山形大学人文学部研究年報　第14号（2017．2）69－104

Article

Spurious Resultatives Revisited: Predication Mismatch and Adverbial Modification*

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1. Introduction

In his typological analysis of resultatives, Washio（1997）points out that several peculiarities found in the type of resultative in（1）cannot be reduced to his dichotomy of "strong" resultatives such as *The horses dragged the logs smooth/The joggers ran the pavement thin* and "weak" resultatives such as *Mary dyed her dress pink/I froze the ice cream hard*.[1]

（1） a. He tied his shoelaces {tight/loose}.
b. He spread the butter {thick/thin}.
c. He cut the meat {thick/thin}.

The major characteristics of this type of resultative termed "spurious resultatives" are summarized as in（2），and the relevant points are illustrated by examples in（3-6）：

（2） Characteristic properties of spurious resultatives（Washio 1997: 17）
（A）they involve an activity such that a particular manner of action directly leads to a particular state,
（B）it makes no significant difference if the adjective is taken as specifying the result state or specifying the manner of action so that, typically, the adjective can be replaced with the corresponding adverb with virtually no difference in meaning,
（C）they permit either one of the adjectives that form the antonym pair,
（D）the standard paraphrase（"x causes y to become z"）often fails, especially with one of the antonymous adjectives.

（3） a. He spread the butter thick/thickly.
b. ≠He caused the butter to become thick by spreading it.

（4） a. He spread the butter thin/thinly.
b. ≠He caused the butter to become thin by spreading it.

（5） a. He cut the meat thick/thickly.

b.≠He caused the meat to become thick by cutting it.

(6) a. He cut the meat thin/?thinly.

b. ≠He caused the meat to become thin by cutting it.

Unfortunately, though, Washio (1997) merely suggests that the use of adjectives in spurious resultatives is somewhat "adverbial" in nature, leaving open the question of why their properties, as described in (2), are not found in normal resultatives (either "strong" or "weak" resultatives in his classification). The leading question to be discussed in this article is whether spurious resultatives are qualified for a third independent category within the classification of resultatives. This paper will claim that spurious resultatives and weak resultatives in Washio's (1997) sense can be unified under the same category, namely, under spurious resultatives, rather than under weak resultatives. In other words, I argue that the category of spurious resultatives is the larger, that it subsumes weak resultatives, and that they stand in stark contrast to true resultatives (to be characterized below), which roughly correspond to Washio's (1997) strong resultatives.

The present article is organized as follows. In section 2, I examine Washio's characterization of spurious resultatives and reformulate their properties in terms of adverbial modification and predication mismatch. In section 3, verbs that typically appear in spurious resultatives are discussed and characterized as verbs of transformation consisting of two subclasses, verbs of change in configuration and verbs of change in shape/appearance, each focusing on a different aspect of change in transformation. Section 4 argues that, in terms of the function and interpretation of result phrases, spurious resultatives and weak resultatives can be unified, with certain differences between the two categories reduced to different dispositions on a continuum of varied types of transformation. Section 5 looks into a type shifting analysis of Japanese spurious resultatives (Imoto 2009 among others), which I essentially adopt in analyzing their counterparts in English. In section 6, based on the extended characterization of spurious resultatives developed in this article, I reformulate the major resultative dichotomy of true resultatives vs. spurious resultatives. Section 7 discusses some consequences of the present study and section 8 concludes the discussion.

2. Revisiting spurious resultatives

2.1. Adverbial adjectives

In this section, I focus on two main features of spurious resultatives which serve to derive their adverbial characteristics as originally discussed in Washio (1997).

If spurious resultative phrases function as adverbials as in Washio (1997), they should be expected to behave like true adverbials in some syntactically and semantically relevant respects. One of the suggestive facts is that spurious resultative phrases are naturally put into the interrogative by using how-questions in contrast to true resultative phrases (the examples in (7) are from Horrocks and Stavrou (2003: 317)):

(7) a. How did s/he cut the onion? / thin
What color did s/he paint the house? / red
b. How did s/he wipe the table? / *clean, vigorously
How did s/he beat the metal? /*flat, with a hammer

These observations seem to suggest that the apparent adjectives thin in *He cut the onion thin* and red in *She painted the house red* are functionally comparable to the manner adverbs like *quickly*, *slowly*, and *sloppily* as opposed to "true" adjectives in *She wiped the table clean* and *He beat the metal flat*.

Another significant fact about their adverbial character is that adjectives in spurious resultatives typically seem to largely overlap the lexical class of "adverbial adjectives" or "flat adverbs." They assume a single common morphological form, whether they function as adjectives or adverbs. Thus, as shown in (8), adjectives of this class are often used as adverbs that modify verbal events or manner. The following examples are taken from Quirk et al. (1985: 407):[2]

(8) a. *clean* clothes; play the game clean
b. a *deep* breath; live deep in the woods
c. a *flat* country; I'm *flat* broke.
d. *light* weapons; She travels *light*.

Huddleston and Pullum (2002: 568) give a sample of adjective-adverb pairs of the same kind as shown in (9):[3]

(9) clean, clear, dear, deep, direct, fine, first, flat, free, full, high, last, light, loud, low, mighty, plain, right, scarce, sharp, slow, sure, tight, wrong

This type of adjective typically possesses a lexical opposite, together forming a non-complementary opposition where each member and its lexical opposite generally exist on a scale with a mid-interval left open to contextual interpretation (cf. Cruse 1980, 1986). Examples of such pairs include *deep/shallow*, *long/short*, *fast/slow*, *wide/narrow*, *heavy/light*, *large/small*, and *thick/thin*.[4] From a psycholinguistic viewpoint they might be characterized as "most perceptually salient" core words which mark prototypical sensory perception such as size (*long/short*), weight (*heavy/light*), and color (Carter 2004: 115).

The existence of adverbial adjectives as a lexical class might suggest that at least some of the (spurious) resultative adjectives can be analyzed potentially as adverbs, instead of true adjectives. In this connection, note also that some of such lexical items can be found, often in colloquial use, as intensifying modifiers

to adjectives, PP locatives or verbs, something typical of adverbials. In the following examples, adverbial adjectives are shown in italics:

(10) a. She just stood there with her eyes *wide* open.
b. She was *wide* awake.
c. Volcanic eruptions spread dust *high* into the stratosphere.
d. He fell *flat* on the floor.
e. The car stopped *sharp*.

Interestingly, these adverbial adjectives generally have derivationally related *-ly* adverbial forms and the two variants are often used interchangeably with certain semantic connotations, although subtle judgment on the differences between the two variants seems to suggest that there is a certain indeterminacy in the speaker's choice (see Geuder 2000, Broccias 2004, 2008, 2011, Iwata 2006, and Levinson 2010; see also Quirk et al. 1985 and Huddleston and Pullum 2002). For example, Broccias (2008: 6, fn.4) argues that *-ly* adverbs seem to correlate with subjective/abstract properties and adjectives with objective/concrete properties (*She fixed the car perfectly/#perfect*), while Iwata (2006: 467) claims that the *-ly* adverbs can be used only when they elaborate the outcome of verbal actions (**The lake froze solidly/*He painted the wall redly*). Both analyses are able to account for part of the relevant data in their own way, although there seem to be multiple factors involved in a complex fashion.

While admitting that there are certain semantic gounds for choice between the two, it seems to me for the present purposes rather pointless to pursue a reliable criterion for distinguishing between adjective and adverb status, since most of these lexical items are already listed in dictionaries as both adjectives and adverbs and speakers are not always consciously aware of which is which categorially. Furthermore, in English, unlike French for example, an explicit grammatical agreement system for adjectives has been lost and thus we do not have a principled way to distinguish the two categories in question when they appear in the same syntactic position in the same form, that is, without *-ly*. For these reasons, it seems to be too simplistic to regard bare adjective variants as adjectives and *-ly* variants as adverbs. Thus, in the present article, I take the middle ground where the categorial status of apparent adjectives without *-ly* can be either adjective or adverb as far as the context allows, leaving open the question of categorial distinction between the two and adopt the term "adverbial adjectives" to refer to the result phrases in spurious resultatives without implying that they are necessarily true adjectives in category.[5]

2.2. Predication mismatch

One of the most intriguing observations about spurious resultatives is that establishing a proper

predicative relationship between the theme object and the resultative phrase in spurious resultatives is often not straightforward (see Iwata 2006 and Levinson 2010). Although Washio (1997) does not go into detail about the reason why the standard causative paraphrase often fails in spurious resultatives, I suggest that this is because predication (= subject + predicate) does not always hold in spurious resultatives between an NP in object position and the resultative phrase. In the following examples (11-15), the (b)-examples are intended to describe the situations literally reflecting the predicative relationships embedded in the resultatives of the (a)-examples, while the (c)-examples are more appropriate descriptions of the events in the (a)-examples. Notice that in (11-15) the (b)-examples generally sound more deviant in comparison to the (c)-examples:

(11) a. He tied his shoelaces {tight/loose}.
b. His shoelaces are/became {tight/loose}.
c. The knots of his shoelaces are/became {tight/loose}.

