

The Categorization of Constructional Families:

Implicit Theme Resultative Constructions,
Resultative Constructions, and Middle Constructions

Yasuhiro Tsushima

1. The Linguistic Phenomena and the Goal of the Paper

This paper takes the following sentences (1) as its main linguistic phenomena.

- (1) a. Our new washing machine washes whiter! (Aarts 1997: 175)
- b. These revolutionary brooms sweep cleaner than ever. (Aarts 1995: 85)
- c. The new mop polishes cleaner.
- d. Concentrated washing powders wash whiter. (Aarts 1995: 85)
- e. New brooms sweep cleaner. (BNC)
- f. The new clippers cut sharper.
- g. These new sharpeners sharpen pointier.
- h. The new spray paints whiter.
- i. This dishcloth wipes cleaner.
- j. The revolutionary freezer freezes solidier.

Aarts (1995, 1997) was the first person to point out the existence of sentences of this type, and further suggested the following way of dealing with them:

- (2) we might be led to surmise that an object can remain implicit in English expressions involving resultative secondary predicates if the context or knowledge of the world make [*sic*] it clear what entity these secondary predicates are predicated of.

(Aarts 1995: 86)

Aart's explanation (2) leads to the crucial recognition that each of the sentences (1) has its own implicit theme and that our ability to interpret the sentences will depend upon our understanding that this is so. For example, the secondary predicate *whiter* is predicated in (1a) of whatever it is that is being washed, i.e., the implicit theme of *wash*, i.e., *clothes*, *shirts*, *sheets*, or whatever.¹ This paper calls these sentences "**I(implicit) T(heme) R(esultative) C(onstruction)**".² The form and meaning can be generalized as in (3):

- (3) **I(implicit) T(heme) R(esultative) C(onstruction)**³

Form: [NP₁ V ϕ R(esultative) P(hrased)]
 X Y Z

Meaning: [X CAUSES Y to BECOME Z]

These constructions are R(esultative) C(onstruction)s in that the subject instrumental entities cause the implicit theme entities to enter into some resultative state. They are therefore similar to the following prototypical R(esultative) C(onstruction)s in that both the constructions express their "resultative meanings":

- (4) **E(xplicit) T(heme) R(esultative) C(onstruction)**

a. The gardener watered the flower flat.

- b. They broke the vase into pieces.
- c. He painted the wall white.

(5) Form:
$$\begin{array}{ccccc} [NP_1 & V & NP_2 & RP(AP \text{ or } PP)] \\ & X & Y & Z \end{array}$$

Meaning: [X CAUSES Y to BECOME Z]

The constructions (4) indicate that someone (NP₁) transmits energy to a theme (NP₂) and that the latter occupies a particular resultative state which is expressed by the RP. These constructions are different from ITRCs, however, in that their themes are explicit, and this paper therefore calls this type of construction **E(xplicit) T(heme) R(esultative) C(onstruction)**.

While ITRCs are thus similar to ETRCs, it is important to recognize that the events in ITRCs are construed as having a “virtual” (cf. Langacker 1999) resultative meaning rather than an eventitive meaning. These constructions convey the **properties** of the subject entity, either as a **property** reading (cf. Lakoff 1977, van Oosten 1977, 1984, and Yoshimura 1998, 2001) or as a **generic** reading (cf. Yoshimura 1998, 2001 and Taylor and Yoshimura 2006).⁴ Our example (1a) indicates that the subject entity “our new washing machine” includes the property “washing whiter” by its very nature, and that when the property is achieved in an event, the resultative state will follow from it. That is, ITRCs are descriptive of some “result” that will be affected by the property which the subject entity affords (cf. “affordance” (Honda 2005)).⁵ Given their property meaning, the constructional properties of the constructions are also closely similar to the following prototypical **M(iddle) C(onstruction)s** in (6) and (7):

(6) **M(idle) C(onstruction)**

- a. The car drives well.
- b. This cheese slices, dices, and grates easily.

(Yoshimura 2001: 264)

(7) Form: [NP₁ V Adjunct]
 X

Meaning: [X (in virtue of Property) ENABLES WHAT IS DENOTED
BY THE PREDICATE]

(Yoshimura 1998: 167, partially modified)

MCs are descriptive of how the subject entity affects the event, grounded on the property of the subject entity (cf. Yoshimura 1998, 2001). In (6), for example, we foreground the property of the subject entity—the drivability of the car or the capability of the slicing instrument, and we conceptualize how the subject referent is responsible for the event that has the foregrounded property: *well* or *easily*.

To sum up, ITRCs and RCs are markedly similar in that both the constructions express their “resultative meanings”. At the same time, however, ITRCs and MCs are only fairly similar in the nature of their “property meanings”.

No previous studies, however, have argued for any constructional link whatsoever between ETRCs and MCs, and the purpose of this work is to do so, as follows:

- (8) The purpose of this work is to demonstrate the “**constructional properties**” of ITRCs, and to uncover an overlap in constructional categorization between ITRCs, ETRCs, and MCs by comparing the properties of ITRCs with those of ETRCs and MCs from the perspective of

By means of such a comparison, this paper argues that while these three constructions are in some respects dissimilar, they share certain significant properties, and, in the sense proposed by Wittgenstein's notion of "family resemblance", we note that the category of ITRCs acts as a "**hybrid construction**" between RCs and MCs, so that all three fall within a larger category as members of a "**constructional family**" in the English constructional network (Wittgenstein (1953) [2004, reprinted], Rosch and Mervis (1975)).⁶

The paper uses an introspective method. Many of the linguistic data in this work are, basically, constructed sentences.⁷ I asked four English native speakers of English to comment on the acceptability of the constructions in order to find out what their intuitions suggested to them, and so discover the syntactic and semantic system of the constructions.⁸ This paper also adopted material from the corpus data—British National Corpus, BNC—and a selection of the on-line data to demonstrate the entrenchment of ITRCs in the "usage-based perspective" (cf. Langacker 2000).

