

Defining Meanings by Grammatical Behaviour. The Case of English Verbs of Inaction

La definición de significados a partir del comportamiento gramatical. El caso de los verbos de inacción en inglés

ANA ELVIRA OJANGUREN LÓPEZ
UNIVERSIDAD DE LA RIOJA

This article deals with the definition of the meanings of verbs of inaction in English. The analysis is carried out within the framework of verbal classes and alternations and the theory of Role and Reference Grammar. The article applies the lexical representation of inaction verbs to the definition of meanings, a task of lexicographical work. The main conclusion of this work is that meaning definitions based on lexical representation contribute to a more systematic lexicographical practice and avoid some of the issues that arise in Lexicography meaning definition such as circularity, obscurity, single-clause-when definitions and lack of precision due to the limitations of the defining language.

Keywords: *lexical representation; lexicography; meaning definition*

Este artículo trata sobre la definición de los significados de los verbos de inacción en inglés. El análisis está llevado a cabo dentro del marco de las clases verbales y las alternancias y de la teoría de la Gramática del Papel y la Referencia. En este artículo, la representación léxica de los verbos de inacción se aplica a la definición de sus significados, una tarea enmarcada dentro de la lexicografía. La conclusión principal de este trabajo es que las definiciones de significados basadas en representaciones léxicas contribuyen a lograr una práctica lexicográfica más sistemática y evitan algunos de los problemas que surgen en lexicografía a la hora de definir significados, como son la circularidad, la opacidad, las definiciones que comienzan con *cuando* y la falta de precisión debida a las limitaciones del lenguaje de definición.

Palabras clave: *representación léxica; lexicografía, definición de significados*

1. AIMS, SCOPE AND ARTICLE STRUCTURE

This article deals with the definition of meanings, which authors like Schierholz (2015) consider one of the tasks of lexicographical practice. To be more precise, this article takes issue with the definition of meanings on the basis of grammatical behaviour, which is understood as argument realisation. The analysis has scope over the lexical category of the verb and focuses on verbs of inaction in English, including *Fail* verbs, *End* verbs, *Try* verbs, *Hinder* verbs, *Refrain* verbs and *Prevent* verbs. The descriptive part of the analysis draws on the framework of verbal classes and alternations (Levin, 1993), while the explanatory part is

couched in terms of the theory of Role and Reference Grammar (Foley & Van Valin, 1984; Van Valin & LaPolla, 1997; Van Valin, 2005, 2014). With this theoretical background, verbal classes involving different morpho-syntactic expressions and/or different argument realisations are analysed as to the linking between their semantics and their syntax. This is possible thanks to the rich lexical representations of Role and Reference Grammar (henceforth RRG), which unfold onto logical structures displaying the categories and functions of verbs and their arguments.

The article makes the point that, once lexical representations and logical structures, which are fully detailed and explicitly motivated on the semantics, have been defined, the components of these representations can easily comply with some of the requirements of lexicographical meaning definition. Meaning definition is understood in this work as follows: “the lexicographic definition enumerates only the most important semantic features of the defined lexical unit which suffice to differentiate it from other units” (Zgusta, 1971; in Adamska-Sałaciak, 2012: 7). According to Solomonick (1996: 484), meaning definition can rely on descriptions, paraphrase, synonyms and/or antonyms, word-building schemes, examples or citations, and etymology. The proposal made in this article opts for meaning definition based on semantic-syntactic description.

The resulting definitions may contribute to the solution of some of the issues that arise when defining meanings, which, according to Adamska-Sałaciak (2012) include: internal circularity (a lexical item is defined by itself), external circularity (when two related items define each other), obscurity (when the definition is more abstruse than the term), missing hyperonyms (if the lexical item does not belong in a hierarchical structure, or it is not provided), lack of non-denotative meanings, encyclopaedic contamination (when encyclopaedic information finds its way into the dictionary), clumsy or imprecise definitions based on a limited defining language, and single-clause-*when* definitions that do not belong to the same lexical category as the *definiendum*.