(12) a. He spread the butter {thick/thin}.
b. *The butter is/became {thick/thin}.
c. The spread of butter is/became {thick/thin}.

(13) a. He cut the meat {thick/thin}.
b. *The meat is/became {thick/thin}.
c. The slices of the meat are/became {thick/thin}.

(14) a. He opened the window {wide/narrow}.
b. *The window is/became {wide/narrow}.
c. The opening of the window is/?became {wide/narrow}.

To illustrate the point further, consider (13a). When *he cut the meat thick*, it is not the meat itself, but rather each slice of it produced by the act of cutting that became *thick*. Thus, predicating directly the result phrase *thick* of the object *the meat* fails to capture the situation correctly. The same exposition applies to the other examples. What they share is a peculiar interpretation in which the host to be predicated by the result phrase should be construed as an entity "created" or "derived" from the original material through a process of change. In rhetorical terms, the process of change here shifts the reference of the theme argument from the original entity to its resultant product through synecdoche (based on part-whole relationship) or metonymy (based on adjacency). Thus, spurious resultatives can be characterized by a predication mismatch between the syntactically implicit, created entity and the result phrase that is only apparently predicated of the explicitly realized object. We might say, alternatively, that spurious result phrases are "non-predicative" in that they do not function as a true predicate in the strict sense of the term.

The following illustrates associated pairings of an expressed theme argument (= x) and a created entity (= y) that remains implicit:

(15) a. tie the shoelaces {tight/loose}
[x = the shoelaces; y = knots (ties) of the shoelaces]
b. spread the butter {thin/thick}
[x = the butter; y = the spread (layer) of the butter]
c. cut the meat {thick/thin}
[x = the meat; y = a slice (cut) of the meat]
d. open the window {wide/narrow}
[x = the window; y = the opening of the window]

Nominalization of verbal events into an *-ing* form also shows a sharp contrast between true resultatives and spurious resultatives. The nominalized expressions in (16) that are derived from true resultatives are generally unacceptable, unlike those in (17) that are derived from spurious resultatives.

(16) a. *The hammering of the metal was flat.
b. *the flat hammering of the metal
c. *The wiping of the table was {clean/dry}.
d. *the {clean/dry} wiping of the table
(17) a. The cutting of the meat was {thick/thin}.
b. the {thick/thin} cut (ting) of the meat
c. The opening of the window was {wide/narrow}.
d. the {wide/narrow} opening of the window

The contrast also points to another related difference in the aspectual properties of the verbs involved: verbs in the true resultatives in (16) are activity verbs, while those in the spurious resultatives are normally regarded as result verbs. The latter verbs are known to regularly yield two different readings in their nominalization, namely a "process" reading and a "result/product" reading (Grimshaw 1990). With the resultative predicate in (17a, c) and the resultative modifier in (17b, d), the preferred reading is clearly that of the "result/product" reading, where an entity created through a verbal activity is predicated of or modified by the spurious resultative adjective. Note that the nominalized expressions in (16), on the other hand, are generally unacceptable with a "result/product" reading in which the V-*ing* expression is supposed to be understood as a created entity.

The mismatch between the result phrase and its apparent host in spurious resultatives explains straightforwardly the unnaturalness of the paraphrase “cause X to become Y by V–*ing*,” since Y is not properly predicated of X in the semantics of spurious resultatives. The true host of Y is a created entity which is not explicitly realized in syntax but hidden in semantics.

Can we relate this mismatch in predication to the adverbial behavior of spurious result phrases? My tentative suggestion（to be elaborated shortly）is that spurious result phrases are forced to function adverbially because they fail to be structurally linked to a proper host. Although an adjective is generally predicated of a subject or modifies a nominal head, the result adjective in spurious resultatives apparently fails to meet either of those functional requirements in their structural realization. Thus the only way these predicates can function is via adverbial modification.

Interestingly, Washio（1997）observes that in French, which is considered to lack in general the English type strong resultatives, spurious resultatives are possible when the adjectival result phrase does not show agreement with its semantic subject.

（18）　a. J’ai noue les lacets de mes chaussures bien serre.
“I tied the laces of my shoes very tight.”
b. Hachez–les menu.（les = e.g., the onions）
“Cut them fine（i.e., into fine pieces）.”　（Washio 1997: 29）

In view of the fact that French is a language where explicit agreement on adjectives is normally required with the semantic subject, it is clear that the result phrases in（18）do not serve as true（grammatical）predicates to their hosts. This also suggests that spurious resultatives are not just a minor category of resultatives showing certain irregularities, rather a legitimate construction in its own right within the typological study of language. We will return to this point in 5.1, where Japanese resultatives are discussed.

2.3. Spurious resultatives reformulated

In 2.1, we have seen that in modern English certain adjectives and adverbs have come to behave ambiguously with respect to their category status, in particular, in VP final position immediately following a direct object or a verb（cf. Killie 2007）. Although native speakers generally show certain preferences in choosing between the bare adjective form and the *–ly* adverbial form, due to their subtleties it still seems rather difficult to state explicitly the relevant criteria. I have also argued that predication mismatch in spurious resultatives further motivates the adverbial modification reading of the adjectives in question. I have also suggested that predication mismatch explains why the standard causative paraphrase does not seem to work in spurious resultatives: in the “X became Y” part of the paraphrase of spurious resultatives,

proper predication between X and Y often fails due to predication mismatch. As for the existence of antonym pairs in the result phrase, the manner orientation of the result phrase seems to be responsible, as Washio（1997）himself suggests. In other words, depending on *how* the verbal action is carried out, its effects on the theme argument can vary on the same scale of change. Thus we can reduce the tendency of having antonymous adjectives in spurious resultatives to their adverbial use and interpretation, which is in turn attributable to predication mismatch.

Viewed this way, the major characteristics of spurious resultatives noted in Washio's original analysis can be traced back to predication mismatch in the interpretation of spurious resultatives along with ambiguity in the use and form of adverbial adjectives in modern English. Accordingly, I reformulate in（19）the characteristics of spurious resultatives in terms of these two major features:

（19） （A）Adverbial modification:

The result phrase in spurious resultatives has adverbial properties as shown typically by its alternation with *-ly* adverbs and the how-question test. One contributing factor is the historically accidental prevalence of "adverbial adjectives" in modern English. Adverbial modification correlates with the existence of antonymous pairs of resultative adjectives, since the result of a verbal action is crucially affected by *how*（in what manner）the action is done.

（B）Predication mismatch:

The result phrase in spurious resultatives functions "non-predicatively," in that it often fails to be semantically predicated of its apparent host. Instead, it is more appropriately construed as describing the resultant property of a created or derived entity not realized explicitly in the syntactic structure. Causative paraphrase fails when, due to predication mismatch, proper predication does not hold between the created theme argument and the result phrase.

In the following discussion, I will further argue that the adverbial behavior of spurious result phrases in（A）derives from predication mismatch in（B）. Specifically I claim that when predication mismatch occurs, type shifting by coercion（Jackendoff 2002, Pustejovsky 1995）is invoked in order to dissolve the semantic tension between the predicate and its apparent host. However, before I discuss more specifically what kind of interpretive strategy is at work, let us take a closer look from an event-semantic point of view at what kind of verbs are involved in spurious resultatives.

