A Lexical-constructional Analysis of English Prepositional Verbs*

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Chang, Kyungchul. 2011. A Lexical-constructional Analysis of English Prepositional Verbs. *Linguistic Research* 28(3), 693-710. This article investigates verb-plus-preposition (V-P) combinations in English which have traditionally been called prepositional verbs such as *decide on* in *Sam decided on the suit*. It is argued that the preposition of a V-P combination forms a predicate with the verb. The resulting complex predicate is basically a semantic and grammatical unit that is internally complex. It is also suggested that those units can be divided into two types; one is a frozen type, and the other a productive type. The article proposes an analysis of these two types as a concrete construction and a template, respectively. They are listed or constructed in the lexicon, and their parts are separately represented in phrasal syntax by PS rules. The ideas of lexical conceptual structure and representational modularity are adopted to formalise the proposed analysis. The paper also addresses theoretical advantages and implications. **(Catholic University of Daegu)**

1. Introduction

English prepositional verbs are multi-word expressions. They consist of a lexical verb (V) and a specific preposition (P).[1] As illustrated in (1) below with *decide on* and *depend on*, this V-P combination is followed by a noun phrase (NP):

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[1] Huddleston & Pullum (2002; 2005) classify prepositional verbs into 'fossilised' and 'non-fossilised' types such as *come across* and *ask for*, respectively. On the other hand, Cowan (2008) regards the former type as an 'inseparable transitive phrasal verb' and the latter as a true prepositional verb. The present article follows Huddleston & Pullum's classification and focuses on the non-fossilised type.

(1) a. Sam decided on the suit (for the party).
    b. Meg depended on her brother (for her education).

The central problem is that such V-P combinations are internally complex. The preposition part collocates with the verb for an intended meaning, on the one hand, and takes a noun phrase for its complement, on the other. This ambivalent nature of V-P combinations leads to the question of how they are best analysed.

One way of dealing with this issue is to consider the standard approach of transformational linguists since Chomsky (1965). In this approach, the verb of a V-P combination 'subcategorises' for the prepositional phrase, and this information is represented in phrasal syntax by phrase structure (PS) rules. It is then the preposition of the prepositional phrase that is 'incorporated' into the verb by the rule of 'head movement': this is called 'reanalysis' in general (Radford 1988).

This paper presents an alternative to this reanalysis. Drawing on standard arguments and evidence, it is argued that the preposition of a V-P combination combines with the verb to form a predicate. The resulting 'complex predicate' is a semantic and grammatical unit that is syntactically complex. It is also suggested that those units can fall under two types; one is a permanently frozen type and the other a partly productive type. The paper provides an analysis of these two types as a fully specified construction and a partly unspecified template, respectively. This construction is stored or constructed in the lexicon and represented in phrasal syntax by ordinary PS rules. The paper also formalises the proposed analysis following Jackendoff (2002), Culicover & Jackendoff (2005) and Chang (2008).

The remaining sections are organised as follows. Section 2 is presented to describe basic properties of V-P combinations and argue that they are semantic and grammatical units. Section 3 addresses the underlying intuitions of previous studies which support the proposed analysis. Section 4 is set out to offered the proposed analysis with the outline of its key assumptions. Section 5 summarises the paper.

2. Basic Properties

2.1 Idiomatic Properties

One of the key characteristics of English V-P combinations is that they are semantic units that are not completely determined by their parts. They express a 'single' meaning that surpasses the sum of the meanings of their parts. A piece of evidence for this is that they can be replaced by other single verbs with no significant change of meaning. For example, as in (2), *choose* and *visit* may be used in place of *decide on* and *call on*, respectively.

(2) a. Sam {decided on/chose} the suit (for the party).
    b. Meg {called on/visited} her brother.

The traditional practice for such semantic units is to treat them as idioms. Idioms are frozen multi-word units whose meaning is usually greater than the sum of the meanings of their parts. It is thus generally assumed that they are in a certain manner listed in the so-called 'lexicon'. For instance, *kick the bucket* is a fixed expression meaning 'die'. It should be listed in the lexicon (see Chang (2009)).

V-P combinations are very much like idioms in general. They are permanently frozen units so that no other possibilities are allowed. For example, in (3), *depend* cannot combine with any other prepositions than *on* for the intended meaning:

(3) Sam decided {on/*in/*at/*to/*for...} the suit.