Apresjan (2000, 2002) finds five principles of Linguistics that may result in a higher compatibility with Lexicography, including the conceptualizations that underlie the lexicon and the grammar of a language; the unification of grammatical and meaning descriptions in grammars and dictionaries; the search for a systematic analysis of the lexicon that considers the various types of units and relations; the study of word senses with all their linguistic properties; and the formulation of the rules that govern the interaction of semantics and syntax. This work focuses on these principles and, especially on the last one because the projection of the grammar from logical structures that originate in lexical representations constitutes a syntactic description of the clause motivated by its semantics.

By elaborating on these principles, Apresjan (2000, 2002) insists on the necessity of doing systematic Lexicography, which is based on integrated linguistic descriptions, word classes with core meanings and predictable semantic divergences, uniform grammatical and lexicographical descriptions of the lexical classes, exhaustive lexicographical descriptions, as well as the meaning interaction of linguistic units. Of these aspects, the present article is geared to the uniformity of grammatical and lexicographical descriptions and the exhaustivity of lexicographical descriptions.

The article proceeds as follows. Section 2 reviews the relevant aspects of RRG and the framework of verb classes and alternations. This section also discusses some previous contributions to the study of the verbal classes of English made within the same theoretical framework, given that some of these proposals are the starting point of the research presented here. Section 3 makes some methodological and descriptive remarks concerning the set of verbs of inaction as a unified group. Section 4 analyses the morpho-syntax and the argument realisation of verbs of inaction. The resulting lexical representations and argument structures

are applied to the definition of meanings in Section 5. To close this article, some concluding remarks are made in Section 6.

2. THEORETICAL BACKGROUND

This section presents the basic aspects of the framework of verb classes and alternations and RRG that are relevant for the discussion that follows. It also reviews previous research in the verb classes of English which has been carried out within a similar theoretical framework.

The framework of verb classes and alternations owes its name to these theoretical concepts, which Levin (1993) considers explanatory with respect to each other. While the semantics of a given verb determines the range of expressions with which it is found, the syntactic configurations shared by a set of verbs is a defining criterion for class membership. Therefore, from the point of view of argument realisation, the number and form of verbal arguments are restricted by the meaning components of the verb in question; from the perspective of class membership verbs belonging to the same class according to grammatical behaviour are expected to share meaning components too (Levin, 1993: 5). The properties that determine the grammatical behaviour of verbs include argument-taking properties, participation in diathesis alternations and morphological properties. For instance, the class of *grow* verbs (Levin, 1993: 174) includes *develop*, *evolve*, *grow*, *hatch*, and *mature*. The properties of this class include the alternations in (1). Alternations are defined as systematic morpho-syntactic contrasts that arise in the realisation of verbal arguments:

- (1) a. Material/Product Alternation (intransitive)
That acorn will grow into an oak tree.
An oak tree will grow from that acorn.
- b. Causative/Inchoative alternation
The gardener grew that acorn into an oak tree.
That acorn will grow into an oak tree.
The gardener grew an oak tree from that acorn.
An oak tree will grow from that acorn.

As Levin (1993: 174) remarks, this alternation is the intransitive counterpart of the material/product alternation of *build* verbs (as in *Martha carved a toy out of a piece of wood* vs. *Martha carved the piece of wood into a toy*). Alternations, as defined in this theoretical framework, constitute a defining property of verb classes and, moreover, allow us to make generalisations across the classes of verbs. For example, the body-part possessor ascension alternation (as in *Margaret cut Bill's arm* vs. *Margaret cut Bill on the arm*) allows us to differentiate between *cut*, *hit* and *touch*, which participate in the alternation, and *break*, which does not.

Verbs with meaning components of contact and motion participate in the conative alternation, illustrated in (2). The conative is a transitivity alternation in which the object of the verb in the transitive variant appears in the conative variant as the object of the preposition governed by *at* (or *on* with other verbs). As can be seen in (2), unlike the transitive variant, the conative variant describes an attempted action without specifying if the action reached its logical end.

- (2) a. Paula hit the fence.
Paula hit at the fence.
- b. Margaret cut the bread.