3. Verbs of transformation: changes in configuration and shape/appearance

Consider what kind of verbs typically appear in spurious resultatives. The following examples（stripped to the bone for expository purposes）are intended to offer an overview of what types of resultatives are

generally regarded as spurious resultatives. They are compiled from various sources including the linguistic literature, the internet and dictionaries.

（20） Change in configuration

a. chop the parsley fine
b. clench my fists white tight
c. cut the meat thick
d. hold her arms rigid
e. grind the coffee beans coarse
f. pile the books high
g. rake the gravel flat
h. slice the bread thin
i. scrunch her eyes shut
j. spread the butter thin
k. stack the records high
l. tie the shoelaces tight

（21） Change in shape/appearance

a. bend the metal closed
b. collapse the box flat
c. crush it shapeless
d. dye her hair pink
e. fold the blanket thick
f. roll the notes thick
g. shrink the original story short
h. squint her eyes narrow
i. stretch her arms wide

Semantically speaking, changes described in these examples may be broadly categorized into two types: change in configuration in（20）and change in shape/appearance in（21）. The former type can be further divided, in terms of two opposed directions of change, into “assembling” and “disassembling.” Although admittedly, the categorization of verbs involved is not always clearcut between the two types, the intuitive idea behind this classification is that the verbal events involved here all denote some kind of event which transforms an entity, focusing to varying extents on the configuration or the shape/appearance of the theme argument. Change in configuration is more specific about rearranging component parts of an entity,

separating something into parts (= disassembling) or bringing parts together to produce a larger entity (= assembling). Change in shape/appearance, on the other hand, focuses on holistic change in the shape/appearance of an entity.

The verbs that describe these types of event are largely characterized as verbs of transformation, changing an entity into a different shape, appearance, or configuration typically through exerting various types of physical force. Thus, they can also be accompanied by a prepositional result phrase instead of an adjectival phrase, describing similar types of events of transformation more explicitly, as shown in (22):

(22) a. He tied his shoelaces into a knot.
b. He chopped parsley into pieces.
c. She rolled the notes into a roll.
d. She stacked the records into a tower.
e. She ground the coffee beans into powder.

Interestingly, the nominal complements to the PPs in (22) can naturally undergo adjectival modification by what appear to be spurious adjective phrases, which are italicized in the examples below:[6]

(23) a. He tied his shoelaces into a *tight* knot.
b. He chopped parsley into *fine* pieces.
c. She rolled the notes into a *thick* roll.
d. She stacked the records into a *high* tower.
e. She ground the coffee beans into *coarse* powder.

These examples suggest that these result adjectives used in spurious resultatives in (20–21) are not true predicates of the object of the verbs but are more appropriately understood as semantically modifying the resultant object which can have an alternative realization in PP as in (23). Compare the spurious resultative variants in (24):

(24) a. He tied his shoelaces tight.
b. He chopped parsley fine.
c. She rolled the notes thick.
d. She stacked the records high.
e. She ground the coffee beans coarse.

Given the present characterization of the verbs under discussion as verbs of transformation specifying various types of change in configuration and shape/appearance, a straightforward account can be invoked for predication mismatch between the theme argument and the result phrase as discussed in 2.2: the theme argument in this type of change event can often fail to retain its unity or integrity during the process of change. With verbs of assembling/disassembling, in particular, it is often the case that the original theme argument undergoes a process of change that transforms its material integrity in two ways: either putting different parts together into one whole through an assembling process（e.g. *clenching, piling, stacking*, tying）, or taking a whole apart through a disassembling process（e.g. c*hopping*, *cutting*, *grinding*, *slicing*）. In either case, the referentiality of an entity involved can be affected after transformation process through multiplying or decreasing the number of its constituent parts. If the result phrase as a predicate is supposed to refer to the state of an resultant entity, it is not unnatural to assume that the affected referentiality might hinder a proper predicative interpretation between the original theme entity and the result phrase which describes a resultant product. However, the same does not necessarily hold of the case of changes in shape/appearance where the theme argument undergoes a significant change in its shape or appearance while retaining its basic constitutive property as far as its referential identity is concerned. For example, in the resultative expression *collapsing the box flat*, the referentiality of *the box* can remain the same after the process of collapsing, although its function as a box is normally lost. In this respect, predication mismatch can be seen to have more relevance to the events of change in configuration than those of change in shape/appearance.

Note also that it is not uncommon that the same verb can be seen as describing either a change in configuration or a change in shape/appearance depending on context. For example, the verb *spread* in *she spread the cards flat on the table* describes an act of disassembling while the same verb can be construed as an act of transformation in *she spread the umbrella open*. In other words, an event is seen as an instance of change in configuration when the material unity of an entity is lost in the process of change, while it is seen as an instance of change in shape/appearance when the unity is somehow held intact, even when it has gone through a noticeable change in its shape/appearance.[7] In the next section, I will put forth a view that the category of verbs of transformation can be further extended to include a broader variety of verbs in the so-called weak resultatives.

4. Spurious resultatives and weak resultatives

4.1. How much are they really different?

Given the present characterization of spurious resultatives as formed around verbs of transformation that typically describe a change in configuration or shape/appearance, the reader might ask the obvious question whether spurious resultatives should be treated separately from the so-called weak resultatives

whose main verbs can also be more or less classified as verbs of transformation. In other words, one may ask if it is really necessary to maintain the distinction between spurious resultatives and weak resultatives as originally suggested by Washio (1997). In fact, my answer to this question is that most of the change of state verbs attested in weak resultatives can be subsumed under the larger category of "verbs of transformation," along with verbs of change in configuration and in shape/appearance. I will argue that there are certain differences in degree, but not in kind, between them and consequently spurious resultatives and weak resultatives are to be grouped together in the general classification of resultatives.

Consider some of the oft-cited cases of weak resultative in the literature.

(25) a. He broke the box open.
b. She froze the ice cream hard.
c. He melted the chocolate soft.
d. He burned the books to cinders.
e. She boiled the lobster pink.
f. He fried the potatoes crisp.

It seems clear that the examples in (25) share certain similarities with the spurious resultatives we have examined so far. They entail certain results that can be further specified by result phrases, which are in turn licensed as long as they are construed as describing some kind of additional specification to the entailed result of the verbal events. In this respect, the verbs in question can be largely classified into verbs of transformation in (21). If we are to define the semantics of verbs of transformation more precisely, it should involve such conceptual categories as property, configuration, shape, color, and size as its subcategories. Among them, property is the superordinate concept which unifies other subcategories including "intrinsic property" which I assume to refer to some inherent property of an entity defined in terms of its unity or function at an abstract level. For example, an event of *breaking* not only physically damages an entity but also spoils its function as a result of the process of transformation. An event of melting or *freezing* normally changes the constitutive state of an entity, which can in turn lead to a change in its classification category (e.g. from ice to water and vice versa). Thus, I claim that verbs of change in intrinsic property, which typically serve as the semantic core of events denoted by weak resultatives, can be generally subsumed under verbs of transformation. The conceptual subcategories that are involved in the semantics of verbs of transformation are summarized in the following figure:

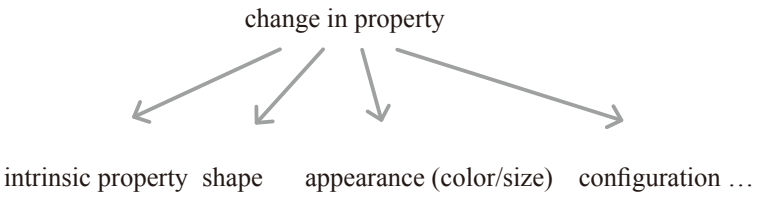

Figure 1 : Conceptual categorization with verbs of transformation

In fact, some scholars who acknowledge the existence of spurious-type resultatives regard the resultative instances of these verbs as a subtype of the resultatives which consists of the verb implying a result and the result phrase further specifying it（Iwata 2006, Rapoport 1999 among others）. According to Iwata（2006）, for example, his Type B resultatives, which roughly correspond to weak resultatives in Washio（1997）, cover the spurious type as well. In the following, despite the strong similarities to the prededing approaches（Iwata 2006, Rapoport 1999）, I will argue that "spurious resultatives," instead of "weak resultatives" or "Type B resultatives," can be considered a better characterization of our object of study to be contrasted with "true resultatives" in section 6, where the notion of further specification in resultatives is further examined.

