Zeitschrift für Wortbildung
Journal of Word Formation

2026, 10(1), 51–87
DOI: 10.21248/zwjw.2026.1.145

José A. Sánchez Fajardo & Akiko Nagano

Denominal Converted Verbs with Particles in English: Unlocking the Semantic-Ontological Role of Nominal Bases and Particles through a Lexical-Semantic Approach*

Abstract: This paper investigates the interaction between particle verb formation and noun-to-verb conversion in English complex verbs such as *lawyer up* and *fence off*, using a framework built on the findings of the lexical-semantic investigations into the latter process. Although the syntax and semantics of English denominal conversion verbs have been well studied, the issue of how a particle can be integrated has not yet been explored. This paper addresses this issue by examining (i) which conversion verb type prefers which particle (*up*, *out*, *off*, or *down*) and (ii) how the rich lexical semantics of the base noun and the particle contribute to the production and interpretation of new verbs. Regarding the first question, the correlation is particularly evident in the following pairings: Instrumental and *out*, Similative and *out*, Ornative and *up*, Performative and *out*, Causative and *out*, Inchoative and *up*, and Privative and *off*. Regarding the second question, we observe that cognitive image schemas, such as UP IS MORE and BODIES ARE CONTAINERS, underlie the interplay between the noun and the particle. Overall, the results lend support to the lexical-semantic approach to conversion and particle verbs, particularly from a cognitive-semantic perspective.

Keywords: particle verbs, denominal converted verbs, lexical-semantic approach, content ontologies

1. Introduction

In Germanic linguistics, the syntax and semantics of particle verbs have been a core research topic since at least the 1920s (Kennedy 1920; Klima 1965; Potter 1965; Bolinger 1971; Fraser 1976; Brinton 1988; Denison 1993; Dehé et al. 2002; Huddleston & Pullum 2002; Jackendoff 2002; Cappelle 2005, 2023; Los et al. 2012; Thim 2012; Goldberg 2016). In Present-day English, particle verbs consist of a verb and a particle that is usually

* We would like to thank the two anonymous reviewers for their invaluable comments and feedback on the initial submission. Thanks are also due to the audience at the 8th International Society for the Linguistics of English conference, at which part of this study was presented. This study was supported by JSPS KAKENHI Grant Numbers JP24K03966 and JP24K03961.

homonymous with an adverb or a preposition. The particle follows the verb and can be separated from it:

(1) a. Suzanne *looked up* the information
b. Suzanne *looked* the information *up*. (Los et al. 2012: 5)

Syntactically, particle and prepositional verbs should be distinguished; examples such as *to kayak down the river* contain prepositional rather than particle verbs (Denison 1993). The semantic function of the particle that combines with a verb is threefold: directional, aspectual (or completive), and non-compositional or idiomatic (Jackendoff 2002), but these functions can be synthesized in a particle, as in the direction/aspectual combination in (1) and *gather up*, or the aspectual/intensity combination in *gobble up* (Machonis 2009). Despite their syntactic separability, the verb and the particle constitute a tight unit, as evidenced by the unit's semi-idiomatic semantics (e.g., "search for" in [1]) and its participation in word-formation, specifically verb-to-noun conversion:

(2) a. dictionary *lookups*, a fallout, a break-up, a kick-off, a break-in
b. a *lookup* table, a pull-down menu, a dial-up connection
(nonitalicized examples taken from Los et al. 2012: 5)

Complex nouns of this type are considered to be the nominalization of particle verbs, as they inherit the semantics of the corresponding particle verb combination. Also, this type has overt nominalization analogues such as *dropper-in* and *finder-out* (Bauer 1983: 288–289). Los et al. (2012) summarily describe these behaviors of particle verbs as a paradox, meaning that the construction lies at the intersection of syntax, semantics, and morphology. Put differently, it is ill situated in a modular view of grammatical architecture.

The topic of this paper is another, lesser-known type of paradoxical behavior exhibited by English particle verbs: their interaction with denominal verb conversion within a single construction, as illustrated by *elbow out* and *lawyer up* in (3).

(3) a. She *elbowed out* a rival to get to the front row of the concert. (pickvocab.com)
b. He hasn't even *lawyered up*, and thinks he can represent himself in court and take custody of the kids. (CED, online)

Here, noun-to-verb conversion, a highly productive word-formation process in English, occurs alongside particle verb formation. This raises an interface-related issue concerning whether the phenomenon illustrates particle verbs to which a noun has been incorporated or converted verbs to which a particle has been added. The former perspective is entirely conceivable within a generativist neo-constructionist approach inspired by Hale & Keyser's (1993, 2002) L-syntax framework. Thus, Miller (2014: 71–74) proposes a neo-constructionist analysis of the nominalization in (2), according to which the verb phrase structure of a particle verb is nominalized by a zero noun or affix occupying the head N position. Following this logic, the verbalization in (3) could be seen as a similar process, whereby the ROOT (such as ELBOW and LAWYER) is incorporated into the V position of the same structure. Significantly, under this approach, the process of conversion is not involved in either (2) or (3).[1] Some might consider this satisfactory because the conversion analysis of the nominalization in (2) is debatable, given the prosodic shift that usually accompanies the category shift (e.g., *look úp ~ lóok up*). However, no comparable fact is observed for the verbalization in (3). In this paper, we demonstrate that the process of conversion is truly active in the latter case, confirming that the structures of *elbow out* and *lawyer up* are "converted verbs + particle" rather than "particle verbs + noun incorporation". We argue for this conclusion through a systematic comparison of the verbalization in (3) with denominal verb conversion. This exploration not only confirms the active involvement of the noun-to-verb conversion in (3) but also provides novel evidence for the central role of the base noun in enabling language users to produce and/or interpret a new verb. In the context of the research paradigm of conversion in English, this outcome will help alleviate the excessive burden that has been placed on the verb (phrase) structure since Hale & Keyser (1993, 2002). For the research paradigm of particle verbs, it will not resolve the

[1] An anonymous reviewer asks how the issue of directionality of conversion affects our exploration. From a theoretical point of view, the answer is linked to one's stance on the structure of nominalization in (2) and verbalization in (3). A neo-constructionist perspective is likely to attach less importance to directionality (see Koontz-Garboden 2014 for more details). In contrast, directionality is important in a lexicalist conversion perspective, such as the one adopted in this paper. Firstly, as corroborated by the present study, the base noun information is inherited by the resulting conversion verb, and the information of the latter is in turn inherited by the particled denominal verb. The logic of inheritance (and probably override) would be difficult to maintain in a nondirectional approach. Secondly, nominalization of a particled denominal verb appears to be very rare. This observation, if confirmed by future empirical research, will lend support to the directionality of nominalization in (2) and verbalization in (3), as the "oscillational" conversion in the form of N > V > N or V > N > V is uncommon in itself (Nagano 2008a).

paradox but rather reinforce it. The broader theoretical implications of the structural pathway of the complex verbs in (3) are profound, intricately linked to the mechanisms of category change, compositionality, and the role of world knowledge in constructional meaning.

In the literature, there is paucity of research and insufficient databases regarding the type in (3). A few studies dealing with this construction all highlight the categorizing role of the co-occurring particle, drawing on the existence of denominal verbs that are admitted only in the presence of a particle. Observing that particle verbs are rarely formed with affixed verbs (cf., the parallelism between [2] and *dropper-in*), Nagano (2008a: 137–138) claims that the particle in (3) acts as a category marker, a functional equivalent of the verb-forming affix. McIntyre (2015: 1420) points out that "[m]any CDVs [complex denominal verbs] are unacceptable without preverbs. For example, *they sexed up the theory* 'made it more appealing' lacks a corresponding use of sex_V without *up*." However, the licensing particles also make an essential contribution to semantic composition. The particle *out* in *…so now they're Disneyed out* is essential not only in its categorizing function analogous to *-ize* in *Disneyize* but also in conveying the original meaning "to have dealt with Disney to such an extent that one does not wish to deal with it anymore" (Debouzie 2024: 304). In fact, Jackendoff (2002) posits i) *be+V/N-ed+out* (as in *be coffeed out*) and ii) *V/N+out* (as in *freak out*) as semi-productive construction idioms involving a denominal verb ("V/N"), where the former pertains to an ornative frame while the latter is a similative one. In the former, *out* resembles a bound morpheme in that it has a force that determines the valency of the construction and, as Hugou (2013: 84) puts it, "it is a word with a specific meaning within this construction". This means that the original lexical semantics of *out* is overridden by the meaning of the idiomatic construction.

We believe that the verbalization in (3) is compositional, with its components amalgamated not arbitrarily. Instead, the nominal base provides access to the type of actional frame, and the particle indicates the result of this action. The alignment of a particle with a particular type of nominal meaning, as understood through the frame-semantic category (FSC) approach, must be grounded in world-knowledge compatibility. To confirm this hypothesis, the remainder of this paper addresses the following research questions:

– Is there a correlation between the denominal verb's frame-semantic category (e.g., instrumental, similative, inchoative, etc.) and the particle choice?
– If there are FSC-particle correlations, are these also dependent on the (relational) ontologies that emerge from the content ontologies/functions of the base noun and the particle in world knowledge?

The paper proceeds as follows: the next section discusses the basic framework of our investigation, while section 3 introduces our datasets extracted from the *enTenTen21* corpus. Section 4 addresses the two research questions, with sections 4.1 and 4.2 addressing the first research question and section 4.3 addresses the second research question. Section 5 concludes the study. Below, the type in (3) is called NV-Ps (standing for "denominal verbs with a particle").

2. Theoretical Framework

2.1 The Lexical Semantic Approach to Conversion

The semantic, syntactic, and morphological aspects of noun-to-verb conversion in English have long been a topic of intense investigation (Clark & Clark 1979; Bauer 1983, 2018; Štekauer 1996; Lieber 1998, 2004; Plag 1999; Baeskow 2006, 2024, 2026; Nagano 2008a, 2008b; Garcia Velasco 2009; Cetnarowska 2011; Štekauer et al. 2011; Martsa 2013; Varela 2020, 2023; Michaelis & Hsiao 2021; Barbu et al. 2023; Debouzie 2024, among many others). Our framework is based on these previous lexical-semantic investigations and their connection to the semantics-syntax interface of denominal verb conversion, with the assumption that the observed mappings are preserved in NV-P constructions.

