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On the Elimination of the Lexicalization Constraint
Shotaro Namiki and Tatsuhiro Okubo

1. Introduction

One of the hottest topics for verb meaning is to distinguish its meanings that are relevant to syntactic structure from those that are not. Following Ramchand (2008, 2014), we term the former meaning Type A Meaning and the latter meaning Type B Meaning. These two types are described as follows:

(1) a. Type A Meaning (“Skeleton”):
A structured representation of abstract factors that are directly correlated with linguistic generalizations concerning argument structure realization in the syntax. (It is an open question whether the information in this domain is linguistically universal, or whether individual languages can choose to grammaticize sub portions of a set of more general primitives made available by cognition.)

b. Type B Meaning (“Flesh and Blood”):
Encyclopedic and conceptually rich information that provides detailed expression to highly specific named events. It is always unsafe to assume that this type of meaning package is universal although it is drawn from common human cognitive primitives, since it is packaged up in culturally specific and historically contingent ways.

(Ramchand (2014:208))

It is doubtless that meanings are divided into the two types. However, there is disagreement among researchers about which semantic elements deal with the two types. For instance, Rappaport Hovav and Levin (2010) argue that the notions of manner and result are classified into (1b), while event schemas composed of constants like ACT, CAUSE, and BECOME are classified into (1a). In contrast, Ramchand (2008, 2014) proposes that verb meaning is decomposed into three sub-events, causation, process, and result state, and these belong to (1a). In this paper, we support Ramchand’s view, by arguing against the view of Rapport Hovav and Levin.

This paper is organized as follows. Section 2 introduces the lexicon-internal unification approach and shows its view on Type A and B Meanings. Section 3 overviews the framework of first-phase syntax proposed
by Ramchand (2008, 2014). Section 4 shows that there is no manner/result complementarity in Ramchand’s system. Section 5 indicates that without assuming the constraint, Ramchand’s system correctly explains the data that support the presence of the constraint. Section 6 concludes this paper.

2. Lexicon-Internal Unification Approach

One approach to verb meaning is, what Ramchand (2014) calls, Lexicon-Internal Unification approach. This approach views that Type A and B meanings are combined in the lexicon and the resultant verbal element is inserted into syntax. Based on this approach, Rappaport Hovav and Levin (2010:24) suggest that a Type A meaning corresponds to an event schema, a structural representation of an event, while a Type B meaning corresponds to a Root, an idiosyncratic meaning of a verb. They also suggest five types of combinations of Type A and B meanings, as shown in (2):

(2) a. manner → [x ACT<\text{MANNER}>]
    (e.g. jog, run, creak, whistle, …)

b. instrument → [x ACT<\text{INSTRUMENT}>]
    (e.g. brush, chisel, saw, shovel, …)

c. container → [x CAUSE [y BECOME AT <CONTAINER>]]
    (e.g. bag, box, cage, crate, garage, pocket, …)

d. internally caused state → [x BECOME <STATE>]
    (e.g. bloom, blossom, decay, flower, rot, rust, sprout, …)

e. externally causes, i.e. result state →
    [[x ACT] CAUSE [y BECOME <RESULT-STATE>]]
    (e.g. break, dry, harden, melt, open, …)

The left-hand side of each rule in (2) represents a category of a Root, whereas the right-hand side of the rule denotes an event schema associated with the Root. In Rappaport Hovav and Levin’s theory, a Root modifies a predicate or functions as an argument of a predicate. In (2a) and (2b), subscript Roots modify the predicate ACT. The Roots in (2c-e), in contrast, work as arguments of the predicates AT and BECOME, respectively.

Rappaport Hovav and Levin (2010) assume that there is a constraint on how roots can be associated with the event schemas. This is called the lexicalization constraint.
(3) The lexicalization constraint
A root can only be associated with one primitive predicate in an event schema, as either an argument or a modifier.
(Rappaport Hovav and Levin (2010:25))

The lexicalization constraint consists of two theoretical assumptions; (i) there is only ever one Root per lexeme and (ii) a Root meaning can contribute either manner or result, but not both (Beavers and Koontz-Garboden (2012:352)). This constraint rules out a single monomorphemic verb involving two distinct Roots in its event schema, as in (4).