4.2. Manually controlled processes

Before jumping to the conclusion that spurious resultatives and weak resultatives can be unified into the same class, however, let us explore some ideas hinted at by the fact that the verbs in the typical spurious resultatives in（20-21）and those in the weak resultatives in（25）are not perfectly homogeneous in their semantic properties. The former type of verbs do not normally yield intransitive variants with their agentive subjects suppressed: intransitivization is possible only when the theme argument is understood as a kind of natural object in motion, as in（26）and（27）. On the other hand, the latter verbs, irrespective of the semantic type of the theme argument, participate in transitive/intransitive alternation fairly freely, as in（28）.

（26） a. He spread the butter thin.
　　b. ??The butter spread thin.
　　c. The soil spread thin over ancient rocks.
（27） a. She piled the books high.
　　b. ??The books piled high.
　　c. The snow piled thick.
（28） a. The glass broke in pieces.

b. The ice cream froze hard.

c. The chocolate melted soft.

The change process expressed by the former class of verbs typically requires a responsible agent who has control over the process of change, while with the latter the relevant change is understood as being somehow internally caused once initiated. That is, this latter type of change is likely to progress on its own without aid of an agentive controller（cf. Levin and Rappaport Hovav 1995 for "internal causation" vs. "external causation"）. Thus, we may say that change of configuration verbs are relatively less specific about their outcome, while an agent's involvement in their activities, such as manually controlled procedures, is more strongly specified. This relatively higher specificity of agentive control contributes to their limited occurrence in intransitive forms such as（26c）and（27c）.

4.3. Elasticity of types of change and underspecification of results

Viewed from a slightly different perspective, the two types of verb that appear in spurious resultatives and weak resultatives also differ in the degree of specificity of the result entailment. In spurious resultatives, verbs are not always specific enough about their entailed results, or at least, it is sometimes difficult to determine what kind of results are entailed because of the elasticity of the verbal semantics. Put differently, it is often the case that the resultant situation is rather dynamically constructed from a combination of the verb, the theme argument and the result phrase. Consider the following cases:

（29） a. She piled the books high.

b. She piled the broken pieces（of the dish）into her hand.

c. They piled into a taxi.

d. The snow piled thick.

An act of *piling* usually means putting things up higher and higher in a vertical direction, but in some cases it can also mean moving things to the same place one by one with no implication of vertical growth. In other words, in（29b-c）, the cumulative effect of the successive procedures or minievents of *piling* is highlighted instead of a cumulative effect in an upward direction（29a）.

The behavior of the verb *spread* is similar. In（30a）, 'the word' goes through a disassembling process while, in（30b, c）, the change simply concerns the holistic shape or appearance of an entity with no implication of disassembling.

（30） a. She spread the word in two halves. [8]

b. She spread the umbrella open.

c. She spread the butter thick.

Thus, we may say that the core meaning specification of the verb *spread*, definable as a widening motion of the parts of an entity, can be expressed either as a change in configuration in (30a), or as a change in shape/appearance in (30b) and (30c).

As to how specifically results are implicated, verbs like *pile* and *spread* seem to behave slightly differently from other bona fide result verbs, some of which we have termed verbs of change in intrinsic property in 4.1. To clarify the difference, let us employ the s*omething is different about* X test (Beavers 2011: 342) as an informative means to detect property change in the result entailment of verbs.

(31) a. John just cleaned/painted the bedroom, #but nothing is different about it.

b. John just destroyed/ate the cake, #but nothing is different about it.

When this test is applied to *pile* and *spread* cases, the results are somewhat difficult to evaluate.

(32) a. She just piled the books, (#) but nothing is different about them.

b. She just spread the cards, (#) but nothing is different about them.

As long as it deals with the inherent properties of the books or the cards, the statement *nothing is different* does not seem to contradict the former half of the sentence. In fact, Beavers also provides another related test for change of location, *x is somewhere else*, but again the results with the verbs *pile* and *spread* are not so bad, if not definitely acceptable. Judgment varies, depending on how narrowly one construes the relevant location where entities move.

(33) a. John just walked out of the room, # but he is not somewhere else.

b. She just piled the books, (#) but they are not somewhere else.

c. She just spread the cards, (#) but they are not somewhere else.

Consider another test for scalar change, *X is more V-ed than Y* (Levin 2008), by which the verbs in question generally fail to show a scalar change property:

(34) a. *The parsley is more chopped than the onions.

(cf. The parsley is more finely chopped than the onions.)

b. *These books are more piled than those ones.
（cf. These books are piled higher than those ones.）
c. *These cards are more spread than those on the other table.
（cf. These cards are spread wider than those on the other table.）

Taken together, the results of those tests suggest that the typical verbs in spurious resultatives, verbs of change in configuration and change in shape/appearance, may not fully qualify as result verbs in that they do not seem to entail any change that can be characterized by a distinct scalar notion. Intuitively, however, it still feels too strong to deny that some kind of directed change is involved in the events with these verbs.

In this connection, there is a plausible line of argument suggested by Rappaport Hovav and Levin's（2010）treatment of verbs such as *brush*, *chop*, *comb*, *grind*, and *mow*, which apparently constitute a potential counterexample to their analysis of manner/result complementarity in lexicalization. As they observe, these verbs normally require that the agent use a particular instrument（involving a specific manner）while also entailing a change in the theme as a result of the use of this instrument（involving a specific result）. They suggest the following:

（35） These verbs［*brush*, *chop*, *comb*, *grind*, and *mow*］, then, specify changes in the entities denoted by both the subject and the object, but we argue that these changes are not scalar so that these verbs do not counterexemplify manner/result complementarity. They describe complex interactions between the entities denoted by their two arguments, so that the change in the object can be characterized only by concomitant reference to the subject's activity.

（Rappaport Hovav and Levin 2010: 38）

Based on the insightful characterization by Rappaport Hovav and Levin, I assume that the "ambiguous" verbs of this type share the duality of manner/result meaning in their lexical specification: their result entailment is underspecified to the extent that directed change cannot be meaningfully defined in terms of the notion of scale without reference to their respective manners, that is, how the subject acts during the process of change. This characterization of the semantics of verbs in question corresponds perfectly with our characterization of verbs in spurious resultatives as involving manually controlled process, which in turn explains their inclination to syntactically transitive realization.

To summarize our observations so far, the potential tendency of verbs of change in configuration and shape/appearance to support a variety of result phrases can be seen as reflection of their semantic elasticity. The source of this, I suggest, lies in the underspecification of result entailment in the lexical semantics of the verbs in question. Seen from a different perspective, they are likely not to fully specify their result

states only to be further substantiated with additional result expressions. In other words, they sometimes fail to behave like genuine result verbs, showing characteristics of "ambiguous" verbs in terms of manner/result complementarity in the sense of Rappaport Hovav and Levin（2010）. The manner component in verb semantics in this case directly conforms to one of their features already discussed, namely manually controlled process. All this suggests that verbs of change in configuration and verbs of change in shape/appearance are weaker in result specification than other members of verbs of transformation.

However, I would rather not take this point too far about distinguishing between the two types of verbs, verbs in spurious resultatives and those in weak resultatives. I would rather argue that they cover a large part of events of transformation together sharing the same type of resultative interpretation in which the result phrase essentially functions as further specification of the verb meanings.

There is additional evidence that a similar kind of elasticity in result specification with verbs of change in configuration and verbs of change in shape/appearance is also observed occasionally with weak resultatives with verbs of change in intrinsic property.

（36） a. Mr. Gray［…］smashed the headlight dark.　（Stephen King, *Dream Catcher*: 460）
b. The wax is all gone from it. The dish has burnt dry.　（Ben Watt, *Patient*: 29）
c.［…］hotel rooms that freeze your eyebrows to the pillows［…］
（David Lodge, *Small World*: 32）

Notice that in these examples, the result component of the verb meaning is somewhat "bleached"（cf. Rappaport Hovav & Levin 2010）in that the verbs in（36）do not retain the literal sense of converting some entity into pieces, cinders or solid, but rather they only convey their manner-oriented senses of concomitant effects such as causing the loss of lighting function or giving a high degree of heat or extreme coldness.