Section 2 of this paper, which now follows, seeks to demonstrate the constructional properties of ITRCs, RCs, and MCs, while Section 3 demonstrates the constructional categorization of these constructions in the English constructional network. Section 4 offers a concluding discussion.

2. Constructional Properties of ITRCs, ETRCs, and MCs

2.1 Constructional Properties of ITRCs

In this section, the paper will offer an account of the constructional properties of ITRCs, ETRCs, and MCs, and, in the first place, will consider those of ITRCs. As explained in Section 1, the ITRC is defined as a

form-meaning pairing like (3).

i) **Form:** $[NP_1 \underset{X}{V} \underset{Y}{\phi} R(esultative) P(hrase)] (=3)$

ii) **Meaning:** $[X \text{ CAUSES } Y \text{ to BECOME } Z] (=3)$

iii) Property of Theme

The second crucial property of the ITRC is that the theme is implicit, as Aarts (1995) suggests in (2). In our example (1), this means that the implicit theme is predictable from the context or from our knowledge of the world in which the event may be supposed to take place. This paper would like to apply this hypothesis to my linguistic analysis.⁹ The implicit theme in our examples (1) can be demonstrated in the following way:

- (9) a. Our new washing machine washes ϕ whiter! ($\phi = \textit{clothes, shirts, sheets}$ or whatever)
- b. These revolutionary brooms sweep ϕ cleaner than ever. ($\phi = \textit{a surface}$ that can be swept)
- c. The new mop polishes ϕ cleaner. ($\phi = \textit{a surface}$ that can be polished)
- d. Concentrated washing powders wash ϕ whiter. ($\phi = \textit{clothes, shirts, sheets}$ or whatever)
- e. New brooms sweep ϕ cleaner. ($\phi = \textit{a surface}$ that can be swept)
- f. The new clippers cut ϕ sharper. ($\phi = \textit{a branch, a twig, or a sprig}$ that can be cut)
- g. These new sharpeners sharpen ϕ pointier. ($\phi = \textit{a pencil}$ that can be sharpened)

The Categorization of Constructional Families (Yasuhiro Tsushima)

- h. The new spray paints ϕ whiter. ($\phi = \textit{canvas, walls}$ or whatever)
- i. This dishcloth wipes ϕ cleaner. ($\phi = \textit{floor}$ or *ground* that can be cleaned with a wiper)
- j. The revolutionary freezer freezes ϕ solidier. ($\phi = \textit{food}$ that can be frozen)

Furthermore, what is interesting here is that ITRCs have the potentiality to make their themes explicit, as in (10)—i.e., **ETRCs**.¹⁰

- (10) a. Our new washing machine washes clothes whiter.
- b. These revolutionary brooms sweep floors cleaner than ever.
- c. The new mop polishes floors cleaner.

(hereafter, the underlines are drawn by Tsushima)

It follows that the themes in ITRCs (1) are used as implicit when the explicit themes in (10) will be affected by certain specific factors, such as “recoverability” and so on.¹¹

Next, with respect to a further property of themes in ITRCs, implicit themes “ ϕ ” tend to be interpreted not as specific noun phrases but as such nonspecific terms as those in (11).

- (11) Our new washing machine washes ϕ whiter.
 $\phi = \textit{clothes/shirts/sheets}$
 $\phi \neq \textit{*these clothes/*the shirts/*Mary's clothes}$

The characterization that implicit themes are nonspecific is fully compatible with the constructional property of ITRCs, because they are more easily recoverable or predictable from the context or from our common

knowledge of the background.¹²

iv) Property of Subject

A further property is the semantic role of the subject in ITRCs. The subject entities in ITRCs (12) are inanimate instrumental subjects.¹³ As noted in Section 1, ITRCs convey the **properties** of the subject entities. For instance, we may take example (12a) to be the description of the property of the subject entity “our new washing machine”, which then becomes our ‘given’ entity. Given the automatic washing machine, once we push the start button, the entity “our new washing machine” manipulates the act of *washing* automatically.

- (12) a. Our new washing machine washes whiter! (=1a)
 b. These revolutionary brooms sweep cleaner than ever. (=1b)
 c. The new mop polishes cleaner. (=1c)

Furthermore, the data in (13) and (14) demonstrate that ITRCs which take animate entities as their subjects like (13) or which take the instrumental entities with-prepositional phrases added to the sentences (13) such as (14) are hardly ever acceptable.

- (13) a. * Mary washes whiter.
 b. * My mother/The cleaning woman sweeps cleaner than ever.
 c. * John polishes cleaner.
- (14) a. ?/*Mary washes whiter with our new washing machine.
 b. ?/*My mother/The cleaning woman sweeps cleaner with these revolutionary brooms than ever.

c. ?/*John polishes cleaner with the new mop.

Another constructional property with subject entities indicates that subject entities tend to be specific referents with definite articles, not nonspecific or generic terms such as those in (15).

- (15) a. ? A washing machine washes whiter!
b. ? Revolutionary brooms sweep cleaner than ever.
c. ? A mop polishes cleaner.

