HIGH-LEVEL COGNITIVE OPERATIONS AND
THE RESULTATIVE CONSTRUCTION: A CASE STUDY*

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ABSTRACT

The resultative construction has sparked the interest of many researchers from different traditions, mainly from formal, functional, and constructional strands. Our proposal is much in line with cognitively-oriented constructionist approaches to language, especially the work by Goldberg (1995, 2006) and Ruiz de Mendoza and Mairal (2008, 2011). This study is a qualitative and usage-based analysis of some specific instantiations of the resultative pattern in which the resultative element is the prepositional phrase *to sleep*. Three main objectives are pursued in this proposal: (i) the identification of the different groups of predicates (from among those put forward by Levin, 1993) that are felicitously incorporated into these particular examples of the resultative construction; (ii) the examination of the external constraints (mainly high-level metaphor) that license lexical-constructional fusion for each of the different sets of predicates; and (iii) the reasons why the expressions that are the object of study are pragmatically plausible.

KEYWORDS: resultative construction, lexical-constructional fusion, external constraints, high-level metaphor.

RESUMEN

La construcción resultativa ha suscitado el interés de diversos investigadores pertenecientes a diferentes tradiciones, especialmente a las perspectivas formales, funcionales y construccionistas. Nuestra propuesta se ajusta a los principales postulados de las teorías construccionistas de orientación cognitiva, especialmente a los recogidos en las obras de Goldberg (1995, 2006) y Ruiz de Mendoza y Mairal (2008, 2011). Éste es un análisis cualitativo y basado en el uso de algunas realizaciones específicas de la construcción resultativa en que el elemento resultativo es el sintagma preposicional *to sleep*. Se persiguen tres objetivos principales en este trabajo: (i) la identificación de los diferentes grupos de predicados (de entre los propuestos por Levin, 1993) que son compatibles con estos ejemplos concretos de la construcción resultativa; (ii) el examen de las restricciones externas (especialmente la metáfora de alto nivel) que permiten la fusión léxico-construccional de cada uno de los diferentes grupos de predicados; y (iii) las razones por las que las expresiones objeto de estudio son plausibles desde un punto de vista pragmático.

PALABRAS CLAVE: construcción resultativa, fusión léxico-construccional, restricciones externas, metáfora de alto nivel.

1. INTRODUCTION

This proposal makes use of some of the theoretical tools developed within cognitively-oriented constructionist approaches to language (especially following Goldberg, 1995, 2006, and subsequent developments in Ruiz de Mendoza and Mairal, 2008, 2011) in order to analyze some predicates that combine with the resultative use of the prepositional phrase *to sleep*. Our starting point is the list of predicates provided by Boas (2003) that are compatible with the resultative phrase *to sleep*, to which we will add some other verbs (e.g. *bore, hum, laugh, lull, read, weep*). Then we resort to Levin's (1993) work with a view to classifying all these predicates into different groups according to their semantic nature and constructional behaviour. We thus obtain verbs of non-verbal expression (e.g. *cry, howl, sob*), of manner of speaking and of sound emission (e.g. *chant, murmur, mutter, sing*), of modes of being involving motion (e.g. *rock*), *amuse* verbs (e.g. *lull, soothe*), *eat* verbs (e.g. *eat, drink*), *send* and *drive* verbs (e.g. *send, drive*), *captain* verbs (e.g. *nurse, parent*), *talk* verbs (e.g. *talk*), *get* verbs (e.g. *get*), besides verbs of putting (*put* verbs).

Our second aim will be to study the factors that license or block out the integration of these predicates into the resultative construction. The constructicon consists of all form-meaning or function pairings at all levels of linguistic description (Goldberg, 1995). The lexical specifications in the constructicon run on a series of principles. For instance, the Override Principle states that the meaning of lexical items is adapted through coercion to the meaning requirements of the higher-level constructions in which they partake (Michaelis, 2003). The way in which lexical items fuse with constructions is coerced by both internal and external constraints. According to Ruiz de Mendoza and Mairal (2008, 2011), internal constraints license the adaptation of lexical meaning to constructional meaning in terms of the internal semantic make-up of the items involved in the process of fusion. For instance, in application of the lexical class ascription constraint, which stipulates that the degree of compatibility or incompatibility of a verb with a construction is determined by the lexical class to which the predicate pertains, *destroy* verbs cannot felicitously participate in the causative/inchoative alternation since they are not verbs of change of state but verbs of existence. On the other hand, external constraints are cognitive in nature and are spelled out in terms of high-level metaphors and metonymies. The verb *laugh* can be subsumed within the caused-motion construction (e.g. *They laughed the poor guy out of the room*) thanks to a process of subcategorial conversion whereby this experiential predicate (a predicate in which the object is psychologically —emotionally or intellectually— affected by the action) is metaphorically mapped onto an effectual action (e.g. *hit*, which depicts a state of affairs in which an entity is physically affected by the action of the verb). Moreover, in terms of this high-level metaphor, 'the poor guy' is figuratively construed as an affected

