not bear direct relation to the state of the metal being beautiful. This makes the sentence in (36b) unacceptable.

Under the approach in terms of Turning Point, the semantic difference between sentences in (36) can be explained as follows. The sentence in (36a) implies that the metal is affected by the action of hammering and that it undergoes a change of state, i.e., the metal changes from being not flat to being flat. The meaning of flat must serve as delimiting the action of hammering in resultatives, since hammer simply denotes an action of hammering and cannot specify an end point of the action within the lexical meaning. Since conditions are provided for ITP to emerge in (36a), TP of flat can emerge in the meaning of the sentence. The type of TP meets the specific meaning of resultatives (in this case, TP involving change of state). Thus, TP of flat delimits the action of hammering and denotes a state of the metal simultaneously.

By contrast, beautiful cannot delimit the action of hammering, because it refers to a non-temporary state. This insight comes from the type of TP of beautiful: TP in this case is TPC, which involves comparison of one thing with a standard thing. This type of TP does not meet a specific meaning of resultatives, i.e., a change of state of the referents of the object. So, the sentence in (36b) is unacceptable.

Our approach helps to motivate the aspctual constraint on resultatives, which is proposed by Goldberg

\textsuperscript{12} An anonymous reviewer asks me whether the acceptability of the following sentences, and whether we can explain the judgments with our approach. My informant tells me that the sentences are unacceptable, because the situation denoted by the adjective is not temporary in each case.

(i)\textsuperscript{*} There are many people 6 feet. 
(ii)\textsuperscript{*} There are many people 18 years old.

Our approach accurately predicts that the sentences are unacceptable. For example, in (i) 6 feet says something about the age of many people, but this does not provide for the sentence information rich enough to characterize the existence of many people because this expression cannot delimit a state of many people. The sentence in (ii) is explained in a similar way. 18 years old does not have enough information for specifying the state of many people. For this reason, the meaning of this expression does not accord with the constructional meaning of there-constructions.

\textsuperscript{13} An anonymous reviewer asks me whether the acceptability of the following sentence, and whether we can explain the judgments with our approach.

(i) Mary carved the wood beautiful. 
My informant says that the sentence is less acceptable in itself. He comments that if this sentence is in a part of the poem, it might mean that Mary carved the wood beautifully. From his comment, we can see that the sentence in (i) is not ‘true’ resultatives. That is, the type of TP of beautiful is TPC, which involves comparison of one thing with a standard thing. The type of TPC does not meet a constructional meaning of resultatives. Consequently, the sentence in (i) is unacceptable.
(1995). The aspectual constraint is defined as follows:

(37) The change of state must occur simultaneously with the end point of the action denoted by the verb.

<table>
<thead>
<tr>
<th>Allowed:</th>
<th>Disallowed:</th>
</tr>
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<tbody>
<tr>
<td>action \rightarrow change of state \rightarrow time</td>
<td>action \rightarrow change of state \rightarrow time</td>
</tr>
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</table>

Under the construction approach, the end point of the action must coincide with the beginning point of the state denoted by a resultative phrase. But the constraint in (37) is not severe enough to predict the resultatives properly. Since Goldberg (1995) does not refer to the semantic property of a resultative phase, a prediction might be borne out that any kinds of adjectives occur as a resultative phrase. For example, even if beautiful occurs as a resultative phrase, there is no means to rule it out from the resultatives. Given our approach, we can predict that only an adjective which involves a change of state in its lexical meaning can be permitted as a resultative phrase. In other words, adjectives whose meaning specifies either ITP or TPC can occur as a resultative phrase. Owing to the types of TP, the meaning of an adjective delimits an action which is described by the verb and specifies a beginning point of a resultant state. Therefore, our approach explains why no intervening period is possible in resultative constructions, and defines the possible range of adjectives which meet this requirement.