On the other hand, as shown in (4), the choice of a specific preposition for V-P combinations may readily change the semantic content of the whole combination.

(4) They {called for/requested} papers (for their conference).

These examples also suggest that V-P combinations are 'lexical(-ised)' units.

The central problem is however that not all V-P combinations are permanently frozen units. Some appear to be partly productive, sharing their more general meaning in a certain context or relating to such a meaning in one way or another.

For example, in (5) below, the verb part of *depend on* may be available for other verbs such as *rely, count, lean, etc.*, though the class is small in size:

(5) Meg {depended/relied/counted/leaned...} on her brother.

Indeed, some others are also considered semi-productive in that their verbs share the same preposition under a (so-called) 'semantic type' (Dixon 2005). For instance, in (6) *look, stare, gaze* and *gape* collocate with *at* and denote a kind of 'looking', though their specific meanings differ from one another in terms of manner:

(6) Sam {looked/stared/gazed/gaped...} at Meg.

The present study suggests that there are two types of prepositional verb, either with a single meaning or under a related semantic type. One type is a permanently frozen V-P combination, and the other a partly productive V-P combination. We also posit that these two types are stored or constructed in the lexicon as a fully specified or partly unspecified form, respectively. For these ideas, the adopted model of the lexicon is outlined in Section 4.

2.2 Grammatical Properties

V-P combinations are not only semantic but also grammatical units. They are involved in some grammatical operations such as passivisation and gapping. For instance, like simple transitive verbs, *decide on* and *depend on* can be passivised allowing the object (of the preposition) to become subject of the clause. Examples are taken from Google Search:

(7) a. The book was decided on by a panel of 20 students.
    (http://www.oakwood.k12.il.us/vnews/display.v/ART/2008/02/19/
    47bb2b5f3ea46)
  b. ...he was depended on by everyone.
    (http://weblogs.hcrhs.k12.nj.us/honadvsoc1/discuss/msgReader$173)

This is not however the case with verb-plus-prepositional phrase (V-PP)

combinations where the PP functions as an adjunct. This adjunct V-PP combination, as given in (8), fails to undergo passivisation:

(8) a. *England was died in by many people (Radford 1988: 430)
     b. *The hot sun was played under by the children.

                                               (Kim & Sells: 2008: 192)

This contrast clearly shows that the V-P combinations in question are grammatical units that can participate in passivisation.

There is also relevant evidence for the grammatical unithood of V-P combinations. It is gapping in coordinated passive clauses. For example, in (9), while the whole V-P combination is not gapped in coordinated active clauses, it can be gapped in the passive counterparts.

(9) a. Pavarotti relied on Loren and Bond on Hepburn.
     b.*Pavarotti relied on Loren and Bond Hepburn.
     c. Loren was relied on by Pavarotti and Hepburn by Bond.
     d.*Loren was relied on by Pavarotti and Hepburn on by Bond.

                                               (Kim & Sells: 2008: 193)

This contrast further confirms that V-P combinations are grammatical units that can be gapped in coordinated passives.

2.3 Syntactic Complexity

Though V-P combinations are semantic and grammatical units, their preposition part forms another unit with a noun phrase. The unit is a syntactic phrase called a 'prepositional phrase'. As seen above, however, this prepositional phrase sharply differs from other prepositional phrases of place, time and manner. Whereas the latter are adjuncts to the verb phrase, the preposition of the former is integrated or fixed with the verb. Due to this contrast, V-P combinations can be passivised, but this is difficult with V-PP adjunct combinations (cf. Kim & Sells (2008)). In this respect, we regard the preposition of a V-P combination as a 'complement' of the verb (see Aarts (2008)) or the whole combination.

As a complement, the preposition of a V-P combination resembles particles of so-called 'phrasal verbs'. Phrasal verbs are also multi-word semantic units that consist of a lexical verb (V) and a specific particle (Prt). Their intended meaning usually exceeds the sum of the meanings of the their parts. Because of this, many V-Prt combinations can be replaced by simple verbs, *e.g.*, *wear* for *put on* in *put on the suit* (see Chang (2008)).

On the other hand, V-P combinations are clearly different from V-Prt combinations in many other respects (see also Quirk *et al.*, (1985) and Huddleston & Pullum (2002)). First, whereas the particle of a V-Prt combination can shift from one position to another, this alternation is not allowed with the preposition of a V-P combination:

(10)   a. Sam decided on the suit/*decided the suit on.
　　　　b. Sam put on the suit/put the suit on.