As argued above, the elasticity observed with spurious resultative verbs（in particular, with verbs of change in configuration and verbs of change in shape）comes from two sources:（A）agentive（manual）control of the process of change, and（B）underspecification of the result types. In fact, these two features can be seen as two sides of the same coin: the existence of manual control during change events somehow seems to offset explicit specifications of the result state. Put differently, for some result verbs, the result specification can be left abstract and incomplete if the involvment of agentive control throughout the process is entailed to a certain degree.[9]

In terms of scalar change, partially ordered scales are very similar to two-point scales in that they are both very limited in the number of potential degrees ordered on a scale. In fact, this type of underspecification is widely shared among change of state verbs, with the exception of so-called degree

achievement verbs（e.g. *cool*, *warm*）which are associated with more fine-grained multiple-point scales. Note that, among verbs of transformation, predication mismatch is typically observed with verbs of change in configuration, while it is not often the case with verbs of change in intrinsic property. This is probably because, unlike the former, the latter verbs do not always involve the loss of physical unity. In this respect, some change of state verbs found in weak resultatives, namely verbs of change in intrinsic property（e.g. *break*, *burn*, *freeze*, *melt*）, are virtually indistinguishable from other verbs of transformation with respect to their choice of the result phrase. Therefore, I propose that verbs in spurious resulatives and weak resultatives can be placed on the continuum of various events of transformation: verbs of change in configuration generally on the side of physically affected unity and verbs of change in intrinsic property on the other with other types of verb of change（in shape, appearance, etc.）in-between. Based on the conceptual categorization of transformation in Figure 1, the division of labor between the two types of resultatives in describing events of transformation can be schematically represented as follows:

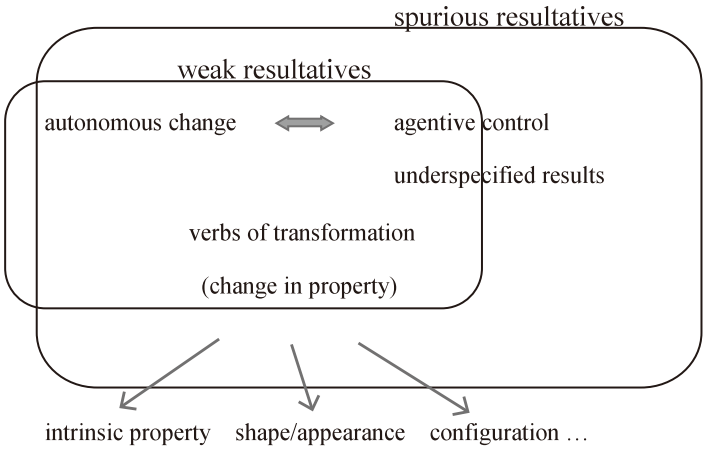

Figure 2 : Division of labor between weak and spurious resultatives

Verbs of transformation generally covers various aspects of change in property, which can be divided into several conceptual subcategories such as intrinsic property, shape/appearance, and configuration. The various types of change in transformation often, if not always, involve the loss of unity in the part of the theme argument, which can have a significant reflex in its function or referential identity. When events of transformation are realized in resultative constructions, their semantic area is largely shared with two types of resultatives, namely weak resultatives and spurious resultatives, which are related with each other in a cline-like fashion partly overlapping in their coverage of the conceptual field of transformation: while the former tends to cover autonomous changes, the latter is more likely to deal with changes characterized by agentive control.

Although the two types of resultatives have different orientations as to what type of change they most appropriately describe, this difference is also a matter of disposition where quite a few cases fall ambiguously between the two spheres. Thus, in my opinion, spurious resultatives and weak resultatives share the general semantics of the result phrase further specifying the result implied in the verb meaning. In order to substantiate this idea we still need to clarify how the result phrase actually functions in further specifying the resultant state of transformation. With that in mind, let me digress a while in the next section to see what can be learned from Japanese（spurious）resultatives.

5. The view from Japanese (spurious) resultatives

5.1. A Type shifting analysis of Japanese (spurious) resultatives

In his seminal work on the typology of resultatives, Washio（1997）argues that Japanese has only weak resultatives（and spurious resultatives）, but not strong resultatives, while in English both types of resultative are possible. His account of this typological difference is based on a hierarchy of patienthood, formulated in terms of the strength of result implications in verb semantics. I will not go into the specifics of Washio's analysis of patienthood, but see Beavers（2011）who offers a concise recapitulation of the hierarchy and a possible reinterpretation of it within the affectedness hierarchy proposed by Beavers himself. Since Washio（1997）, it has been widely assumed that Japanese is a language which is fairly restricted in its variety of resultative constructions compared to English-type languages with strong resultatives.

However, recent studies in Japanese linguistics（Imoto 2009, Miyakoshi 2009 among others）have cast some doubt on this limited view of resultatives in Japanese, suggesting that there is in fact a broader variety of resultative expressions than assumed in the traditional literature, some of which are exemplified below（adapted from the previous studies including Imoto（2009）and Miyakoshi（2009）with English glossess by the present author.）:[10, 11]

（37）　a. Kanojo-ga　kami-wo　kirei-ni　kitta.
　　She.NOM　hair.ACC　nicely　cut.PAST
　　'She cut her hair nice/lovely'
　　b. Kare-wa　negi-wo　naname-ni　kitta.
　　He.NOM　leek.ACC　diagonally　cut.PAST
　　'He cut the leeks diagonally'
　　c. Kare-wa　negi-wo　taira-ni　narabeta
　　He.NOM　leek.ACC　flat　place in order.PAST
　　'He arranged the leeks flat'

d. Kanojo-wa	huusen-wo	ookiku	hukuramaseta.
She.NOM	baloon.ACC	big	blow.PAST
'She blew the balloon big/large'			
e. Kare-wa	sashimi-wo	ookiku	kitta.
He.NOM	raw fish.ACC	big	cut.PAST
'He cut the raw fish big/large'			
f. Ude-ga		akaku	hareta.
Arm.NOM	red	swell.PAST	
'My arm swelled red'			

Imoto argues that although events in so-called spurious resultatives are typically understood as expressing transformations in which an entity undergoes a significant change to produce a created entity, this interpretation is not inherently specified in the verbal semantics (since the verbs in question are mostly change of state verbs) but rather an emergent property derived by coercion (Jackendoff 2002, Pustejovsky 1995), more specifically, type shifing in the interpretation of the object noun phrase, as a consequence of adding the result phrase to the original verbal event, typically an event of transformation.

Abstracting away theoretical details for present purposes, Imoto's (2009) analysis of Japanese resultative expressions can be recapitulated as follows:

(38) (A) The function of the Japanese result phrase is adverbial modification to some (potential) facet of the verb semantics. Importantly, the categorial distinction between adjectives and adverbs essentially does not matter in the interpretation through type shifting. The result phrase is understood as a modifier to the verb phrase without being predicated of a host noun phrase directly.[12]

(B) Coercion is at work to accommodate semantic incompatibility, when it arises, yielding a meaningful semantic interpretation between the verbal predicate (with its theme argument) and the result phrase.[13] By way of type shifting the result phrase can be semantically linked to a resultant object in a transformation event instead of the syntactically realized object. More generally, "further specification" in cases like this can be regarded as a dynamic interpretive process of eliciting a relevant facet of events potentially compatible with the verb semantics.

In some cases, semantic interpretation utilizes static information lexically specified in the verb meaning; in other cases, when the relevant facet of change is not fully predictable from the verb meaning coercion

is invoked to deal with the apparent semantic incompatibility. To illustrate how coercion works in such cases, consider the following examples with *ooki-ku*, *-ku* form of the adjective *ookii* (“big” or “large” in English): [14]

(39) a. Kare-ga sashimi-wo ooki-ku kitta
He.NOM raw fish.ACC large cut.PAST
‘He cut the raw fish into large slices.’

b. Kanojo-ga kabin-wo ooki-ku watta
She.NOM vase.ACC large break.PAST
‘She broke the vase into larger pieces.’

c. Kare-ga te-wo ooki-ku hutta
He.NOM hand.ACC big wave.PAST
‘He waved his hand in a big motion.’

d. Kanojo-ga ooki-ku waratta
She.NOM big smile/laugh.PAST
‘She smiled a big smile/laughed in a loud voice.’

