Noun-verb conversion as a metonymic metamorphosis

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This study will shed some new light on the question where the implicit knowledge activated in the process traditionally referred to as noun-verb conversion comes from. To that purpose, a metonymic approach, which has been largely neglected beyond Cognitive Linguistics, will be discussed and exploited. In terms of event-schema metonymy, the role played by the participant the base noun denotes is so salient for the eventuality to be expressed that this participant can metonymically represent the eventuality as a whole (e.g. to pepper-spray the assailant → INSTRUMENT FOR ACTION, to orbit the satellite → GOAL FOR MOTION). This approach is an attractive alternative to lexicalist and syntax-based models because it dispenses with morphological or syntactic mechanisms. From the point of view of the decoder, however, event-schema metonymy seems to be rather complex because it requires the retrieval and activation of implicit knowledge. The aim of this study is first of all to suggest that the metonymic event construal is distributed over three levels of abstraction which in combination with the discourse context help the decoder to trace the route from the salient participant to the target eventuality. Moreover, a ranking of metonymic relations based on a substantial set of data from the Oxford English Dictionary will reveal an asymmetry in selection behaviour: Although the metonymic event construal seems to be guided by cognitive principles which reflect speakers' anthropocentric view of the world (e.g. HUMAN OVER NON-HUMAN), the Agent is not the participant most readily selected to provide mental access to eventualities. This discrepancy is also accounted for by the multi-level model which allows us to differentiate between cognitively grounded perceptual selectivity and linguistic prominence.

Keywords: *Noun-verb conversion, metonymy, prominence, scenario-mapping, qualia structure, thematic relations*

1 Introduction

For a long time the phenomenon of conversion, especially of noun-verb conversion, has attracted the interest of linguists from various schools and given rise to works too numerous to be discussed in this article. Roughly, these works may be classified as lexicalist (e.g. Marchand 1969, Clark & Clark 1979, Lieber 1981: 119-148, 2004: 89-95, Karius 1985, Kiparsky 1997, Plag 1999: 219-225, Baeskow 2006, Fabrizio 2013, Bauer, Lieber & Plag 2013: 277-286, 545-567), cognitively oriented (e.g. Štekauer 1996, 2005: 52-54, 63-68, 81-85, 159-194, Kövecses & Radden 1998, Dirven 1999, Valera 2017, Bauer 2018a, 2018b), and syntax-based (e.g. Hale & Keyser 1993, 2002, Arad 2003, Borer 2003: 34-40, 2014: 122-127, Harley 2005, Rimell 2012, Schönefeld 2018). From a cognitive point of view, an intriguing aspect of N-V conversion is the ease with which entity concepts – even innovative ones – are interpreted as eventualities and associated with argument structures which cannot be provided by the nouns denoting these concepts.[1] For example, even if one has never encountered the verb *to Brexit* before, a

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[1]   The term 'entity concept' will be used here for concepts denoted by concrete and abstract nouns.

sentence like *We have already Brexited the UK, never mind Europe or the rest of the world*[2] is immediately interpretable as an eventuality in which the referents of *we* have already lost touch with their nation as it used to be. Moreover, denominal verbs formed by means of conversion can be associated with a number of semantic patterns, some of which are not expressible by derivational affixes. For example, proceeding from discussions of conversion in the pertinent literature, Plag (1999: 219f) postulates ten semantic categories which are defined over para-phrases, e.g. locative 'put (in)to X' (*jail*), similative 'act like X' (*chauffeur*, *pelican*), instru-mental 'use X' (*hammer*), etc. Lieber (2004: 90f), who adopts this classification, identifies even more meaning components. She also observes that denominal verbs formed by means of con-version display a higher degree of polysemy than derived verbs. To illustrate this point, con-sider the following sentences from iWeb (1a), Clark & Clark (1979) (1b), and the Corpus of Contemporary American English (COCA) (1c):

(1) a. Yesterday we *bottled* the wine and it is drinkable right now.
     b. We were stoned and *bottled* by the spectators as we marched down the street.
     c. He clutches the pillow. He is stressed and keeps his emotions *bottled up*. The grip on the pillow is his body's way of releasing tension.

In (1a), the canonical reading of the verb *bottle* is activated: the bottles are the location to which the wine was transferred in order to be preserved. (1b) deviates from the canonical reading because the role of the 'bottle participant' as a projectile clashes with the typical use of bottles. Significantly, an interpretation of the referents of *we* being "put into bottles" is ruled out. Sentence (1c), in which the converted verb *bottle* is combined with a particle, re-quires a metaphorical reading. The experiencer's body is metaphorically conceived of as a container in which emotions are kept like liquid in a bottle. But under all of these readings lies a fundamental question: Where does the implicit knowledge which is guiding the verbal interpretation of entity concepts come from?

A promising proposal which has been largely neglected beyond Cognitive Linguistics was made by Kövecses & Radden (1998) and Dirven (1999). According to these authors, (noun-verb) conversion is an instance of metonymy, or, more precisely, of event-schema me-tonymy. While metonymy is usually exemplified for entity concepts (e.g. *He's got a Picasso in his den* → PRODUCER FOR PRODUCT; Lakoff & Johnson 1980: 38), event-schema metonymy holds between participants and eventualities. As stated by Dirven (1999: 278), the role played by the participant the base noun denotes is so salient for the event that this participant can metonymically represent the event as a whole, e.g. *The player headed the ball into the goal* → INSTRUMENT FOR ACTION. In Dirven's model, the metonymic relations between a nominal par-ticipant (the metonymic vehicle) and an event (the metonymic target) unfold in three abstract event schemata which are largely determined by constellations of traditional case roles: an action schema, a motion schema, and an essive schema, or schema of 'beingness'. The meto-nymic approach, which is also supported by Bauer (2018a, 2018b) and which is of cross-lin-guistic relevance (e.g. Rong 2014, Baeskow 2020), is considered here to make an important contribution to the question of how implicit knowledge is encoded without morphological or syntactic processes being involved.

The use and interpretation of a non-derived denominal verb always takes place in a concrete communicative situation which involves an encoder (i.e. the speaker or author) and a decoder (i.e. the hearer or reader); cf. Clark & Clark (1979: 787). Given the metonymic approach, the encoder who introduces a denominal verb has a 'holistic' view of the event to be communicated and selects a participant he/she considers salient enough to attract the decoder's attention. A central question to be addressed in this article is how the decoder identifies the salient participant and traces the route from this participant to the target eventuality. A further, more general question is whether preferences as to the selection of salient participants can be predicted from empirical analyses that are based on a sufficiently comprehensive set of denominal verbs. This, in turn, requires an elaboration of the notion of relative salience (or prominence) in event-schema metonymy.

The aim of this article is first of all to elucidate the complexity of the metonymic event construal from the perspective of the decoder. Since metonymy is based on contiguity, i.e. on extra-linguistic points of contact between a metonymic vehicle and a metonymic target (e.g. between an author and his literary work), a basic task will be to identify relations of contiguity holding between concepts denoting entities (or individuals) and concepts denoting eventualities.[3] Complementary to the metonymic approaches available so far, it will be assumed that cognitive modelling is distributed over three levels of abstraction in the sense of Ruiz de Mendoza Ibáñez & Pérez Hernández (2011) and Ruiz de Mendoza Ibáñez & Galera Masegosa (2014). Applied to event-schema metonymy, this three-level approach will allow us to investigate the interaction of encyclopaedic ('low-level') knowledge, cognitively grounded ('primary') knowledge, and grammatically relevant ('high-level') information with the discourse context. Moreover, a ranking of metonymic relations on the basis of the readings of 507 relatively new verbs from the *Oxford English Dictionary* (OED) will reveal that the Agent, which is "by default given more prominence in linguistic structures than participants in other roles" (Himmelmann & Primus 2015: 48), is outranked in prominence by other participants. At first glance, this state of affairs seems to be in conflict with cognitive principles like HUMAN OVER NON-HUMAN (Langacker 1993, Kövecses & Radden 1998). However, given the multi-level model sketched above, it will be possible to differentiate between perceptual selectivity, which is rooted in primary knowledge and reflects speakers' anthropocentric view of the world, and the contextually determined selection of an abstract, thematically labelled participant from a set of competing equals at the high level of representation. Although the focus of this study is on noun-verb conversion, whose semantic versatility is considered here to be of particular interest, some reference to other conversion types will be made in the course of the discussion.

The article is structured as follows: In section 2, some background information on metonymy will be provided, and the metonymic approach to conversion proposed by Kövecses & Radden (1998) and Dirven (1999) will be presented in more detail. In section 3, the three levels of genericity introduced by Ruiz de Mendoza Ibáñez and colleagues will be presented and applied to the metonymic event construal. Section 3.1 will examine the interaction of low-level knowledge (i.e. knowledge as to individuals, entities and situations) and the discourse context in determining the salience of the base-noun participant relative to other situation-dependent participants. Proceeding from two contexts displaying very different readings of the verb *to*

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[3] The metonymic approach to noun-verb conversion requires a distinction between the notions 'metonymic process', which refers to the formation of new converted verbs, and 'metonymic relation', which captures a conventionalized relation between a nominal vehicle and a verbal target. The analyses performed in this study will mainly be concerned with the analysis of metonymic relations.

newspaper, it will be argued that relations of contiguity between participants and eventualities are encoded in qualia information and thematic entailments. Section 3.2 will reveal the relevance of primary, i.e. cognitively grounded knowledge for the verbal interpretation of entity concepts and of some spatial relations. Section 3.3 will be concerned with the identification of metonymic relations underlying 507 non-derived denominal verbs which according to the OED are not attested before 1900. Proceeding from this set, a ranking of thematically labelled high-level participants selected as metonymic vehicles will be established in order to show that event-schema metonymy follows the principle of prominence as defined by Himmelmann & Primus (2015). Since some denominal verbs (hence abbreviated as DNVs) are polysemous, the ranking of highlighted roles will be performed on the basis of the verbal readings associated with the lemmata. The article ends with a conclusion in section 4. A semantically structured and chronologically ordered list of the verbs under examination is provided in an Appendix.