- Margaret cut at the bread.
- c. I pushed the table.
I pushed at/on/against the table.

Differences in verbal behaviour can be explained, as has been pointed out above, if alternations make reference to the meaning components of verbs. For example, “*touch* is a pure verb of contact, *hit* is a verb of contact by motion, *cut* is a verb of causing a change of state by moving something into contact with the entity that changes state, and *break* is a pure verb of change of state” (Levin, 1993: 10). For instance, the meaning components of motion, contact, change of state and causation explain why verbs participate in diathesis alternations. The meaning component of contact is relevant for the body-part possessor alternation, whereas contact and motion bear on the conative alternation. Furthermore, the causative/inchoative alternation can only be found with verbs of pure change of state and the middle alternation is restricted to verbs of induced change of state. To summarise, meaning components can be defined for each alternation, so that the verbs that participate in the alternation can be assigned to a certain verbal class.

RRG (Foley & Van Valin, 1984; Van Valin & LaPolla, 1997; Van Valin, 2005, 2014) is a functional theory of language that is mainly concerned with typological applicability and the association (linking) between semantics and syntax by means of an algorithm that comprises the lexical representation of verbs, the semantic and syntactic roles of the verbal arguments and the logical structures of clauses.

The classification of verbs in RRG, on which lexical representation depends, is based on the semantic properties necessary for the description of thematic roles, so that verb classes can be derived from the thematic roles of the arguments of the verb. The correspondence between thematic roles, such as patient, and lexical representation, such as the state that is undergone by a patient, depends on the *Aktionsart* (internal aspect) type of the verb. Then, semantic macroroles (generalised semantic roles) determine the syntactic configuration of the clause, which is represented by means of a logical structure whose core is the lexical representation of the verb. That is to say, thematic roles and semantic macroroles are fundamental aspects of the linking between syntax and semantics in RRG. For instance, perception verbs are represented in the lexicon by means of a logical structure of the type *see'* (x, y), which corresponds to a state *Aktionsart*, thus comprising an x argument with the thematic role Experiencer and a y argument with the thematic role Theme. Being a state, the number of semantic macroroles corresponding to the lexical representation given above is one, so that one of the thematic roles is realised by a non-macrorole argument. Then, the syntactic configuration determines which thematic role (the macrorole argument -the experiencer- or the non-macrorole argument -the theme- is assigned the privileged syntactic argument (*to see something* vs. *to be seen*). These and other central aspects of RRG are presented in more detail in the remainder of this section, which is based on the overview of RRG available from http://linguistics.buffalo.edu/people/faculty/vanvalin/rrg/RRG_overview.pdf.

The starting point of the semantic representation of the sentence in RRG is the *Aktionsart* (internal aspect) class of the verb. The RRG typology of *Aktionsart* follows in the line of the one proposed by Vendler (1967), which consists of four classes: state, achievement, accomplishment and activity. States and activities are basic types. Achievements are punctual, whereas accomplishments are durative. Van Valin and LaPolla (1997) add the class of active accomplishments (or telic uses of activity verbs) and the causative versions of all *Aktionsart* classes. Van Valin (2005), furthermore, proposes the class of semelfactives, or punctual events, both of the non-causative and the causative type. *Aktionsart* types are defined with respect to the set of features shown in Figure 1.

State [+static], [-dynamic], [-telic], [-punctual]	<i>Leon is a fool.</i>
Activity [-static], [+dynamic], [-telic], [-punctual]	<i>The children cried.</i>
Semelfactive [-static], [\pm dynamic], [-telic], [+punctual]	<i>The light flashed.</i>
Achievement [-static], [-dynamic], [+telic], [+punctual]	<i>The window shattered.</i>
Accomplishment [-static], [-dynamic], [+telic], [-punctual]	<i>The snow melted.</i>
Active accomplishment: [-static], [+dynamic], [+telic], [-punctual]	<i>Paul ran to the store</i>

Figure 1: *Aktionsart or internal aspect (Van Valin, 2005).*

Logical structures link clausal semantics to clausal syntax and viceversa representing the main descriptive device of the semantics-syntax and the syntax-semantics linking. The *Aktionsart* types with their corresponding logical structures are shown in Figure 2. The main distinctions in the logical structures in Figure 2 hold between the stative (**predicate'**) and non-stative (**do'**) segment, on the one hand, and between the non-causative and the causative version of the *Aktionsart* types, on the other hand. The variables x, y and z represent verbal arguments. The labels INGR(essive), SEM(e)L(factive), BECOME and CAUSE stand for, respectively, ingressives, semelfactives, accomplishments and causatives.