Firstly, denominal verbs are associated with certain lexical semantic representations that determine their basic syntactic and semantic properties, particularly their argument structure (including the arguments' semantic or theta roles) and lexical aspect (Lieber 1998, 2004; Plag 1999; Los et al. 2012; Valera 2020). While scholars use different names and formalizations for these representations, such as frame-semantic categories (FSCs) (Fillmore 1976, 2006; Boas 2008) or lexical conceptual structures (LCSs) (Levin & Rappaport 1995, 2005), this debate will not be addressed here. What is far more important

is how the meanings of particles such as *up*, *down*, *out,* and *off* are integrated into the conversion verb frame, thereby expanding and enriching it. For this integration to succeed, there must be a certain degree of semantic compatibility between the particle and the nominal base, in the same way that, for instance, aspectual (or completive) particles interact with accomplishment verbs (Hampe 2002: 86).

Specifically, we start our investigation by classifying NV-Ps into Lieber's (2004: 89-95) ten classes of denominal conversion: *instrumental* ('use N'), *ornative* ('provide with N'), *similative* ('act like N'), *motive* ('move [on/at] N'), *performative* ('do N'), *locative* ('put into N'), *causative* ('make [into] N), *inchoative* ('become N'), *privative* ('remove N'), and *stative* ('be N'). Next, we expand the semantic frames of these conversion classes with the contribution of the particle by examining concrete NV-Ps as used in sentences. The resulting 'construction-level' decompositional representation captures the argument-structures of NV-Ps and the semantic roles of their arguments (see Appendix for a summary). In other words, the basic syntactic and semantic profile of NV-Ps is determined at this level. Each expanded verb frame consists of four variables: subject [x], object [y], base noun [z], and the particle [w]. The frames identify monovalent or intransitive NV-Ps (e.g., *They beer up*), divalent or transitive NV-Ps (e.g., *She phoned me up*), and divalent NV-Ps with a prepositional phrase (e.g., *They helicoptered down in the forest*). They also capture the semantic roles of syntactic arguments. For example, instrumental NV-P *phone up* involves the subject as an agent using an instrument and the object as a patient receiving the action.

By way of illustration, an ornative frame is presented below.

[x PROVIDE y WITH [[z <NOUN>]] UNTIL [COMPLETIVE [w <PART>]]]

This frame, which is labelled Orn_3 in Appendix, underlies NV-Ps such as those in (4a–c).

(4) a. *light up* "to become or to make something bright with light or color" (OED3)
e.g., The waterfall was *lit up* at night with pink and green floodlights.

b. *spirit up* "to infuse spirit into (a person, or his or her attributes)" (OED3)
e.g., This, no doubt, is intended to *spirit up* the desponding.

c. *pension off* "to dismiss someone from service with a pension" (OED3)
e.g., She was *pensioned off* at the age of 56.

The base noun *light*$_{N}$ is inserted into the change of location/state frame under the role of theme (i.e., something that moves), while the agent (or the causer of the change) and the goal remain as variables ([x], [y]) that will be realized as the syntactic subject and object, respectively. In this case, the particle is integrated into this ornative frame as a result component. As we will discuss in the next section, the integration of the particle depends not only on the type of host conversion verb used, but also on how the speaker interprets the base noun and particle ontologies. The noun *light* in (4a) possesses the feature [property], *spirit* in (4b) [emotion], and *pension* in (4c) [resource], for instance. This rich semantics of the base noun —its semantic "body" (Lieber 2004) — is employed at this step.

Indeed, the data reveal a complex interplay between the base noun and the particle. For instance, the noun *chunk* in (5) associates with *down* to express a change of state where a complex entity (concrete or abstract) is disaggregated into smaller parts.

(5) Do you know for sure how to *chunk down* your big vision into doable steps to generate income over the next 30 days? (24-7pressrelease.com)

However, when the same noun is associated with *up*, viz., *chunk up*, the expressed change of state is amalgamation. From a conceptual point of view, this explicit semantic contrast is rooted in the working of the image schemas LOW STATUS IS DOWN and HIGH STATUS IS UP, whereby smaller parts correspond to the lower end of the hierarchy. In other words, how nouns and particles are aligned cannot be separated from the language user's world-knowledge interpretation. To further observe this point, compare *hook up* and *phone up* also, a pair showing the physical versus abstract contrast. While the particle in *hook up* measures the physical height from the speaker's perspective, the particle in *phone up* indicates the height as a measure of the depth of consciousness. Making or receiving a call implies that the caller is "up" from the speaker's or hearer's point of view. In the BNC, *phone up* is used either transitively or intransitively, as in (6).[2]

[2] In cases like *bro down* and *mentor up*, the semantic connection between the noun and the particle is not apparent, but it is still possible to establish analogical connections between unmotivated constructions and existing ones. For instance, *buddy down* and *bro down*, both being related to a form of social gathering, might be rooted in expressions such as *hoedown*. Then, the fact that *down* is combined with *bro* and *buddy* is possibly owing to a morphological reanalysis of *hoedown*, and hence analogy, which explains why *down* is detached from its (directional) lexical meaning.

(6) a. ...the nearest comedy film or show. Or read a funny book. Or *phone up* a cheerful friend who always makes you laugh. Go out with that friend.

b. ...I, I'll wait and see how we, he might *phone up* and say cancel it, you know, cos...

Clearly, the particle in (6) indicates appearance. The theme of movement — the direct object in (6a) and the subject in (6b) — figuratively arrives at the speaker's location. In our framework, the transitivity, the semantic roles, and the completive aspect are mappings from the verbal frames, while metaphoricity is motivated by the rich semantics of the base noun and the particle. The latter will be the topic of the next section.

2.2 The Noun-Particle Interplay in the SOM Model

The interplay between the base noun and particle is examined using a semantic-ontological model (SOM). The SOM, as illustrated in Fig. 1, is comprised of (i) the content ontologies of the base noun [z] (content ontology A), (ii) the ontologies (or functions) of the particle [w] (content ontology B), (iii) the relational ontology between [z] and [w], and (iv) the configurational template underpinning the ensemble of [z] and [w].[3] By schematizing the verbal frames, we can identify the ontologies and functions of these components, revealing how the conceptualization of NV-Ps depends on speakers' perception of the combination of [z] and [w] ontologies as compatible conceptual clusters in world knowledge.

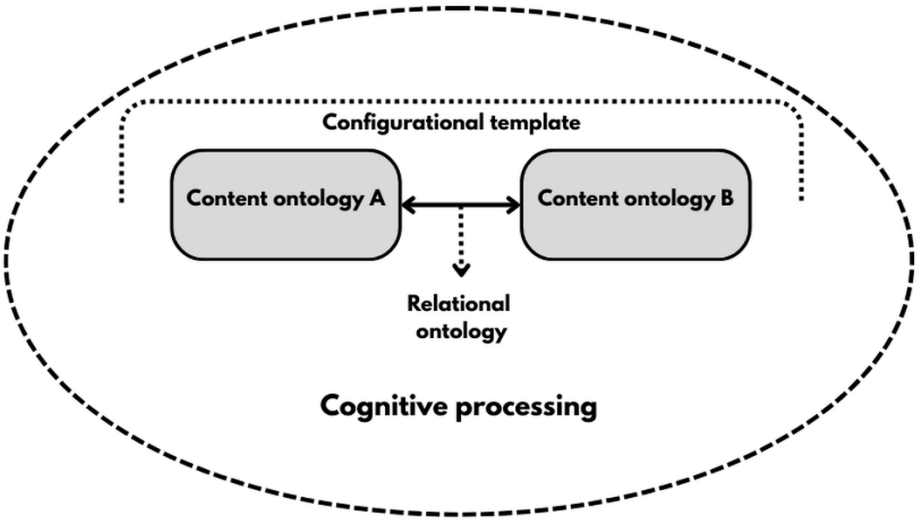

Fig. 1: The semantic-ontological model. Adapted from Paradis (2005)

[3] The components of content ontology, schematic ontology, and configurational template are adapted from Paradis (2005).

For instance, in *fence off* in (7), the verbal frame implies a process, in which an instrument (*fence*) is employed to indicate that something/ someone is detached from whatever remains *off* the *fence* limits.

(7) They are trying to *fence off* Americans from Russians with a visa wall. (reuters.com)

This is because the ontological function of a *fence* in itself (as an artifact and instrument) has a bearing on the type of relational ontology that emerges: [artifact/location]. Hence, while the base noun contributes with the concept/ontology of [artifact], particularly one employed for enclosing or setting boundaries, the particle expresses a new state, one that both depicts a [location] that is delimited by the instrument and conveys the result of the action. These two ontologies are world-knowledge compatible in the sense that the ontologies of artifacts like *fence* or *rope* are recognized by language users as boundary-setters, and that the ontology of a state and that of a result of an action (such as *off*) adds semantic specificity to the verbal frame. Then, it is not illogical to assume that the combination of the noun and the particle in NV-Ps does not occur randomly, but they rather have a strong cognitive foundation.[4] Fig. 2 summarizes our content ontologies (Dixon 1991; Lieber 2004).

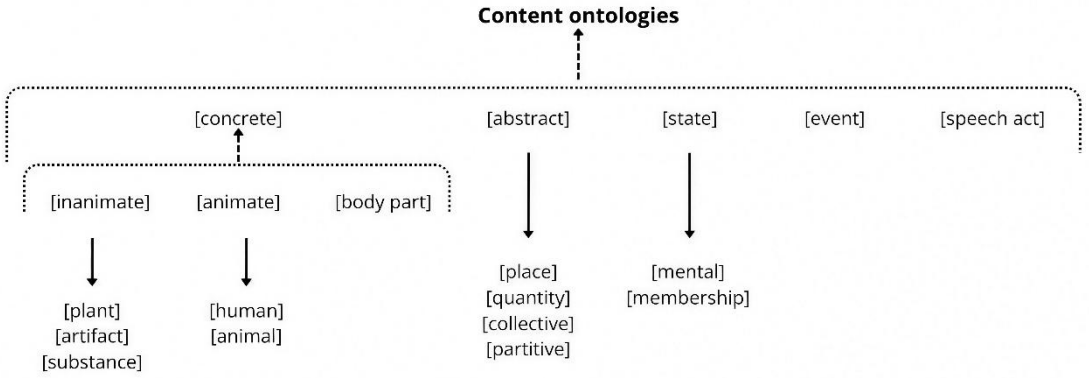

Fig. 2: Content ontologies of nominal bases, adapted from Dixon (1991) and Lieber (2004)

[4] For the representation of relational ontologies, we employ a three-item descriptor: X/Y(_Z), where X stands for the ontology of the nominal base and Y points to interpretative configurations that relate X and Y. The element Z, on the other hand, conveys an ontological specificity of a configuration, which is useful to differentiate configurations with the same Y. For instance, following the example of *fence off* above, the relational ontology can be represented as [artifact/location_isolation]. While this ontology underpins the ensemble of [z] and [w], it might also fit other NV-Ps like *fence in*, with which *fence off* may be in competition. In the latter case, the meaning of the particle *off*, as illustrated in (7), points to pejorative meaning, in which the relational ontology can be rephrased as [artifact/location_isolation]; the case of *fence in*, on the other hand, pertains to the ontology of [artifact/location_containment].