2 Metonymy and its relevance for conversion

Metonymy was long considered a trope or figure of speech which serves the purpose of rhetorical embellishment. However, metonymy is omnipresent in everyday discourse, too, as well-known metonymic patterns such as PART FOR WHOLE (*We don't hire longhairs*), PRODUCER FOR PRODUCT (*He's got a Picasso in his den*), or PLACE FOR EVENT (*Watergate changed our politics*) suggest; cf. Lakoff & Johnson (1980: 38f). Since patterns like these have become conventionalized, their rhetorical origin goes unnoticed when they are used in everyday communication.

Traditionally, metonymy is described as a relation of contiguity which is based on significant points of contact between concepts in the extra-linguistic world (e.g. Waltereit 1998, Koch 1999, Blank 1999). Relations of contiguity are manifold. They are to be found in the spatial domain, the temporal domain, the causal domain and beyond. Significantly, contiguity does not hold between words, but between concepts (Lakoff & Johnson 1980: 37). The first concept (i.e. the metonymic vehicle) stands for or represents the second one (i.e. the metonymic target), and both concepts are contiguously related to each other. Although metonymy presupposes relations of contiguity, not all of the existing relations of proximity and closeness are metonymically exploited.

The cognitive component, which according to Koch (1999: 142) was explicitly stated for the first time by Roudet (1921) in terms of associationist psychology, has raised the interest of cognitive linguists like Lakoff & Johnson (1980), Fauconnier (1985), Lakoff (1987), or Croft (1993). Significantly, metonymically related concepts belong to the same cognitive domain, i.e. to the same semantic, logical, cultural or situational sphere (Thomaßen 2004: 68). In this respect, metonymic relations differ from metaphorical relations whose vehicle and target concepts belong to different domains. Thus, for example, a sentence like *He is a lion on stage* said about a participant in a piano competition[4] establishes a relation of similarity between a concept from the human sphere and a concept from the animal kingdom. In Lakoff's (1987: 68, 77) cognitive framework domains are conceived of as Idealized Cognitive Models (ICMs) which

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[4]   *Virtuosity*, broadcasted by 3sat on April 29th, 2017.

comprise (a) knowledge representations such as frames, schemata, or scripts, (b) image schemata, (c) metaphoric mappings, and (d) metonymic mappings.[5] These models are somehow idealized because they do not objectively depict the extra-linguistic reality and largely depend on the cultural background of a speech community and on stereotypes.

Kövecses & Radden (1998), who present quite a few cases of everyday metonymy, recognize that all the semantic classes identified by Clark & Clark (1979) for DNVs are reanalyzable as metonymic relations.[6] Thus, for example, the Instrument can metonymically represent the action involving this instrument (*shampoo one's hair*), or the locatum can metonymically represent a motion event (*carpet the floor*). The metonymic approach was elaborated by Dirven (1999), who describes noun-verb and adjective-verb conversion as instances of event-schema metonymy. Unlike reference metonymy, which serves to identify an individual in an anonymous setting (e.g. *The ham sandwich left without paying* → CUSTOMER FOR ORDERED FOOD), event-schema metonymy picks out a salient participant from a set of thematically labelled participants involved in an event to represent this event as a whole (e.g. *He was fishing (salmon)* → PATIENT FOR ACTION). According to Radden & Dirven (2007: 270), an event schema is "a situation type that can be materialised in an infinite number of concrete instances of states and events." Different situation types give rise to a set of event schemata that conceptually organize configurations of thematically labelled participants and render them meaningful. Three of these schemata – namely the action, the motion, and the essive schema – are considered to be relevant for conversion by Dirven (1999: 280, 285). The action schema is a force-dynamic schema which describes events in which an Agent deliberately and responsibly acts upon a Patient. Metaphorically speaking, the Agent is the "energy source" of a prototypical action, whereas the Patient is the "energy sink". This chain of energy may also involve an Instrument as an "intermediate energy transmitter", e.g. *The burglar forced the back door open with a crowbar* (Radden & Dirven 2007: 285). Since the Agent may perform the action in a particular way, the action schema additionally specifies a Manner role. The spatially oriented motion schema describes an entity's or individual's motion along a trajectory which consists of a Source, a Path, and a Goal. An action performed in this schema is assumed to aim at a localized effect (e.g. *to bottle the wine*). In the essive schema introduced by Dirven (1999: 280, 283-285), a Patient is assigned the status of class membership (*to author*) or an attribute (*to clean the table*). As compared with the other event schemata, this schema of 'beingness' is less convincing for two reasons. First, it predicts that verbs like *to nurse*, *to butcher*, or *to father*, which Clark & Clark (1979: 773f) refer to as "agent verbs", always establish a relation of beingness between the referent of the subject-NP and the denotatum of the base noun. This claim is certainly too strong, as acknowledged by Dirven (1999: 283f) himself. For example, if Mary nurses her father's ailment, she is not necessarily a professional nurse. Secondly, the essive schema does not convey the dynamic character of these verbs, which manifests itself especially in their compatibility with the progressive (e.g. *[…] he knew I was doing something similar,*

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5   As pointed out by Ruiz de Mendoza Ibáñez (2017: 300, 306f), we are obviously dealing here with different types of cognitive models. While knowledge representations and image schemata constitute descriptive devices, metaphor and metonymy are operational by nature.
6   Clark & Clark identify six major classes of DNVs which are labelled according to the case roles (Fillmore 1968) of the base nouns, namely locatum verbs (*roof the house*), location verbs (*bottle the wine*), duration verbs (*summer in Paris*), agent verbs (*author the book*), goal verbs (*orphan the children*, *knot the string*), and instrument verbs (*harp the tune*, *hammer*).

I was authoring a book, iWeb); cf. Baeskow (2020: 89).[7] Nevertheless, event schemata, which can be conceived of as high-level abstractions over states and events, are considered here to be an important pre-requisite for the organization of thematic relations, which in the case of non-derived DNVs cannot be provided by the nominal base.[8] The three schemata postulated by Dirven (1999: 285) are represented below.

(2)   Action schema: Agent, Patient, Instrument, Manner
       Location/Motion schema: Place, Source, Path, Goal
       Essive schema: Class membership, Attribute

Since Dirven's event-schema metonymy operates at the predicate-argument level, or "nucleus level" (1999: 277), it allows us to make more general predictions as to the distribution of thematic roles in noun-verb conversion (cf. section 3.3). Thus, this approach is preferred here over the semantic categories postulated for converted verbs by Plag (1999: 220). As pointed out by Dirven (1999: 281), the relevance of the nucleus level for conversion is anticipated by Marchand (1969) who – due to the lack of thematic roles (or case roles) – analysed converted verbs in terms of grammatical relations, e.g. Predicate-Subject Complement (*to bully*, *to father*), Predicate-Object Complement (*to knight*, *to bundle*), Predicate-Adverbial Complement (*to butter*, *to earmark*). According to Dirven (ibid.), "[i]t is only thanks to the insights of case grammar that it was possible for researchers to handle the semantic relationships involved with converted verbs in terms of semantic-conceptual roles such as patient, instrument, manner, goal or source and essive roles […]."

Bauer (2018b) provides positive evidence for the metonymic approach to conversion. Proceeding from a comparison of figurative extension, derivational morphology and syntax with respect to productivity (as an indicator of transparency) and predictability, he shows that although conversion shares with derivational morphology the property of restricted meaning predictability[9] and of displaying gaps in the paradigm, it differs from derivational morphology because it is "unlimited except by the limits of human imagination" (Bauer 2018b: 180). Since syntax differs from both figurative extension and derivational morphology in that it is fully productive and fully predictable, conversion is not a syntactic operation either. Given these criteria, Bauer (2018b: 183) concludes that "conversion can be argued to be a matter of metonymy rather than a matter of a morphological process of word-formation."

According to Cetnarowska (2011), the metonymic approach to conversion is slightly weakened by one point. While metonymic processes are recursive in that the interpretation of a given expression may involve several (diachronically or synchronically occurring) metonymic mappings (e.g. *barbecue* "wood" → "meat" → "social gathering"; *Wallstreet is in panic* "place" → "institution" → "people in institution"), instances of 'chained conversion' – though attested – are rather infrequent (e.g. N → V → N as exemplified by *clean*$_{Adj}$ → *clean*$_V$ →

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7   In section 3.3, the essive schema will be replaced by a more general state schema.
8   Dirven's schemata still reflect Fillmore's (1968) case roles whose number and nature is highly controversial (cf. Rauh 1988 and section 3.1 of this study). These roles should only be conceived of as mnemotechnically convenient labels for the participants selected as metonymic vehicles.
9   It is important to note that this statement has to be interpreted relative to the full transparency of syntax and inflection. As shown by Štekauer (1996: chapter 6; 2005: 52-54, 81-85) a context-free interpretation of converted verbs gives rise to a variety of readings which display different degrees of meaning predictability.

clean$_N$).[10] In this respect, conversion behaves like overt derivation, which avoids multiple attachment of the same affix (Plag 2003: 161). However, in view of the fact that metonymy is "pervasive and ubiquitous in conversion", Cetnarowska (2011: 13f) generally favours the metonymic approach which accounts not only for the change of primary word-class (e.g. N → V, A → V, V → N), but also for the change of secondary word-class, e.g. proper noun → common noun (*We don't need another Einstein*), countable noun → uncountable noun (e.g. *I need an inch of pencil*).

      In the following sections, the route from participants to eventualities will be traced from the perspective of the decoder by applying the different levels of genericity postulated by Ruiz de Mendoza Ibáñez and colleagues to event-schema metonymy.