object. Our main focus will be on the external constraints that limit the seemingly unconstrained nature of coercion and that complement the semantic principles put forward by Goldberg (1995) and Michaelis' (2003) Override Principle. More specifically, we will explore the different external constraining factors that regulate the combination of the above mentioned predicates with the resultative sense of the prepositional phrase *to sleep*.

Our proposal is usage-based and the examples under study have been mainly gathered from the *Corpus of Contemporary American English* (*COCA*) and *Google* (especially from *Google Books*). As is well known, the use of the Internet as a database for research in linguistics has gained widespread acceptance over the last few years (Kilgarriff and Grefenstette, 2003; Renouf, 2003; Bergh and Zanchetta, 2008) and has allowed us to enlarge Boas' (2003) initial corpus, whose examples had been exclusively retrieved from the *British National Corpus* (*BNC*).

2. SOME THEORETICAL UNDERPINNINGS

In this section, we will offer a brief overview of the main essentials of the resultative construction and will discuss the notions of high-level metaphor and metonymy.

2.1. The resultative construction

In spite of the upsurge of studies on the resultative construction from different perspectives in the last decades, mainly from a formal viewpoint (Levin, 1993, 2006; Levin and Rappaport, 1990, 2006; Rappaport and Levin, 1998, 2010), from a functional perspective (Halliday, 1967), and from the constructional viewpoint (Boas, 2003, 2011ab; Broccias, 2003, 2004; Goldberg and Jackendoff, 2004; Ruiz de Mendoza and Mairal, 2008, 2011), researchers agree on a general definition of this pattern as a goal-oriented (and usually telic) transitivity pattern that expresses a change of state or property of the affected object. Supporters of a broader conception of this configuration that also encompasses the caused-motion construction as partaking in the resultative family state that this pattern can also convey a change of location and this is the definition we adopt in our proposal.

The distinction between the caused-motion and the resultative constructions has been addressed by several scholars who hold different points of view. According to Goldberg (1995, 2006), the resultative construction is but a metaphorical extension of the caused-motion construction. She argues that the resultative element of adjectival resultatives (e.g. *flat* in *The gardener watered the tulips flat*) can be interpreted as a metaphorical goal. In contrast, researchers like Broccias (2001, 2007), Boas (2003), Luzondo (2014), and Ruiz de Mendoza and Luzondo (2016) assign the resultative construction a leading role within the family of resultative constructions. Finally, Peña (2009) posits a cognitive continuum between the caused-motion and the resultative patterns.

Regarding the classification of resultatives, apart from intransitive resultatives (e.g. *The pond froze solid*), Goldberg and Jackendoff (2004) distinguished selected and unselected transitive resultatives. While in the former, the verb independently selects the object (e.g. *I broke the stick into pieces*), in the latter, the object is not subcategorized by the verbal predicate (e.g. *They drank the pub dry*). Fake reflexives are a subtype within unselected transitive resultatives whose object is a reflexive pronoun coindexed with the subject that cannot alternate with other NPs (e.g. *John talked himself hoarse*).

In terms of form, the resultative pattern is represented as follows: "NP$_1$ V NP$_2$ Resultative Phrase." The resultative element can be either a prepositional phrase (e.g. *A soldier bayoneted him to death*) or an adjectival phrase (e.g. *John talked himself hoarse*). As advanced, the resultative construction conveys a change of state or property. In Boas' (2003), Luzondo's (2014), and Ruiz de Mendoza and Luzondo's (2016) approaches, which consider the caused-motion construction part of the family of resultatives, this pattern can also codify a change of location. Property resultatives involve a change of property or state and can be further subdivided into PP property resultatives (if the result is expressed via a prepositional phrase, as in *Harry coughed himself into insensibility*) and AP property resultatives (if the result is conveyed through an adjectival phrase, as in *He ate himself sick*). On the other hand, spatial or location resultatives designate a change of location and the result is realized by a prepositional phrase (e.g. *I marched myself down to the public library*).