The SOM is grounded in the concepts of metonymization (see, e.g., Cruse 2002; Paradis 2005, 2011; Paradis et al. 2015) and image schemas (see, e.g., Boers 1996; Lakoff & Johnson 1980, 1999; Cruse 2002). Metonymization is a cognitive operation that underpins "sense developments from one contentful meaning to another contentful meaning" (Paradis 2011: 61), and where these developments are conventionalized through cognitive entrenchment. Following the example of *fence off* above, the instrumentality of *fence* as a boundary-setter is first conventionalized by language users before being employed as [z] in NV-Ps where this salient feature (boundary-setting) relates to its instrumental function. On the other hand, image schemas function as mental representations that support the configurational templates in the SOM. They can be defined as abstracted formulations based on "a recurring dynamic pattern of our conceptual interactions and motor programs that gives coherence and structure to our experience" (Johnson 1987: xiv). In this study, we use the meaning conveyed by [w] to identify the underlying image schema and to establish its connection with [z] (section 4.3). For instance, since the focus of this study is on locative/directional particles, such as *up* and *down*, some of the image schemas employed relate to sensorimotor domains, including, among others: (i) orientation (UP IS MORE, DOWN IS LESS, CONTROL IS UP, HAPPY IS UP); (ii) boundedness (STATES ARE LOCATIONS); (iii) movement (CHANGE IS MOTION, LINEAR SCALES ARE PATHS); and (iv) proximity (SIMILARITY IS CLOSENESS) (Lakoff & Johnson 1999: 50-54).

3. Data Compilation

Our compilation of the data can be summarized in three stages (see Fig. 3).

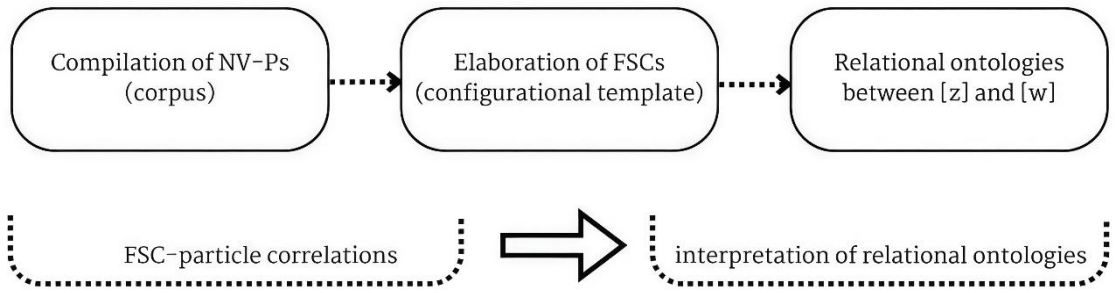

Fig. 3: The methodological stages of the research

The first stage involves the extraction of NV-Ps from the corpus. We extracted the data from *enTenTen21* (*English Web Corpus* 2021), a large collection of texts extracted from the internet. Consisting of 52 billion words, this corpus is part of the *TenTen* corpus family. The corpus is available via the *SketchEngine* corpus platform.

In this study, there are four datasets, each corresponding to a different particle: NV-*out*, NV-*off*, NV-*up*, and NV-*down*. Here, "NV" is a wildcard for a denominal verb. A unitary code in the form of corpus query language (CQL) was used, e.g., for the case of NV-*out* units the following CQL was used: [lemma="to"] [tag="N.*"] [lemma="out"]. We performed a random extraction of 1,000 hits for each particle, leading to a total of 4,000 hits being annotated. As illustrated in this CQL, the search was limited to infinitive denominal forms (using the infinitival 'to') to make the resulting dataset more manageable and accurate. The hits were then exported to spreadsheets for manual annotation of the frame-semantic categories. Table 1 shows a summary of the type/token frequencies of the datasets.

Tab. 1: Summary of the types, tokens, and number of words of the four datasets

	tokens (NV-P)	**types (NV-P)**	**number of words**
NV-*out*	371	67	51,510
NV-*off*	233	62	50,327
NV-*up*	394	73	50,219
NV-*down*	407	51	51,926

We compiled four datasets that serve as representative and optimal subsets for the purposes of this study through a simple down-sampling strategy (Sönning & Krug 2022), whereby only a limited portion of the data (4,000 hits) is extracted from the corpus. Each of the four subcorpora comprises approximately 50,000 words, obtained via a concordance setup of 1,000 rows containing 100 characters each from the preloaded corpus. Although the subcorpus size (i.e., the number of words in Table 1) is not a relevant variable for the present study, it is reported here merely to confirm the homogeneous conditions under which the data compilation was carried out. The token frequencies reported in Table 1 (i.e., the number of times an NV-P form occurs within the 1,000-hit window) show whether one type of NV-P is more frequent than another. In this case, no relevant differences are observed. Similarly, the type frequencies (i.e., the number of distinct NV-P types extracted)

confirm that the differences across datasets are not substantial. However, based on the idea that type frequency "represents the extent of use or realized productivity of the suffix" (Säily & Suomela 2017: n.p.), we disaggregate type frequencies according to their verbal categories to assess potential association between NV-Ps and the frame-semantic categories (e.g., instrumental, inchoative). This is represented through frequency heatmaps, as illustrated in Tables 2-11 in section 4. While productivity is not addressed in this article, type frequencies are employed as a valuable measure of NV-P richness and, by extension, of their likely alignment with specific verbal categories.

4. Results and Discussion

Section 4.1 provides an overview of the results, focusing on the correlation, if any, between the type of verbal frame and the particle choice. Section 4.2 offers a more detailed account of each NV-P class, paying particular attention to the content ontologies and functions of [z] and [w]. Finally, following the SOM, section 4.3 examines the most salient relational ontologies emerging from [z] and [w].

4.1 An Overview

Our dataset contains nine types and 28 subtypes of verbal frames (FSC; frame semantic category) in our dataset: instrumental (five subtypes), similative (four subtypes), ornative (three subtypes), motive (two subtypes), performative (four subtypes), locative (two subtypes), causative (three subtypes), inchoative (two subtypes), and privative (three subtypes). All the types and subtypes are summarized in Appendix. Table 2 shows that NV-Ps are unevenly distributed across Lieber's (2004) ten denominal verb types. In our view, the four particles occur not randomly but in correlation with the semantic category of conversion, the content ontology of the nominal base, and also the type of the object argument (if there is one).

Tab. 2: Heatmap showing types of NV-Ps with *out*, *off*, *up*, or *down* and their type frequencies

Type	**NV-*up***	**NV-*down***	**NV-*out***	**NV-*off***	**Total**
Inst.	6	15	16	17	**54**
Sim.	4	2	13	4	**23**
Orn.	27	5	6	7	**45**
Mot.	5	7	1	0	**12**
Perf.	3	4	13	4	**24**
Loc.	2	5	3	3	**13**
Caus.	8	6	8	3	**25**
Inch.	9	1	1	2	**13**
Priv.	0	3	5	6	**14**
Total	**64**	**48**	**66**	**46**	**224**

In Table 2, the instrumental and ornative frames are the most productive. On the other hand, some FSCs are never or rarely correlated with specific NV-P subtypes, as is the case with NV-*up* and privative frames, and with NV-*out*/NV-*off* and motive ones. As a general tendency, NV-*up* and NV-*out* forms are associated with specific frame-semantic functions: while NV-*up* prevails in the expression of ornative and inchoative meanings, NV-*out* is predominant in the case of similative and performative frames. On the other hand, the heatmap in Table 2 also shows that NV-*off* and NV-*down* forms are not as semantically niched as the other two types. Finally, we report that the stative frame (Lieber 2004: 91) was not attested in our NV-P datasets.

4.2 Classification and Analysis

4.2.1 Instrumental NV-Ps

In line with Valera's (2020) account of instrumental denominal verbs, most instrumental NV-Ps in our dataset are transitive, with the exception of Inst_5. From Inst_1 to Inst_4, the subject argument ([x]) is an agent, while the object argument ([y]) is a patient or theme on which the agent performs a specific action using the instrument ([z]). The Inst_5 subtype is an intransitive frame, where the [z] (e.g., *helicopter, rope, tab*) corresponds to an artifact used by the agent [x] to reach a new location [w] (e.g., *down*). Notably, our dataset contains no pseudo-instrumental verbs (Kiparsky 1997) (e.g., **she elbowed out with her arms*), suggesting that the particle is tightly aligned with the nominal base.

Table 3 shows the correlation between instrumental subcategorization and particle choice, with the strongest association found between Inst_3. and the particles *out*/*off*.

Tab. 3: Classification of Instrumental NV-Ps

Subtypes	**NV-*up***	**NV-*down***	**NV-*out***	**NV-*off***
Inst.	6	15	16	17
Inst_1	1	3	3	0
Inst_2	1	6	2	7
Inst_3	0	1	10	9
Inst_4	4	2	1	1
Inst_5	0	3	0	0

The particle is polysemous; it can convey a locative meaning (Inst_2) while also contributing to the completive meaning (Inst_1, Inst_4). The results of the actions are indicated by a new location, as in *arrow down* in (8), or a new state, as in *chainsaw off* in (9).

(8) I can't simply use the arrow keys to *arrow down* or right. (macmost.com)

(9) I asked that the remaining part of the arbor be left standing but one man chose to *chainsaw off* the ends of two long 2x12's. (homeadvisor.com)

4.2.2 Similative NV-Ps

Most similative NV-Ps in our dataset are intransitive. As indicated in (10) and (11), the intransitive FSCs (i.e., Sim_2-4) consist of two general categories: one in which [z] is [animate] and the other in which [z] is [inanimate]. The former involves cases where [z] is either associated with the meaning [human], as in Sim_2, or the meaning [animal], as in Sim_3. Only Sim_1 is transitive, as illustrated in *leech off* in (12), where the recipient of the action [y] experiences negative effects of *leeching*.