3 Metonymic event construal at different levels of genericity

The three levels of genericity introduced by Ruiz de Mendoza Ibáñez & Pérez Hernández (2011: 172f) and Ruiz de Mendoza Ibáñez & Galera Masegosa (2014: 63-65) for cognitive modelling are considered here to be an essential prerequisite for a comprehensive account of noun-verb conversion in terms of metonymy. The low level is the level at which encyclopaedic information (e.g. information about Harry Houdini, bottles, or the Brexit) is stored and where "well-entrenched, coherent links between elements of our encyclopedic knowledge store" are made (Ruiz de Mendoza Ibáñez & Pérez Hernández 2011: 172). Low-level knowledge is shared by most speakers of a speech community at least to a certain degree. The high level allows for an abstraction over multiple low-level models. For example, as pointed out by Ruiz de Mendoza Ibáñez & Pérez Hernández (2011: 173), "our knowledge about actions as being dynamic controlled states of affairs that have an agent, a patient, and an instrument, or about states as being non-dynamic and uncontrolled states of affairs, are high-level forms of categorization." Transferred to event-schema metonymy, we may state that this is the level at which configurations of thematic relations abstract away from the multitude of low-level scenarios and at which classes of non-derived DNVs become discernible. The primary level is the level of sensorimotor schematicity which enables us to conceptualize low-level configurations such as the interaction of individuals with entities in everyday situations (e.g. sitting on a chair), spatial relations (e.g. high/low, up/down), sensory impressions (e.g. temperature, colour, size), or emotions. Thus, primary knowledge is directly grounded in sensorimotor experience. The following examples are intended to provide a first impression of this three-level model.

(3) a. The chauffeur *garaged* the Rolls-Royce.
      b. The street artist *graffitied* the wall.

In both examples, three participants – one of which is incorporated into the verb – are non-arbitrarily related to each other in a low-level situation or scenario. While the Rolls-Royce is moved into the garage in (3a), the graffiti is brought into contact with the wall in (3b). Both situations are initiated and controlled by an intentionally acting human participant. Of course, low-level relations like these are not restricted to the verbs *to garage* and *to graffiti* respec-

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[10]   This phenomenon is referred to as "oscillation" by Jespersen (1942: 124-127).

tively, but recur in a plethora of similar scenarios (e.g. *to holster the gun*, *to archive the documents*, *to orbit the satellite*; *to ear-tag the lamb*, *to monogram the pillow-case*, *to bookmark the website*). By abstracting away from the multitude of low-level scenarios, we may state that there is a schematic event in which a number of thematically labelled participants interact in a grammatically relevant way. Scenarios like those depicted in (3) prototypically involve an Agent, a Patient, and a participant that is either the Goal (or Location) of the activity (3a) or the Locatum, i.e. the moved entity (3b). As observed by Clark & Clark (1979: 772) for converted verbs and Plag (1998: 224) for derived verbs like *hospitalize* or *computerize*, the location reading is inversely related to the locatum reading because the base-noun participant is either the Goal of a transfer or the transferred entity. From a cognitive point of view, we may state that the selection of the Goal or the Locatum as a metonymic vehicle allows the encoder to conceptualize an abstract (i.e. 'high-level') transfer from different perspectives.[11] At the primary, cognitively grounded level, the distribution of the Locatum and the Goal can be described as a FIGURE-GROUND effect. FIGURE and GROUND are notions from gestalt psychology which depict an asymmetry in human perceptual behaviour. As stated for example by Langacker (1987: 120-122), a clearly discernible, possibly moving entity (i.e. the FIGURE) is more likely to attract attention (in a cognitive sense) than its background (i.e. the GROUND). Although there are tendencies as to the naturalness and likelihood of a particular choice, the FIGURE/GROUND organization is not fixed. According to Langacker (1987: 120), it is "normally possible to structure the same scene with alternate choices of figure."[12] In the following sections, the metonymic event construal at different levels of abstraction will be discussed in more detail.

3.1 *Qualia-information and entailments as low-level relations of contiguity*

In quite a few approaches to noun-verb conversion the relevance of generic knowledge as to the concept denoted by the nominal base has been emphasized (e.g. Clark & Clark 1979 : 788f, Karius 1985: 48, Štekauer 1996: 100f, 2005: 35, 66f, Kiparsky 1997: 482, Baeskow 2006, Fabrizio 2013, Schönefeld 2018: 214). If the base noun denotes a concrete entity, generic knowledge as to its function, its parts, its shape, the material it is made of, the way it comes into being etc. may be relevant for the interpretation of an event involving this entity. If the nominal base is a proper noun (e.g. *Houdini*, *Havel*), the person it refers to can be conceived of as a "multi-facetted object" in the sense of Štekauer (2005: 65). In this case, knowledge as to this person's characteristic attributes or skills will facilitate a verbal interpretation. On the one hand, generic (or encyclopaedic) knowledge gives rise to a number of context-free interpretations, as shown by Štekauer (1996) for conversion and by Štekauer (2005) for noun-noun compounding and conversion. On the other hand, the role the base-noun participant ultimately

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[11] This, of course, does not imply that the participants in question are freely interchangeable in a given context. Although sentences like *He Rolls-Royced the garage* or *He walled the graffiti* are grammatically well-formed, they are ruled out because at the low level, there is a relation between the concepts GARAGE and ROLLS-ROYCE and GRAFFITI and WALL which might be referred to as unidirectional functionality. A garage has a function with respect to a motor vehicle, and graffiti is functionally related to walls, but not vice versa (cf. Clark & Clark 1979 : 790 and Kiparsky 1997: 482f for a similar view). This example illustrates the necessity to differentiate between high-level and low-level models.

[12] In Davis & Koenig's (2000) HPSG-based approach, which is concerned with the linking of semantic arguments to syntactic functions, FIGURE and GROUND are conceived of as proto-role attributes which, like Dowty's (1991) Proto-Agent and Proto-Patient (cf. section 3.1), are characterized by entailments.

"plays" in an event is also determined by the discourse context which restricts the set of potential readings and which either meets or models the decoder's expectations as to the target meaning.

In order to obtain a more comprehensive view of the communicated event, the decoder additionally has to activate situational knowledge, i.e. knowledge as to the way individuals and entities interact in stereotypical situations. Research into this kind of knowledge has given rise to well-known models such as scene-and-frames semantics (e.g. Fillmore 1977), the script model developed by Schank & Abelson (1977) in the framework of Artificial Intelligence, or the psychologically oriented scenario-mapping theory (Sanford & Garrod 1981, Sanford & Emmott 2012). The basic idea underlying these models is that mental representations of stereotypical situations provide slots for the roles of the participants we typically associate with these situations. For example, customers, waiters and cooks are the expected "protagonists" of the restaurant scenario, and the proceedings going on in this scenario are temporally ordered.

Following Sanford & Emmott (2012) it will be assumed here that discourse processing involves the evocation of scenarios, i.e. of situational background knowledge, and that discourse information is mapped onto these predefined scenarios by the decoder. This mental process, which Sanford & Emmott refer to as scenario-mapping, is indispensable not only for the comprehension of information provided in a (narrative) text or discourse, but also for the inference of implicit information. Apart from filling in information that is not explicitly provided, scenario-mapping also enables the reader to detect deviations from the expected 'norm'. Moreover, psycholinguistic evidence led Sanford & Emmott to the assumption that global interpretation, i.e. the interpretation guided by world knowledge as the core engine of understanding, precedes local semantic analyses – including the assignment of thematic roles. The principle they assume to be at work here is that of primary processing, i.e. "Find a relevant scenario as soon as possible during reading." (2012: 29)

Here, primary processing is considered significant for the metonymic interpretation of DNVs: the setting in which the entity or individual denoted by the base noun is contextually located has to be checked against a scenario which meaningfully relates our knowledge regarding this entity/individual to the role it plays in the depicted event. Mapping the discourse context onto situational background knowledge helps the decoder to figure out the relative salience of the base-noun participant and to "unpack" the metonymically encoded event from the perspective of this participant.

Moreover, an important suggestion to be made here is that low-level relations of contiguity are definable in terms of qualia information and thematic entailments. Since qualia structures (Pustejovsky 1996, Bouillon et al. 2012, Speer, Chin & Havasi 2017) intrinsically define a concept as to its distinctive properties (FORMAL), constituency (CONSTITUTIVE), function (TELIC), and coming into being (AGENTIVE), they provide a multi-dimensional framework for the representation of low-level knowledge associated with entities. While the FORMAL quale defines the ontological type of an entity concept, the relations specified in the other three quales (e.g. 'made of', 'spatially/temporally located in', 'used for', 'caused by') can be conceived of as networks of contiguity relations because they always define concepts relative to concepts they typically co-occur with.[13]

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[13] In Baeskow & Rolshoven (2018) it is shown that qualia values are retrievable from co-occurrence matrices which are automatically generated from very large electronic corpora.

By contrast, thematic entailments hold between participants and eventualities. Entailments are bundles of grammatically relevant conceptual-semantic properties which characterize two or more proto-roles (e.g. Dowty 1991, Primus 1999, 2012, Engelberg 2000, Davis & Koenig 2000). Dowty (ibid.) reduces the set of traditional theta-roles such as Agent, Theme, Instrument etc. to two proto-roles – a Proto-Agent and a Proto-Patient. While the Proto-Agent is typically defined over entailments such as 'volition' (or 'control'), 'sentience', and 'causally affects another entity', the Proto-Patient is the entity or individual that is 'causally affected' and prone to undergo a 'change of state'. If the progress of the Proto-Agent's activity is mirrored by the successively changing state of the Proto-Patient (e.g. *mow the lawn*, *eat an apple*), the latter qualifies for the entailment 'incremental theme'.

The following discussion of two short passages from the Internet which highlight very different readings of the verb *to newspaper* is intended to illustrate the relevance of primary processing for the interpretation of non-derived DNVs.

(4) **Bradlee and the lion tamer**
The October death of former Washington Post Editor Ben Bradlee, a giant of our industry, brought forth a wealth of rich stories about the colorful career of a newspaperman who *newspapered* in an era when the business had more color. (Sorry, I'm trying to cut back on the everything-used-to-be-better stuff. Really, I am.) […]
https://www.heraldtribune.com/news/20141225/bradlee-and-the-lion-tamer

According to Pustejovsky (1996: 91f), the noun *newspaper* displays logical polysemy in that it encodes a 'physical-object' reading, an 'information' reading, and an 'institution' reading. In his Generative Lexicon, multiple senses σ_1, σ_2, σ_n of a logically polysemous lexical item are not listed separately, but form a *lexical conceptual paradigm (lcp)* from which each sense can be accessed separately. As far as the scenario in (4) is concerned, the discourse context signals that the focus is on the 'information' reading because newspapermen like Bradlee are concerned with stories and hence with the shaping of the content of their newspaper (AGENTIVE). This context evokes a news-business script or scenario which opens slots for participants and components such as editors, journalists, columnists, readership, news, newspaper structuring (headlines, sections, articles, advertising, etc.) and which is associated with a network of parallel or successive events and subevents (e.g. collecting current information precedes the editorial work, and all editorial work precedes printing or online publication). As pointed out above, generic knowledge as to situations and the participants involved fills in information not explicitly provided by the text. As far as (4) is concerned, the reader has to identify the role played by the 'newspaper participant' in the low-level scenario evoked by the context. A relation of contiguity which seems to be particularly revealing is that between the 'newspaperman' and the 'newspaper participant'.[14] While the 'newspaperman' has control of the 'newspaper participant' and causally affects it, the 'newspaper participant' is causally affected and undergoes a change of state. Since its content increases with the addition of information, it can be conceived of as an incremental theme. Once primary processing has revealed this constellation, the decoder will be able to identify the 'newspaper participant' (i.e. the metonymic vehicle) as the high-level Proto-Patient which stands for a Proto-Agent's activity of contributing to this participant's information content.