These findings indicate that the subject entities in ITRCs are entrenched as specific inanimate instrumental entities, and, further, that many of the subject entities in ITRCs are artificial objects (e.g., “our new washing machine” in (1a), “these revolutionary brooms” in (1b), and “the new mop” in (1c)).¹⁴ The data show that the instrument subjects are an important factor in commanding the acceptability of ITRCs.

v) **Property of RPs**

A further property of ITRCs concerns the nature of RPs. Aarts (1995: 85) argues that ITRCs are acceptable when their RPs are said to involve a so-called “absolute comparative”.¹⁵ In fact, ITRCs are not acceptable with positives of degree in the RPs, as (16) demonstrates.

- (16) a. * Our new washing machine washes white.
b. * These revolutionary brooms sweep clean.
c. * The new mop polishes clean.

Nevertheless, I have found the following linguistic data—all in the form of

advertisements—through the internet search engine—*all the web* (<http://www.alltheweb.com/>).^{16 17}

- (17) a. It washes whitest. (it=the detergent)
 b. Which soap actually washes whitest?
 c. It washes white as snow. (it=this washing powder)

While the RPs in (17a-b) are superlatives and in (17c) is a positive of degree with a modifier like *as snow*, the ITRCs with prepositional phrases like (18) are also all acceptable. On the other hand, ITRCs with prepositional phrases without any adjective modifier such as (19) are less acceptable.

- (18) a. The revolutionary mill smashes into a white powder.
 b. The new sewing machine sews in zigzag lines.
 c. The new scissors cut in straight lines.

- (19) a. ^{??} The revolutionary mill smashes into a powder.
 b. ^{??} The new sewing machine sews in lines.
 c. ^{??} The new scissors cut in lines.

Furthermore, the data (20) demonstrate that the adjectives in the RPs in ITRCs are unacceptable when, in the context, we infer from them a contradictory or negative outcome.

- (20) a. * Our new washing machine washes blacker than the old one.
 b. * These revolutionary brooms sweep dirtier than ever.
 c. * The new mop polishes dirtier.

The Categorization of Constructional Families (Yasuhiro Tsushima)

Such linguistic data as these suggest that the RPs in ITRCs are restricted to comparatives, superlatives, positives of degree with a modifier, and prepositional phrases with an adjective modifier, all of them expressing a positive significance.

As (21) indicates, another interesting property of the RPs in ITRCs is that the RPs cannot be omitted.

- (21) a. * Our new washing machine washes.
b. * These revolutionary brooms sweep.
c. * The new mop polishes.

Such data confirm that RPs in ITRCs are obligatory elements.

Let us now consider the information structure (in the sense expressed by Quirk et al. (1985)) of ITRCs. When this is related to the properties of the RPs demonstrated above, this paper would argue that ITRCs are acceptable when the RPs carry much information as the implicit object: **end-focus**. As shown in (11), the implicit theme in ITRCs is a nonspecific object. Furthermore, these constructions are acceptable when the RP is a comparative, a superlative, a positive of degree with a modifier, or a prepositional phrase with a adjective modifier, while they are not acceptable if the example lacks an RP, and has a positive degree without any modifier, or contains a prepositional phrase without any adjective modifier. These findings lead to the conclusion that the themes in ITRCs convey less important information than do the RPs; in other words, the RPs in ITRCs carry much information.

vi) Property of Verbs

Another property of ITRCs is related to the nature of their verbs.

Aarts (1995) argues that the verbs in these constructions seem to be limited to Dixon's "AFFECT verbs" in (22) (cf. Dixon 1991).

(22) AFFECT verbs: *sew, knit, sweep, rake, and polish*

(23) the verbs in (1): *wash, polish, cut, sharpen, paint, wipe, and freeze*

Since the verbs in (23) do not fall exactly within the category (22), this suggests that the verbs ITRCs to be included in (1) have a wider distribution than Aart's argument allows.

Here, to make clearer the semantics of the verbs in ITRCs, let us consider the definition of the verbs in (24) with the help of *OALD* (25).

- (24) a. Our new washing machine washes whiter! (= 1a)
b. These revolutionary brooms sweep cleaner than ever. (= 1b)
c. The new mop polishes cleaner. (= 1c)

- (25) a. **wash:** to make something or somebody clean using water and usually soap
b. **sweep:** clean a room, surface, etc.
c. **polish:** to make something smooth and shiny by rubbing it with a piece of fabric, often with polish on it

(*OALD*)

The meanings of the verb indicate that the resultative states in these verbs are to a certain degree, though not absolutely, predictable from the verb itself. For example, the action *washing* will cause the state of cleanness of whatever is being washed, as expressed in the sentence (24a). On the other hand, consider the semantics of verbs such as (26).

- (26) a. ? This hammer hammers flatter.
b. ? Our new hammer pounds flatter than ever.
- (27) a. **hammer**: to hit something with a hammer
b. **pound**: to hit something or somebody hard many times, especially in a way that makes a lot of noise
- (OALD)

These verbs are “verbs of contact”, which do not involve the segments of the change of result (cf. Levin 1993), as shown in the definition (27). In our examples (26), *hammering* does not always cause the state *flat*, nor does *pounding* necessarily lead to the result *flat*. These constructions are syntactically acceptable, but are semantically ineffectual. The consideration suggests that the verbal semantics is one of the crucial factors affecting the acceptability of these constructions.

vii) Property of Tense

The next property concerns tense. Let us compare the linguistic data provided by (28) and (29).

- (28) a. Our new washing machine washes whiter (than the old one)!
b. These revolutionary brooms sweep cleaner than ever. (=1b)
c. The new mop polishes cleaner. (=1c)
- (29) a. ?? Our new washing machine washed whiter.
b. ?? These revolutionary brooms swept cleaner than ever.
c. ?? The new mop polished cleaner.