The resultative construction is a causative configuration in which the subject causes the entity filling the slot of the object to be affected by the action of the purported verbal predicate. No matter whether the caused-motion construction is perceived as dependent on the resultative pattern or the other way round; the linguistic instantiations that are the object of study in this proposal are PP property resultatives that describe a change of state (the subject figuratively moves from a state of being awake to one of falling asleep, as in *He cried himself to sleep*) as if it were a change of location. In other words, in our examples, a change of state is metaphorically regarded as a change of location.

2.2. High-level metaphor and metonymy

In this proposal, we adopt the standard definitions of conceptual metaphor and metonymy in Cognitive Linguistics (Lakoff, 1987; Ruiz de Mendoza, 1999; Barcelona, 2000). While conceptual metaphor is a mapping across domains (e.g. people are animals —as in *John is a pig*— where the source domain, 'animals', allows us to understand the target domain 'people'), metonymy is a mapping within domains (e.g. shoes for shoelaces —as in *Tie your shoes*—, where the domain of 'shoes' affords conceptual access to one of its subdomains, 'shoelaces').

The classification of metaphor and metonymy has spurred much debate. The level of genericity at which both figures of thought work lies at the basis of the distinction between high-level and low-level metaphor and metonymy (Kövecses and Radden, 1998; Radden and Kövecses, 1999). Low-level metonymies involve

non-generic cognitive models (for example, Picasso for his work, as in *I have just bought a Picasso*). In contrast, high-level metonymies work at a higher level of abstraction and exploit generic cognitive models (Panther and Thornburg, 1999, 2000; Ruiz de Mendoza and Pérez, 2001) (for instance, process for action, as in *The door opened*. In this example, a process —defined as an action lacking the subdomain of agent— stands for an action in which an implicit controlling entity brings about the purported state of affairs).

In the same way, a twofold distinction can be made between low-level and high-level metaphor. In low-level metaphor, vs. high-level metaphor, the source and target domains are non-generic (for instance, people are animals, as in *John is a pig*). On the contrary, the source and target domains of a high-level metaphor like an experiential action is an effectual action are generic (as in *They laughed the poor guy out of the room*).

3. PREDICATES COMPATIBLE WITH THE RESULTATIVE PHRASE *TO SLEEP*

According to Boas, there exist a series of predicates that combine with the resultative phrase *to sleep*. They are shown in the following table:

TABLE 1. BOAS (APPENDIX, P. 174)	
Verb	Number of occurrences
Put	63
Cry	24
Sing	5
Rock, soothe	3
Drink, send	2
Chant, drive, eat, murmur, mutter, nurse, sob, talk, teach	1

Boas' (2003) proposal provides the list of verbs and the number of occurrences of these predicates that are compatible with the resultative sense of the prepositional phrase *to sleep*. However, no detailed description is made of the motivational factors why these verbs fuse with this prepositional phrase and why others block out such compatibility. As has been advanced, this proposal goes beyond Boas' study in two main respects:

– First, a number of verbs are added to Boas' original list by resorting to the semantic groupings of predicates put forward by Levin (1993).
– Second, in order to endow our analysis with explanatory adequacy, we will spell out the constraints that licence or block out a number of predicates with the resultative sense of the prepositional phrase *to sleep*.

Our analysis reveals that there are several groups of verbs that are compatible with the prepositional phrase *to sleep* in its resultative sense:

– Verbs involving the body (especially verbs of non-verbal expression): e.g. *cry, howl, sob, weep, laugh,* as in *That night she cried herself to sleep* (*COCA* 2006).
– Verbs of communication (more specifically verbs of manner of speaking)[1] and verbs of emission (particularly verbs of sound emission): e.g. *chant, murmur, mutter, sing*, *hum*, as in *Pythagoras could chant his disciples to sleep* (https://archive.org/stream/Papyri_Graecae_Magicae/Papyri_Graecae_Magicae_djvu.txt).
– Verbs of existence (more specifically, verbs of modes of being involving motion): e.g. *rock*, as in *Nobody has to... rock him back to sleep* (*COCA* 2008).
– Verbs of psychological state (especially *amuse* verbs): e.g. *lull, soothe, bore*, as in *Play some soft, soothing music that will lull you to sleep* (Google Books: *Lost your Job? Save your House!* by Robert Jeffreys, 2009. Accessed on May 25, 2014).
– Verbs of ingesting (particularly *eat* verbs): e.g. *eat, drink*, as in *For years afterward, he drank himself to sleep each night* (*COCA* 2005).
– Verbs of sending and carrying: (especially *send* verbs and *drive* verbs): e.g. *send, drive*, as in *The endless incomprehensible stream of language was sending Alan to sleep on his feet* (Boas' appendix).
– Verbs with predicative complements (more specifically, *captain* verbs): e.g. *nurse, parent*, as in *The only way to soothe him was to nurse him back to sleep* (*COCA* 2009).
– Verbs of communication (particularly verbs of transfer of a message —e.g. *read*— and *talk* verbs —e.g. *talk*—): as in *Uncle Kerim... could talk his patients to sleep* (Google Books: *The Orphan Sky*, by Ella Leya, 2015. Accessed on January 2, 2015).
– Verbs of obtaining (more specifically *get* verbs): e.g. *get*, as in *We could get her back to sleep more quickly with less effort* (*COCA* 2007).
– Verbs of putting (especially *put* verbs): e.g. *put*, as in *We'll put the baby to sleep* (*COCA* 1990).

4. HIGH-LEVEL PHENOMENA UNDERLYING THE RESULTATIVE CONSTRUCTION

In application of the second aim of this proposal, this section offers an account of the compatibility of the groups of verbs that have been identified in the previous section in expressions that instantiate the resultative construction with the

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[1] The verbs of manner of speaking have been grouped into the same set as verbs of sound emission (rather than within the same slot as the verbs of transfer of a message and *talk* verbs) because they share their main features. Together with verbs of non-verbal expression, they will be also treated as if they belonged to a single set in section 4.1 because of their similarity.

prepositional phrase *to sleep* in terms of some of the theoretical tools of Cognitive Linguistics, mainly high-level metaphor and metonymy, especially high-level metaphor.

4.1. Verbs of non-verbal expression, verbs of manner of speaking, and verbs of sound emission

In this section, we are mainly concerned with the study of three groups of verbs —verbs of non-verbal expression (which are a subset within verbs involving the body), verbs of manner of speaking (which belong to the general category of verbs of communication), and verbs of sound emission (which are a subgroup of verbs of emission)— because they behave similarly as far as the resultative construction is concerned.

Consider examples (1) and (2), which are fake reflexive resultatives:

(1) That night *she cried herself to sleep* (*COCA* 2006).
(2) I felt his grasp wilt as *he sobbed himself to sleep* (*COCA* 1991).

The reflexive object is but a contribution of the resultative construction. *Cry*[2] and sob are intransitive verbs and have to undergo a process of subcategorial conversion from intransitive to transitive predicates in order to be able to take part in the transitive resultative construction.

According to Pérez and Peña (2009: 70) "the external constraints that regulate the processes of constructional subsumption are not only cognitive in nature, as proposed by Ruiz de Mendoza and Mairal, but pragmatic aspects of what constitutes acceptable human behaviour are also at work here." Goldberg and Jackendoff (2004: 546) also concur with this idea since they observe that no grammatical stipulation is needed in the case of examples like (1) "because it arises from our world knowledge of what is likely to cause what. It's hard to imagine making someone else go to sleep by crying." And, needless to say, we can argue that the same goes for *sob*.

Nevertheless, take the following examples:

(3) a. *She sang herself to sleep* (Google Books: *Always a Bridesmaid*, by Renea Overstreet, 2004. Accessed on May 25, 2014).
  b. *I was singing little Hareton to sleep* when Catherine came in (Google Books: *Wuthering Heights*, by Emily Brontë, 1847. Accessed on May 25, 2014).
(4) a. *I chanted myself to sleep* (*COCA* 1995).
  b. *Pythagoras could chant his disciples to sleep* and heal body and soul through musical words (https://archive.org/stream/Papyri_Graecae_Magicae/Papyri_Graecae_Magicae_djvu.txt).
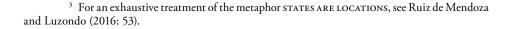
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[2] The verb *cry* can be also used transitively to specify the kind of crying (e.g. *She cried tears of joy*).