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[14] Pre-theoretical terms like 'newspaperman' or 'newspaper participant' are intended here to signal that these situation-specific participants are not yet thematically labelled at this stage of the interpretation.

Now consider the context in (5) from the *Los Angeles Magazine* (June 2000, page 22), which evokes an entirely different scenario:

(5)   **Food for Naught**
      As former customers and restaurateurs looking for bargains browsed of Urban Epicuria — the West Hollywood gourmet-to-go shop, once a red-hot best bet to become the Dean & DeLuca of the Coast — the cash-only public auction of the dwindling inventory began. […] It was an ignominious end for a business that, since its 1998 opening, had been trumpeted by CQ, House Beautiful, Travel & Leisure, Women's Wear Daily and the magazine you're reading now as L.A.'s coolest dash-and-dine place. […] But on March 1, just two years after its splashy debut, Urban Epicuria's adventure was over. The store suddenly *newspapered* over its windows, leaving the fans who mingled at the public auction wondering what happened. […]

In this setting, relations of contiguity which are quite different from those holding in the news-business scenario above have to be identified. In particular, our knowledge as to closed stores and the practice of covering their windows with sheets of newspaper signals that a different facet of the concept NEWSPAPER is exploited, namely the material printed newspapers are typically made of (CONSTITUTIVE). The information content of the newspapers brought in contact with the shop windows is irrelevant for the interpretation of *to newspaper* in this context.

The context in (5) actually displays two metonymies. First, there is a mapping from a location (realized by the DP *the store*) to the individual or individuals in charge of this location. According to Ruiz de Mendoza Ibáñez & Pérez Hernández (2001: 331f) we are dealing here with an instantiation of the metonymic relation CONTROLLED FOR CONTROLLER, or, more specifically, STORE FOR OWNER. Secondly, there is metonymic mapping from the facet 'physical object' of the concept NEWSPAPER to a complex event in which three participants are involved: The former owner(s) of the Urban Epicurea – metonymically referred to by *the store* – the 'window participants', and the 'newspaper participant'. In this constellation, the highlighted 'newspaper participant' is affected in a way that it is caused to move towards and get in contact with the 'window participants'. Moreover, the 'window participants' which are caused to undergo a change of state have the status of incremental themes because the progress of the activity performed (i.e. of successively attaching sheets of newspaper to the windowpanes) is mirrored by the changing state of the windowpanes.

The examples in (4) and (5) show that we are dealing here with special relations of contiguity which do not simply hold between two entity concepts (e.g. an author and his works or a dish and the customer who ordered it), but between an entity and an event in which this entity is typically or episodically involved and in which it somehow stands out from the other participants it interacts with.

3.2 *Primary-level knowledge*

Knowledge organized at the primary level of abstraction is embodied, i.e. "directly grounded in bodily experience" (e.g. Ruiz de Mendoza Ibáñez & Pérez Hernández 2011:172f). It provides the cognitive basis for our understanding of low-level configurations and our ability to conceptualize them.

As far as event-schema metonymy is concerned, primary knowledge first of all allows us to conceptualize eventualities denoted by DNVs as PART-WHOLE relations in a way that one participant metonymically represents the entire event in which it interacts with other participants (Ruiz de Mendoza Ibáñez & Pérez Hernández 2001: 331-333). The PART-WHOLE relation belongs to a set of image schemata which encode abstract spatial relations referred to as "primary topological configurations" by Ruiz de Mendoza Ibáñez & Galera Masegosa (2014: 59). A further example of an image schema is the CONTAINER image, which plays a role in the metaphorical interpretation of sentences like (1c) – repeated below as (6).

(6)   He clutches the pillow. He is stressed and keeps his emotions *bottled up*. The grip on the pillow is his body's way of releasing tension.

Since the human body is conceptualized as a container for emotions, we may state that the metonymic relation GOAL FOR MOTION underlying the verb *to bottle* is couched in the metaphor THE BODY IS A CONTAINER FOR EMOTIONS.[15] The aspect of embodiment is reflected by the Agent's interaction with the pillow, which is interpreted as an indicator of his psychological state.

A further primary concept exploited in noun-verb conversion is that of SHAPE, which underlies verbs like *concertina*, *mushroom*, *rosette*, *sickle*, or *pretzel* (OED). As exemplified in (7), the shape of the Goal participant is so salient that it can provide mental access to an event in which an entity is caused to undergo or undergoes a change of state, or, more precisely, a change of shape.

(7) a. Next I set about making some paper Christmas trees. I cut out some semicircles and either *concertinaed* them or rolled them to make little cone trees (iWeb).
    b. I sit here with legs *pretzeled* while he makes cat-and-liver jokes. (OED)
    c. Even the cells of heterozygotes will *sickle* if the oxygen tension is low enough. (OED)

Contrary to Kiparsky's (1997: 482) claim that the action named after a thing involves the canonical use of the thing, these verbs show that this is not necessarily the case. Of the three verbs presented above, only *sickle* allows for a shift of attention from the goal readings "cause to sickle" and "of red blood cells: become crescent- or sickle-shaped" to an instrument reading "cut with a sickle".

Although the focus of this study is on noun-verb conversion, it should be emphasized that metonymic mapping also occurs between eventualities and results (*cut – cut$_N$*, cf. Kövecses & Radden 1998: 55), between results and eventualities (*to clean*, *to empty*), or between spatial concepts and psychological states (*to be down*). The relevance of primary knowledge manifests itself especially in the metonymic recategorization of spatial concepts as expressed by lexical prepositions. For instance, as shown below, an inherently spatial concept like DOWN can be associated with a verbal (8), an adverbial (9), and a nominal reading (10). The image schema underlying each of these extended meanings of *down* at the primary level is VERTICALITY.

(8) a. His horse had *downed* him three times. (OED)
    b. She *downed* two Solpadeine to try and cure a particularly nasty headache. (OED)

___

(9)   I used to comfort-eat chocolate when I was *down*. Now I go for a run. (OED)
(10)   People don't always tell you all the *ups* and *downs* of a relationship. (COCA)

As shown convincingly for example by Jackendoff (1983: 165f), Rauh (1988: 371-390) and Davis (2001: 225-244), prepositions share a subset of thematic relations with verbs. In particular, lexical prepositions like *up*, *down*, *in*, *on*, *towards* etc. instantiate parts of the motion schema which apart from the object in motion (or Locatum) licenses a Source, a Path, and a Goal (Rauh 1988: 374f). According to Rauh (1988: 375), the prepositions *up* and *down* assign the relation Path to their complement, whereas the Source and the Goal remain incorporated.

In (8), the verbalized lexical preposition *down* can be described analogously to DNVs because the Path it encodes is selected to provide metonymic access to the respective motion events (i.e. falling off the horse in (8a) and swallowing pills in (8b)). As far as the adverbial reading in (9) is concerned, an orientational metaphor SAD IS DOWN (Lakoff & Johnson 1980: 15, Ruiz de Mendoza Ibáñez & Pérez Hernández 2011: 164) applies prior to metonymic mapping. The application of this metaphor requires primary knowledge which allows us to access the negative state of mind (metaphorical target) via a spatial relation encoding vertical downward movement (metonymic vehicle). In a next step, the Goal is selected from the motion schema to metonymically represent the mental process which led to the Agent's state of mind. Metaphor and metonymy also interact in the interpretation of the phrase *the ups and downs* in (10). At the primary level, the spatial relations are metaphorically reinterpreted as a succession of positive and negative phases, i.e. HAPPY IS UP, SAD IS DOWN. At the high level, the Source and the Goal are selected from the motion schema to metonymically represent upward and downward motion in the abstract. The examples presented in this section show that primary knowledge is required especially for the comprehension of metaphorical relations and for combinations of metaphor and metonymy.

3.3 *High-level metonymic relations and prominence*

In this section, a ranking of metonymic relations will be established in order to reveal preferences as to the selection of thematically labelled participants. Proceeding from this ranking, a differentiation between perceptually determined selectivity and linguistic prominence will be worked out. The database comprises 507 non-derived DNVs which according to the OED are not attested before 1900 and which are listed in a semantically structured and chronologically ordered Appendix. A subpart of these verbs is also contained in Plag's (1999: 274-277) list of 20th century neologisms from the OED. However, the database built for the present study differs from this list in that it exclusively includes denominal verbs. Plag's Appendix also includes verbs formed from phrases (e.g. *cold-call*, *blind-side*, *hands-up*), adjectives (e.g. *pretty*, *young*, *phoney*), and quite a few onomatopoeia (e.g. *ooh*, *tu-whit*, *clink-clank*). Some verbs are established prior to 1900 (e.g. *lady's-maid*, *quinine*, *pigment*). Denominal verbs which do not yet occur in his list (e.g. *choreograph* [1943], *playboy* [1950], *middleman* [1966], etc.) must have been supplemented by the OED later on.

As pointed out by an anonymous reviewer, the Appendix attached to the present study implies directionality because it suggests that we are dealing with noun-to-verb conversion. It is a well-known fact that the identification of directionality in conversion is problematic.[16]

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[16] For comprehensive statistical analyses of directionality in English conversion the reader is referred to Bram's (2011) dissertation.