The ITRCs in the past tense such as (29) are less acceptable than those in the present tense like (28). These linguistic data reveal that ITRCs are usually construed in the present tense. In our example (28a), the simple present form indicates that “our new washing machine” is not washing something like clothes actually now, but that these days, at the present time, it habitually washes well whatever may happen to be spinning around in the machine. The data suggest that the events referred to in the simple present form in ITRCs are construed as the expressions of the properties of subject entities, not as the events themselves—i.e., eventitive meanings.¹⁸

viii) Property of Aspect

In terms of the verb’s aspectual forms, especially the progressive forms, ITRCs in the present progressive, such as (30) and (31), are perfectly acceptable.

- (30) a. Our new washing machine is washing whiter (than yesterday).
 b. These revolutionary brooms are sweeping cleaner than ever.
 c. The new mop is polishing cleaner.
- (31) a. The new sewing machine is sewing in zigzag lines.
 b. The new scissors are cutting in straight lines.

The data show that the present progressive form in ITRCs also invokes the temporary habit. For example, our data (30a) shows that “our new washing machine” is washing something like clothes cleaner now than it did the day before. On the other hand, progressive constructions with comparatives “-er and -er”, such as *whiter and whiter*, are not acceptable, as (32) shows, because they are construed as being eventitive.¹⁹

- (32) a. * Our new washing machine is washing whiter and whiter.
b. * These revolutionary brooms are sweeping cleaner and cleaner.
c. * The new mop is polishing cleaner and cleaner.

ix) Property of Negation

A further property concerns negation. The data (33) suggests that ITRCs are not acceptable in their negative forms (unless used expressly to contradict their positive claims).

- (33) a. * Our new washing machine won't wash whiter (though you claimed it would)!
b. * These revolutionary brooms do not sweep cleaner than ever (though you told me they would)!

x) Property of Register

The last property of ITRCs concerns register. The web-corpus data cited in (17) demonstrates that these constructions are often used in advertisements.

To sum up, we can at least say that the following constructional properties of ITRCs can be deduced from the above discussion:

(34) Constructional Properties of ITRCs:²⁰

- i. **Form:** [NP V ϕ RP (AP or PP)]
 X Y Z
- ii. **Meaning:** [X CAUSES Y to BECOME Z]; a property or generic
- iii. **Theme:** implicit; themes are nonspecific referents and are predictable given our background knowledge or frame
- iv. **Subject:** instrument; specific referents; artificial entity

- v. **RP**: obligatory element: adjective (especially comparative, superlative, or positive of degree with a modifier) or prepositional phrase with an adjective modifier; if limited to a positive meaning
- vi. **Verb**: verbs from which the resultative states are to some degree predictable
- vii. **Tense**: most usually the present
- viii. **Aspect**: present progressive form
- ix. **Negation**: not possible (unless in stated contradiction to the positive alternative)
- x. **Register**: common in advertisements

These constructional properties are not separated but are intimately related to each other. For example, the constructional property (x) “register” is closely related to (v) “RP”, in which RPs are limited to positive meanings and (ix) “negation”, in which ITRCs do not license any negative sentences. Our general world knowledge (and our common sense) has taught us that negative comments are avoided when companies advertise their products. Moreover, the property (ii) “meaning”—property meaning—is fully compatible with (vii) “tense”—present tense—in the sense of virtual reality (cf. Langacker 1999). In other words, such constructional properties (34) form a *gestalt* (cf. Lakoff 1977, Kaniza 1979, and Koffka 1935).

In the next section, we will compare these constructional properties with those of ETRCs and MCs, and will discuss the shared relation between them.

2.2 Comparison of the Constructional Properties of ITRCs with Those of ETRCs

Firstly, let us consider the form and meaning of ETRCs.

i) **Form:** $[NP_1 \ V \ NP_2 \ RP(AP \ or \ PP)] (=5)$
 X Y Z

ii) **Meaning:** [X CAUSES Y to BECOME Z] (=5)

As we saw in Section 1, the ETRCs are defined as comprising of such a form-meaning pairing as (5).

iii) **Property of Theme**

With respect to themes, the theme in ITRCs is implicit, while the one in ETRCs is explicit, as we saw in Section 1.

iv) **Property of Subject**

Next, the semantic roles in ITRCs are entrenched as instruments, as shown in (12)-(14). On the one hand, the ones in the ETRCs are prototypically human agents such as *the gardener*, *they*, and *he* in (35): the causers of the events.

- (35) a. The gardener watered the flower flat. (=4a)
 b. They broke the vase into pieces. (=4b)
 c. He painted the wall white. (=4c)

Furthermore, the nonspecific entities as the subjects in ITRCs are not acceptable, as (15) demonstrated. Similarly, ETRCs such as (36) are unacceptable.

(36) *A gardener watered the flower flat.

v) Property of RP

Next, with respect to the property of RP, the RP in ITRCs is obligatory and an adjective, especially a comparative, a superlative, a positive of degree with a modifier, or a prepositional phrase with an adjective modifier, all of which are limited to a positive meaning. On the other hand, although the RP in ETRCs is an adjective phrase like (37a, c) and a prepositional phrase such as (37b), the RPs are not always limited to their positive meaning, i.e., (37a-b).²¹

- (37) a. The gardener watered the flower flat. (=4a)
 b. They broke the vase into pieces. (=4b)
 c. He painted the wall white. (=4c)

vi) Property of Verbs

We next compare the property of verbs. ITRCs take the verbs from which the results are to some degree predictable, as (24)-(27) demonstrated. On the other hand, ETRCs such as (38) are not restricted in the same way (cf. (27)).