(4) *[[x ACT<ROOT1>] CAUSE [y BECOME <ROOT2>]]

Thus, the lexicalization constraint guarantees the nonexistence of a verb encoding both a manner of an action and a result state as in (5a), or both an instrument used during an action and a result state as in (5b).

(5) a. *[[x ACT<MANNER>] CAUSE [y BECOME <RESULT-STATE>]]
    b. *[[x ACT<INSTRUMENT>] CAUSE [y BECOME <RESULT-STATE>]]

In other words, Rappaport Hovav and Levin’s lexicalization constraint gives rise to the complementarity of manner and result, which Rappaport Hovav and Levin call the manner/result complementarity.

Rappaport Hovav and Levin (2010) argue that the manner/result complementarity is borne out by empirical evidence. Let us begin by looking at a manner diagnostic. If the verb in a sentence encodes a specific manner, a continuation denoting a manner gives rise to a contradiction.

(6) a. #I scrubbed the tub by wiping it with a sponge.
    b. I cleaned the tub {by wiping it with a sponge/by saying a magic chant}.  
(Rappaport Hovav and Levin (2010:22))

The example in (6a) shows that the verb scrub lexically specifies a manner. In contrast, the sentence with the verb clean in (6b) is compatible with various continuations that modify an action bringing about the result state. Likewise, verbs that encode a result state yield a contradiction with the result-denial clause that follows. Consider the following examples:
(7) a. I {wiped/scrubbed} the table, but none of the fingerprints came off.
   (Rappaport Hovav and Levin (2010:22), with slight modifications)
b. #I cleaned the table, but none of the fingerprints came off.

While the actions *wipe* and *scrub* typically bring about removing stuff from the surface, the two verbs do not entail the result state. Hence (7a) does not involve a contradiction. The example in (7b), in contrast, yields a contradiction because *clean* entails a result state. From the examples in (6) and (7), Rappaport Hovav and Levin argue that the manner/result complementarity is plausible: *scrub* and *wipe* encode only specific manners, and *clean* encodes only a result state. The former can be classified into manner verbs, whereas the latter can be classified into result verbs.

Rappaport Hovav and Levin’s (2010) constraint is not plausible, however. Beavers and Koontz-Garboden (2012) argue that verbs like *electrocute* and *guillotine* (called manner-of-killing verbs) encode both a result state (e.g. death) and a manner of bringing it about. Examples of (8) are cited from Beaver and Koontz-Garboden (2012:334), with slight modifications.

(8) a. Shane {drowned/hanged/crucified} Sandy.
b. Shane {electrocuted/guillotined} Sandy.

The examples in (8a) mean that Sandy was killed in manners denoted by the verbs. These meanings seem to correspond to the event schema in (5a). Additionally, the examples in (8b) denote instruments used by Shane and a result state of Sandy simultaneously. The meanings of (8b) may correspond to the event schema in (5b). These observations lead to argue that the lexicalization constraint in (3) is implausible.

3. Verb Meaning in First-Phase Syntax

In contrast to the Lexicon-Internal Unification Approach, Ramchand (2008, 2014) expresses a view of Type A Meaning of verb as sub-events like causation, process, and result state. According to Ramchand, who is based on the hypothesis in (9), these events are represented by the heads in syntax.

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1 Beavers and Koontz-Garboden (2012) do not argue that the meanings of manner-of-killing verbs correspond to the event schema in (5b). They argue for the assumption that there is only ever one Root per lexeme, and propose that there is a third type of Root, a single, undecomposable ‘manner + result’ Root. See for details Beavers and Koontz-Garboden (2012).
Non-Terminal Lexicalization

Lexical items are bundles of conceptual information specified with a set of categorial features which determine points of meaning unification with syn-sem structure (which I assume must correspond to continuous stretches of hierarchical structure in order to feed linearization). (Ramchand (2014:211-212))

Ramchand calls this view first-phase syntax, because event-building process is prior to other syntactic processes like case checking/marking, agreement, tense, and modification. In Ramchand’s system, causation, process, and result state correspond to \textit{init}, \textit{proc}, and \textit{res}, respectively, as diagramed in (10).