However, as far as verbs like those listed in the Appendix are concerned, the diachronic precedence of the nouns (as stated in the OED) should be a reliable criterion. Further support for the decision to model the participant as the metonymic vehicle and the eventuality as the metonymic target comes from the observation that the semantics of the eventualities is more complex (Plag 2003: 109). For example, while the noun *holster* denotes a leather case for a pistol, the verb *to holster* denotes the activity of putting a gun or pistol into a holster. Recall from section 3.2 that from a cognitive point of view, noun-verb conversion can be conceived of as a PART-WHOLE relation because the participant selected as a metonymic vehicle is a part of the complex target it represents. Significantly, this ("source-in-target") relation (Ruiz de Mendoza Ibáñez & Pérez Hernández (2011: 333) holds independently of diachronic precedence.

Since some DNVs are polysemous, the ranking of metonymic patterns will be based on the number of their instantiations. Thus, rather than assigning a verbal lemma to a particular verb class in the sense of Clark & Clark (1979), each meaning component attested for a lemma in the OED will be classified as an instantiation of a metonymic pattern. For example, the different readings "to cut with a sickle" and "to cause to sickle" of the verb *to sickle* will be considered instantiations of the patterns INSTRUMENT FOR ACTION and GOAL FOR CAUSED MOTION respectively. As a result, some verbs will be listed more than once in the Appendix, with the date in parentheses indicating the year in which the basic meaning and the extended meaning(s) are first attested according to the OED. Since the degree of polysemy displayed by the verbs under consideration is (still) relatively low, the 507 lemmata from the OED correspond with 515 readings on which the ranking in is based.

The thematic-role inventory will be drawn from three event schemata in the spirit of Dirven (1999). The action schema displays the Proto-Agent, the Proto-Patient, and three minor roles Instrument, Manner of Action, and Means, which do not have the status of proto-roles and which are not linked with syntactic functions (i.e. SUBJECT, OBJECT). The motion schema licenses a Locatum as well as a Source, a Path, and a Goal. Analogously to Manner of Action, a relation Manner of Motion will be added for verbs like *cartwheel* or *pussyfoot*. Following Rauh (1988), whose conceptual schemata are very similar to those postulated by Dirven, the action and motion schema will be supplemented by a state schema in which an entity or individual is located.[17] Significantly, Rauh (1988: 361) assumes with Gruber (1965) and Jackendoff (1983) that Location can be interpreted with respect to parameters such as position (*John lives in London*), possession (*John owns a house*), identification (*John is/remained a teacher*), or perception (*John saw the accident*). Thus, her non-dynamic schema captures more generalizations than Dirven's essive schema, which is restricted to relations of beingness.

3.3.1 *Action schema*
Although in principle each of the participants involved in an event schema can "become the bearer of the saliency feature in the appropriate configuration and then serve as input for the conversion process", Dirven (1999: 278) explicitly excludes the **Agent** from this set of potential metonymic vehicles. Further human participants which according to Dirven do not provide metonymic access to events are Recipients, Possessors, and Experiencers.[18] These observations seem to be in conflict with Kövecses & Radden's (1998: 63-69) assumption that the relative

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[17] Rauh (1988) introduces an *Aktionsschema* ('action schema'), a *Bewegungsschema* ('motion schema'), and a *Ruheschema* ('rest schema') for a fine-grained theory of thematic relations. Her rest schema will be referred to here as *state schema*.
[18] Clark & Clark (1979: 774) only list three experiencer verbs, namely *to witness*, *to boycott*, and *to badger*.

salience of entities selected as metonymic vehicles is determined by cognitive principles which reflect our anthropocentric view of the world, e.g. HUMAN OVER NON-HUMAN, FUNCTIONAL OVER NON-FUNCTIONAL, GOOD GESTALT OVER POOR GESTALT etc.[19] Interestingly, Dirven's explanation for speakers' reluctance to select human roles as vehicles in event-schema metonymy is an inversion of the cognitive principle of anthropocentrism referred to by Kövecses & Radden. "Since human beings are already the focus of attention in most linguistic structures, they cannot be focused upon again in the conversion process, at least not in the agent or dative roles, which are prototypically human roles." (1999: 285) Although Dirven's claim that Agents do not function as metonymic vehicles is considered here too strong, the status of the Agent in noun-verb conversion is indeed controversial. For example, Clark & Clark's (1979: 773f) classification of DNVs includes a relatively large class of agent verbs, and Kövecses & Radden (1998) – following Clark & Clark (ibid.) – postulate a metonymic relation AGENT FOR ACTION for verbs like *author* or *butcher*. By contrast, Karius (1985: 82f) and Hale & Keyser (1993: 60) argue against the existence of agent verbs. Moreover, there is a consensus in the pertinent literature that **instrument verbs**, i.e. verbs highlighting a non-human participant, form the largest class of non-derived DNVs in English (e.g. Clark & Clark 1979: 776, Plag 1999: 221, Bauer, Lieber & Plag 2013: 285). The obvious dominance of instrument verbs, which also manifests itself in the data from the OED, is in opposition to the cognitive principle HUMAN OVER NON-HUMAN. As shown in the Appendix, the most productive metonymic relation is INSTRUMENT FOR ACTION, for which ninety-six instantiations were identified.

In the literature, two lexically determined explanations are provided for this phenomenon: First, English lacks a derivational affix for the formation of instrument verbs (Burgschmidt 1975: 30). Secondly, English displays a large number of agent nouns, most of which denote professions. If these nouns were reverbalized (e.g. *to teacher*, *to baker*), they would be synonymous with the verbs that served as an input to the verbalization process (Jespersen 1942: 99, Marchand 1969: §5.5, Clark & Clark 1979; 799f, Bauer 1983: 279).

A further factor considered here to favour the productivity of the metonymic pattern INSTRUMENT FOR ACTION is that our knowledge as to the use of objects denoted by the base nouns of many established and innovative DNVs is embodied, i.e. grounded in bodily experience. In this context, it is noteworthy that numerous, especially well-established instrument verbs are metonymically related to everyday utensils which constitute basic-level objects in the sense of Rosch et al. (1976), e.g. *hammer*, *comb*, *shovel*, *bicycle*. In more recent times, the pattern INSTRUMENT FOR ACTION seems to have motivated the verbalization of nouns denoting innovative and more complex tools or devices whose use requires specific knowledge which is not shared by all or most members of a speech community (e.g. *oscillograph*, *periscope*, *ultracentrifuge*). However, as shown in the Appendix, technical verbs of this type are underrepresented. The observation that many nouns denoting basic-level objects are metonymically reinterpretable as instrument verbs is compatible with the results of experiments performed by Štekauer et al. (2011). These experiments more generally suggest that correlations between semantic relations (e.g. Instrument, Manner, Purpose, Pattern, etc.) and conceptual fields (e.g. vehicles, animals, body parts) may enhance the meaning predictability of novel converted verbs at least to a certain degree.

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[19] Kövecses & Radden adopt these principles from Langacker (1993).

The large number of verbs displaying an instrumental reading contrasts with a relatively small set of thirty-seven verbs for which an agentive reading is available, e.g. *chauffeur*, *choreograph*, *pap* (< *paparazzo*). Unlike Clark & Clark's (1979: 773f) list of agent verbs, this set was designed to exclude verbs formed from proper nouns (*bogart*) and verbs formed from the names of animals (*fox*) because each of these twenty-nine verbs is considered here to denote a **Manner of Action**. While verbs like *fox*, *watch-dog*, *crayfish*, *bogart*, *Uncle Tom*, or *Mickey Mouse* definitely preclude class-membership (or "essive" relations in Dirven's terminology), it is always possible to reinterpret agent verbs as manner verbs, e.g.

(11) a. One day Mama *chauffeured* Mac and me to a movie in Biloxi called Gentlemen Prefer Blondes […] (COCA)
b. if Jesse palavered with another person, Bob *secretaried* their dialogue, getting each inflection, reading every gesture and tick […]

The option to interpret an agent verb as a manner verb further demotes the Agent and hence a participant which is "by default given more prominence in linguistic structures than participants in other roles." (Himmelmann & Primus 2015: 48).

While the principle HUMAN OVER NON-HUMAN seems to be overridden quite systematically by the large number of verbs displaying an instrumental reading, a further cognitive principle which according to Kövecses & Radden (1998) guides the selection of metonymic vehicles, namely FUNCTIONAL OVER NON-FUNCTIONAL, is prone to contextually determined violation. As pointed out already in section 3.2, verbs whose bases denote concrete objects do not necessarily display a functional reading. Examples like those in (12) further illustrate this point:

(12) a. A lady in the audience – apparently a friend of the composer – *handbagged* a man who clapped before the end of the playing of Pierre Boulez' Piece for Two Pianos. (OED)
b. "What was that noise?" – "I *doored* a cyclist." (COCA)
c. He '*gaslighted*' Christina, humiliated and mentally tortured her, and shamelessly went after her money pretending to be investing it for her. (OED);

Given the fact that a handbag is an accessory typically used by women to carry money and personal things, the most plausible reading of this verb would be "put something in a handbag", which exploits the TELIC quale of the concept HANDBAG. This interpretation, however, is attested neither in the OED nor in COCA or iWeb. The unexpected instrumental reading "batter or assault with a handbag" activated in (12a) is exclusively determined by the context. Similarly, (12b) evokes a scenario in which doors play a non-canonical role. Reference to a special noise and to a cyclist signals that an accident scenario in which a cyclist is caused to hit a car door that suddenly opened is depicted. As far as the verb *gaslight* in (12c) is concerned, the most natural meaning component "provide (a house, a street, etc.) with gaslight" is not attested either. Instead, primary processing requires the hearer to establish an association with George Cukor's film *Gaslight* in which the female protagonist is manipulated by her husband into believing that she is going out of her mind. The activation of the principle FUNCTIONAL OVER NON-FUNCTIONAL is further weakened by the common practice of using DNVs metaphorically, e.g. *soft-pedal* "reduce in force or effect", *ritz* "give oneself airs", *tea-table* "treat a dramatic event in a trivial or casual way", or *paper-doll* "leave".