The expression *ooki-ku* normally refers to the size or volume of an entity in change especially when the effect of change is regarded as being of some significance. However, when combined with certain verbs, the verbal activity and the semantics of *ooki-ku* may fail to fit together in a straightforward way. For example, (39a) cannnot be understood as an act of making something larger by cutting; in (39b), the act of waving his hand does not make it bigger; and in (39c), the act of laughing is not normally understood as involving an entity that becomes bigger as a result. Still, all these examples obtain natural readings: in (39a), the event of cutting is reanalyzed as a transformation (disassembling) event where each piece of the resultant product can be described as “large” according to some contextual criterion; in (39b), the target of *ooki-ku* is shifted from the hand itself to its motion/trail; in (39c), without any apparent target of modification by *ooki-ku*, the effect of smiling is construed as an abstract product to be modified in a coerced reading.

According to Imoto’s type shifting analysis, “further specification” in Japanese resultative expressions is regarded as not just augmenting the result specification of the verb semantics with additional information but rather prompting constructive process of adjustment in interpreting possible events. In order to achieve semantic coherence, type shifting requires a dynamic reinterpretation of the theme argument, generating different combinations of verbs, objects, and result phrases.

5.2. Adverbial modification as type shifting

I will argue that the basic insight of type shifting analysis of Japanese resultatives by Imoto（2009）can be extended to account for a significant part of elastic interpretation of spurious resultatives more generally. Let us turn again to spurious resultatives in English. We have discussed that English spurious resultatives have two major features when compared to normal resultatives:（A）predication mismatch and（B）adverbial modification by the result phrase. We have argued that predication mismatch reflects the general semantics of events of transformation, mainly characterized by a change of properties such as change in configuration and change in shape/appearance, generally denoting an event where the unity of an entity is affected in some way or other in the process of change. We have also taken a less committed position on adverbial modification: no single criterion is assumed to determine the categorial status of the modifier if it realizes in a bare "adjective" form. Along this line of thinking, Imoto's account of Japanese resultatives in which "further specification" plays a constructive role in interpreting events can be extended to capture an important facet of predication mismatch in spurious resultatives in English.

As we have seen above, verbs in spurious resultatives, namely verbs of transformation, are often underspecified for their result entailment, tolerating different kinds of result phrase for different event types. Moreover, it is not always the case that the result phrase is analyzed as a simple modification of the implied result of verbal activities. Consider the following examples, one in Japanese and the other in English:

（40） a. Michi-ga siro-ku kawaita （Imoto 2009: 291）
Road.NOM white dry.PAST
'The road dried white.'
b. Her breath exploded white.[15]

In（40a）, the drying of the road does not imply a change in color, or for that matter, a change into white. Likewise, in（40b）, the explosion of her breath cannot be inherently linked in the verb semantics to its becoming white. Instead, in each of these examples, the addition of the result phrase white should be seen as an active trigger to derive a transformation event reading（yielding some entity in white）. In other words, the reading "x becomes white as a result of x's drying or exploding" is coerced in the context.

An advantage of the type shifting analysis of those resultatives is that it is not necessary to strictly determine the categorial status of result phrases, since type shifting by coercion is not a syntactic process by nature and the predicative interpretation to be obtained is only a makeshift in semantics involving various pragmatic factors. As one of the characteristic properties of spurious resultatives, it has already been pointed out that the result phrase functions as adverbial modification instead of true predication. We

can now recast the situation as follows: in spurious resultatives, true predication in a structurally motivated sense does not hold, and thus for the result phrase to receive a proper interpretation, it must be linked to a semantically appropriate host by virtue of its modifying the VP in question adverbially. In this sense, adjectives in spurious resultatives are coerced into behaving like adverbs, and further specification in spurious resultatives is not just modification of an inherently specified component of the verb semantics, but rather a constructive process of exploring a possible reinterpretation of an entity undergoing a change.

A related question to consider is how and when such type shifting is permitted. For the present, I have a limited answer to this: targets of semantic coercion are constrained lexically and conventionally: lexically, in that the choice of adjectives available are limited to lexical items of Germanic origin with a monosyllabic structure and to those that normally denote objectively discernible, simple properties; conventionally, in that combination of the verb and the result phrase must be construed as more or less conventionally motivated to give a natural interpretation in events of transformation. This latter aspect is often pointed out to hold more generally about resultatives（Boas 2003 among others）.

6. The resultative dichotomy reformulated: true resultatives and spurious resultatives

6.1. True resultatives and temporal dependence

The last question which has been left unaddressed so far in this paper is what true resultatives are. What can our new understanding of spurious resultatives offer to the major dichotomy of resultatives? In answering this question, I would like to propose a complementary characterization of the two major types of resultatives. Following the general trend in mutually-related, though not fully agreed upon, boundedness constraint approaches to resultative constructions,[16] I adopt the view that in true resultatives, two different scales, the verbal scale of the main predicate and the secondary scale provided by the result phrase, are merged to form a complex scale, with the latter typically setting a boundary on the process of change in the first scale. In other words, true resultatives are characterized by a scale composition, in which an unbounded process of change inherently specified in the verbal scale is delimited by a bound read off of the result phrase.[17] A major point of consensus in the relevant literature is that the result phrase must be "virtually closed" in terms of scalar interpretation（cf. Wechsler 2005）, while there are various implementations of this idea of boundedness constraint on resultatives（see Goldberg 1995, Rothstein 2004, Suzuki 2006, Vanden Wyngaerd 2001, Wechsler 2005）

（41）　a. ?He talked himself a little hoarse.
　　b. ?She ate herself a little sick.　（Goldberg 1995: 196）

（42）　a. Tim danced himself {completely/almost/half/*very} tired.

b. Max shouted himself {completely/almost/half/*very} hoarse.

c. The joggers ran the pavement {completely/almost/half/*very} thin.

d. Charley laughed himself {completely/almost/half/*very} silly.（Vanden Wyngaerd 2001: 64）

The data in（41）and（42）plainly suggest that even gradable adjectives are forced to behave as non-gradables when they are put in the resultative frame. That is, the constructional frame requires the bounded（closed-scale）interpretation of result phrases whether they are lexically specified as closed-scale（= non-gradable）or not.

Taking boundedness as the defining property of true resultatives, I adopt a particular view that the scale composition between the verbal scale and the result scale in true resultatives is intuitively captured by the *until*-paraphrase of the resultative sentence, which is to account for the temporal dependency between the two subevents.

（43） John hammered the metal flat ⇒ John hammered the metal *until* it became flat.

In（43）, the paraphrase with '*until*' given on the right side of the arrow means the event of John's hammering the metal and the event of its becoming flat proceed in a temporally parallel way.[18]

It is sometimes argued that temporal dependence does not hold in unselected object resultatives（ECM resultatives in Wechsler's（2005）terminology）, in particular in those with an intensifying reading of dysfunction. Rappaport Hovav and Levin（2001: 775）, for example, argue that there can be a temporal gap between the verbal event and the result event in（44）since "the hoarseness is achieved some time after the singing is over":

（44） Sam sang enthusiastically during the class play. He woke up hoarse the next day and said, 'Well, I guess I've sung myself hoarse.' （Rappaport Hovav and Levin 2001: 775）

However, other scholars claim that, even in such instances, "temporal adjacency," if not temporal overlap, still holds between the two subevents.（see Croft 2012: 290-291, Goldberg & Jackendoff 2004 and Rothstein 2004）. In line with the latter position, I would add two further points to argue that a boundedness analysis can be applied to unselected and reflexive object resultatives like those in（44）. First, linguistic expressions do not always reflect real world events as they are. In（44）, while it would be possible to have a temporal lag between his singing performance and the appearance of hoarseness in his throat in a real event, the literal interpretation of the expression can require a coincidental reading, in which the culmination of his becoming hoarse is understood exactly as being at the end of his performance. In

other words, the apparently temporally independent interpretation can be seen as a result of a contextually inferred reading.

Secondly, unselected object resultatives（ECM resultatives）, in particular those with reflexive objects or body part objects, are more or less idiomaticized with negative connotations of various types of dysfunctional state. It is not uncommon for a speaker to use an idiomatic phrase to overstate his experience, distancing himself from objective descriptions of real-world events. That is, an idiomatic expression by nature deviates from its literal interpretation. This can be another reason why some resultatives with unselected objects can have apparently temporally independent readings.