(5) a. when the nurse had nearly succeeded in *murmuring herself to sleep*... (Google Books: *Excursions in India*, by Thomas Skinner et al., 1832. Accessed on May 25, 2014).

    b. *She would murmur him to sleep* in her arms humming old Polish folk songs in the corner of their decrepit room (Google Books: *Some Kind of Remedy*, by Alissa Dwyer, 2012. Accessed on May 25, 2014).

Examples (3) to (5) are instantiations of normal unselected transitive resultatives and not of fake reflexives even though the slot of the direct object can be occupied by a reflexive as well. For instance, it is pragmatically plausible that someone makes someone else go to sleep by singing, chanting, or murmuring.

Another observation that can be made at this point is that all these verbs involve some repetitive action that leads the direct object to a state of sleep. In fact, iteration is but a way of making non-durative events extend through time; i.e. the iteration of a punctual event has the same time effect as the duration of a non-punctual event. So, for practical purposes, iteration can be used, the same as duration, in constructions that require extension through time.

The verbs pertaining to the domains mentioned before are liable to participate in the resultative construction through the activity of the high-level metaphor AN ACTIVITY IS AN EFFECTUAL ACTION. Researchers like Ruiz de Mendoza and Mairal (2007, 2008) have argued that predicates should conform to the characteristics of effectual actions in order to meet the requirements of the resultative construction. As remarked, a prototypical effectual verb is *hit*. In *Peter sometimes hits his son*, the object is physically affected by the action conveyed by the verbal predicate. In the examples we have been studying, the high-level metaphor AN ACTIVITY IS AN EFFECTUAL ACTION allows us to interpret the different predicates in terms of a transitive structure of the actor-object kind that involves a change of transitivity type. Another metaphor that underlies the construal of these examples is CHANGES OF STATE ARE CHANGES OF LOCATION. The high-level metaphor STATES ARE LOCATIONS[3] is a deeply-entrenched conceptual system that displays more specific manifestations like CHANGES OF STATE ARE CHANGES OF LOCATION (e.g. *He went from innocent to worldly*) or CAUSING A CHANGE OF STATE IS CAUSING A CHANGE OF LOCATION (e.g. *Her mother forced her into an abortion*). States are metaphorically mapped onto locations as a result of conceptual conflation through experiential co-occurrence. In (1) to (5), an affected object experiencing a change of state is seen as if it were an object changing location. In other words, the state of being asleep is metaphorically construed as moving to a given location.

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[3] For an exhaustive treatment of the metaphor STATES ARE LOCATIONS, see Ruiz de Mendoza and Luzondo (2016: 53).

4.2. Verbs of modes of being involving motion

Take the following examples:

(6) *Nobody has to... rock him back to sleep* (*COCA* 2008).
(7) *My mother rocked me to sleep* when I was little (Google Books: *Winter's No Time to Sleep*, by Poppy Green, 2015. Accessed on December 23, 2015).

Examples (6) and (7) are instances of selected transitive resultatives in Goldberg and Jackendoff's terminology since the object is independently selected by the verb. The resultative phrase is not compulsory for the feasibility and grammaticality of the expressions. Thus we can say 'He rocked me' and 'He rocked me to sleep.'

The high-level metaphorical system that licenses the fusion of the predicate *rock* with the resultative construction is again an activity is an effectual action. The activity of rocking someone is metaphorically regarded as an effectual action in which the object is physically affected by the action. Moreover, as was the case in the previous group of verbs, the changes of state are changes of location metaphor also operates in this group of expressions. One person rocks another (that is to say, a person forces another person to move) and the prepositional phrase *to sleep* expresses the figurative direction of motion. The meaning of these expressions is that someone rocks another person and as a result that person falls asleep.

Additionally, the full import of these instances is determined if we take into consideration the fact that it is pragmatically plausible to make someone sleep by rocking him/her because rocking someone involves a repetitive action that can lead to a state of sleep.

4.3. *Amuse* verbs

Examples (8) and (9) illustrate the incorporation of some verbs of psychological state (mainly *amuse* verbs) into the resultative construction.

(8) Play *some soft, soothing music* that *will lull you to sleep*. (Google Books: *Lost your Job? Save your House!*, by Robert Jeffreys, 2009. Accessed on May 25, 2014).
(9) Mum was able to soothe her back to sleep without lifting her (Google Books: *The Baby Sleep Guide*, by Stephanie Modell, 2015. Accessed on December 23, 2015).