Given the underrepresentation of human roles among metonymic vehicles and the unreliability of the principle FUNCTIONAL OVER NON-FUNCTIONAL, the question arises whether Kövecses & Radden's (1998) cognitive definition of relative salience is in conflict with the asymmetry observable for event-schema metonymy. The answer is 'no' because the three-level model developed by Ruiz de Mendoza Ibáñez and colleagues provides us with the means to confine selectivity which results from our anthropocentric view of the world and the contextually determined salience of linguistically definable elements to different levels of abstraction, namely to the primary level and the high level respectively. While the cognitive principles (like image schemata, e.g. FIGURE-GROUND, HORIZONTALITY-VERTICALITY) can be conceived of as basic cognitive models which are directly grounded in bodily or mental experience and which give rise to perceptual salience, Baeskow (2020) argues that the selection of a contextually salient participant from a schematic event follows a more abstract principle, namely that of 'linguistic prominence' as defined by Himmelmann & Primus (2015). According to these authors, this principle comprises three criteria. First, linguistic prominence involves a special kind of asymmetry in that one linguistically definable element – which may be a discourse referent, a syllable, an accent, or a thematic role – contextually stands out from a set of hierarchically ordered 'equals' which compete for being the centre of attention. Secondly, prominence involves a context-dependent shift of attention. According to Himmelmann & Primus (2015: 52f), it is "particularly this dynamic trait that sets prominence asymmetries apart from other asymmetries such as markedness and prototypicality." Thirdly, linguistically prominent units serve as structural anchors for their domain. As shown in some detail in Baeskow (2020), each of these criteria is fulfilled by event-schema metonymy. The participant providing metonymic access to an eventuality is selected from a set of hierarchically ordered equals, i.e. of other thematically labelled participants that compete for being attentional centres. A shift of attention is most obvious if a scenario is conceptualized from the perspective of different participants. For example, a travelling scenario can be "portrayed" by highlighting the Agent (13a), the Instrument (13b), or the Manner of travelling (13c).

(13) a. In the next couple of days we *touristed* with Boyd alone, the others having gone before us to London, […]
https://taff.org.uk/reports/tc1.html
   b. In this video I am *wingsuiting* across the gorgeous landscape of Medici.
https://www.youtube.com/watch?v=1882QDuOTbc
   c. "My friend Charlie recently *Airbnb'ed* in Thailand."
http://www.katielovesairbnb.com/three_questions.html

Morpho-syntactically, a shift of attention from one participant to another correlates with a re-organization of syntactic structure. While Aronoff (1980: 474) points out that innovative DNVs lack a strict subcategorization and take any combination of arguments, established verbs, too, may display a high degree of flexibility with respect to their argument structure (e.g. *to fool about*, *to be fooled by*, *to fool someone*, *to fool someone into something*, *to fool one's way to*). In this respect, event-schema metonymy also follows the principle of prominence postulated by Himmelmann & Primus (2015), whose third defining criterion requires prominent elements to function as anchors for structural configurations whose nucleus they form.

An important point to be made here is that primary knowledge is inert and remains so even if expectations as to the 'norm' (or, rather, as to what is conceived of as the norm) are contextually overridden. For example, although the Agent is outranked in prominence by the

Patient in passive constructions (Himmelmann & Primus 2015: 48-50) and although the Agent is not the participant most typically selected as a reference point for the metonymic event construal, our basically anthropocentric view of the world, which is encoded in the cognitive principle HUMAN OVER NON-HUMAN and related principles, remains unaffected. By contrast, the selection of a thematically labelled participant as a metonymic vehicle is a matter of conceptualization, i.e. of portraying an event from the 'point of view' of a participant which – given the interlocutors' common knowledge – is best suited to attract the decoder's attention and thus to facilitate mental access to this event.

A further participant that clearly outranks the Agent is the **Patient**. Given the seventy-four instances of the metonymic pattern PATIENT FOR ACTION, it is surprising that patient verbs are not included in Clark & Clark's (1979) classification. The verbs collected for this study fall into two subsets which highlight a 'causally affected entity' and an 'incremental theme' respectively. Within the first subset, small patterns like 'verbs of sending' (*postcard*, *email*, *text message*), 'verbs of catching' (*eel*, *snoek*, *yabby*) and 'verbs of entertainment' related to playing games (*ping-pong*, *bridge*), dancing (*boogie*, *shimmy*, *hip-hop*), and further leisure activities (*party*, *potlatch*, *rally*, *winter-sport*) become discernible. As far as verbs of entertainment are concerned, the concepts serving as metonymic vehicles have a "processual flavour" (Lieber 2004: 26f) even in their nominal readings. In their verbal readings, they are considered here to take on the role of the Patient because they are affected by the Agent's activities. Their patient-like character manifests itself especially in collocations such as *to play bridge*, *to do the shimmy*, or *to throw a party*. Like *to read a book* or *to sing a song*, these collocations signal affectedness rather than a change of state for their Patient.[20] In this context, it should be mentioned that the relation PATIENT FOR ACTION also captures another small set of verbs which, however, has not been extended in the 20th century. This set comprises verbs whose base nouns refer to meals, e.g. *to lunch*, *to breakfast*, *to brunch*. Interestingly, Marchand (1963: 177) already assigns these verbs to the category of the affected object.

The base-noun participants of verbs of the second subset undergo a change of state (i.e. they are brought into existence) and qualify for incremental themehood, as exemplified for *to newspaper* "write for a newspaper" in section 3.1. Further examples of 'effected objects' providing metonymic access to the events which cause their coming into being are *pothole*, *muscle up*, *pair-bond*, or the more recent verbs *blog, vlog*, and *filk* in the reading "among science fiction and fantasy fans: to write filk songs". A semantically coherent subset of verbs shares a vehicle concept which can be described as a representation, e.g. *photocopy*, *pastiche*, *script*, *videotape*, or the more recent *selfie*. At first glance, however, the classification of these verbs is not straightforward. While Clark & Clark (1979: 775) classify them as goal verbs, Dowty (1991: 569) evokes paraphrases in order to show that the representation is an effected object and hence an incremental theme (e.g. *to take a photograph of the scene*, *to make a copy of a file*). Since Clark & Clark's classification suggests that the representation is a very abstract Goal to which the represented entity is "moved", Dowty's proposal will be given priority here. Thus, it will be assumed that the metonymic relation underlying these verbs is PATIENT (i.e. 'effected object') FOR ACTION rather than GOAL FOR MOTION and that the represented entity, which is the source of the representation, is a 'representation-source theme' (Dowty ibid.) rather than a Locatum in an abstract sense. Of course, Clark & Clark's abstract conception of

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[20] As observed by Primus (2012: 32), affectedness – unlike a change of state (e.g. *to melt*) – always requires the event to be initiated by an Agent.

these verbs as goal verbs constitutes an alternative. For example, since nouns denoting representations occasionally collocate with the Verb *bannen* in German (e.g. *Die Landschaft auf ein Foto/auf die Leinwand bannen* "to capture the landscape on a photo/on canvas"), the respective activities are actually reinterpretable as instances of caused motion.

Sixty-five verbs highlight the **Means** by which an activity is performed or by which a result is achieved. Verbs of this type are semantically close to instrument verbs. However, while instrument verbs are typically formed from concepts related to concrete objects, quite a few means verbs can be described as mappings from abstract concepts – especially methods – to eventualities in which these methods are applied e.g. *peer review*, *rebirth* "treat (a person) by the process of rebirthing", *manpower* "move (a thing) by human effort or energy". If the base is a proper noun, its bearer is the initiator or inventor of a specific method, e.g. *Marconi* "transmit (a message or item) by radio", *Hobday* "operate on (a horse) in order to improve its breathing". More recent, Internet-related verbs like *telnet*, *star69*, *photoshop*, *google*, or *twitter* are also assumed here to instantiate the metonymic relation MEANS FOR ACTION.

3.3.2 *Motion schema*

As outlined in the introduction to section 3.3, the motion schema comprises a Locatum (i.e. a moving entity) as well a Source, a Path, and a Goal. Following Dirven (1999: 283), it will be assumed here that the Goal is either a final destination in a physical sense (*beach*, *bottle*) or an endpoint of some abstract motion (*concertina*, *scapegoat*).

Most of the sixty verbs which highlight the **Locatum** display an ornative (or applicative) reading. Examples of the relation LOCATUM FOR CAUSED MOTION are *newspaper* "cover or protect with newspapers" (cf. section 3.1), *opus*, *monogram*, *mascara*, or *oscar*. The only verbs with a privative reading are *screef* "clear (surface vegetation) from an area of ground; to clear (an area of ground) of surface vegetation" and *brash up* "remove the lower branches of (a tree)". According to the OED, both technical terms, the first of which has its origin in Scottish English, are related to forestry.

Likewise, verbs that give relative prominence to the **Path** are underrepresented. Only five instances of the relation PATH FOR MOTION are attested since 1900, namely *bottleneck* in its reading "to narrow", *duct* "convey through a duct", *nostril* "form a nostril around", *vector* "direct (an aircraft) on its course or towards a target", and *orbit* "travel round (esp. a celestial object) in an orbit", "to move in an orbit", "of a pilot or aircraft: to fly in a circle". For *nostril*, only one metaphorical quotation in which the verb conveys a poetic connotation is provided.

(14) The blue summer sea curling round the ships of those emigrant miners, the water *nostrilling* the stem.

The second most productive relation after INSTRUMENT FOR ACTION is GOAL FOR (CAUSED) MOTION. Eighty-nine goal readings are attested in the OED since 1900. Within this pattern, verbs whose base nouns denote a **concrete (i.e. physical) Goal** (*garage*, *archive*, *holster*) are less numerous than verbs highlighting an abstract Goal. *Stellenbosch* "to be relegated, as the result of incompetence, to a position in which little harm can be done" is one of the very few verbs formed from a geographical proper noun. Like *Shanghai* "drug or otherwise render insensible, and ship on board a vessel wanting hands", this verb has a pejorative connotation. Examples of **abstract Goals** are results (*nitride*, *clone*, *hashtag* "make (a word, phrase, or topic) into a hashtag on social media"), shapes (*pretzel*, *daisy-chain*, *rosette*), methods to which

an entity is subjected (*autopsy*, *alpha-test*, *Xeriscape*), and types (*somatotype*, *genotype*, *sero-type*). A goal verb not yet listed in the OED is *to cloud* "store data in a cloud server".