- (38) a. The silversmith pounded the metal flat.
 b. John hammered the metal flat.

vii) Property of Tense

A further property is tense. ITRCs are less acceptable when they are used in the past tense, as (28)-(29) showed. On the other hand, ETRCs often take the past tense, as does (40), rather than the present, as in (39).

- (39) a. * The gardener waters the flower flat.

- b. * They break the vase into pieces.
- c. * He paints the wall white.

- (40) a. The gardener watered the flower flat. (=4a)
b. They broke the vase into pieces. (=4b)
c. He painting the wall white. (=4c)

Such linguistic data also indicate that the present tense in ITRCs refers to an **imperfective process**, while the past tense in ETRCs represents a **perfective process** (cf. Langacker 1995). The difference between the two processes is reflected in one's interpretation of ITRCs and ETRCs as having either a "virtual" resultative meaning or an "eventitive" resultative meaning. That is, the former constructions are conceptualized as having a virtual resultative meaning, because they are interpreted as an imperfective process, while the latter are seen as having an eventitive, resultative meaning, because they are construed as a perfective process.

viii) Property of Aspect

As for, the ITRCs (30) and (31) are allowed to take on progressive forms, while ETRCs (should they be unqualified) are not, as (41) shows.

- (41) a. * The gardener was watering the flower flat.
b. * They were breaking the vase into pieces.
c. * He was painting the wall white.

ix) Property of Negation

Then, with respect to the property of negation, ITRCs and ETRCs have a similar aspect in common. As in (33), ITRCs are not allowed to take a

negative form, nor are the ETRCs such as (42).

- (42) a. * The gardener did not water the flower flat.
 b. * They did not break the vase into pieces.
 c. * He did not paint the wall white.

x) Property of Register

The final property has to do with register. While most ITRCs are found in advertisements, ETRCs are not restricted solely to advertisements.

To sum up, (43) induces the constructional properties of ETRCs, while Table 1 shows the shared relation between ITRCs and ETRCs.

(43) Constructional Properties of ETRCs:

- i. **Form:** [NP₁ V NP₂ RP (AP or PP)]
 X Y Z
- ii. **Meaning:** [X CAUSES Y to BECOME Z]; not property or generic meaning; eventitive meaning
- iii. **Theme:** explicit
- iv. **Subject:** agent; specific referent
- v. **RP:** AP or PP; not necessarily positive meaning
- vi. **Verb:** verbs are also possible from which the results are unpredictable
- vii. **Tense:** often past
- viii. **Aspect:** progressive form; not possible
- ix. **Negation:** not possible
- x. **Register:** often used in other than advertisements

The Categorization of Constructional Families (Yasuhiro Tsushima)

Constructional Properties in (34)	ETRCs
i. Form	√
ii. Meaning	? (resultative: √/property or generic meaning: ×)
iii. Theme	×
iv. Subject	×
v. RP	? (AP/PP: √; limited to positive meaning: ×)
vi. Verb	×
vii. Tense	×
viii. Aspect	×
ix. Negation	√
x. Register	×

√: shared, ?: partially shared or similar, ×: not shared

Table 1: The Shared Relation of Constructional Properties Between ITRCs and ETRCs

The next section sketches comparison of the constructional properties of ITRCs with those of MCs.

2.3 Comparison of the Constructional Properties of ITRCs with Those of MCs

In this section, we compare the constructional properties of ITRCs with those of MCs, and to begin we consider the form and meaning of MCs.

i) **Form:** $[NP_1 \text{ V Adjunct}] (=7)$
X

ii) **Meaning:** [X (in virtue of Property) ENABLES WHAT IS DENOTED BY THE PREDICATE] (=7)

As we noted in Section 1, MCs are defined as comprising such a form-meaning pairing as that in (7).

iii) Property of Theme

Secondly, with respect to themes, the theme in ITRCs is implicit, as shown in Section 1. The property of theme does not apply to MCs because the construction does not entail any theme in the post-verbal position.

iv) Property of Subject

We next note that the semantic roles in ITRCs are entrenched as instruments, as (12)–(15) showed. On the other hand, while those roles in MCs are entrenched as patients, as in (44), MCs can also take the instrument entities as their subjects, such as (45), although their degree of typicality is different from that of prototypical MCs.²²

- (44) a. The car drives well. (=6a)
 b. This cheese slices, dices, and grates easily. (=6b)
- (45) a. This knife cuts well.
 b. This spray kills instantly.

In addition, Yoshimura (2001) has argued that most subjects in MCs are **artificial objects**. In our examples (44), the subject entities “the car” and “this cheese” are of course artificial entities. Similarly, this property is applicable to the subject entities in such ITRCs like (17).

Furthermore, the nonspecific entities as the subjects in ITRCs are not acceptable, as (12)–(15) demonstrated. Similarly, MCs like (46) are also unacceptable.

- (46) a. * Cars drive well.
 b. * A car drives well.

v) Property of RP

Next, with respect to the property of RP, the RP in ITRCs is an obligatory element and must be an adjective especially, a comparative, a superlative, a positive of degree with a modifier, or a prepositional phrase with an adjective modifier, all of which are limited to a meaning that is positive. On the other hand, the element in the post-verbal position in MCs—although it is not a RP—is an adverbial phrase such as (47).

- (47) a. The car drives well. (=6a)
b. This cheese slices, dices, and grates easily. (=6b)

Furthermore, as (21) revealed, RPs in ITRCs may not omitted. Such a perspective is fully compatible with MCs. Murata (2005) argues that MCs such as (48b) are not acceptable without adverbs. (Note that this restriction is not satisfied in the case of negation as in (52b) below.)

- (48) a. His papers won't/don't read easily.
b. * His papers won't/don't read.