Second, a V-P combination can be interrupted by a manner adverbial, but a V-Prt combination cannot:

(11)   a. ...we decided firmly on his name in pregnancy...
　　　　　　(http://offbeatmama.com/2011/07/baby-name-remorse-2)
　　　　b. *He put quickly on the suit.

Third, the preposition of a V-P combination can be pied-piped with a *wh*-word in relative and interrogative clauses while this is not possible with the particle of a V-Prt combination:

(12)   a. ...the plot on which he decided to construct a lake...
　　　　　　(http://digital.hannibal.lib.mo.us/stillwell/appendix_21-30.htm)
　　　　b. *the suit on which he put
(13)   a. On what did he finally decide?
　　　　　　(http://www.cobblestonepub.com/resources/cob9402t.html)
　　　　b.*On which suit did he put?

Taken together, these data show that the preposition and the immediate noun phrase

are constituents of the prepositional phrase whereas the particle and the following noun phrase cannot be constituents of any syntactic phrase.

The present investigation assumes that the preposition of a V-P combination as its complement forms a prepositional phrase with a noun phrase at another level of representation called phrasal syntax. It is also posited that this phrasal combination is formed by ordinary PS rules. A constraint-based model of PS rules is outlined in Section 4 and applied to the clause of V-P combinations after a review of previous studies.

3. Previous Analyses

3.1 Subcategorisation Account

The standard account in the literature of English V-P combinations has adopted the idea of 'subcategorisation' for their syntactic structure since Chomsky (1965). In this account, the verb of a V-P combination subcategorises for the preposition with a noun phrase complement. This information is in a certain manner encapsulated in what is called a 'subcategorisation frame'. Since the preposition is usually concrete, it is specified in that frame. The subcategorisation frame for *decide on* is illustrated in (14) (cf. Radford (1988: 345)):

(14)   Subcategorisation Frame for *decide* (verb)
       [—, [$_{PP}$ on-NP]]

The verb and its subcategorisation frame in (14) are then plugged into phrasal syntax by PS rules to represent their verb phrase and, in turn, sentence. The resulting sentence structure is illustrated in (15):

(15) [$_S$ Sam [$_{VP}$ [$_V$ decided] [$_{PP}$ [$_P$ on] [$_{NP}$ the suit]]]].

Based on this, the subcategorisation account captures the semantic unithood of V-P combinations in terms of 'incorporation'. According to Neeleman & Weerman (1999), the preposition of a V-P combination is incorporated into the verb by means

of 'head(-to-head) movement'. The result is the complex verb illustrated in (16):

(16)   a. [$_{VP}$ [$_V$ decided] [$_{PP}$ [$_P$ on] [$_{NP}$ the suit]]].
           → Head Movement
       b. [$_{VP}$ [$_V$ decided-on$_i$] [$_{PP}$ t$_i$ [$_{NP}$ the suit]]].

This kind of analysis is termed 'reanalysis' in general (Radford 1988).

   In fact, the need of such a reanalysis for V-P combinations has already been recognised in the literature. Chomsky (1977: 87) remarks that, as observed above, the verb and the preposition together form a 'semantic unit' for a passive clause (see also Van Riemsdijk (1978)). This semantic unit Van Riemsdijk & Williams (1987: 118) also call a 'natural predicate'.

   Despite its valid intuition, the reanalysis is questionable in certain respects. If V-P combinations are semantic units, why should they not be analysed the other way around? That is, they could be analysed as semantic units from the very beginning (cf. Kim & Sells (2008)). Then, we could not only dispense with the notions of incorporation, reanalysis and head movement. We could also avoid the counterintuition that the incorporated preposition with the verb is a 'word-level' rather than 'phrase-level' category. This is departure from Jackendoff (2002).

3.2 Constructional Idiom Account

   Jackendoff (2002) argues that V-P combinations are not a word-level category but a phrase-level category. His basic intuition is that they are like idioms that contain an unspecified NP argument. He calls such idioms 'constructional idioms' and assumes that they are subsumed under a much larger class including *take NP to task* 'criticise', *V pro's head off* 'V excessively', *V NP[time period] away* 'spend NP V-ing', and so forth.