(10) When it comes to fighting food waste, the U.S. government is looking to *partner up* with the faithful. (npr.org)

(11) I'm not going to change my mind because of war. I'm not going to *wuss out*. (southcoasttoday.com)

(12) Eventually they locate the ship trailing behind a Klingon cruiser (…) attempting to *leech off* another vessel to repair them. (ditl.org)

As suggested in Appendix, similative-ness is expressed through a verbal frame that is based on the resemblance of [x] to what is denoted by [z]. In (11), the speaker characterizes herself as a *wuss* by aligning their behavior with salient properties of this base noun. In transitive cases such as *leech off* (12), the resemblance relation is retained, but the base noun *leech* additionally licenses a patient whose 'physical energy is drained or used up' (MWD11), thereby conveying a pejorative interpretation. The completive function of particles in similative FSCs indirectly emerges from locative or directional categories through metaphoric types and image schemas. This indirect connection may result in the fact that there are various cases of synonymic NV-Ps with the same noun and different particles, as in *partner up* / *partner out*, *buddy up* / *buddy down*, or *leech out* / *leech off* (see section 4.3).

Table 4 shows that NV-*out* is prevalent. One finding that stands out in Table 4 is the predominance of [animate] base nouns. In particular, Sim_2 is represented by the idiomatic construction mentioned in Section 1. On the other hand, the [inanimate] base was rare in our dataset.

Tab. 4: Classification of Similative NV-Ps

Subtypes	**NV-*up***	**NV-*down***	**NV-*out***	**NV-*off***
Sim.	4	2	13	4
Sim_1	1	0	2	1
Sim_2	3	2	10	1
Sim_3	0	0	1	1
Sim_4	0	0	0	1

4.2.3 Ornative NV-Ps

Ornative NV-Ps consist of three types, two of which are intransitive (Orn_1 and Orn_2), where the subject argument [x] is provided with whatever is represented in [z]. Orn_3, on the other hand, is a transitive frame in which [y] occurs as the goal to which [z] is directed. However, not all ornative frames fit into the equation where [x] or [y] is provided with [z], partly because the ontological properties conveyed by [z] define how the provision/ endowment plays out.

Table 5 shows a robust association between Orn_2 and the particle *up*. Orn_3 also suggests the compatibility of this verbal frame with the particle *up*.

Tab. 5: Classification of Ornative NV-Ps

Subtypes	**NV-*up***	**NV-*down***	**NV-*out***	**NV-*off***
Orn.	27	5	6	7
Orn_1	2	0	0	0
Orn_2	17	1	4	2
Orn_3	8	4	2	5

Within the scope of conversion, ornative denominal verbs are generally identified as "expressing an entity's movement towards a location (*to butter*, *to nickel*, *to fringe*, *to label*, *to saddle*, *to paint*)" (Baeskow 2006: 209; italics in the original). Describing the denominal verb *to butter*, Baeskow (2006) claims that the generic knowledge of this ornative verb depends on the prototypical function of *butter* as a type of food-substance: covering a slice of bread, the telic quale of the event (p. 223). A telic quale is distinguished from an imposed telic, "a function contextually coerced on an entity and thus a function which is not inherent to the telic quale of this entity" (Pustejovsky 2003, cited in Baeskow 2006: 229). Following the example of (v.) *butter*, we argue that *butter* (*someone*) *up* is an imposed telic because [z] has lost intrinsic elements, such as movement and location, and its prototypical culinary function has been overridden by an attitudinal one (i.e., flattery).

Based on the movement/location corollary that characterizes ornative's telic quale, we believe that ornative NV-Ps are grounded in the notion that the property or quality of the base noun is transferred onto the participant. This has various degrees of telic imposition, as evidenced by Orn_1, where the qualities being transposed are interpreted as 'support' or 'aid'.

Orn_1 is characterized by a high degree of semantic specificity, as the function of endowment is interpreted as a kind of 'support'. This has implications for the low-frequency dataset of Orn_1. On the other hand, Orn_2 and Orn_3 are both characterized by high levels of polysemy, where the semantic nature of [z] is not specified, so nominal bases can range from substance (such as *fire* and *soup*) to abstract notions (such as *bliss* and *spirit*). Regardless of these polysemous bases, and perhaps owing to the inclination to figurative nature of ornative frames, the function of [w] is generally

completive. This is indirectly gained through the directional functions and orientational image schemas, as described further in section 4.3. Additionally, in some cases, the nature of the action and the directional meaning of the particle are connected, as in *glue down* and *tick off*, where the particles retain a directional meaning. The former indicates the direction by means of which the action of *gluing* takes place, while the latter points to the fact that the action of being *ticked* or crossed out from a list is completed once the element is detached (or taken *off* the list).

4.2.4 Motive NV-Ps

This category is related to motion. It is infrequent in our dataset, as shown in Table 6. As illustrated in Appendix, two subtypes are established: one in which the subject moves the base noun referent in a direction marked by the particle (i.e., Mot_1) (e.g., *sleeve up*); and another in which the subject moves on or across the path represented by the base in the direction represented by the particle (i.e., Mot_2) (e.g., *course down*). In Talmy's (1985, 2000) framework, the base noun of Mot_1 corresponds to Figure (something that moves), while in Mot_2, it corresponds to Path (a trajectory). In Mot_2, the base is not limited to a place, but it might as well refer to a stage or phase. At the syntactic level, both FSCs are intransitive. In a syntactic approach, the argument structure of Mot_1 would be seen as a clear case of noun incorporation, with *sleeve up* being derived from *roll one's sleeve* (*up*) by incorporating the direct object into the verb.

Tab. 6: Classification of Motive NV-Ps

Subtypes	**NV-*up***	**NV-*down***	**NV-*out***	**NV-*off***
Mot.	5	7	1	0
Mot_1	2	3	0	0
Mot_2	3	4	1	0

4.2.5 Performative NV-Ps

Our datasets include NV-Ps whose verb frame is performative and associated with an action or event-denoting base (Valera 2020). This observation supports our hypothesis that conversion underlies NV-Ps, as performatives, together with instrumentals and similatives, are typical conversion categories (Debouzie 2024). Roughly half of the performative NV-Ps are intransitive, as in *party down* in (13).

(13) No, the library card doesn't really offer me college parties; but it does license me to *party down* with all the books and magazines I can handle... which, in my opinion, is just as cool – if not cooler. (cnn.com)

Tab. 7: Classification of Performative NV-Ps

Subtypes	**NV-*up***	**NV-*down***	**NV-*out***	**NV-*off***
Perf.	3	4	13	4
Perf_1	0	0	7	2
Perf_2	1	1	1	0
Perf_3	1	2	0	2
Perf_4	1	1	5	0

Performative NV-Ps consist of four subtypes, where the first two (Perf_1 and Perf_2) are transitive frames. As seen in Table 7, NV-*out* is particularly frequent. The result component [w] is predominantly completive, which means that it indicates that an action/event being specified in [z] is completed, e.g., *test out*, *sale off*. This feature is particularly salient in the case of NV-*out* units, where, as specified by OED3, *out* is employed in particle verbs to "[emphasize] the completion of an action." Other particles, such as *down*, however, can be polysemous in performative frames, which means that their adverbial meaning of directionality is retained, as in (13).

4.2.6 Locative NV-Ps

Table 8 shows that locative NV-P types are scarce in our dataset and that *down* is the only particle occurring in both Loc_1 and Loc_2.

Tab. 8: Classification of Locative NV-Ps

Subtypes	**NV-*up***	**NV-*down***	**NV-*out***	**NV-*off***
Loc.	2	5	3	3
Loc_1	2	2	3	0
Loc_2	0	3	0	3

As suggested in Appendix, locative frames, where [z] and [w] are semantically filled with the features of [place] and [completive], respectively, divide into two subtypes. Loc_1, being an intransitive frame, conveys the notion that the subject occupies an authentic place [z], e.g., *room*, *shack*, *hut*. In contrast, the transitive Loc_2 expresses the subject

transferring a theme ([y]) to either an authentic or concrete place (e.g., *bog*, *ward*) or an abstract or rather metaphorical one (e.g., *zen*, *list*, *spam*). Both frames concur in that their function of completive-ness is generally expressed through the function of locative-ness, via an orientational image schema (e.g., UP IS ADVANCED STATE in *room up*, as specified in section 4.3) or directional meaning (e.g., *down* in *list down* might indicate the actual orientation of the action or the position).

4.2.7 Causative NV-Ps

Causative NV-Ps involve a frame in which the subject causes the object to either become the base noun referent (as in Caus_1 and Caus_2) or change the property indicated by the base (as in Caus_3), as shown in Appendix. Although Lieber (2004) distinguishes the verb classes expressing "make (more) x" and "make into x," we conflate them as Causative class. Cause_1 and Cause_2 have a completive particle indicating an aspect. Causative constructions (e.g., *They messed the party up*) are necessarily transitive, since the object (*the party*) acquires the attribute denoted by the base noun (*mess*) as a result of the subject's action. The base noun conveys the resulting attribute transferred to the patient, which aligns with Valera's (2020) assignment of the semantic role 'attribute (resulting)' to causative frames.

Table 9 confirms that Caus_1 is the most prolific, encompassing base nouns ranging from the abstract (e.g., *standard out*) to the concrete (e.g., *gif out*). By contrast, Caus_2 is represented by only one instance, indicating low productivity. Given the inherently directional meaning contributed by the particle [w] in Caus_3, it is unsurprising that only NV-*up* and NV-*down* forms occur. García Velasco (2009) notes that causative conversion verbs are relatively rare in English.

Tab. 9: Classification of Causative NV-Ps

Subtypes	**NV-*up***	**NV-*down***	**NV-*out***	**NV-*off***
Caus.	8	6	8	3
Caus_1	4	2	8	3
Caus_2	1	0	0	0
Caus_3	3	4	0	0

4.2.8 Inchoative NV-Ps

Causative and inchoative NV-Ps are typically in the relationship of transitive-intransitive alternation, with their frames characterized by the addition (causative) or deletion (inchoative) of an argument (Haspelmath 1993; Levin & Rappaport Hovav 1995, 2005). Inchoative NV-Ps are associated with the role 'attribute (resulting)' (Valera 2020), suggesting an underlying semantic similarity with causative constructions. While causative frames have the patient of change in the direct object position, inchoative ones have it realized as the subject argument. For instance, in *bulk up* and *kink up*, it changes into the state denoted by the base noun, i.e., a *bulk* or a *kink*. The base noun is either a collective noun (Inch_1) or non-collective noun (Inch_2).

Although there are not many attested cases of inchoative NV-Ps, Table 10 confirms that *up* is particularly prolific in this context, clearly surpassing the other NV-Ps. This statistical fact corroborates the preponderance of *up* in inchoative frames, where, as further explored in section 4.3, the completive function of *up* stems from its role in the image schema HIGH STATUS IS UP.