Examples (8) and (9) are selected transitive resultatives. You can both lull and soothe someone and not specify anything else as to the result of that lulling or soothing or you can possibly add a prepositional phrase like *to sleep* that expresses the result of your action.

Both *lull* and *soothe* are experiential action verbs. They must be mapped onto effectual actions so that the experiencer is regarded as an effectee (the affected entity) and these predicates can take part in the resultative construction. In other words, the

high-level metaphor that licenses the adaptation of the lexical meaning of the verbs to the constructional meaning of the resultative configuration is AN EXPERIENTIAL ACTION IS AN EFFECTUAL ACTION. Moreover, the change of state from being awake to falling asleep is metaphorically conceptualized as a change of location.

As far as the pragmatic plausibility of these expressions is concerned, it seems reasonable to think that soft and soothing sounds (like music or murmuring) are logical causes of sleeping. Furthermore, if people feel calm, they are likely to sleep, as is also the case with the predicate *soothe*.

4.4. *EAT* VERBS

Within the group of verbs of ingesting, *eat* and *drink* can combine with the resultative pattern, as shown by the following examples:

(10) *She ate herself to sleep* (Google Books: *Jealousy*, by Marsha Jenkins-Sanders, 2008. Accessed on May 25, 2014).
(11) For years afterward, *he drank himself to sleep* each night to smother guilt-spawned nightmares (*COCA* 2005).

Eat and *drink* are activity predicates. Both of them need a metaphorical reconstrual whereby they are seen as effectual actions in order to meet the require-ments of the resultative construction. In sum, this integration is licensed by the high-level metaphor AN ACTIVITY IS AN EFFECTUAL ACTION. In addition, in (10) and (11) CHANGES OF STATE ARE CHANGES OF LOCATION.

Igarashi (2009: 123-124) discusses the example *Mary ate the baby asleep*, which is a property resultative in which the outcome of the action of the verb takes the form of an adjectival phrase. This scholar argues that the relation between the verb and the resultative phrase in resultatives has received scant attention in the literature on the resultative construction. He also claims that examples like (12b) should be further explored because of the unexpected nature of the adjective if the meaning of the verb is taken into consideration. On the face of it, according to him, there seems to be no logical connection between eating and falling asleep in the context of (12b). It is at this point that the importance of pragmatics comes into play. To this end, Igarashi (2009: 124) contrasts the following examples, the second of which he considers odd:

(12) a. Mary sang the baby asleep.
b. # Mary ate the baby asleep. (Rothstein, 2004: 111)

Igarashi (2009: 124) agrees with Rothstein (2004: 111) that most native speakers consider (12a) acceptable because the contextual relation between sing-ing and a baby becoming asleep is easily understood. The singing activity develops through time and favours sleep. However, Igarashi claims, (12b) is usually regarded infelicitous because there is not a similar contextual relation between the verb *eat* and

the baby getting asleep. Nevertheless, Igarashi observes that if a suitable context is provided, (12b) could be felicitous. While we take sides with Igarashi's opinion on the pragmatic plausibility of (some of) what he calls seemingly wayward examples, we believe that (12b) cannot be feasible in any context. Igarashi himself does not offer any context against which (12b) can be interpreted as an acceptable instance of the resultative construction. While the connection between feeding someone and this person getting asleep is easily recognized,[4] this does not hold for (12b), since the verb *eat* does not include any causative element in its semantic makeup. While you usually feed a baby, old or handicapped person, this is not the case with *eat*. The beneficiary of the action of eating is the agent itself, as evidenced by (10). This is the reason why (10) (and because of a similar reasoning process (11)) is acceptable but not (12b). This is related to the fake reflexives used in expressions (10) and (11). In these examples, the reflexive pronouns cannot alternate with other noun phrases. The reflexive object is a contribution of the construction itself and the entity affected by drinking or eating is the person who drinks or eats. If someone drinks too much,[5] the effects of alcohol will surely make that person fall asleep. Or if someone eats too much food, they have to digest it and this process of food digestion has some consequences like falling asleep or almost asleep. The consumption of alcohol in (11) or of food in (10) is seen as having a physical impact on the agent in terms of the metaphor AN ACTIVITY IS AN EFFECTUAL ACTION.

4.5. *Send* VERBS AND *DRIVE* VERBS

Within the group of verbs of sending and carrying, *send* and *drive* verbs can be distinguished.