   Jackendoff's suggestion is that such constructional idioms are listed in the lexicon as a 'lexical verb phrase', namely lexical VP. The sound, category and meaning of a constructional idiom are separated but related in terms of 'representational modularity'. Jackendoff calls this architecture a 'lexical conceptual structure (LCS)' and offers an analysis of *decide on*. The analysis is the lexical entry given in (17) below, where the sounds of *depend* and *on* are mapped onto the verb

and preposition category of the VP, respectively, and the whole VP is mapped onto the meaning or semantic form [DEPEND-ON (X, Y)]:[2]

(17) Lexical Conceptual Structure (LCS) for *decide on*

$_a$Wd $_b$Cl   VP$_m$ [DEPEND-ON (X, Y$_n$)]$_m$

depend   on $_a$V   PP

$_b$P   NP$_n$
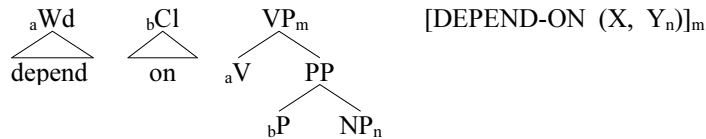
The present study adopts most of Jackendoff's assumptions. It is assumed that V-P combinations are held in the lexicon at the very outset; the preposition with the verb is then plugged into phrasal syntax by PS rules for its PP. It is also posited that they are represented in the form of LCS under the hypothesis of representational modularity.

Jackendoff's analysis however remains questionable in one respect. As observed above, not only *depend on* but also *rely on, count on, lean on* and the like can possibly be used in a similar context sharing the preposition *on*. We can also find a recurrent pattern in *look at, stare at, stare at, gaze at* and so forth. Though their specific meanings differ from one another in terms of manner, they share the preposition *at* denoting an act of looking. If this is the case, then the analysis in (17) should be like (18) below, which I shall call a 'template', following Goldberg (1995):

(18) Template for *(decide) on*

$_a$Wd $_b$Cl   VP$_m$ [_____-ON (X, Y$_n$)]$_m$

_____   on $_a$V   PP

$_b$P   NP$_n$
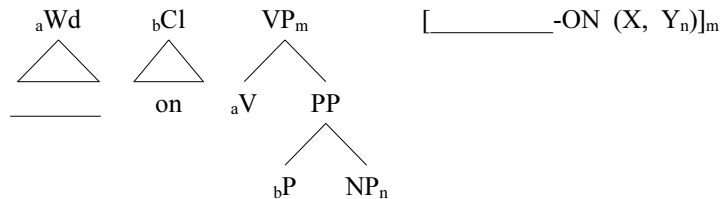
One plausible development of this idea is proposed in the next section adopting Chang's (2008) analysis of phrasal verbs.

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2   For the purpose of convenience, we use the ordinary spelling system of English rather than its phonetic or phonological transcriptions when describing sounds.

4. A Proposal

4.1 Basic Assumptions

The underlying ideas of Jackendoff's (2002) LCS and representational modularity are modelled in Culicover & Jackendoff (2005) and developed in Chang (2008). In his analysis of V-Prt combinations, Chang argues that they are semantic and grammatical units that are syntactically complex; which he calls 'complex predicates'. Following many others, Chang suggests that these units fall under two major types; one is an 'idiomatic' type such as *look up* ('find X') in *look up the word*, and the other is a partly 'productive' type that includes 'aspectual' and 'directional' subtypes, such as *cut up* ('do X completely') in *cut up the meat* and *pull up* ('cause X to move upward') in *pull up the blind*, respectively.

For his analysis of the idiomatic type, Chang assumes that its sound, category and meaning have their own 'phonological structure' (PS), 'syntactic structure' (SS) and 'conceptual structure' (CS), respectively. He also adds to them 'predicate structure' (PredS) for semantic forms of particular phrasal verbs and 'morphological structure' (MS) for inflectional and derivational morphology. With regard to thematic roles in the argument component, he embraces Goldberg's (1995) assumption that argument and participant roles are divorced but related in a certain manner through grammatical functions (GF). He also sees that all these modular structures are separated but associated by means of 'mapping' and that this information is encapsulated in the lexicon in the form of LCS. His analysis of *look up* is thus the lexical entry illustrated in (19), where agent and theme roles are notated AGT and TH, respectively:

(19) <u>LCS for *look up*</u>

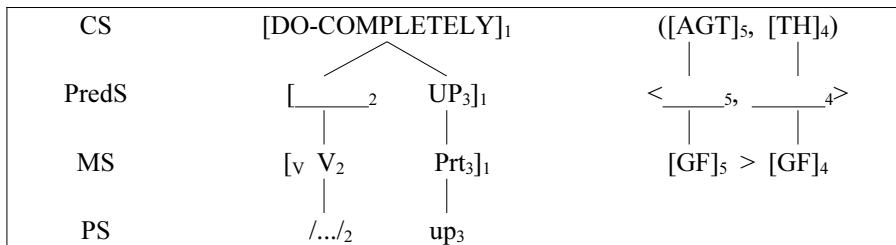| Conceptual Structure (CS)	$[\text{FIND}]_1$	$([\text{AGT}]_5,\ [\text{TH}]_4)$
Predicate Structure (PredS)	$[\text{LOOK}_2 \quad \text{UP}_3]_1$	$<\underline{\quad}_5,\ \underline{\quad}_4>$
Morphological Structure (MS)	$[_V\ V_2 \quad \text{Prt}_3]_1$	$[\text{GF}]_5 > [\text{GF}]_4$
Phonological Structure (PS)	$\text{look}_2 \quad \text{up}_3$	

There is a note to be made on (19). The heart of this analysis is the difference in subscript number between 1 and 2, and 3. This indicates the idiomatic nature of *look up*; that is, the meaning of *look up* is greater than the sum of the meanings of its parts, *look* and *up*.

On the other hand, Chang (2008) provides a template analysis of productive V-Prt combinations. This is because there is a common denominator under them; this is called a 'constructional meaning'. For example, in (20), the verbs recur with the particle *up* and shares the constructional meaning 'do X completely':

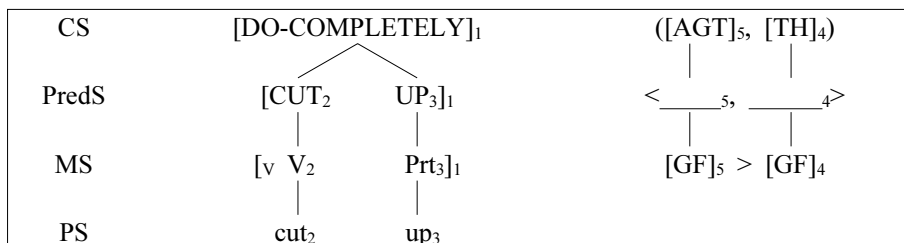(20) cut up meat, drink up beer, tear up a letter, *etc.*

Chang's analysis is thus the template illustrated in (21):

(21) <u>Template for *V-up* ('do X completely')</u>

$$
\begin{array}{llll}
\text{CS} & [\text{DO-COMPLETELY}]_1 & & ([\text{AGT}]_5,\ [\text{TH}]_4) \\[4pt]
\text{PredS} & [\underline{\quad}_2 \quad \text{UP}_3]_1 & & <\underline{\quad}_5,\ \underline{\quad}_4> \\[4pt]
\text{MS} & [_V\ V_2 \qquad \text{Prt}_3]_1 & & [\text{GF}]_5 > [\text{GF}]_4 \\[4pt]
\text{PS} & /\ldots/_2 \qquad up_3 & &
\end{array}
$$

Chang also suggests that it is in the lexicon and by means of 'fusion' that a verb is integrated into that template. He considers this lexical fusion as a 'morphological' operation in terms of productive derivational morphology. The result of this operation is the lexical construction illustrated in (22):

(22) <u>Fusion of *V-up* with *cut* for *cut up*</u>

$$
\begin{array}{llll}
\text{CS} & [\text{DO-COMPLETELY}]_1 & & ([\text{AGT}]_5,\ [\text{TH}]_4) \\[4pt]
\text{PredS} & [\text{CUT}_2 \quad \text{UP}_3]_1 & & <\underline{\quad}_5,\ \underline{\quad}_4> \\[4pt]
\text{MS} & [_V\ V_2 \qquad \text{Prt}_3]_1 & & [\text{GF}]_5 > [\text{GF}]_4 \\[4pt]
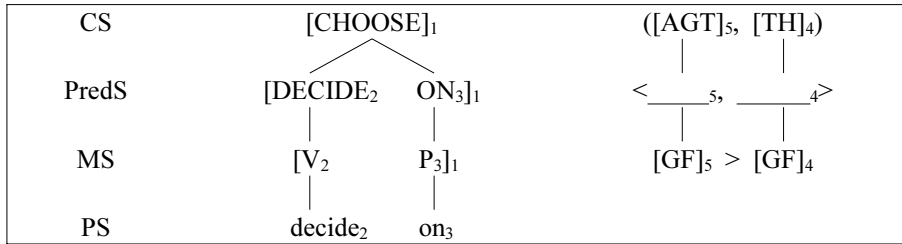\text{PS} & cut_2 \qquad up_3 & &
\end{array}
$$