Tab. 10: Classification of Inchoative NV-Ps

Subtypes	**NV-*up***	**NV-*down***	**NV-*out***	**NV-*off***
Inch.	9	1	1	2
Inch_1	8	1	1	1
Inch_2	1	0	0	1

4.2.9 Privative NV-Ps

Privative NV-Ps consist of three verbal frames, all of which concur in the fact that the base noun referent is removed or downplayed. Privative NV-Ps converge on the semantic role of 'affectee', insofar as the base noun refers to an affected object (see, e.g., Valera 2020; Baeskow 2024). Privative NV-Ps are predominantly transitive, i.e., Priv-1 and Priv-2. More generally, the semantic-ontological specificity of the base and the particle appears to constrain the distribution of the affected participant. For example, *age* in *age out* denotes a property acquired or lost by the subject alone that cannot be transferred to a patient. Consequently, *age out* surfaces as the intransitive Priv_3.

As suggested in Table 11, the particles *out* and *off* are particularly prolific in privative frames, denoting "[r]emoved from its proper or habitual place or position" and "[e]xpressing separation from attachment, contact, or position" (OED3), respectively. These adverbial meanings are retained in order to express the act of privation of a quality or value, which is then interpreted as a completive function. However, there are various examples in which the particle functions solely as a completive marker, rather than adding a privative meaning. Consider, for instance, the NV-Ps *weed out* and *dust off*, whose verbal bases *weed* and *dust* already convey the privative meaning 'to remove *weeds*/*dust*'. Nevertheless, the completive function of *out* and *off* also stems from their primarily directional function, which adds further semantic specificity to the action itself. In *weed out* and *dust off*, for example, *out* and *off* contribute directional meanings that are connected to how the actions of *weeding* and *dusting* are performed: *weeding* involves extraction (the *weed* is removed from the soil), while *dusting* involves removing *dust* from a surface. Finally, Table 11 contains no instances of NV-*up* with privative frames, which suggests that the meaning of *up* is unlikely to be associated with the concepts of loss or removal.

Tab. 11: Classification of Privative NV-Ps

Subtypes	**NV-*up***	**NV-*down***	**NV-*out***	**NV-*off***
Priv.	0	3	5	6
Priv_1	0	3	2	5
Priv_2	0	0	1	0
Priv_3	0	0	2	1

4.2.10 Summary

Our first research question is concerned with the relationship between the verbal frame and the particle choice. The results of our corpus data analysis above reveal that the correlation is particularly evident in the following pairings: Instrumental and *out*, Similative and *out*, Ornative and *up*, Performative and *out*, Causative and *out*, Inchoative and *up*, and Privative and *off*. More broadly, the results above demonstrate that NV-Ps are truly "converted verbs + particle" rather than "particle verbs + noun incorporation," because nine out of the ten conversion frames (Lieber 2004) are well represented in the

datasets. Only statives are absent. According to Debouzie's (2004) quantitative investigation of denominal verb formation since 1950s, instrumentals, similatives, and performatives are particularly productive classes in English N-to-V conversion, while statives are much less so.

4.3 Content and Relational Ontologies of [z] and [w] through the Lens of Image Schemas

This subsection addresses the second research question by reviewing the content ontologies involving [body part], [artifact], [animate], [human], [animal], [substance], [collective], [partitive], [place], and [event]. Building on the identification of FSCs and their correlated particles in section 4.2, we attempt to identify and analyze the relational ontologies underlying the said correlations. We discuss the noun-particle interplay in the SOM Model (as reviewed in Section 2.2). The three layers of our analysis, i.e., content ontologies, relational ontologies, and image schemas, are represented in Fig. 4. The outer layer corresponds to image schemas, which are correlated with the completive function, particularly in indirect cases such as *pump up* and *google up*. As illustrated in the figure, in these cases, *up* acquires its completive function via its primary locative meaning and its association with notions of ADVANCEMENT and/or QUANTITY.

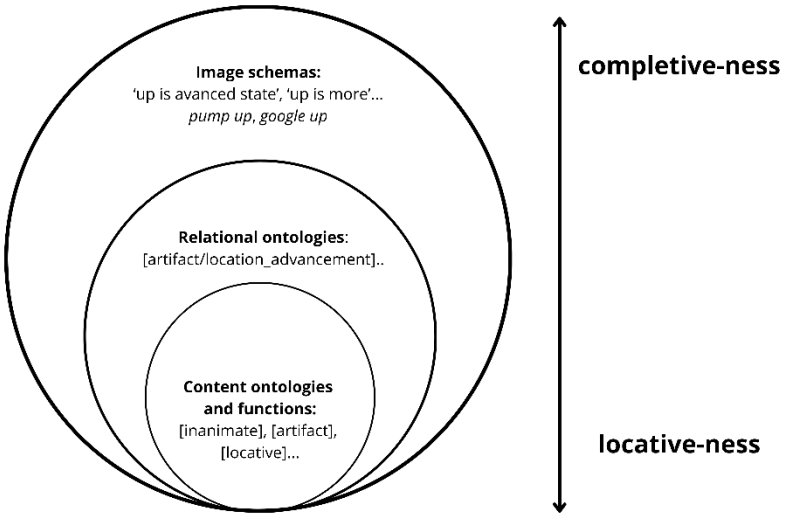

Fig. 4: Representation of the three layers of analysis: content ontologies, relational ontologies, and image schemas

4.3.1 [Concrete] Ontologies

The content ontology [artifact] is not limited to one type of FSC, although it is particularly frequent in instrumental frames, where an object, such as *fax* or *gavel*, is the instrument with which an action is executed. This implies that the configurations (and hence their relational ontology) that emerge from the artifact or instrument and the particle depend, to some extent, on the function of the instrument in world knowledge. For instance, while NV-*off* correlates with objects generally used for enclosing or setting up boundaries, as in *fence* or *rope* (Inst_2), the meaning of [z] in NV-*out*, as happens with Inst_2, relates to the act of sending communications, as in *fax* or *email*. Hence, although both types involve distinct forms of changing location, their instrumental outputs depend on the holistic purpose of the artifact, which can be represented through the relational ontologies of [artifact/location_isolation] (*fence off*) and [artifact/location_communication] (*fax out*).

While [place] is a frequent component of the relational ontologies of instrumental frames, as expressed directly in *fence off* and *fax out*, the ontology [artifact] can also be associated with [place] indirectly, as happens in the relational ontology [artifact/location_advancement]. In this respect, as also illustrated above in Fig. 4, the particle *up*, glossed as "or into a better or more advanced state" (MWD11), is connected to the schema UP IS MORE, and by extension UP IS ADVANCED STATE, as illustrated in *pump up* and *google up*. Through the SOM, we can confirm that *fax out* and *pump up* are both grounded in the [artifact/location] relational ontology; however, they are clearly distinguished by their conceptual templates: *fax out* → [communication] and *pump up* → [advancement]. They differ, therefore, in the way the [completive] function is expressed, which is directly in the former and indirectly in the latter.

The ontology [artifact] is also associated with ornative frames, although to a lesser degree than with instrumental ones, as in *mask up* and *suit up*, where the nominal base is not an instrument but something with which someone provides oneself. In this case, the relational ontology is [artifact/expansion], where *up* contributes the meaning of fullness (or full expansion), and hence completive-ness, through the image schema UP IS MORE.

As regards [body part], most of the cases attested are body parts employed as forms of instrument, as in *knee down* or *jawbone down*, where there is a clear association between [body part] and the particle *down*, through the relational ontology [body-part/

location_means], where the body part is a means or an instrument to accomplish this action. The integration of *down* in this relational ontology is grounded in the image schema CONTROL IS UP, according to which "it is easier [...] to exert force on an object from above, where you have gravity working with you" (Lakoff & Johnson 1999: 53).

The content ontology [animate] is prolific in similative frames, particularly through the subtype ontologies [human] and [animal], as in *buddy up* and *leech off*, respectively. However, most similative frames involve the ontology [human] and the particle *out*, which suggests that *out* is the representation of the final stage of a transition, as in *Hulk out* and *geek out*, where someone becomes (or transitions into) *Hulk* or a *geek*. In this case, the relational ontology can be represented as: [human/transition], which is also underpinned by the schema BODIES ARE CONTAINERS. This schema is based on the scenario "revealing one's identity", which is in turn understood as "coming out of the container" (Dyrmo 2022: 30). Following the example of *freak out* in section 1, and as pointed out by Jackendoff (2002), the meaning of the verbal construction is 'to go into an unusual mental state' (p. 73), where the subject becomes (or 'goes into the state of') a new persona. Then, we can claim that the original meaning of *out* contributes to the similative frame, meaning that the components [z] and [w] are indeed ontologically integrated. A plausible semantic contribution, which forms part of the ontology that relates *out* with an animate, nominal base, is through the meaning of *out* as indicative of the end of the transition towards a new persona, e.g., *chicken out* → 'one 'comes *out*' acting as (or being) a *chicken*'. The new persona thus emerges (comes *out*) from the container as an expression of identity's self-revelation.

The semantic contribution of *out* (i.e., signalling the end of a transition) and the new mental state conveyed by the construction, as also claimed by Jackendoff (2002), have a bearing on competition resolution, particularly when two different particles are attached to the same base, as in *partner up* and *partner out* (see examples [14] and [15] below), where *partner up* means "to act as someone's partner in a sport, game, dance, or activity" (CDE), and *partner out*, as illustrated in the example below, also refers to acting as (or being like) a partner. While *partner up* conveys the meaning of becoming members of a partnership, with special emphasis on its social implications, *partner out* points to a state of shared interests and willingness to collaborate.

(14) Watch the video now to learn how to *partner up* and power up your retail strategy (technologytherapy.com)

(15) (…) a dynamic pipeline of cutting-edge programs which we can grow organically or choose to *partner out to* deliver the most value for patients. (ucb.com)

Interestingly, most similative frames with the ontology [human] involve pejorative axiology. In some cases, negative traits are intrinsic, as in *wuss*, *nerd*, *geek*, but in other cases, as in *Hulk* and *doll*, only pejorative features of these concepts are underscored as a result of the transitional process, leading, respectively, to features of violence (*Hulk*) and flashy appearance (*doll*).