\begin{center}
\begin{tikzpicture}
    \node (init) {\textit{initP}};
    \node (proc) {\textit{procP}} at (init.south west) [yshift=-1cm];
    \node (init2) {\textit{init}} at (init.south west) [yshift=-1cm];
    \node (res) {\textit{res}} at (proc.south west) [yshift=-1cm];
    \node (res2) {\textit{resP}} at (res.south west) [yshift=-1cm];
    \node (proc2) {\textit{proc}} at (proc.south west) [yshift=-1cm];
    \draw (init) -- (init2);
    \draw (init2) -- (proc);
    \draw (proc) -- (proc2);
    \draw (proc2) -- (res);
    \draw (res) -- (res2);
\end{tikzpicture}
\end{center}

The head \textit{init} (for initiation) denotes causing projection that introduces the external argument. The head \textit{proc} (for process) denotes process projection that selects an entity undergoing change or process. The head \textit{res} (for result) denotes result projection that selects an entity that comes to hold the result state. In Ramchand’s system, each projection represents a predicational structure that consists of the specifier position filled by the ‘subject’ or ‘theme’ of a (sub-)event, and the complement position filled by other (sub-)event that specifies the content of that event. The meanings of the three heads and arguments selected by them are summarized in (11).

\begin{enumerate}
\item \textit{initP} introduces the causation event and licenses the external argument (‘subject’ of cause = INITIATOR)
\item \textit{procP} specifies the nature of the change or process and licenses the entity undergoing change or process (‘subject’ of process = UNDERGOER)
\item \textit{resP} gives the ‘telos’ or ‘result state’ of the event and licenses the entity that comes to hold the result state (‘subject’ of result =
Let us show how Ramchand’s system explains verb meaning by taking break as an example. According to Ramchand, this verb has the following structure.

(12) Katherine broke the stick.

The verb encodes both causation and result; that is, someone causes something to be broken. In this verb, the object is interpreted as both the UNDERGOER and the RESULTEE, since it is merged as the specifiers of $proc$ and $res$. In (12), the subject DP Katherine, occupying the specifier position of $init$, is the INITIATOR, while the object DP the stick, occupying the specifier positions of $proc$ and $res$, functions as both the UNDERGOER and the RESULTEE. This event hence means that Katherine causes the stick to undergo the process of breaking and as a result, the stick becomes broken.

4. Manner/Result Complementarity in First-Phase Syntax

Ramchand (2014:sec2.1) claims that first-phase syntax allows the presence of a verb that has the components of manner and result. The reason behind this is that in the system, result belongs to Type A Meaning, while manner to Type B Meaning. Only the former relates to syntax. There is hence no reason to syntactically rule out the combination of the two components. Ramchand claims, in fact, that verbs like slice, lay, and stand consist of manner and result. To slice something means that something is cut into thin pieces. To lay or to stand requires that part of an agent is placed somewhere as a result of certain
actions, with specific orientation. To bolster her argument, we would like to give some other examples of the manner-result combination:

\[(13)\]
\[\begin{array}{ll}
(13) & a. \text{Shane \{drowned/hanged/crucified\} Sandy.} \quad (= (8a)) \\
     & b. \text{Shane \{electrocuted/guillotined\} Sandy.} \quad (= (8b)) \\
\end{array}\]

All of the verbs in (13) mean that someone is killed in certain manners specified by the verbs.

Although the presence of the verbs that have both manner and result meanings supports Ramchand’s argument, Ramchand does not show how her system explains evidence for manner/result complementarity. In this short paper, we would like to confirm her theory by showing that her system can correctly explain data that indicate the presence of manner/result complementarity.

5. Explaining the Effect of Manner/Result Complementarity

Recall that manner/result complementarity prohibits a verb from encoding both manner and result components. This constraint implies that each component can be encoded by different element. This prediction turns out to be supporting evidence for the complementarity if it is borne out.