Chang shows that this completed construction is represented in phrasal syntax by ordinary PS rules.

4.2 Lexical Conceptual Structure for the Frozen Type

If Chang's analysis is applied to V-P combinations, then the outcome will be a lexical construction. This construction is either fully listed or completed in the lexicon, depending on whether it is permanently frozen or partly productive. If it is a frozen type, then it should be held in the component as a fully specified construction. If it is a productive type, then it will take on a partly unspecified template therein.

Our example *decide on* will be a fully specified lexical construction. It must be fully specified because it permits no other possibilities for its meaning 'choose'. It should also be a lexical construction because its meaning is greater than the sum of the meanings of its parts, verb and preposition. This position will lead to the lexical entry shown in (23) below:

(23) <u>LCS for *decide on*</u>

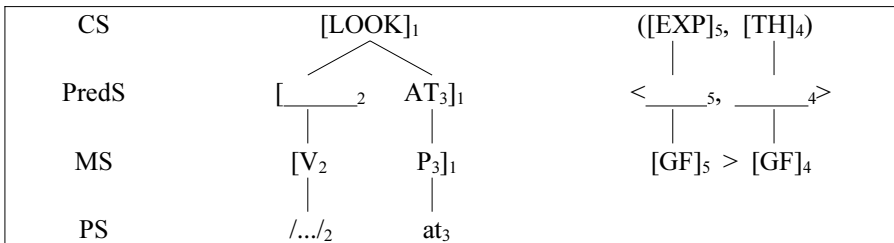|		
CS	$[CHOOSE]_1$	$([AGT]_5, [TH]_4)$
PredS	$[DECIDE_2 \quad ON_3]_1$	$<\underline{\quad}_5, \underline{\quad}_4>$
MS	$[V_2 \quad P_3]_1$	$[GF]_5 > [GF]_4$
PS	$decide_2 \quad on_3$	

There are two notes to be made on (23). First, the LCS shows the idiomatic nature of *decide on* in general. This is indicated by the discrepancy in subscript number between 1 and 2, and 3. The LCS also reveals that the idiomatic V-P combination is a permanently frozen type. This is expressed by the fully specified semantic and phonological forms in PredS and PS for the intended meaning [CHOOSE] in CS.
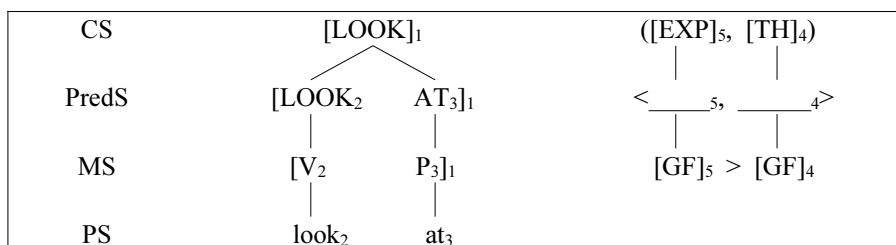
4.3 Template for the Partly Productive Type

Yet, V-P combinations like *look at* should be differentiated from the permanently frozen type. This is because they are partly compositional and productive. Verbs like *look*, *stare, gaze, gape, etc.* denotes an act of looking or perceiving though their specific concepts differ in manner. They also recur with the preposition *at*. Considerations of this sort will lead to the lexical entry illustrated in (24) where the lexical construction is analysed as a template:

(24) <u>Template for *(look) at*</u>

CS	$[LOOK]_1$	$([EXP]_5,\ [TH]_4)$
PredS	$[\underline{\quad}_2\quad AT_3]_1$	$<\underline{\quad}_5,\ \underline{\quad}_4>$
MS	$[V_2 \qquad P_3]_1$	$[GF]_5 > [GF]_4$
PS	$/.../_2 \qquad at_3$	

There are four notes to be made on (24). First, the LCS suggests that *look at* and other concrete V-P combinations are realisations of the given template. Second, the semantic component in CS such as [LOOK] is not a constructional meaning, but a semantic type with which other verbs can be associated in one way or another. Third, the proposed model adopts the experience rather than agent role for the argument, as notated [EXP]. This is because the act of looking can be seen as a kind of perception rather than an dynamic action that affects or changes the state of an object. Fourth, the difference in subscript number between 1 and 2, and 3 shows that this template is also idiomatic in nature.