The content ontology [substance], as in *beer up* and *juice up*, is associated with the particle *up* through the function of completive-ness. In these two ornative examples, *up* indicates that the provision of something is completed, which is owing in part to the image schemas of UP IS MORE and HUMAN BODIES ARE CONTAINERS, and, as a result, their intensifying function. Hence, the relational ontology can be represented as [substance/quantity], where quantity is accessed via *up* as manifestation of full provision.

The content ontologies [partitive] and [collective] form part of the part-whole schema, in which wholes are dependent on the configurations of their parts, the latter also relying on their physical distribution. The ontology [partitive], as in *part*, *portion*, *slice*, or *subset*,[5] generally combines with *out* (see Caus_1 in Appendix). Rather than finding an explanation in orientation and social groups (see the case of [collective] ontology below, in section 4.3.2), *out* is connected to the idea that parts are the by-products of fractionalizing the whole, which results in isolated fractions taken out of the whole. What this means is that in subdividing an entity, its parts are first detached, and then, logically taken *out* (physically or metaphorically) of the whole of which they form part. Through a relational ontology [partitive/fractionalization], *out* contributes a sense of fraction while also conveying a sense of completion (i.e., once a fraction or a part is taken *out* of the whole, the action of sizing down is completed).

[5] Although some of the categories such as *subset* or *part* are abstract, they are described here, which means that the ontology [partitive] is not limited to concrete nouns.

4.3.2 [Event] and [Abstract] Ontologies

For the ontology [event], as in the performative NV-Ps *game out* and *test out*, the completive function of *out* can be linked to the notion of transition, by means of which someone performs an event/activity until the object of the action (as in 'the spread of new diseases' in [16]) completes its transition into a form of a game. This notion is grounded in the image schema STATES ARE LOCATIONS, by means of which the object of the action has two states, an intrinsic one (before the transition) and an imposed one (after the transition). The latter is also connected to the schema BODIES ARE CONTAINERS, whereby the result of the transitional process is marked by the coming out of the container. Accordingly, personas are framed within two places: 'inside' and 'outside' the body, where 'inside' refers to the state before the transition, and 'outside' to the state after the transition.

(16) Health experts (…) ran simulated exercises to *game out* the spread of new diseases. (theatlantic.com)

Similarly, the content ontology of [state], as illustrated in (17), is associated with *out,* and underpinned by the image schemas STATES ARE LOCATIONS and BODIES ARE CONTAINERS. In this respect, the agent of the action, generally human, undergoes a transition that involves experiencing the state of *fandom*, and where their body, as a container, indicates that the new persona coming out has indeed experienced *fandom*. Hence, the relational ontologies that are represented in these performative cases are: [event/transition] and [state/transition].

(17) The dog days of summer are the perfect time to *fandom out*. (mtv.com)

In other cases, which are also grounded in the relational ontology [event/transition], the particle signals the completion of an action through the resulting state of its agent, supported by the schema STATES ARE LOCATIONS, and in some particular cases, LASSITUDE IS DOWN, the latter emerging from the orientational metaphor UNCONSCIOUS IS DOWN (Lakoff & Johnson 1980). Rather than unconscious, we employ the word 'lassitude' to describe the state of exhaustion, fatigue, or unconsciousness, as a result of a violent or intense action. An example is *party down*, where *down* denotes a new location that is plausibly associated with the agent's state of weariness or exhaustion.

Accordingly, the relational ontology in this case can be specified as [event/transition_lassitude].

The [collective] ontology, as expressed by *bulk*, *team*, *group,* and *platoon*, is involved in inchoative frames in that someone or something becomes part of a group. As corroborated by the inchoative FSCs, there is a clear association between [collective] and the particle *up*, which suggests that the particle *up* is connected to the expression of higher degree of a category. The relational ontology that emerges from [z] and [w] is that of [collective/membership], which is couched in Boers' (1996) understanding of "orientational image schemas of physical space" (p. 24), according to which *up* is connected to the expression of higher degree of a category, as happens with, for instance, social hierarchies (where HIGH STATUS IS UP and LOW STATUS IS DOWN) and quantity (where MORE IS UP and LESS IS DOWN) (ibid). Hence, this relational ontology helps understand how 'a group of people' can be interpreted as a high-status entity, in which becoming part of this collective implies being at a higher level.

Nonetheless, the concept of HIGH STATUS also emerges from its internal-theoretical meaning of 'unity,' linked to the PART-WHOLE schema. This schema interprets social collectives (wholeness) as products of unity, which contributes to their elevated status, in contrast to individuals (parts), seen as detached from this perception of unity. This idea aligns with one of the formal-ontological tools developed by Bottazzi et al. (2006), which allows for the identification of collectives based on their unity criteria (n.p.). Therefore, we argue that the particle *up* is associated with nouns that denote high status, particularly in the context of social collectives, such as *team up* or *squad up*, reflecting the meaning of unity.

It does not come as a surprise that the ontology [place] is particularly prolific in locative FSCs. For instance, the particles *down* (as in *hut down* and *list down*) and *off* (as in *ward off*) express completion of an action, but through different image schemas. The example of *hut down*, as in (18), is an interesting example because there are two possible readings: [place/transition_lassitude] and [place/isolation]. The former, as happens in *party down*, is primarily grounded in the schema STATES ARE LOCATIONS: the agent of the action remains in the place (*hut*) to the extent of lassitude. The latter, on the other hand, is underpinned by the schema DOWN IS NOT VISIBLE (and UP IS VISIBLE), which might

be linked to the notion that *down* is spatially connected to the ground, where things and people hide more easily. In contrast, *up* entails clear visibility because of height. Hence, based on the schema involving orientation and visibility, *down*, as in *hut down*, conveys a sense of separation or detachment as if something or someone were placed in isolation or under lockdown.

(18) So House GOP leaders chose to HUT DOWN until Thursday, giving them a chance to reassess the package. (yourvalley.net)

Similarly, the locative NV-P *ward off*[6] indicates that [place] and *off* can be connected to the notion of detachment and isolation, through the image schema ISOLATION IS SAFE. In this case, the particle *off* exhibits a locative meaning, i.e. being isolated in a ward and secured (or *off*) from potential dangers. This might explain its imposed telic in figurative readings, as in *ward off a cold* (MWD11). This schema contrasts with the locative meaning conveyed by the notion of isolation (as in *fence off* and *rope off* above), where the semantic role of an artifact (as a form of instrument) is limited to spatial isolation, rather than 'safely isolated'.

Other examples involving [place] and *down*, such as *list down* and *spam down*, are more directly tied to the directional function of the particle. This function allows for two possible interpretations. Firstly, *down* indicates that the process of adding items to a *list* or a *spam* folder proceeds from top to bottom. On the other hand, *down* is primarily linked to the act of writing, where the object on which someone writes is naturally positioned flat and low, as also seen in *write down* and *note down*.

5. Conclusions

This paper observes that particle verb formation occurs in conjunction with noun-to-verb conversion process and examines this interface phenomenon from a lexical-semantic perspective. While the intersection of these two major linguistic constructions raises a number of intriguing issues, none of these have yet been brought into the limelight. As this

[6] Although originating from [place], the NV-P *ward off* is also used metaphorically with the meaning of 'protecting someone or someone from potential harm'. In this paper, no distinction is made between its literal and figurative uses.

is virtually the first study to address this phenomenon, the paper focuses on two research questions, demonstrating that particled denominal verbs (NV-Ps) are produced by combining the verbal frame of a denominal conversion verb and the information of the particle. In addition, the noun-particle alignments are grounded in world-knowledge interpretations. Building on the previous research into denominal verb conversion, we argue that the lexical semantics level provides a reliable means of capturing the syntax-semantics interface of word-formation phenomena. This approach can explain the argument structure and semantic role distribution of NV-Ps. Furthermore, it can be seamlessly integrated with the SOM to capture the contributions of the ontological information of the noun and the particle.

From a broader theoretical perspective, this paper demonstrates that noun-to-verb conversion plays an active and essential role in the formation of particle verbs. The findings summarized above provide evidence for the centrality of the base noun in this process. It is hoped that this insight will help to rebalance the excessive emphasis traditionally placed on verb phrase structure within the research paradigms of noun-to-verb conversion and of particle verbs. As we mentioned at the outset, this paper is not intended to resolve the paradoxical nature of the particle verb construction. Our conclusion largely aligns with the models of the grammatical architecture proposed by Jackendoff (2002), Lieber (2004), Fillmore (2006), and Los et al. (2012). However, due to the methodological and philosophical inconsistencies between these frameworks, the nature of the paradox remains a particularly challenging research question in our field.

References

Baeskow, Heike. 2006. Reflections on Noun-to-Verb conversion in English. *Zeitschrift für Sprachwissenschaft* 25(2). 205–237.

Baeskow, Heike. 2024. Denominal conversion verbs and the 'verb + *it*' construction in English. *Word Structure* 17 (1–2). 1–26.

Baeskow, Heike. 2026. The semantics of conversion. In Laurie Bauer & Salvador Valera (eds.), *Conversion in Morphology: Theory and Typology*, 109–121. Oxford: Oxford University Press.

Barbu Mititelu, Verginica, Gianina Iordăchioaia, Svetlozara Leseva & Ivelina Stoyanova. 2023. The meaning of zero nouns and zero verbs. In Sven Kotowski & Ingo Plag (eds.), *The Semantics of Derivational Morphology: Theory, Methods, Evidence*, 63–102. Berlin & Boston: De Gruyter.

Bauer, Laurie. 1983. *English Word-Formation*. Cambridge: Cambridge University Press

Bauer, Laurie. 2018. Conversion as metonymy. *Word Structure* 11(2). 175–184

Boas, Hans C. 2008. Towards a frame-constructional approach to verb classification. *Revista Canaria de Estudios Ingleses* 57. 17–48.

Boers, Frank. 1996. *Spatial Prepositions and Metaphor: A Cognitive-semantic Journey along the UP-DOWN and the FRONT-BACK Dimensions*. Tübingen: Gunter Narr.

Bolinger, Dwight. 1971. *The Phrasal Verb in English*. Cambridge MA: Harvard University Press.

Bottazzi, Emanuele, Carola Catenacci, Aldo Gangemi & Jos Lehmann. 2006. From collective intentionality to intentional collectives: An ontological perspective. *Cognitive Systems Research*, 7(2–3). 192–208.

Brinton, Laurel J. 1988. *The Development of the English Aspectual System*. Cambridge: Cambridge University Press.

Cappelle, Bert. 2005. Particle Patterns in English: A Comprehensive Coverage. Doctoral dissertation, Katholieke Universiteit Leuven.