Returning to the general interpretation of true resultatives, I specifically propose that a temporally dependent interpretation derived from scale composition has two potentially different realizations: one is "total overlapping" where two subevents unfold in parallel from start to finish, and the other is the "terminal coincidence" of two subevents where the result phrase determines the culminating point as a bound on the scale of the verbal event. In both cases, I assume that the *until*-paraphrase applies, i.e., even in the case of "terminal coincidence," it is possible to interpret two subevents as having developed contemporaneously. For example, *he sang himself hoarse* has the paraphrase "he sang（songs）until he became hoarse," where his singing act continues while the situation in which his throat is being damaged little by little develops in a parallel way. Put differently, we may say that a kind of retrospective reading（going backwards from the result）is employed to reconstruct a parallel unfolding interpretation.

Given this characterization of true resultatives, we can see the oft-mentioned obligatory reading of incremental change in（true）resultatives（cf. Croft 2012, Rothstein 2004; see also Rappaport Hovav and Levin 2001, and Beavers 2011 among others）as induced by the scale composition between the verbal predicate and the result phrase. Thus, in the present analysis, the scale composition between two subevents is the distinguishing factor of the major typology in the cross-linguistic distribution of resultative expressions, namely strong/true resultatives and spurious resultatives.

7. Some consequences of the reformulated dichotomy of resultatives

7.1. Counterexamples to the boundedness constraint reexamined

It has been often pointed out in the literature that the boundedness constraint on resultatives has to deal with apparent counterexamples（Boas 2003, Ono 2007; see also Goldberg and Jackendoff 2004, Wechsler 2005）. Consider the following set of examples in（45）that apparently violate the boundedness constraint, as presented by Boas（2003: 136-137）, who argues against Wechsler's（2001/2005）maximal endpoint constraint:

（45）　a. Cool to room temperature. Dip a soft cloth in the solution, wring it *damp* and wipe furniture

with it.（1998/12/31, Newsgroups: rec.antiques）

b. The simplest approach is to require the application to mark it dirty after making any changes and before dropping its strong references.（2000/1/18, Newsgroups: comp.lang.java.programmar）

c. Actually, if you're trying for a Vietnam-look, the best way to do it would just color it dirty（2001/3/4, Newsgroups; rec. models.scale）

d. Everyday I wipe it wet with WD-40 before I ride and then wipe it *dry* after my ride.（2000/4/19, Newsgroups: rec.bicycles.misc）

e. He found his lips *dry* and licked them *wet* again before taking a sip from the already sweating beer can.（2002/6/20, Newsgroups: alt.sex.stories.moderated）

In view of the exampes in（45）, Boas argues that certain（de facto）open-scale adjectives（closed-scale adjectives with a minimum standard）can appear in resultatives, in violation of the boundedness constraint.

Note, however, that the adjectives in（45）constitute antonymous pairs of "complementary opposition," their respective antonyms being closed-scale adjectives:[19]

（46） a. damp（open scale） ⇔ dry（closed scale）
b. dirty（open scale） ⇔ clean（closed scale）
c. wet（open scale） ⇔ dry（closed scale）

These open-scale adjectives have in fact been traditionally cited in the literature as unacceptable in resultatives:

（47） He wiped it clean/dry/smooth/*damp/*dirty/*stained/*wet. （Green 1972）

Given the present framework, however, it is not difficult to reanalyze these apparently problematic cases in（45）as spurious resultatives. First, in（45a）, the act of *wringing a wet cloth* can yield something *dry* or *damp* depending on the manner in which the wringing activity is performed. Thus, a natural interpretation of *wring it damp* should be something like "wring it in such a way that it remains damp." Conversely, the *until* paraphrase does not make sense with this case（wring it damp ≠ wring it until it becomes damp）. The verbs *mark* and *color* in（45b, c）are verbs of change in apperance and thus the events described here can be analyzed as transformation events in our terms: they are understood as something like "x marks/colors y in such a way that z which looks dirty is created," where z could be viewed as distinct in identity transformed from y. Although a similar analysis is available for（45d, e）, it can be alternatively argued

that these examples are truly exceptional in that they are set in a contrastive context, namely, in (45d), *wipe it wet and wipe it dry* are placed in tandem, and in (45e), *wet* comes immediately after its antonym *dry*. It is not unreasonable to consider that this context effectively encourages the appearance of these unexpected adjectives. In my opinion, (45d, e) may be justifiably disregarded as idiosyncratic tokens whose acceptability is heavily contingent on peculiarly contrastive contexts. Thus, they do not constitute genuine counterexamples to our characterization of true resultatives as far as we maintain the dichotomy of true resultatives and spurious resultatives. I conclude that the apparent counterexamples in (45) can be analyzed either as spurious resultatives in the present framework or as highly irregular tokens consciously created in the context.

7.2. Ambiguity in resultatives: true or spurious

I have presented an expanded view of spurious resultatives that allows a more flexible interpretation of result phrases with respect to their predicational properties. In addition to true resultative interpretation, namely, temporally dependent incremental change under strict scale composition, the present analysis leaves room for some seemingly true resultatives, in particular when the object is selected by a transitive verb, to have a spurious reading where temporal dependence is not required. In other words, the result phrase is associated with its host only through adverbial modification instead of structural predication. In such cases, the resultative sentence can be paraphrased as "x V on y and y is now z," instead of the *until* paraphrase "x V (on y) until y becomes z." Consider a typical case of true resultatives:

(48) He hammered the metal flat.

I claim that (48) can be ambiguous in its event-aspectual interpretation: (i) a true resultative reading where his hammering and the metal becoming flat totally overlap in their temporal development from start to finish, and (ii) a spurious reading where the event of the metal becoming flat does not proceed incrementally but the flatness can be achieved, for example, instantly in the final moment of a clumsy five minute hammering.[20] Despite this rather unexpected consequence, it is in fact natural enough when we consider the fact that incremental change is not always a strict requirement of "resultative" sentences. In other words, I suggest that the temporally dependent incremental change reading is not an obligatory interpretation in apparently true resultatives: on the contrary, it is an optional reading when scale composition is employed. In this respect, the incremental change reading of true resultatives in which two subevents unfold contemporaneously is constructed "retrospectively" from potentially ambiguous resultative sentences by means of scale composition. Note that this type of ambiguity is available only if the verb lexically selects the object, in other words, only in Control resultatives in Wechsler's (2005)

sense.

8. Conclusion

In this article, I have reexamined the characteristics of spurious resultatives whose independent existence was first pointed out by Washio（1997）. After identifying predication mismatch in transformation events as well as a greater prevalence of adverbial adjectives in English as the major sources of the peculiarities found in this type of resultative, I have presented a type shifting analysis based on recent studies of Japanese resultative expressions. Although rather commonly found in Japanese, those spurious resultatives have somehow been largely overlooked in general typological approaches to resultatives. Furthermore, I have proposed to extend the notion of "spurious resultatives" to subsume "weak resultatives" since, as I have shown, the two types of resultatives mainly involve the same class of verbs, namely verbs of transformation, semantically sharing a larger space of various aspects of change in property. The extended spurious resultatives in turn sharply contrast with true resultatives that are characterized by the scale composition which leads to incremental change readings of two subevents.

The present analysis emphasizes the role of the creative aspect of adverbial modification, in which "further specification" is reconceived as a flexible elicitation strategy by which the result phrase is properly linked to its host in semantic interpretation without resort to structural predication. This gives a flavor of "adverbial modification." This strategy, constrained lexically and conventionally, is invoked by coercion in cases when semantic incompatibility is detected in predicative interpretation during transformation events. Viewed this way, spurious resultatives, which stand in sharp contrast to true resultatives under the strict interpretation of scale composition, are also creative in their own way.

* I am grateful to Seiji Iwata for extensive comments on an earlier version of this paper. My thanks also go to Mark Irwin for suggesting stylistic improvements. This study was supported in part by Grant-in-Aid for Scientific Research（C）, No. 2450528 and No. 15K02590 from the Japan Society for the Promotion of Science. Needless to say, all remaining inadequacies are my own.