The template in (24) is then integrated with a verb in the lexicon, as assumed, by means of fusion. The outcome will be the completed construction given in (25):

(25) <u>Fusion of *V-at* with *look*</u>

CS	[LOOK]$_1$		([EXP]$_5$, [TH]$_4$)
PredS	[LOOK$_2$ AT$_3$]$_1$		<_____$_5$, _____$_4$>
MS	[V$_2$ P$_3$]$_1$		[GF]$_5$ > [GF]$_4$
PS	look$_2$ at$_3$		

This completed lexical construction is now plugged into phrasal syntax by ordinary PS rules, as also posited, to form a verb phrase with a prepositional phrase and in turn a sentence.

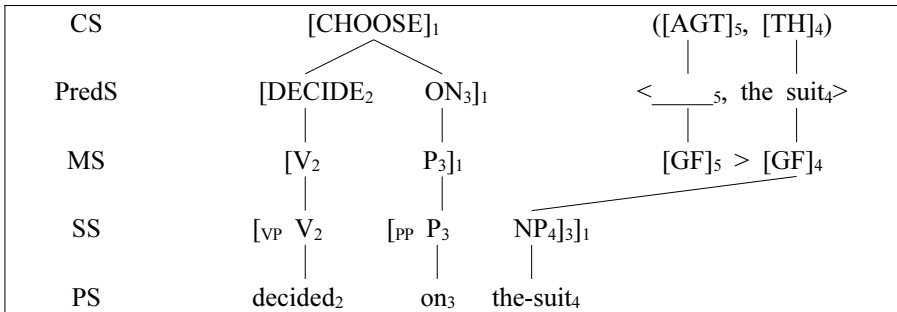## 4.4 Constituency and Linearisation Constraints

The version of PS rules we adopt is 'constraint-based' (Culicover & Jackendoff 2005; Chang 2008). This leads to simpler or flat syntactic structures. The basic assumption is that PS rules can be decomposed into complex constraints on constituency and linearisation. For example, the rules in (26) below are interpreted in such a way that in order to form a prepositional phrase a preposition combines with a noun phrase via constituency constraints, immediately preceding it via linearisation constraints; likewise, when the prepositional phrase combines with a verb via constituency constraints to form a verb phrase, it follows it via linearisation constraints; in order to form a sentence, the verb phrase also combines with a noun phrase via constituency constraints while following it via linearisation constraints:

(26)   a. S → NP VP
        b. VP → V PP
        c. PP → P NP

In order to form *Sam decided on the suit*, first, the preposition of *decide on* is immediately followed by the noun phrase *the suit* via linearisation constraints when it combines with it via constituency constraints. The result is the prepositional phrase *on the suit*, which also simultaneously combines with and follows the verb *decided*

in similar ways, as illustrated in (27), to form the verb phrase *decided on the suit*:
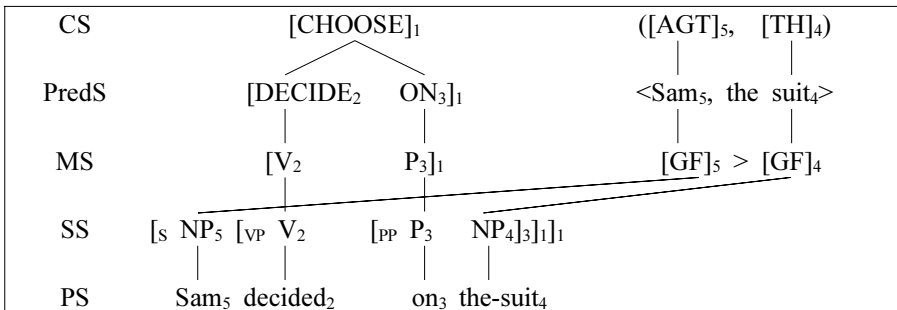
(27) <u>The VP Structure for *decided on the suit*</u>