The verb *send* is an intrinsically resultative verb and verbal resultatives incorporate the causative and resultative components into their meaning. Therefore they are readily available for constructional subsumption and no metaphorical system is required in order to license the fusion of the verb into the resultative construction, as shown in (13). However, the resultative phrase calls for some metaphorical development on the grounds of the metaphor CHANGES OF STATE ARE CHANGES OF LOCATION. Consider the following example:

(13) *Alcohol* is a bad nightcap - it *sends you to sleep* (Boas' appendix).

The case of *drive* is different. (14) requires the activation of the high-level metaphor AN ACTIVITY IS AN EFFECTUAL ACTION. Again, the metaphor CHANGES

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[4] Think for instance of a child suffering from severe malnutrition. It seems unlikely to imagine that this child can become asleep easily. In contrast, when children are fed, the appropriate conditions for sleeping hold. It is well known that babies usually wake up when they feel hungry and when they ingest food, they can sleep again.
[5] *Drink* is often used metonymically to make reference to the ingestion of alcohol.

OF STATE ARE CHANGES OF LOCATION licenses the expression of a change of state as if it were a change of location.

(14) She sat with her until *the exhaustion of grief finally drove Ana to sleep and silence,* (Boas' appendix).

The verb *drive* must be further metonymically developed in this example since its original meaning of moving or travelling on land in a motor vehicle is a subdomain of and provides conceptual access to the matrix domain of moving. In other words, *drive* has been grammaticalized into a causative verb without lexical meaning to indicate change of state. This has taken place through a metonymic shift from 'move in a vehicle' to 'cause to move in a vehicle', then to 'cause to move', and finally, through CHANGES OF STATE ARE CHANGES OF LOCATION, to 'cause to change state.'

A final observation is in order in this section. According to Goldberg and Jackendoff (2004: 540), "*drive* allows only a range of adjectival and prepositional phrases that all refer to demented mental states." We do not take sides with this statement since silence or sleep are not demented verbal states.

4.6. *CAPTAIN* VERBS

The verbs *nurse* and *parent*, which belong to the subset of *captain* verbs within the more general category of verbs with predicative complements according to Levin (1993), are examples of zero derivation or conversion. In (15) and (16) they undergo a process of categorial conversion from nouns into verbs. The metonymy that underlies their construal is AGENT FOR ACTION. According to this, (15) means 'The only way to soothe him was to get him back to sleep by acting as a nurse' and (16) 'Babies need someone that acts as a parent when they want/have to sleep.'

(15) The only way to soothe him was to *nurse him back to sleep* (*COCA* 2009).
(16) *Babies need to be parented to sleep*, not just put to sleep (http://www.askdrsears.com/topics/health-concerns/sleep-problems/8-infant-sleep-facts-every-parent-should-know).

As was the case with most of the previous groups of predicates, the expressions in this section are grounded in the high-level metaphorical conceptual system AN ACTIVITY IS AN EFFECTUAL ACTION in combination with CHANGES OF STATE ARE CHANGES OF LOCATION.

4.7. Verbs of transfer of a message and *talk* verbs

Within the set of verbs of communication, those of transfer of a message (e.g. *read*) and *talk* verbs (e.g. *talk*) can be felicitously incorporated into the resultative construction.

Talk is an intransitive verb that needs to undergo a process of subcategorial conversion in order to become a transitive predicate and conform to the requirements of the resultative construction. This subcategorial conversion process is licensed by the high-level metaphor a communicative action is an effectual action. The receiver of the message is regarded as if directly affected by the action of talking. Additionally, the metaphor changes of state are changes of locations allows us to disentangle the meaning of both (17) and (18).

(17) *She talked them to sleep* about her father (Google Books: *The Rachel Papers*, by Martin Amis, 1973. Accessed on May 25, 2014).
(18) *L'Engle reads herself to sleep* at night with books on astrophysics (*COCA* 1998).

In (17), the subject's speech seems to be so boring or she seems to speak so much about her father that someone else falls asleep. Observe that the target of 'talking', 'them', (cf. *She talked to them*) is here treated as if it were an effectual object that experiences an induced change of state. For this reason, the object ('them') is not expressed syntactically by means of a prepositional phrase but by means of a noun phrase.

A similar analysis holds for (18). The only difference is that *read* is an activity and, as such, it has to be metaphorically construed as an effectual action in order to be compatible with the resultative construction. That is to say, in contrast to (17), this example abides by the high-level metaphor an activity is an effectual action. L'Engle is conceived of as causing her own boredom, which leads her to a state of 'sleep,' through reading. She is both the initiator of the action of reading and the affected entity.