Cappelle, Bert. 2023. Verb-particle constructions. In Mark Aronoff (ed.), *Oxford Bibliographies in Linguistics*. New York: Oxford University Press. https://www.oxfordbibliographies.com/display/document/obo-9780199772810/obo-9780199772810-0311.xml (accessed 12 March 2026).

Cetnarowska, Bożena. 2011. Conversion as metonymy and the problem of recursiveness. In Bogus Bierwiaczonek, Bozena Cetnarowska & Anna Turula (eds.), *Syntax in Cognitive Grammar*, 13–26. Czestochowa: Wydawnictwo Wyższej Szkoły Lingwistycznej.

Clark, Eve & Herbert Clark. 1979. When nouns surface as verbs. *Language* 55. 767–811.

Cruse, Alan. 2002. The construal of sense boundaries. *Revue de Sémantique et Pragmatique* 12. 101–119.

Debouzie, Chloé. 2024. Competition between Affixation and Conversion: Studying Noun-to-Verb Change in Present-Day English. PhD dissertation. Université Lumière Lyon 2.

Dehé, Nicole, Ray Jackendoff, Andrew McIntyre & Silke Urban. 2002. Introduction. In Dehé, Nicole et al. (eds.), *Verb-Particle Explorations*, 1–20. Berlin: Mouton de Gruyter.

Denison, David. 1993. *English Historical Syntax: Verbal Constructions*. London and New York: Longman.

Dixon, Robert M. W. 1991. *A New Approach to English Grammar, on Semantic Principles*. Oxford: Oxford University Press.

Dyrmo, Tomasz. 2022. A multilevel cognitive model of coming out. *Prace Językoznawcze* 24(4). 27–43.

Fillmore, Charles J. 1976. Frame semantics and the nature of language. *Annals of the New York Academy of Sciences: Conference on the Origin and Development of Language and Speech* 280(1). 20–32.

Fillmore, Charles J. 2006. Frame semantics. In Dirk Geeraerts (ed.), *Cognitive Linguistics: Basic Readings*, 373–400. Berlin & New York: De Gruyter Mouton.

Fraser, Bruce. 1976. *The Verb-Particle Combination in English*. New York: Academic Press.

García Velasco, Daniel. 2009. Conversion in English and its implications for Functional Discourse Grammar. *Lingua* 119. 1164–1185.

Goldberg, Adele E. 2016. Tuning in to the verb-particle construction in English. In Léa Nash & Pollet Samvelian (ed.), *Approaches to Complex Predicates*, 110–141. Leiden: Brill.

Hale, Ken & Samuel J. Keyser. 1993. On argument structure and the lexical expression of syntactic relations. In Ken Hale & Samuel J. Keyser (eds.), *The View from Building 20: Essays in Linguistics in Honor of Sylvain Bromberger*, 53–108. Cambridge, MA.: The MIT Press.

Hale, Ken & Samuel J. Keyser. 2002. *Prolegomenon to a Theory of Argument Structure.* Cambridge, MA: The MIT Press.

Hampe, Beate. 2002. *Superlative verbs*. Tübingen: Gunter Narr Verlag.

Haspelmath, Martin. 1993. More on the typology of inchoative/causative verb alternations. In Bernard Comrie and Maria Polinsky (eds.), *Causatives and Transitivity*, 87–120. Amsterdam/Philadelphia: John Benjamins.

Huddleston, Rodney & Geoffrey K. Pullum. 2002. *The Cambridge Grammar of the English Language*. Cambridge: Cambridge University Press.

Hugou, Vincent. 2013. The X*ed out* construction: between productivity and creativity. *Quaderns De Filologia - Estudis Lingüistics* 18. 83–95.

Jackendoff, Ray. 2002. English particle constructions, the lexicon, and the autonomy of syntax. In Nicole Dehé, Ray Jackendoff, Andrew McIntyre & Silke Urban (eds.), *Verb-Particle Explorations*, 67–94. Boston: De Gruyter Mouton.

Johnson, Mark. 1987. *The Body in the Mind: The Bodily Basis of Meaning, Imagination, and Reason.* Chicago: University of Chicago Press.

Kennedy, Arthur G. 1920. *The Modern English Verb-Adverb Combination*. Stanford, CA: Stanford University Press.

Kiparsky, Paul. 1997. Remarks on denominal verbs. In Alex Alsina, Joan Bresnan & Peter Sells (eds.), *Complex Predicates,* 473–499. Stanford, CA.: CSLI Publications.

Klima, Edward. 1965. Studies in Diachronic Transformational Syntax. Ph.D. dissertation. Harvard University. https://openlibrary.org/works/OL44681950W/Studies_in_diachronic_transformational_syntax (accessed 12 March 2026).

Koontz-Garboden, Andrew. 2014. Verbal derivation. In Rochelle Lieber & Pavol Štekauer (eds.) *The Oxford Handbook of Derivational Morphology*, 257–275. Oxford: Oxford University Press.

Lakoff, George & Mark Johnson. 1980. *Metaphors We Live By.* Chicago & London: The University of Chicago Press.

Lakoff, George & Mark Johnson. 1999. *Philosophy in the Flesh. The Embodied Mind and its Challenge to Western Thought*. New York: Basic Books.

Levin, Beth & Malka Rappaport Hovav. 1995. *Unaccusativity: At the Syntax-Lexical Semantics Interface*. Cambridge, MA.: The MIT Press.

Levin, Beth & Malka Rappaport Hovav. 2005. *Argument Realization*. Cambridge: Cambridge University Press.

Lieber, Rochelle. 1998. The suffix *-ize* in English: Implications for morphology. In Steven G. Lapointe, Diane K. Brentari & Patrick M. Farrell (eds.), *Morphology and its Relation to Phonology and Syntax*, 12—33. Stanford, CA: CSLI.

Lieber, Rochelle. 2004. *Morphology and Lexical Semantics.* Cambridge: Cambridge University Press.

Los, Bettelou, Corrien Blom, Geert Booij, Marion Elenbaas & Ans van Kemenade. 2012. *Morphosyntactic Change: A Comparative Study of Particles and Prefixes*. Cambridge: Cambridge University Press.

Martsa, Sándor. 2013. *Conversion in English: A Cognitive Semantic Approach*. Cambridge: Cambridge Scholar Publishing.

Machonis, Peter. 2009. Compositional phrasal verbs with up: Direction, aspect, intensity. *Lingvisticae investigationes: International Journal of Linguistics and Language* 32(2). 253–264.

McIntyre, Andrew. 2015. Denominal verbs. In Peter O. Müller, Ingeborg Ohnheiser, Susan Olsen & Franz Rainer (eds.), *Word-Formation: An International Handbook of the Languages of Europe* Volume 2, 1406–1424. Berlin: De Gruyter Mouton.

Michaelis, Laura A. & Allen Minchun Hsiao. 2021. Verbing and linguistic innovation. *Frontiers in Communication* 6. n.p. DOI: 10.3389/fcomm.2021.604763.

Miller, D. Gary. 2014. *English Lexicogenesis*. Oxford: Oxford University Press.

Nagano, Akiko. 2008a. *Conversion and Back-Formation in English: Toward a Theory of Morpheme-Based Morphology*. Tokyo: Kaitakusha.

Nagano, Akiko. 2008b. Categorial change of conversion and the process of relisting. *English Linguistics* 25 (2). 369–401.

Paradis, Carita. 2005. Ontologies and construals in lexical semantics. *Axiomathes* 15. 541–573.

Paradis, Carita. 2011. Metonymization: A key mechanism in semantic change. In R. Benczes, A. Barcelona & F. J. Ruiz de Mendoza Ibáñez (eds.), *Defining Metonymy in Cognitive Linguistics: Towards a Consensus View*, 61–88. Amsterdam & Philadelphia: John Benjamins Publishing.

Paradis, Carita, Simone Löhndorf, Joost van de Weijer & Caroline Willners. 2015. Semantic profiles of antonymic adjectives in discourse. *Linguistics* 53(1). 153–191.

Plag, Ingo. 1999. *Morphological Productivity: Structural Constraints in English Derivation.* Berlin/New York: Mouton de Gruyter.

Potter, Simeon. 1965. English phrasal verbs. *Philologica Pragensia* 8: 285–289.

Pustejovsky, James. 2003. Categories, types, and qualia selection. In Anna Maria Di Sciullo (ed.), *Asymmetry in Grammar*, Volume 1. Syntax and Semantics, 373–393. Amsterdam: Benjamins.

Säily, Tanja & Jukka Suomela. 2017. types2: Exploring word-frequency differences in corpora. In Turo Hiltunen, Joe McVeigh & Tanja Säily (eds.), *Big and Rich Data in English Corpus Linguistics: Methods and Explorations* (*Studies in Variation, Contacts and Change in English* No. 19), n.p. Helsinki: Varieng.

Sönning, Lukas & Manfred Krug. 2022. Comparing study designs and down-sampling strategies in corpus analysis: The importance of speaker metadata in the BNCs of 1994 and 2014. In Ole Schützler & Julia Schlüter (eds.), *Data and Methods in Corpus Linguistics: Comparative Approaches*, 127–160. Cambridge: Cambridge University Press,

Štekauer, Pavol. 1996. *A Theory of Conversion in English*. Berlin: Peter Lang.

Štekauer, Pavol, Ana Díaz-Negrillo & Salvador Valera. 2011. Meaning predictability and conversion. *Folia Linguistica* 45 (1). 165–197.

Talmy, Leonard. 1985. Lexicalization patterns: Semantic structure in lexical forms. In T. Shopen (ed.), *Language Typology and Syntactic Description*, 57–149. Cambridge: Cambridge University Press.

Talmy, Leonard. 2000. *Toward a Cognitive Semantics*. Cambridge, MA.: MIT Press.

Thim, Stefan. 2012. *Phrasal Verbs: The English Verb–Particle Construction and Its History*. Berlin & New York: De Gruyter Mouton.

Valera, Salvador. 2020. Semantic patterns in noun-to-verb conversion in English. In Lívia Körtvélyessy & Pavol Štekauer (eds.), *Complex Words: Advances in Morphology*, 311–334. Cambridge: Cambridge University Press.

Valera, Salvador. 2023. The semantics of noun-to-verb zero-derivation in English and Spanish. *Zeitschrift für Sprachwissenschaft* 42(1). 153–180.

Appendix

The following table summarizes our classification and analyses of NV-Ps. The abbreviations are as follows: Inst: Instrumental, Sim: Similative, Orn: Ornative, Mot: Motive, Perf: Performative, Loc: Locative, Caus: Causative, Inch: Inchoative, Priv: Privative.