Notes

1. Washio（1997）defines strong resultatives as having a verb that does not specify a change of state and weak resultatives as having a verb that specifies a change of state or at least a potential change in a certain direction. This amounts to saying that in the former the result phrase functions as further specification of an implicit result of the verb, whereas in the latter it adds a new result to the verbal event. Theoretical details aside, the essence of this classification is by and large shared by many scholars including Rapoport（1999）（true resultatives vs. false resultatives）and Iwata（2006）

（Argument structure resultatives vs. Adjunct resultatives）: in one type the result phrase is more responsible for characterizing the event semantics independently of the verbal semantics while in the other it is more dependent on the verbal semantics.

2. In Quirk et al.（1985）, the order of italicized words in（8）shows adjective uses of the same form first and adverb uses second. They note that “many such uses in adverb function occur chiefly in fixed expressions（Quirk et al. 1985: 405）.”
3. Huddleston and Pullum（2002: 567）note that “the overlap is greater in non-standard speech, and within the standard variety there are some adverbs of this kind that are restricted to informal style,” while also pointing out that “the distinction between adjective and adverb is not always entirely obvious.”
4. It is not actually the case that all the adjectives taken up in（9）appear in spurious resultatives. My point, however, is that a certain amount of prevalence of such adverbial adjectives in modern English can be a motivating factor of adverbial interpretation of adjectives in spurious resultatives. It should be also pointed out that some of the items such as *high*, *low*, *deep*, *wide* are lexically genuine adverbs as they are listed in dictionaries as such. With these items, *-ly* counterparts normally assume more abstract senses concerning recognition and evaluation.
5. See Himmelmann and Schultze-Berndt（2005）on the general distinction between（apparent）adjectives and adverbials in adjunct positions; see also Killie（2007）for the adverbialization process in the history of English and the recent development of “appearance/attribute” *-ly* adverbs which largely overlap with the *-ly* counterparts of the adjectival adverbs under discussion.
6. See Levinson（2010）for an intriguing analysis of spurious resultatives（“pseudo-resultatives” in her terminology）based on the lexical-syntactic approach of Hale and Keyser（2002）where “root creation verbs”（e.g. *braid*, *tie*, *pile*, *chop*, *slice*, and *grind*）are derived from the complement of a PP which denotes a producing event.
7. “Internal motion” events studied extensively in Iwata（2008）（e.g. *The door swung open/The trap door fell shut*）can also be analyzed as a subtype of change of configuration events, where the integrity of an entity is lost or split as a result of a part of a larger architecture changing its location. This contrasts with the cases of “translational motion”（Talmy 2000）in which an entity itself moves somewhere as it is. Iwata argues that open/shut expressions involve both motion and change of state and that, in particular, the adjectives open and shut are not predicated of the theme argument directly but instead express concurrent change of state with internal motion where only part of an entity undergoes a motion. In other words, two predicates both of which denote different kinds of result have different semantic subjects respectively, although their referents partly overlap with each other in terms of their inherent part-whole structure.

8. (30a) is adapted from the following text referring to an act of speaking in which the word "gentleman" is pronounced with a pause as if "gentle" and "man" were separate words.
   (i) 'You're a gentleman,' she said, spreading the word into two halves so that for the first time he saw it for what it meant: a gentle man. (Rachel Joyce, *The Unlikely Pilgrimage of Harold Fry*: 138)
9. The manually controlled process can be associated with an abstract path or scale of "partial ordering" (see Beavers 2011 for verbs of "cutting"). In this sense, change of configuration verbs (as well as transformation verbs) are characterized as having specification of result orientation without implying a final state: their lexical specification is not about result state, as in the case of typical change of state verbs, but rather about abstract direction of change.
10. Imoto (2009, 2012) mainly deals with Japanese resultatives, while Miyakoshi (2009) delves more into the contrastive issues of resultatives between Japanese and English.
11. One plausible reason why such resultative-like expressions in Japanese have been given little attention is likely to be that the majority of Japanese resultative examples examined so far (most of them are judged unacceptable) typically consist of literal translations from English resultative examples. Correspondingly, Japanese resultative expressions such as those in (37) are not always directly translatable into English.
12. Imoto (2009) mainly examines the resultative expressions with *-ku* form of adjectives in Japanese.
13. The general coercion rule is informally defined as follows:
   (i) A constituent identifying an individual X may be used/understood to identify an individual contextually associated with X (Jackendoff 2002: 141).
14. Examples are adapted from Imoto (2009) and glossed for exposition by the present author.
15. (40b) is adapted from the original text:
   (i) She sighs, her breath exploding white into her face.
   (Maggie O'Farrell, *The Hand That First Held Mine*: 273)
   See also the following excerpt for a similar example with the adjective *white*:
   (ii) I am holding on for dear life, one hand on the ladder, the other on the lip of a shelf, fingers pressed white. (Robin Sloan, *Mr. Penumbra's 24-Hour Bookstore*: 1)
16. Goldberg (1995), Rothstein (2004), Van den Wyngaerd (2001), Wechsler (2005) among many others; see also Tenny (1994) for her pioneering work on boundedness in a much larger context; Krifka (1992, 1998), Kennedy (2007), and Kennedy and McNally (2005) for the theoretical foundations of dealing with boundedness.
17. I am aware of the fact that some (true) resultatives cannot always be aspectually bounded and in such cases they have a contemporaneous reading where two subevents totally overlap during the process of change. See McIntyre (2004), Rothstein (2004); see also Goldberg and Jackendoff (2004).

18. The essence of temporal dependence between the two subevents in resultatives is theoretically implemented in various studies in different ways. For example, Rothstein（2004）puts forth an elaborate analysis in formal semantic terms while Rappaport Hovav & Levin（2001）and Croft（2012）respectively offer semantic analyses in a more intuitive way. Informally speaking, I assume that the added culmination（the final minimal event in an incremental process）on the scale yields an incremental change reading with respect to the theme argument. See also Wechsler（2005）for an event-argument homomorphism analysis and Beavers（2011）for a similar approach formulated in a broader perspective.
19. See Cruse（1980）for the notion of "complementary opposition," where two lexical items which form an antonymous pair are located on the same scale with one occupying one pole indicating the zero point（where the scale is closed）and the other covering all the rest of the scale with no upper boundary（meaning the scale is open）. With the pair clean and *dirty*, for example, the former occupies the zero point where all the dirt is removed, while the latter covers the rest of the scale extending out with no limit of dirtiness in principle; see also Suzuki（2006）for the relevance of boundedness in resultatives.
20. Why *flat* does not alternate with *flatly* in this case is a matter of interest but presently I am unable to offer any definite answer.

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山形大学人文学部研究年報　第14号（2017．2）69－104

Spurious Resultatives Revisited: Predication Mismatch and Adverbial Modification

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The purpose of this article is to reassess a somewhat ambiguous category of resultatives in the literature, namely "spurious resultatives"（e.g. *she chopped the parsley fine / we stacked the records high*）, whose independent existence was first pointed out by Washio（1997）in relation to the dichotomy of "weak" and "strong" resultatives. By reformulating the properties of spurious resultatives in terms of adverbial modification and predication mismatch, it is argued that the category of spurious resultatives should be extended to subsume weak resultatives, which contrast starkly with strong resultatives or "true" resultatives in their semantic properties. The former typically involve verbs of transformation with further specification by the result phrase while the latter require scale composition with incremental change reading. The framework presented in this article thus offers a unified analysis of spurious and weak resultatives with certain differences between the two reduced to different dispositions on a continuum of varied types of transformation.

The predication mismatch characteristic to spurious resultatives is largely attributed to the semantics of transformation events typically expressed by verbs of change. Such verbs describe a type of change where the theme entity often undergoes loss of its constitutive property, thus leading to referential ambiguity. The change can be in configuration or in shape/appearance.

In order to account for the interpretive peculiarities of spurious resultatives in English, a type shifting analysis based on recent studies of Japanese resultative expressions is adopted. It is argued that an adverbial flavor in the result phrase interpretation of the relevant expressions is the reflex of semantic coercion. This is an elicitation strategy by which the result phrase is forced to find a semantically appropriate host without recourse to structural predication.