(Murata 2005: 91)

vi) Property of Verbs

Another property applies to verbs. The verbs in MCs are so-called “middle verbs”. However, the verbs in ITRCs are not limited to middle verbs, as the above has shown.

vii) Property of Tense

A further property is tense. ITRCs are less acceptable when verbs occur in the past tense, as (28)-(29) demonstrated. In a similar fashion,

MCs like (50) tend to be less acceptable in the past tense. Rather, MCs like (49) are fully compatible with the present tense: imperfective process.

- (49) a. The car drives well. (=6a)
b. This cheese slices, dices, and grates easily. (=6b)

(50) ?Yesterday's house party, the kitchen wall painted easily.

(Keyser and Roper 1984)

viii) Property of Aspect

Next, the ITRCs (30) and (31) are allowed to take their progressive forms. In a similar fashion, MCs such as (51) are allowed to take their progressive forms.

- (51) a. These shirts are washing nicely. (Leech 2004: 20)
b. Our product isn't selling at all. (Takami 1997: 81)
c. The manuscript is reading better every day. (ibid.)

Leech (ibid.) argues that the event in (51a) is "actually in progress now".

ix) Property of Negation

With respect to the property of negation, ITRCs and MCs share similar aspects. Yet while ITRCs like (33) are not allowed to take their negative form, MCs such as (52) are allowed negation.

- (52) a. This page won't print well.
b. The washing machine doesn't wash.

Constructional properties in (34)	MCs
i. Form	×
ii. Meaning	? (resultative: ×/a property or generic meaning: ✓)
iii. Theme	n/a
iv. Subject	? (theme: ×/instrument: ✓/specific: ✓)
v. RP	✓ (adjuncts are obligatory elements: ✓)
vi. Verb	×
vii. Tense	✓
viii. Aspect	✓
ix. Negation	×
x. Register	✓

✓: shared, ?: partially shared or similar, ×: not shared, n/a: not applicable

Table 2: The Shared Relation of Constructional Properties Between ITRCs and ETRCs

3. The Constructional Categorization of ITRCs, RCs, and MCs in the English Constructional Network

In this section, we discuss the constructional categorization of ITRCs, RCs, and MCs in the overall constructional network by means of the findings considered in the previous section, and we can generalize the distribution of the constructional properties of ITRCs, ETRCs and MCs in the follow way:

The Categorization of Constructional Families (Yasuhiro Tsushima)

Constructional properties in (34)	ETRCs	MCs
i. Form	√	×
ii. Meaning	? (resultative: √/property or generic meaning: ×)	? (resultative: ×/a property or generic meaning: √)
iii. Theme	×	n/a
iv. Subject	×	? (theme:×/instrument: √/ specific: √)
v. RP	? (AP/PP: √; limited to positive meaning: ×)	√ (adjuncts are obligatory elements: √)
vi. Verb	×	×
vii. Tense	×	√
viii. Aspect	×	√
ix. Negation	√	×
x. Register	×	√

√: shared, ?: partially shared or similar, ×: not shared, n/a: not applicable

Table 3: The Shared Relation of Constructional Properties (an integrated version of Table 1 and 2)

Table 3 suggests that although ITRCs, ETRCs, and MCs have partially similar constructional properties, they have, at the same time, properties of a dissimilar kind. It follows that what constructions share as their properties is a clue to the constructional inheritance relation between them; while dissimilar constructional properties reveal that the constructions have their own constructional categories, similar ones also indicate that the categories are not fully separated. This paper would therefore like to claim that ITRCs, ETRCs, and MCs form their own category with their own constructional properties, but that they also overlap in a fashion that signifies a family resemblance.

The above observation naturally gives rise to the idea that the constructional properties reflect the constructional meanings. As we have noted above, ITRCs and RCs are markedly similar in that both the constructions express their “resultative meanings”, whether they are virtual or not.

At the same time, ITRCs and MCs are fairly similar in their “property meanings”. What this paper would like to emphasize here is that ITRCs are comprised of both “resultative meanings” and “property meanings”.

This paper concludes that ETRCs and MCs form a continuous category—a **construction family**—by providing the category of ITRCs, which act in the English constructional network as a “**hybrid construction**” in which the partial constructional properties are inherited from the two constructions.

4. Conclusion

This paper has sought to demonstrate that ITRCs, ETRCs, and MCs have their own constructional properties and, furthermore, that they also show an overlap in their categorization. The paper has concluded that ETRCs and MCs form a continuous category—a construction family—by providing the category of ITRCs, which act in the English constructional network as a “hybrid construction” in which the partial constructional properties are inherited from the two constructions.

Notes

This paper was presented at the 10th International Cognitive Linguistics Conference (Jagiellonian University of Kraków, Poland, 17, July, 2007). I wish to express my profound gratitude to my main adviser Masuhiro Nomura (Hokkaido University), my former advisor Seizo Kasai (Professor Emeritus, Hokkaido University) and my senior Keisuke Sanada (Hokkaido University) for their valuable comments. I am also indebted to my informants Mr. Willie Jones (Professor Emeritus, Hokkaido University), Mr. Randy Evans, Mr. Phillip Radcliffe, Ms. Raquel Romaine, and the attending members at the conference for their insightful comments. All remaining errors are of course my own.