(sub)types	**Verb frames and the ontologies/functions of [z] and [w]**	**NV-Ps**
Inst_1	[x USE [INSTRUMENT [z <NOUN>]] ON [y]] UNTIL [COMPLETIVE [w <PART>]] or UNTIL [LOCATIVE/COMPLETIVE [w <PART>]]] [z] → [artifact], [body part] [w] → [locative], [completive]	NV-*up*: *phone up* NV-*down*: *dick down*, *jawbone down*, *knee down* NV-*out*: *snout out*, *elbow out, mask out*
Inst_2	[x CAUSE [y BECOME [BE AT LOCATIVE [w <PART>]] WITH [INSTRUMENT [z <NOUN>]]] [z] → [artifact] [w] → [locative], [completive]	NV-*up*: *hook up* NV-*down*: *arrow down*, *cursor down*, *dial down*, *chest down*, *lock down*, *shot down* NV-*out*: *fax out*, *e-mail out* NV-*off*: *fence off*, *rope off*, *screen off*, *dremel* (brand) *off*, *e-stim* (brand) *off, wheel-lift off, combo off*
Inst_3	[x CAUSE [y BECOME [AT LOCATIVE [w <PART>]] WITH [INSTRUMENT [z <NOUN>]] [z] → [artifact] [w] → [locative], [completive]	NV-*down*: *gun down* NV-*out*: *airbrush out*, *poo out, pump out*, *filter out, floss out*, *storyboard out*, *contract out, server out*, *FUD out* (<*fear, uncertainty, doubt*), *photoshop out* NV-*off*: *boot off*, *chainsaw off*, *wand off*, *wire-brush off*, *laser off*, *cycle off*, *bevel off*, *profit off*, *wick off*
Inst_4	[x ENABLE [y] WITH [INSTRUMENT [z <NOUN>]] UNTIL [COMPLETIVE [w <PART>]]]	NV-*up*: *google up, server up, amp up, pump up* NV-*down*: *gavel down, track down* NV-*out*: *gavel out*

	[z] → [artifact] [w] → [completive], [locative]	NV-*off*: *blaze off*
Inst_5	[x USE [z <NOUN>]] UNTIL [LOCATIVE/COMPLETIVE [w <PART>]] [z] → [artifact] [w] → [locative], [completive]	NV-*down*: *helicopter down, rope down, tab down*
Sim_1	[x ACT LIKE/AS [ANIMATE [z <NOUN>]] ON [y] UNTIL [COMPLETIVE [w <PART>]]] [z] → [animate] [w] → [completive], [locative]	NV-*up*: *coach up* NV-*out*: *leech out*, *ferret out* NV-*off*: *leech off*
Sim_2	[x ACT LIKE/AS [PERSON [z <NOUN>]] UNTIL [COMPLETIVE [w <PART>]]] [z] → [animate/human] [w] → [completive], [locative]	NV-*up*: *partner up*, *buddy up*, *MacGyver up* NV-*down*: *bro down*, *buddy down* NV-*out*: *partner out*, *nerd out*, *geek out*, *freak out*, *Hulk out*, *duke out*, *wuss out*, *chicken out*, *doll out*, *punk out* NV-*off*: *jack off* (< *jackass*)
Sim_3	[x ACT LIKE/AS [ANIMAL [z <NOUN>]] UNTIL [COMPLETIVE [w <PART>]]] [z] → [animate/animal] [w] → [completive]	NV-*out*: *pork out* NV-*off*: *swan off*
Sim_4	[x ACT LIKE/AS [OBJECT [z <NOUN>]] UNTIL [COMPLETIVE [w <PART>]]] [z] → [artifact] [w] → [completive]	NV-*off*: *yo-yo off*
Orn_1	[x PROVIDE ONESELF WITH [PERSON [z <NOUN>]] UNTIL [COMPLETIVE [w <PART>]]] [z] → [animate/human] [w] → [completive]	NV-*up*: *lawyer up*, *mentor up*
Orn_2	[x PROVIDE ONESELF WITH [z <NOUN>]] UNTIL [COMPLETIVE [w <PART>]]] [z] → [substance], [abstract]	NV-*up*: *beer up*, *juice up*, *mastic up, fire up*, *gas up*, *beef up*, *belt up*, *energy up*, *skill up*, *seal up*, *heat up*, *hype up*, *level up*, *mask up*, *power up*, *stock up*, *suit up*

	[w] → [completive]	NV-*down*: *dress down* NV-*out*: *bliss out*, *ego out, space out*, *source out* NV-*off*: *bond off*, *number off*
Orn_3	[x PROVIDE [y] WITH [[z <NOUN>]] UNTIL [COMPLETIVE [w <PART>]]] [z] → [substance], [abstract] [w] → [completive]	NV-*up*: *soup up*, *spice up*, *spirit up*, *glam up*, *light up*, *rev up*, *back up*, *jazz up* NV-*down*: *glue down*, *water down*, *reprice down*, *torque down* NV-*out*: *index out*, *kit out* NV-*off*: *plus off, pension off*, *seal off*, *bootstrap off*, *tick off*
Mot_1	[x MOVE [z <NOUN>] THROUGH [DIRECTIONAL [w <PART]]] [z] → [body part], [artifact] [w] → [directional], [completive]	NV-*up*: *sleeve up*, *knuckle up* NV-*down*: *chest down*, *knuckle down*, *knee down*
Mot_2	[x MOVE ON/AT [LOCATIVE [z <NOUN>]] UNTIL [LOCATIVE [w <PART>]]] [z] → [place] [w] → [directional], [completive]	NV-*up*: *ramp up*, *summit up*, *trend up* NV-*down*: *course down*, *track down*, *trend down*, *source down* NV-*out*: *transition out*
Perf_1	[x PERFORM [ACTION/EVENT [z <NOUN>]] ON [y]] UNTIL [COMPLETIVE [w <PART>]]] [z] → [action/event] [w] → [completive]	NV-*out*: *test out*, *trial out*, *budget out*, *role-play out*, *spec out*, *game out*, *balance out* NV-*off*: *sale off*, *suction off*
Perf_2	[x PERFORM [ACTION/EVENT [z <NOUN>]] ON [y]] UNTIL [DIRECTIONAL [<PART>]]] [z] → [action/event] [w] → [directional], [completive]	NV-*up*: *force up* NV-*down*: *force down* NV-*out*: *force out*
Perf_3	[x PERFORM [EVENT [z <NOUN>]] UNTIL [AT LOCATIVE [w <PART>]]] [z] → [action/event] [w] → [completive]	NV-*up*: *zhuzh up* NV-*down*: *mulligan down, trade down* NV-*off*: *game off, vendue off*
Perf_4	[x PERFORM [ACTION [z <NOUN>]] UNTIL [COMPLETIVE [w <PART>]]] [z] → [action/event]	NV-*up*: *synch up* NV-*down*: *party down* NV-*out*: *rock out*, *loan out*, *glitch out*, *error out, fandom out*

	[w] → [completive]	
Loc_1	[x BECOME [AT LOCATIVE [z <NOUN>]] UNTIL [COMPLETIVE [w <PART>]]] [z] → [place] [w] → [completive], [locative]	NV-*up*: *room up*, *shack up* NV-*down*: *hut down*, *niche down* NV-*out*: *camp out*, *zen out*, *route out*
Loc_2	[x CAUSE [y BECOME (PART OF) [z <NOUN>] UNTIL [COMPLETIVE [w <PART>]]] [z] → [place] [w] → [completive], [locative]	NV-*down*: *list down*, *bog down*, *spam down* NV-*off*: *ward off, bank off, boulder off*
Caus_1	[x CAUSE [y BECOME [z <NOUN>]] UNTIL [COMPLETIVE [w <PART>]]] [z] → [substance], [abstract/property], [abstract/partitive], [concrete/partitive], [place] [w] → [completive], [locative]	NV-*up*: *barf up*, *line up*, *max up*, *mess up* NV-*down*: *bevel down*, *phase down* NV-*out*: *cash out*, *standard out*, *gif out*, *slice out*, *portion out*, *part out*, *subset out*, *plan out* NV-*off*: *tribute off*, *level off*, *plateau off*
Caus_2	[x CAUSE [y BECOME [PERSON [z <NOUN>]]] UNTIL [COMPLETIVE [w <PART>]]]] [z] → [animate/human] [w] → [completive]	NV-*up*: *femme up*
Caus_3	[x CAUSE [y CHANGE PROPERTY [z <NOUN>]] UNTIL [DIRECTIONAL [w <PART>]]] [z] → [abstract/property] [w] → [locative], [completive]	NV-*up*: *number up*, *scale up*, *size up* NV-*down*: *scale down*, *scope down*, *tone down*, *tune down*
Inch_1	[x BECOME PART OF [COLLECTIVE [z <NOUN>]] UNTIL [COMPLETIVE [w <PART>]]] [z] → [abstract/collective] [w] → [completive]	NV-*up*: *bulk up*, *chunk up*, *crop up*, *team up, squad up*, *group up, pack up*, *platoon up* NV-*down*: *chunk down* NV-*out*: *top out* NV-*off*: *faction off*
Inch_2	[x BECOME [[z <NOUN>]] UNTIL [COMPLETIVE [w <PART>]]] [z] → [substance], [property] [w] → [completive]	NV-*up*: *kink up* NV-*off*: *gas off*

Priv_1	[x DEPRIVE y OF [z <NOUN>]]] UNTIL [COMPLETIVE [w <PART>]]] [z] → [substance], [property], [object], [plant] [w] → [completive], [directional]	NV-*down*: *power down*, *nipple down*, *air down* NV-*out*: *weed out*, *spirit out* NV-*off*: *power off*, *dust off*, *tarp off*, *grid off*, *spirit off*
Priv_2	[x DEPRIVE y THROUGH INSTRUMENT [z <NOUN>] UNTIL [COMPLETIVE [w <PART>]]] [z] → [object] [w] → [completive]	NV-*out*: *stamp out*
Priv_3	[x IS DEPRIVED OF [PROPERTY [z <NOUN>]] UNTIL [COMPLETIVE [w <PART>]]] [z] → [property], [event] [w] → [completive]	NV-*out*: *age out*, *role out* NV-*off*: *back off*

José A. Sánchez Fajardo
University of Alicante
Carretera de San Vicente del Raspeig
03690 San Vicente del Raspeig, Spain
jasanchez@ua.es

Akiko Nagano
University of Shizuoka
52-1, Yada, Sugura, Shizuoka-shi
Shizuoka, 422-8526, Japan
nagano.9@u-shizuoka-ken.ac.jp