In many cases, the entity which is caused to "move" towards the abstract Goal in the motion schema is acted upon by an Agent in a way that it is the incremental theme of the action schema. For example, if John concertinas his ticket, this entity's successive change of shape reflects stages of John's activity. Exceptions are verbs denoting the assignment of an entity to a type (e.g. *somatotype*) because this entity is causally affected without undergoing a change of state. In other words, the events denoted by these verbs lack a homomorphism between the Agent's activity and the state of the causally affected entity.

A further interesting point to be made about verbs highlighting the Goal is that an intransitive, unaccusative use seems to be much more common than Clark & Clark's (1979: 775) classification suggests. Verbs like *crescendo*, *fountain*, *gel*, *fission*, or *supercoil* are readily interpreted as internally caused events in the sense of Levin & Rappaport Hovav (1994: 49), i.e. events in which an entity undergoes a change of state without the intervention of an Agent. In their unaccusative reading, these verbs only activate the motion schema. Note in this context that verbs like *to copy* or *to photograph*, which were classified as patient verbs above, differ from Goal verbs in that they do not allow for an unaccusative use (e.g. **the file copied*, **the scene photographed*).

In the following examples from COCA (15a) and iWeb (15b), the intransitive use of the Goal verbs *summit* and *podium* seems to be marked:

(15) a. Several climbers have *summitted* today and you'll hear the occasional whoop as the good news is radioed down.
     b. Australia's Nikki Laird and Phoebe Bell also *podiumed*, winning bronze in the women's competition […]

In these readings, which according to the OED are attested since 1974 and 1992 respectively[21], these verbs syntactically behave like *arrive*, whose single argument is assigned the role of the Patient. But why should the referents of the subject-DPs in (15) be conceived of as Patients? Given the fact that both uses are typical of sport events, a possible answer is that the referents of the subject-DPs are not in full control of their achievements. Although they put all their energy into reaching their aim, the success of their efforts also depends on external factors such as natural forces and/or competition. Thus, they are in a quasi-passive situation which makes the proto-patient entailments prevail.

Complementary to Dirven's event schemata it is assumed here that the Manner role is not restricted to the action schema because there are quite a few DNVs that focus on the **Manner of Motion**. Thirty-two instantiations of the pattern MANNER OF MOTION FOR MOTION were collected for this study. Unlike instrument verbs such as *taxi*, *jet* or *bicycle*, manner-of-motion verbs denote random rather than directed motion (Lieber 2004: 91). Nevertheless, some members are shared by both classes. If a verb allows for either an instrumental or a manner-of-motion reading, the concept denoted by its base noun is a vehicle (or some other concrete object) whose manner of motion is part of our mental image of this concept and hence readily transferable to concrete or abstract motion events in which no referent of the base noun is

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[21] An apparently isolated use of *podium* with the meaning component "appear on a podium at a public event" appeared already in 1948.

involved. In this respect, these verbs, some of which are exemplified in (16), are comparable to Goal verbs highlighting a particular shape (e.g. *concertina*, *rosette*).

(16) a. Dozens of the distinguished men of the day *satellited* and dangled about her. (OED)
    b. There was an awful groan as the bean *Zeppelined* over first base. (OED)
    c. Martin Shkreli, 34, has confidently courted controversy in recent years, *bulldozing* his way into Wall Street and the drug industry. (COCA)

The manner of motion can also be accessed via animal concepts or parts of an animal's loco-motor system, e.g. *crayfish*, *pussyfoot*, *eel*, *fishtail*. As illustrated for *to bulldoze* in (16c), verbs following the metonymic patterns MANNER OF ACTION FOR ACTION and MANNER OF MOTION FOR MOTION are predetermined to attract the *way* construction discussed for example by Jackendoff (1990: 211-223) or Goldberg (1995: 199-217). This construction encodes an Agent's movement along a self-created metaphorical Path by means of (or while) performing a particular activity in order to overcome obstacles.

3.3.3 *The state schema*
As pointed out already by Lieber (2004: 91f), conversion in English has also given rise to some DNVs with a stative reading (e.g. *bay*, *landmark*). The database from the OED suggests that these verbs are rare. The few 20th century neologisms which can be added to her examples are *spotlight*, *frontage*, *pinpoint*, *benchmark*, *leisure*, *flat*, *motel*, *sauna*, *disco*, and *Saturday-night*.

If we assume with Rauh (1988) that there is a rest schema (referred to in this study as 'state schema') which is less specific than Dirven's (1999) essive schema and in which an entity or individual is located in space (e.g. *to flat*) or time (*to leisure*, *to Saturday-night*), sta-tive DNVs, too, can be described in terms of metonymy. Specifically, the metonymic relation underlying these verbs is LOCATION FOR STATE.

4 Conclusion

This article exploited the cognitive view that noun-verb conversion is a special instance of metonymy (Kövecses & Radden 1998, Dirven 1999). The metonymic approach raises the non-trivial question how the relative salience of the base-noun participant is determined. As shown in the present study, it is first of all necessary to distinguish between the perspective of the encoder and the decoder. While the encoder has a 'holistic' view of the eventuality to be com-municated and selects a thematically labelled participant he/she considers salient enough to provide mental access to this eventuality, the decoder's task is to identify the target event via the role played by the salient participant in this event. This task requires the activation of knowledge which goes beyond thematic information. Following a proposal made by Ruiz de Mendoza Ibáñez and colleagues for cognitive modelling, it was assumed in this article that the metonymic event construal is distributed over three levels of genericity.

In combination with the discourse context, these levels enable the decoder to trace the route from the nominal vehicle to the verbal target. At the low level, the discourse context provided by the encoder is mapped onto a scenario, i.e. onto preconceived situational back-ground knowledge in which the base-noun participant and other not yet thematically labelled participants interact. Significantly, it was assumed that scenario-mapping (Sanford & Emmott

2012) allows the decoder to identify relations of contiguity, which in the case of metonymic noun-verb conversion are encoded in qualia relations and thematic entailments. At the high level, sets and subsets of denominal verbs whose members share configurations of low-level thematic entailments become discernible. While low-level knowledge provides the basis for the identification of high-level configurations, primary-level knowledge is directly grounded in sensorimotor experience and facilitates for example the interpretation of metaphorical verbs.

Moreover, the three-level model allows us to develop a more differentiated view of relative salience. In section 3.1 it was pointed out that Kövecses & Radden's (1998) conception of perceptual selectivity, which is based on anthropocentrically oriented cognitive principles (e.g. HUMAN OVER NON-HUMAN), seems to be in conflict with the contextually determined selection of a prominent, preferably non-human participant from a set of thematically labelled participants which compete for being 'attentional centres' in the sense of Himmelmann & Primus (2015). Given the three levels of genericity, we may state that perceptual salience is a relatively inert primary-level phenomenon, whereas the relative prominence of linguistically definable elements is ephemeral and manifests itself at the high level of genericity. The following ranking of metonymic relations, which is based on the data collected from the OED (cf. Appendix), clearly shows that the Agent and hence a participant which is prominent by default (Himmelmann & Primus 2015) loses its prominence in event-schema metonymy.

(17)   INSTRUMENT FOR ACTION **(96)**

> GOAL FOR (CAUSED) MOTION **(89)**

> PATIENT FOR ACTION **(74)**

> MEANS FOR ACTION **(65)**

> LOCATUM FOR (CAUSED) MOTION **(60)**

> AGENT FOR ACTION **(37)**

> MANNER OF MOTION FOR MOTION **(32)**

> MANNER OF ACTION FOR ACTION **(29)**

> LOCATION FOR STATE **(11)**

> PATH FOR MOTION **(5)**

The metonymic approach elegantly accounts for types and subtypes of noun-verb conversion and minimizes the technical apparatus. Moreover, a brief excursion to conversions exploiting spatial relations suggests the following: conversion should be reanalyzable as metonymy whenever relations of contiguity which allow the decoder to trace the route from the vehicle to the target can be identified – provided that vehicle and target are formally identical (cf. Koch 2001: 205). If this approach is combined with the three levels of genericity postulated by Ruiz de Mendoza Ibáñez and colleagues – as proposed in this study – a rich and comprehensive picture of the implicit knowledge activated in the metonymic event construal is obtainable.

Acknowledgements

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Oxford English Dictionary. http://www.oed.com

Appendix

Selected metonymic relations
Source: Oxford English Dictionary
Period: 1900 up to the present

INSTRUMENT FOR ACTION (miscellaneous)			
photometer (1900)	gavel (1925)	pit-lamp (1948)	trailer (1971)
megaphone (1901)	sap (1926)	napalm (1950)	stop-watch (1973)
jinker (1903)	shiv (1926)	black flag (1952)	satellite (1974)
keyboard (1906)	pic (1927)	handbag (1952)	taser (1976)
gramophone (1908)	telemeter (1929)	pop-rivet (1953)	stretcher (1976)
keypunch (1908)	zipper (1930)	pipejack (1954)	Blu-Tack (1976)
niblick (1908)	yo-yo (1932)	superglue (1958)	microwave (1976)
oscillograph (1910)	periscope (1933)	Sellotape (1960)	mike (1980)
packsaddle (1912)	pantograph (1934)	Rawlplug (1960)	mouse (1981)
airbrush (1912)	ringnet (1936)	york (1960)	nymph (1982)
reamer (1912)	minicam (1937)	polygraph (1962)	air-guitar (1983)
steam-roller (1913)	jigger (1938)	nuke (1962)	hot-key (1985)
roneo (1915)	girder (1938)	paper-clip (1962)	pepper-spray (1993)
jackhammer (1921)	tommy-gun (1940)	Mace (1968)	
sickle (1922)	ultracentrifuge (1946)	pepper-gas (1970)	
vacuum [cleaner] (1922)	Scotch-tape (1947)	raschel (1970)	