- ¹ Aarts (1995, 1997) was the first person to point out the existence of ITRCs, although he does not actually use the term “ITRCs”.
- ² In the Cognitive Linguistic framework, especially in Construction Grammar (Goldberg 1995, 2005, among others), a construction is defined as a “form-meaning” pairing.
- ³ The sign “ ϕ ” signifies that a theme is implicit.
- ⁴ Yoshimura (1998) argues that middles contain the property meaning, and that the property meaning is not unique to middles.
- ⁵ The relation between “affordance” in Ecological Psychology and Cognitive Semantics is referred to in Honda (2005).
- ⁶ The famous concept of “**family resemblance**” was originally formulated by Wittgenstein in 1953 (reprinted, 2004). Although the categorizing relationship that relies on family resemblance is in principle a fuzzy concept in principle, Roch and Mervis (1975) have defined it in rather more detail.
- “A family resemblance relationship consists of a set of form AB, BC, CD, DE. That is, each item has at least one, and probably several, elements in common with one or more other items, but no, or few elements are common to all items.”
- (ibid.: 575)
- ⁷ The notations for judgments of acceptability are standard: an acceptable sentence is unmarked; a single “?” is used to indicate that the expression is fairly interpretable but not perfectly so; the notation “??” represents that the expression is barely interpretable, but near to unacceptable rather than acceptable; the notation “*” is used to show that the expression is fully unacceptable.
- ⁸ The informants were three American English speakers and one British English speaker.

⁹ The reason this paper adopts this hypothesis is that “predictability” is motivated by the human cognitive ability: “inference” or “cognitive interpolation” in Gestalt Psychology (Kaniza 1979: 10). For instance, when human beings see the strings “PS. CHOL. GY”, we can easily read and understand “PSYCHOLOGY” by making use of our cognitive ability—cognitive interpolation. It is often said that the cognitive ability is reflected in not only our perception, but also in our process of thinking. See Kaniza (*ibid.*) and Koffka (1935). From within the scope of a Cognitive Linguistic perspective, Panther (2005) have argued that the inferential process is motivated by a “conceptual metonymy”. See Panther (*ibid.*) in more detail.

¹⁰ Although traditional accounts of resultative constructions (cf. Goldberg 1991a, 1991b, 1995, among others) do not license the resultative constructions with the instrument subject entities such as (10), the investigations of this paper have revealed that these constructions are in fact acceptable.

¹¹ Goldberg (to appear) also argues that this type of constructions is motivated by the following principle:

A principle of Omission under Low Discourse Prominence: Omission of the patient argument is possible when the patient is constructed to be deemphasized in the discourse vis-a-vis the action. That is, omission is possible when the patient argument is not topical (or focal) in the discourse, and the action is particularly *emphasized* (via repetition, strong affective stance, discourse topicality, contrastive focus, etc.).

(*ibid.*)

¹² The concept of “recoverability” is referred to in Rice (1987, 1988).

¹³ With respect to the semantic role of subjects in ETRCs, Goldberg (1995) suggests the following semantic constraint:

“Animate Instigator Constraint: The two-argument resultative construction must have an (animate) instigator argument.”

(ibid.)

It follows that this constraint is not applicable to ITRCs at least.

¹⁴ This argument is also supported by the web corpus data in (17).

¹⁵ Since Aarts (1995) did not supply a clear definition for “absolute comparative,” the description cannot be verified. Nevertheless, I would point out that a comparative sentence like (28a) with the object of comparison “than the old one” is judged to be acceptable.

e.g. Our new washing machine washes whiter (than the old one)! (=28a)

¹⁶ The date of this research was 20th, August, 2005. The acceptability of these data was checked by my informants.

¹⁷ These linguistic data show us that the constructional properties of the ITRCs are considerably restricted. Their constructional properties are **entrenched** in the usage-based perspective (Langacker 2000): **constructional idiom** (Jackendoff 1997, Goldberg & Jackendoff 2004). It seems that to some degree the constructional properties and lexical items are not separate. In fact, I found out that the verb *wash* in the ITRCs tends to be used in the following forms:

- i. NP wash whiter
- ii. NP wash whitest
- iii. NP wash white as snow
- iv. NP wash cleaner
- v. NP wash cleanest

There is a slim possibility that they may coexist with other adjectives. The degree of entrenchment will be discussed in another paper.

¹⁸ I suppose that the reason ITRCs are easy to interpret in the present tense is closely related to their property or generic meaning. I will have to

make a further discussion in another paper.

- ¹⁹ Leech (2004: 31) suggests that the meaning of the progressive sentence accompanied by an expression such as “more and more” could be formulated ‘This is the way things are going’.
- ²⁰ Note that these constructional properties do not show their arbitrary nature. Rather, these properties represent their tendencies. Not all of the constructional properties are described here.
- ²¹ Note that the phrases “flat” and “into pieces” themselves are not intended to express a negative meaning. Rather, they are interpreted as having a negative meaning when they are used in these particular sentences.
- ²² Taylor and Yoshimura (2006) argue that the subject entity in MCs need not be a patient, but can be an instrument, a locative (e.g. *The lakes continue to fish well.*) and so on. However, this research has not found that the subject referent in ITRCs involve any referent other than the instrument.

References

- Aarts, Bas. 1995. “Secondary predicates in English.” In: Bas Aarts and Charles F. Meyer (eds.) *The verb in contemporary English*. Cambridge: Cambridge University Press.
- Aarts, Bas. 1997. *English Syntax and Argumentation*. Basingstoke: Macmillan Press.
- Dixon, R. M. W. 1991. *A New Approach to English Grammar, on Semantic Principles*. Oxford: Clarendon Press.
- Goldberg, Adele E. 1995. *Constructions: A Construction Grammar Approach to Argument Structure*. Chicago: The University of Chicago Press.
- Goldberg, Adele E. 1991a. “A Semantic Account of Resultatives.” *Lin-*

guistic Analysis 21, 1-2. 66-96.