Finally, we will briefly examine the resultatives where the final phrase is a prepositional phrase instead of an adjectival phrase. The following examples, whose syntactic sequences are NP-V-NP-PP, are resultatives, and an object of the preposition denotes a certain resultant state.¹⁴

(38) a. Bill pushed the piano into the orchestra pit.  
     b. Beth wiggled the tooth out of her mouth.  

In (38), the meaning of a prepositional phrase delimits an event denoted by a verb phrase: the preposition specifies a position or place where the object entity is located when the action ends. In (38a), into the orchestra pit specifies a place the piano is pushed into by Bill. That is, on hearing the sentence in (38a), one might infer that the piano is located in the orchestra pit when the action of Bill’s pushing ends. Similarly, in (38b) the prepositional phrase out of her mouth characterizes the state of the direct object denotation, a state which results from the action described by the verb: as a result of wiggling, the location of the tooth changed from within her mouth to outside. The transition is represented by the prepositional phrase out.

From the observation of the data of resultatives which contain a prepositional phrase, the turning point is supposed to be specified in a meaning of a preposition in resultatives, as well as in the case of an adjective. That is, only prepositional phrases whose meanings involve a change of state are permitted as a resultative phrase, since they must delimit an event denoted by verbs. Take (38a) for example. Into delimits an action of pushing the piano, since TP of into is specified within the meaning of into. In addition to this, the type of TP is consistent with the meaning of resultatives, which results in bringing the acceptability of the sentence in (38a). Given that the TP is defined in the lexical meaning of out, the sentence in (38b) can be accounted for in the same way. The event of Beth wiggling her tooth is delimited by the Turning Point of out. And the type of TP of out meets the meanings inherent to resultatives. As is clear from this discussion, the assumption that TP is contained in a meaning of a preposition allows us to analyze a prepositional phrase as a meaningful element, in that it designates a source or goal of the action.

5. Conclusion

In this paper, we have discussed the issue of the semantic restrictions on some constructions of English. In previous studies, most linguists have exclusively depended on the notion of eventuality and been ignorant of the meaning of each constituent of various constructions. For this reason, they cannot treat such an adjectival predi-

¹⁴ As well as the resultatives in (38), the following example also takes a PP following an object NP and has been treated as a resultative phrase in the literature.

(i) They broke the cookie into six pieces.  

However, the aspectual property of the verbs in (38) is different from that in (i) in that the end point of the action is not specified in the meaning of verbs such as push, although the end point of the action is specified in the meaning of verbs such as break and so on. In this paper, only the sentences in (38) are treated as resultatives, and the sentence in (i) is pushed aside from our discussion.
cate as tall that occurs in CPVs or there-constructions. Furthermore, the reason still remains unclear why the notion of stage-level and individual-level has been applied to the semantic restrictions on these constructions. We have shown that the approach from stage-level and individual-level leaves many problems, and that it is not appropriate for limiting the occurrence of adjectives in the constructions. In presenting an alternative to previous analyses, we have proposed that every adjective potentially has a prominent point, which is called Turning Point, in its lexical meaning, and that TP is classified into three types: Inherent Turning Point, Derivative Turning Point, and Turning Point of Contrast. We have argued that through the interaction of the type of turning point and the inherent meaning of the construction the semantic restrictions are properly predicted and motivated.

What is important in this study is that our approach can resolve the problems which have been left problematic in the approach of stage-level and individual-level in two respects. First, our approach can offer satisfactory explications to examples which have been treated as exceptions. Second, our approach can deal with CPVs, there-constructions, and resultatives uniformly by associating the meaning of adjectives with the meaning of constructions inherent to these constructions. Especially, notice that CPVs are different from there-constructions with respect to the syntactic strings: the former consists of NP-V-NP-AP; the latter consists of there-be-NP-AP. In spite of this difference, we can treat them uniformly, since these constructions share a common semantic property at some level where events are recognized. For resultatives, our approach supports Goldberg's (1995) semantic restrictions on resultatives from the examination of the meaning of adjectives.

REFERENCES