INSTRUMENT FOR ACTION (vehicles)			
auto (1903)	sidecar (1920)	jet (1946)	rollerblade (1986)
aeroplane (1906)	waterski (1927)	helicopter (1959)	parapente (1989)
hydroplane (1909)	water-cycle (1930)	motor-bicycle (1969)	mountain bike (1990)
scooter (1909)	rocket (1930)	sleeper (1978)	sandboard (1994)
taxi (1909)	shuttle (1930)	jet-ski (1978)	wakeboard (1994)
motor-bus (1915)	clipper (1941)	roller ski (1978)	kiteboard (1999)
tank (1917)	jeep (1942)	snowboard (1985)	
lorry (1920)	motorbike (1944)	sit-ski (1985)	

INSTRUMENT FOR ACTION (musical instruments)			
zither (1906)			
saxophone (1927)			

INSTRUMENT FOR ACTION (parts of the body)			
eyeball (1901)			
muscle (1905)			
nostril (1971)			

GOAL FOR MOTION (physical goal)			
Stellenbosch (1900)	nightclub (1929)	holster (1956)	playlist (1979)
guts (1903)	archive (1934)	potty (1957)	hot-list (1981)
larder (1904)	ghetto (1936)	orbit (1958)	pallet (1989)
manger (1905)	mainline (1938)	amp (1966)	facebook (2004)
garage (1906)	saucer (1938)	tea-bag (1969)	twitter (2006)
mothball (1926)	skull (1945)	pony club (1973)	
showcase (1926)	lager (1946)	summit (1974)	

GOAL FOR MOTION (final state or result)			
portmanteau (1902)	stockpile (1921)	radius (1935)	sequence (1954)
coiffure (1906)	sausage (1922)	crew (1935)	minimax (1957)
synapse (1910)	roadshow (1924)	quiff (1940)	ritz (1962)
dolomite (1913)	nitride (1928)	scapegoat (1943)	acronym (1967)
gel (1917)	compartment (1930)	scat (1946)	format (1968)
package (1917)	clone (1930)	plateau (1951)	gist (1985)
runnel (1920)	blouse (1934)	set (1953)	hashtag (2008)

GOAL FOR MOTION (final shape)			
rice (1904)	sausage (1922)	dog-leg (1940)	rosette (1974)
bay (1906)	sickle (1923)	skull (1941)	French-braid (1976)
bottleneck (1911)	pretzel (1933)	dog-pile (1947)	daisy-chain (1979)
mushroom (1917)	saucer (1934)	supercoil (1963)	
streamline (1918)	toadstool (1939)	fountain (1969)	

GOAL FOR MOTION (subject/assign to)			
phagocyte (1905)	audition (1937)	fission (1949)	alpha-test (1986)
pogrom (1915)	autopsy (1939)	sequence (1954)	Xeriscape (1987)
blood-test (1915)	subtype (1940)	karyotype (1963)	
bar-mitzvah (1922)	somatotype (1940)	serotype (1968)	
necropsy (1935)	genotype (1946)	trial (1981)	

PATIENT FOR ACTION (affected object)			
eel (no quots.)	party (1922)	rally (1956)	ollie (1987)
ping-pong (1901)	winter-sport (1928)	leaflet (1962)	filk (1991)
potlatch (1906)	postcard (1934)	OD (1965)	email (1993)
bridge (1908)	riff (1935)	event (1969)	text message (1994)
kip (1909)	scat (1935)	nymph (1972)	phish (1996)
snoek (1913)	yabby (1951)	toast (1976)	
jazz (1915)	summit (1955)	network (1980)	

PATIENT FOR ACTION (dance style as affected object)			
tango (1913)	quickstep (1928)	jitterbug (1939)	disco (1976)
shimmy (1919)	blues (1928)	boogie (1944)	hip-hop (1980)
jazz (1919)	rumba (1934)	samba (1950)	merengue (1981)
black bottom (1926)	jive (1938)	rock-and-roll (1956)	
morris dance (1927)	gig (1939)	boogaloo (1966)	

PATIENT FOR ACTION (effected object)			
junction (1904)	première (1927)	hyperlink (1988)	hashtag (2009)
pothole (1909)	sitzmark (1935)	filk (1991)	
stunt (1917)	muscle up (1978)	blog (1999)	
S.O.S. (1918)	pair-bond (1980)	vlog (2002)	

PATIENT FOR ACTION (effected object, representation)			
rotograph (1911)	thumb-nail (1932)	postcard (1950)	storyboard (1967)
pastiche (1914)	microfilm (1937)	videotape (1957)	microfiche (1975)
mem (1915)	video (1944)	paperback (1960)	
photocopy (1924)	microcard (1944)	memo (1961)	
script (1931)	polyfoto (1945)	trailer (1965)	

MEANS FOR ACTION			
gong (1903)	Klondike (1923)	workshop (1961)	email (1983)
magic (1906)	limelight (1927)	marouflage (1964)	modem (1984)
lyddite (1906)	Mickey-Finn (1928)	Murphy (1965)	telnet (1984)
marcel (1906)	fingerprint (1931)	xerox (1966)	hyperlink (1988)
Marconi (1908)	body slam (1932)	matrix (1968)	star69 (1990)
pressure (1911)	screwball (1933)	karate (1968)	photoshop (1992)
manpower (1913)	audition (1935)	Rolf (1968)	text message (1994)
mallein (1915)	Hobday (1938)	hand jam (1968)	SMS (1996)
zeppelin (1915)	blitz (1939)	wildcraft (1970)	google (1998)
vox-pop (1915)	clipper (1941)	microprobe (1973)	skype (2003)
shortcut (1915)	network (1952)	peer review (1975)	facebook (2005)
profiteer (1917)	flipper (1955)	teleconference (1975)	headdesk (2005)
camouflage (1917)	magnaflux (1959)	yellow-card (1976)	twitter (2006)
airmail (1919)	prusik (1959)	rebirth (1976)	zoom (2014)
radio (1919)	microwave (1961)	red-card (1979)	
propaganda (1921)	Gaslight (1961)	fax (1979)	
French kiss (1923)	deke (1961)	boot (1980)	

LOCATUM FOR MOTION			
waymark (1900)	margarine (1918)	mascara (1939)	mickey-finn (1971)
opus (1900)	ear-tag (1920)	green-light (1941)	marzipan (1974)
caption (1901)	porcelain-enamel (1921)	dateline (1942)	postcode (1974)
blockhouse (1901)	time-code (1922)	soundtrack (1949)	microprogram (1975)
cross-reference (1902)	carbon (1922)	brash (1950)	artex (1976)
petal (1907)	tab (1924)	Muzak (1957)	tarp (1979)
burlap (1908)	cobweb (1928)	oscar (1958)	mousse (1984)
sherry (1909)	landmark (1928)	torque (1960)	firewall (1984)
cold-cream (1910)	cellulose (1928)	underseal (1961)	graffiti (1987)
monogram (1912)	pockmark (1928)	mike (1962)	microchip (1988)
picot (1913)	cue (1928)	Scotchgard (1962)	spam (1991)
screef (1913)	monomark (1929)	toilet paper (1964)	botox (1994)
spotlight (1913)	blacktop (1929)	tarmac (1966)	
subscript (1916)	volt (1930)	Astroturf (1966)	
petroleum (1916)	air-condition (1937)	MIRV (1968)	
gas (1918)	cairn (1937)	interface (1969)	

AGENT FOR ACTION			
skip (1900)	PG (1923)	puppeteer (1940)	raisonneur (1963)
vamp (1904)	secretary (1927)	choreograph (1943)	middleman (1966)
sleuth (1905)	monger (1928)	hostess (1946)	phreak (1971)
caddy (1908)	racketeer (1928)	DJ (1948)	temp (1974)
ranger (1909)	scrutineer (1930)	private-eye (1950)	roadie (1976)
chef (1912)	ponce (1932)	nanny (1954)	pap (1993)
shill (1914)	compère (1933)	keeper (1958)	stan (2008)
chauffeur (1917)	ringmaster (1936)	tripper (1959)	
courir (1921)	MC/emcee (1936/37)	au pair (1959)	
mastermind (1923)	stooge (1939)	grandparent (1961)	

MANNER OF MOTION FOR MOTION			
spasm (1900)	Zeppelin (1910)	cartwheel (1920)	rocket (1931)
crayfish (1900)	satellite (1911)	tailspin (1920)	rollercoaster (1931)
quaterdeck (1901)	volplane (1911)	eel (1922)	screwball (1938)
ping-pong (1902)	steam-roller (1912)	weasel (1925)	toadstool (1939)
mushroom (1903)	cat-foot (1916)	helicopter (1926)	orbit (1952)
pussyfoot (1903)	caterpillar (1916)	fishtail (1927)	pike (1956)
aeroplane (1907)	beetle (1919)	piston (1930)	yo-yo (1967)
high-tail (1908)	tangent (1920)	volt (1930)	zig (1969)

MANNER OF ACTION FOR ACTION			
watchdog (1902)	flibbertigibbet (1921)	stork (1936)	prodnose (1954)
buffalo (1903)	Bolsh (1921)	alleycat (1937)	Micawber (1963)
white-ant (1905)	Major Mitchell (1922)	tart (1938)	Mickey Mouse (1963)
toff (1914)	goof (1932)	pundid (1940)	bogart (1965)
doll (1916)	Uncle Tom (1933)	lair (1941)	ninja (1992)
tomcat (1917)	bird-dog (1935)	playboy (1950)	
pussy (1919)	dingo (1935)	puss (1953)	
fairy-godmother (1919)	bloodhound (1935)	pelican (1953)	

LOCATION FOR STATE			
spotlight (1907)	landmark (1921)	motel (1961)	sauna (1967)
frontage (1914)	leisure (1928)	benchmark (1963)	disco (1992)
pinpoint (1917)	Saturday-night (1933)	flat (1966)	

PATH FOR MOTION		
bottleneck (1927)	nostril (1942)	orbit (1946)
duct (1936)	vector (1945)	

IDIOSYNCRATIC/METAPHORICAL VERBS			
angel (1904)	bottleneck (1919)	bad-mouth (1941)	tombstone (1998)
highball (1905)	high-hat (1922)	rhubarb (1943)	
soft pedal (1912)	cobweb (1928)	new-broom (1956)	
Limehouse (1913)	schmaltz (1936)	hot dog (1959)	
hot stuff (1914)	tea-table (1938)	paper-doll (1970)	

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