CS	$[CHOOSE]_1$	$([AGT]_5, [TH]_4)$
PredS	$[DECIDE_2 \quad ON_3]_1$	$<\underline{\quad}_5, \text{ the suit}_4>$
MS	$[V_2 \quad P_3]_1$	$[GF]_5 > [GF]_4$
SS	$[_{VP} V_2 \quad [_{PP} P_3 \quad NP_4]_3]_1$	
PS	decided$_2$ \quad on$_3$ \quad the-suit$_4$	

As may be noticed, this verb phrase is the direct extension of the V-P construction. This is indicated by the subscript number 1 through the modular structures.

The verb phrase in (27) then combines with the noun phrase *Sam* via constituency constraints and follows it via linearisation constraints. The result is the sentence *Sam decided on the suit*, as illustrated in (28) below:

(28) <u>The Sentence Structure for *Sam decided on the suit*</u>

CS	$[CHOOSE]_1$	$([AGT]_5, \quad [TH]_4)$
PredS	$[DECIDE_2 \quad ON_3]_1$	$<Sam_5, \text{ the suit}_4>$
MS	$[V_2 \quad P_3]_1$	$[GF]_5 > [GF]_4$
SS	$[_S NP_5 \ [_{VP} V_2 \quad [_{PP} P_3 \quad NP_4]_3]_1]_1$	
PS	Sam$_5$ decided$_2$ \quad on$_3$ the-suit$_4$	

Again, the subscript number 1 through the modular structures shows that the sentence is originally built out of the lexical V-P construction.

4.5 Advantages and Implications

The proposed analysis has three theoretical advantages. First, the analysis is simpler than the subcategorisation account in relation to the standard arguments. It dispenses with head movement for reanalysis while embracing the key assumptions underlying that technique; that is, V-P combinations exist at a certain level of representation as semantic units. For this, we have asserted that it is from the very beginning and in the lexicon that they are represented as semantic units.

Second, the proposed account may provide a clue to explanations of gapping a V-P combination in coordinated passive clauses. It enables a 'direct' representation of a V-P combination as a 'complex verb' in phrasal syntax if there is no object argument to combine with the preposition for a passive clause. If this is the case, then not the verb part only, but the whole complex verb must be gapped in coordinated passive clauses. This would be an alternative to Kim & Sells' (2008) 'Head-Light Rule' such as $V \rightarrow V, X[LIGHT+]$.

Third, the proposed model recognises degrees of V-P combinations while the previous analysis works across the board. The model classes V-P combinations under two types, either permanently frozen or partly productive. It also provides a flexible analysis of these two types as a fully specified construction and a partly unspecified lexical template, respectively. This will be readily applied to other V-P combinations, too.

The proposed study also further has crucial implications for the role of the lexicon in a theory of grammar. As observed, the lexicon is the component of not merely storing V-P combinations but also combining their templates and lexical verbs in a productive manner. This suggests that the lexicon is no longer 'an appendix of the grammar' or 'a list of basic irregularities' (Bloomfield 1933: 274), but rather the 'integral part of grammar' (Chang 2008: 80).

5. Summary

This paper has examined V-P combinations called prepositional verbs. Drawing on standard arguments and evidence, it was argued that V-P combinations are semantic and grammatical units that differ from V-P and adjunct V-PP combinations.

For this, various evidence was provided with regard to lexical replacement, V-P gapping in coordinated passive clauses, adverbial interruption, and pied-piping in relative and interrogative clauses. It was also pointed out that the underlying intuition of the previous account is basically correct in that it treats V-P combinations as semantic units called (complex) predicates.

The paper however provided an alternative analysis that does not rely on the notions of head movement, incorporation and reanalysis. The paper assumed that V-P combinations are semantic units that are held in the lexicon from the very outset. It also suggested that there are two types of prepositional verb; one is a permanently frozen type, and the other a partly productive (and compositional) type. The paper offered a lexical-constructional analysis of these two types as a fully specified construction and a partly unspecified template, respectively. These lexical constructions are listed or completed in the lexicon and represented in phrasal syntax by ordinary PS rules. The proposed analysis was modelled using the ideas of lexical conceptual structure and representational modularity with constraint-based PS rules. Theoretical advantages were also addressed with a brief implication.

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