- Goldberg, Adele E. 1991b. "It Can't Go Up the Chimney Down: Paths and the English Resultatives." *BLS* 17. 368-378. Chicago: The University of Chicago Press.
- Goldberg, Adele E. 2005. "Argument Realization—The role of constructions, lexical semantics and discourse factors." In: Jan-Ola Östman and Mirjam Fried (eds.) *Construction Grammars: Cognitive grounding and theoretical extensions*. 17-43. Amsterdam: John Benjamins.
- Goldberg, Adele E. to appear. "Constructions, Lexical Semantics and the Correspondence Principle: Accounting for Generalizations and Subregularities in Realization in Arguments." MS: University of Illinois.
- Goldberg, Adele E. and Ray Jackendoff. 2004. "The English Resultative as a Family of Constructions." *Language* 80. 532-568.
- Honda, Akira. 2005. *Afodance no Ninchi Imiron. (An Affordance-Theoretic Approach to Cognitive Semantics.)* Tokyo: Tokyo Daigaku Shupankai. (University of Tokyo Press).
- Jackendoff, Ray. 1997. *The Architecture of the Language Faculty*. Cambridge and London: The MIT Press.
- Kaniza, Gaetano. 1979. *Organization in Vision*. New York: Praeger Publishers.
- Keyser, Samuel Jay and Thomas Roper. 1984. "On the Middle and Ergative Constructions in English." *Linguistic Inquiry* 15. 381-416.
- Koffka, Kurt. 1935. *Principles of Gestalt Psychology*. New York: Harcourt, Brace and Company.
- Lakoff, George. 1977. "Linguistic Gestalt." *CLS* 13. 236-287.
- Langacker, Ronald W. 1991. *Foundations of Cognitive Grammar, vol. 2: Descriptive Application*. Stanford: Stanford University Press.
- Langacker, Ronald W. 1995. "Viewing in Cognition and Grammar." In:

- Philip W. Davis (ed.) *Alternative Linguistics: Descriptive and Theoretical Modes*. 153-212. Amsterdam/Philadelphia: John Benjamins.
- Langacker, Ronald W. 1999. "Virtual Reality." *Studies in the Linguistic Sciences* 29. 2. 77-103.
- Langacker, Ronald W. 2000. "A Dynamic Usage-Based Model." In: Michael Barlow and Suzan Kemmer (eds.) *Usage Based Models of Language*. 1-64. Stanford: CSLI Publications.
- Leech, Geoffrey. 2004. *Meaning and the English Verb*. 3rd ed. London: Longman.
- Levin, Beth. 1993. *English Verb Classes and Alternations*. Chicago and London: The University of Chicago Press.
- Murata, Yuzaburo. 2005. *Gendai Eigo no Goiteki Koubunteki Jisho. (Modern English Lexical and Constructional Phenomena)* Tokyo: Kaitakusha.
- Panther, Klaus-Uwe. 2005. "The Role of Conceptual Metonymy in Meaning Construction." In: Francisco J. Rizu de Mendoza Ibáñez and M. Sanrda Pañe Cerve (eds.) *Cognitive Linguistics: Internal Dynamics and Interdisciplinary Interaction*. 353-386. Berlin/New York: Mouton de Gruyter.
- Quirk, Randolph et al. 1985. *Comprehensive Grammar of the English Language*. London: Longman.
- Rice, Sally. 1987. *Toward a Cognitive Model of Transitivity*. Ph.D. Dissertation, University of California, San Diego.
- Rice, Sally. 1988. "Unlikely Lexical Entries." *BLS* 14. 202-212.
- Rosch, Eleanor and Carolyn B. Mervis. 1975. "Family Resemblances: Studies in the Internal Structure of Categories." *Cognitive Psychology* 7. 573-605.
- Takami, Ken-ichi. 1997. *Kinoutekitougoron. (Functional Syntax)* Tokyo:

The Categorization of Constructional Families (Yasuhiro Tsushima)

Kurosio Publishers.

- Taylor, John R. and Kimihiro Yoshimura. 2006. "The Middle Construction as a Prototype Category." *The Proceedings of the Sixth Annual Meetings of the Japanese Cognitive Linguistics Association*. 362-369.
- van Oosten, Jeanne Hillechiena. 1977. "Subjects and Agenthood in English." *CLS* 13. 459-471.
- van Oosten, Jeanne Hillechiena. 1984. *The Nature of Subjects, Topic and Agents: A Cognitive Explanation*. Ph.D. Dissertation. University of California, Berkeley.
- Wittgenstein, Ludwig. 1953 (2004, reprinted). *Philosophical Investigations*. In: Bas Aarts, David Denison, Evelien Keizer, and Gergana Popova (eds.) *Fuzzy Grammar*. New York: Oxford University Press.
- Yoshimura, Kimihiro. 1998. *The Middle Construction in English: A cognitive Linguistic Analysis*. Ph.D. Dissertation. University of Otago.
- Yoshimura, Kimihiro. 2001. "Jinkoubutsu Shugo—Kuoria Chishiki to Chuukanhyogen." ("Artifactual Denonta as the Subjects of English Middles—A Qualia-based Approach.") *Ninchi Gengogaku Ronkou No. 1. (Studies in Cognitive Linguistics No 1.)* 257-318. Tokyo: Hitsujishobo.
- Yoshimura, Kimihiro and John R Taylor. 2004. "What makes a good middle? The role of qualia in the interpretation and acceptability of middle expressions in English." *English Language and Linguistics* 8. 2. 293-321.

<Corpus>

British National Corpus (BNC).

<Web corpus>

all the web (<http://www.alltheweb.com/>).

<Dictionary>

Oxford Advanced Learner's Dictionary (OALD).