4.8. *Get* verbs

As was the case with *send*, *get*, which is a verb of obtaining in Levin's (1993) terminology, can also be a verbal resultative. When this verb means 'to cause something to happen or cause someone or something to do something', as is the case in (19), the causative and resultative elements are incorporated into the meaning of the verb, which makes this verb readily available for subsumption into the resultative construction. This means that no metaphoric or metonymic development is required for the construal of expressions like (19) except for the metaphor changes of state are changes of location.

(19) Some new advice on getting kids to sleep is just ahead (*COCA* 2002).

4.9. Put verbs

Finally, we will consider the verb *put*, which is also a causative verb that does not call for any metaphorical or metonymic activity in order to felicitously fuse with the resultative construction. However, the resultative phrase prompts a metaphorical construal of the expressions in this section in terms of the metaphor CHANGES OF STATE ARE CHANGES OF LOCATION.

There are some interesting observations that can be made in connection with the resultative phrase *to sleep*. In this proposal, the examples have been analysed as abiding by the metaphor CHANGES OF STATE ARE CHANGES OF LOCATION since the change from a state of 'non-sleep' to one of 'sleep' takes the form of motion from one place to another. In addition, some other meaning implications arise from a careful examination of this PP. This change of state can be taken literally (that is to say, actually someone becomes asleep) or metaphorically depending on contextual factors. For instance, (20) is literal. Nevertheless, examples (21) to (23) require further discussion because of the figurative nature of their PPs.[6] (21) emphasizes the fact that journalists can bore people to the extent of seemingly making them sleep. (22) is a euphemism for 'kill.' It refers to 'kill gently usually by means of an injection' or to 'make unconscious by means of anaesthetic drugs.' Finally, (23) means 'to make disappear.' The explanation for these meanings is related to the fact that when people are killed, they may appear to be sleeping. This gives rise to a euphemistic way of expressing the ideas of making people feel bored, of killing a person or an animal, and of making something disappear. These euphemisms exploit the following metaphors: MAKING PEOPLE BORED/KILLING PEOPLE OR ANIMALS/CAUSING ENTITIES TO DISAPPEAR IS PUTTING THEM TO SLEEP.

(20) To ensure the safety of an infant sleeping in a crib, *put babies to sleep* on their backs and follow these pointers (*COCA* 1998).
(21) There's nothing worse than *journalists who put people to sleep* and who claim to be objective while being extremely boring (*COCA* 1999).
(22) Remember that *even the most loving families*, although they may be shedding tears as they do it, *put pets to sleep* (*COCA* 1993).
(23) When harvest came, *the people could put Hunger to sleep* (Google Books: *The Transformation of Medieval England 1370-1529*, by John A.F. Thomson, 1983. Accessed on May 25, 2014).

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[6] This analysis can be also applied to some of the other groups of verbs studied in this proposal. For instance, sobbing/crying oneself to sleep and singing someone or oneself to sleep can involve boredom and drinking oneself to sleep can mean that someone drank so much that he/she became unconscious (in fact, we can alternatively say that someone drank him/herself to sleep or that someone drank him/herself unconscious).

5. CONCLUSION

In this proposal, drawing on cognitively-oriented constructionist approaches to language, we have offered a qualitative analysis of the predicates that felicitously fuse with the prepositional phrase *to sleep* in resultative patterns. To this end, Levin's lexical classes have been taken into account. Our second aim has been to provide a fine-grained examination of the external constraints, mainly cognitive mechanisms like high-level metaphor and metonymy, especially the former, that license or block out the integration of each set of predicates with PP property resultatives. High-level metaphors like AN ACTIVITY IS AN EFFECTUAL ACTION, AN EXPERIENTIAL ACTION IS AN EFFECTUAL ACTION, or A COMMUNICATIVE ACTION IS AN EFFECTUAL ACTION have been found to play a fundamental role in this process of lexical-constructional subsumption. Additionally, the metaphor CHANGES OF STATE ARE CHANGES OF LOCATION allows us to construe a change of location (from a starting point of 'non-sleep' to a destination of 'sleep) as a change of state (from a state of 'non-sleep' to a state of 'sleep'). Finally, pragmatics has been proved to contribute to the overall interpretation of our examples.

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