One of the evidence to support this prediction is the prefixation of \textit{out-}. When \textit{out-} is attached to a verb, it means that someone does something more than the referent of the object noun phrase in terms of quantity or quality of doing. Compare the following examples:

\[(13)\]
\[\begin{array}{l}
(13) a. \text{John bid $100 (for the vase) (at the auction).} \\
     b. \text{Mary bid $110 (for the vase) (at the auction).} \\
     c. \text{Mary out-bid John (by $10) (for the vase) (at the auction).} \\
\end{array}\]

(Dixon (2014:179), with slight modifications)

As shown in (13a) and (13b), the transitive verb \textit{bid} takes as its subject a noun phrase referring to the person who bid, and as its object a noun phrase referring to the amount of bids. In (13c), the \textit{out-} derivation applying to the verb changes the nature of its object argument; \textit{out-bid} takes as its object the noun phrase referring to the person who made the lower bid than the one referred to by the subject. As Dixon (2014:145-146) observes that the prefix \textit{out-} can be attached to many verbs involving not only transitive verbs but also intransitive verbs like \textit{dance}, as illustrated in (14).
The girl outdanced the giant. (Tolskaya (2014:8))

(14) means that the girl danced more than the giant did in terms of quantity or quality of dancing. As is the case of (13), the prefixation of out- to the intransitive verb dance changes its argument structure: outdance can takes as its object the person who dances less than the one referred by the subject.

There is a restriction on the out- prefixation, however. Beavers and Koontz-Garboden (2012:339) point out that the prefix out- can be attached to the manner verb, while it cannot be attached to the result verb, as shown in (15).

(15) a. Cinderella outscrubbed her stepsister.
    b. *Kim outbroke the other vase-smasher.

Beavers and Koontz-Garboden take this fact to be one of the diagnostics distinguishing result verbs from manner verbs. They state that (15) may follow from Rappaport Hoava and Levin’s (2001:779) Argument-per-Subevent Condition, where “there must be at least one overt argument for each distinct subevent in the verb’s event structure [schema]” (Beavers and Koontz-Garboden (2012:338)). As outlined in section 2, the Lexicon-Internal Unification approach assumes that manner verbs like scrub encode an ACT subevent, whereas result verbs like break encode both an ACT subevent and BECOME subevent. Based on the Argument-per-Subevent Condition, Beavers and Koontz-Garboden explain the acceptability of (15) in the following way: (15a) is grammatical because the participant of the ACT subevent encoded by scrub is realized as the agent and the verb has no additional subevent beyond the ACT subevent: conversely, (15b) is ungrammatical because the participant of the BECOME subevent is not realized.

We would like to show how Ramchand’s (2008, 2014) system deals with the grammaticality of (15). Before entering into our explanation, it should be useful to overview Tolskaya’s (2014) analysis of the out- prefixation. According to Tolskaya, (14) has the following structure:

```plaintext
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```plaintext
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The verb *dance* encodes both initiation and process; that is, someone may change its position or location as a consequence of the activity. In this verb, the subject DP is interpreted as both the INITIATOR and the UNDERGOER, since it is merged as the specifiers of *init* and *proc*. Tolskaya argues that the *out-* prefixation introduces the scaleP, since *out-* being prefixed to a verb means “do more than the referent of the object noun phrase”. As a number of researches assume, a scale can be identified with a path. In the framework of Ramchand (2008, 2014), Path is assumed to combine with the complement of the *procP*. Thus, Tolskaya suggests that *out-* appears to the complement position of a *procP*.

Given Tolskaya’s (2014) analysis, it is plausible to argue that the grammaticality of (15) is attributed to the presence or absence of a *resP* in the verb. Recall that Ramchand’s system explains that *break* encodes an *initP*, a *procP*, and a *resP*. The *resP* must combine with the complement of the *procP*. Thus, *out-* cannot be prefixed to *break*, and (15b) is judged to be ungrammatical.

### 6. Conclusion

It has generally agreed that verb meaning can be decomposed into two types: meanings that are relevant to syntactic structure and those that are not. However, there is disagreement among researchers about which semantic elements deal with the two types. This paper supported Ramchand’s view of verb meaning, by arguing against the view of Rapport Hovav and Levin, called the lexicon-internal unification approach. We showed that there is no manner/result complementarity in Ramchand’s system. We also showed that without assuming the constraint, Ramchand’s system correctly explains the data that support the presence of the constraint.
REFERENCES


(Shotaro Namiki)
Doctoral Program in Literature and Linguistics
University of Tsukuba
e-mail: shotarou0925@yahoo.co.jp

(Tatsuhiro Okubo)
Doctoral Program in Literature and Linguistics
University of Tsukuba
e-mail: okubo.tatsuhiro@gmail.com