<i>Aktionsart</i> type	Logical Structure
STATE	predicate' (x) or (x, y)
ACTIVITY	do' (x, [predicate' (x) or (x, y)])
ACHIEVEMENT	INGR predicate' (x) or (x, y), or INGR do' (x, [predicate' (x) or (x, y)])
SEMELFACTIVE	SEML predicate' (x) or (x, y), or SEML do' (x, [predicate' (x) or (x, y)])
ACCOMPLISHMENT	BECOME predicate' (x) or (x, y), or BECOME do' (x, [predicate' (x) or (x, y)])
ACTIVE ACCOMPLISHMENT	do' (x, [predicate1' (x, (y))]) & BECOME predicate2' (z, x) or (y)
CAUSATIVE	α CAUSE β , where α, β are LSs of any type

Figure 2: *Aktionsart types and logical structures in RRG.*

RRG is best-known for its theory of macroroles. Macroroles are 125eneralizat semantic roles called *Actor* and *Undergoer*, on which the semantic interpretation of verbal arguments is based. Macroroles make grammatical 125eneralizations across the structures of verbs and their arguments. In a transitive predication, the first argument of the verb is the Actor and the second argument bears the Undergoer. In an intransitive predication, the semantic properties of the verb determine whether the only argument is an Actor or an Undergoer. To this effect, the relationship between arguments and macroroles is governed by the Actor-Undergoer Hierarchy, which requires that the leftmost argument in the hierarchy is the Actor and the rightmost argument in the hierarchy becomes the Undergoer. The hierarchy is asymmetric because the leftmost argument in a logical structure is always the Actor, whereas the rightmost argument is only the default choice for Undergoer (Van Valin, 2005: 58). The maximal number of macroroles that a verb can take is two. In ditransitives, such as like *someone giving something to someone else*, the third argument is called the *non-macrorole direct core argument*.

As regards syntactic functions, subject and object are not considered universal in RRG. For this reason, this theory has defined the concept of *Privileged Syntactic Argument* (PSA). The PSA is a construction-specific function that results from a neutralisation of thematic roles and pragmatic functions for syntactic purposes. Any other argument in the

sentence is either a direct core argument or an oblique core argument. For instance, in *someone presents somebody with something*, *someone* gets PSA, *somebody* is a direct core argument and *with something* qualifies as an oblique core argument, both *somebody* and *with something* being compulsory elements, although the former is not governed by preposition whereas the latter is. With these requirements, the selection of the PSA is ruled by the hierarchy in Figure 3.

Arg of DO > 1st arg of **do'** > 1st arg of **pred'** (x,y) > 2nd arg of **pred'** (x,y) > **pred'** (x)

Figure 3: PSA selection hierarchy.

In accusative constructions, the PSA is the highest ranking direct core argument according to this hierarchy, while the PSA is the lowest ranking direct core argument in ergative constructions. Some constraints can be defined on the application of this hierarchy. For example, in English only macrorole arguments can be PSA, whereas in Old English non-macrorole direct core arguments can be PSA (Martín Arista, 2000b).

Linking is the correspondence between syntax and semantics, both from semantics to syntax (production) and from syntax to semantics (comprehension). The linking syntax-semantics is governed by the Completeness Constraint, which stipulates that all the arguments in the semantic representation of the sentence must be realised in the syntax, and, conversely, that all the elements of the syntactic expression must be linked to some argument in the semantic representation to be interpreted. The building blocks of linking are verb agreement, case assignment and prepositional government. The treatment of constructions follows from these aspects. In English, the controller of finite verb agreement is the highest ranking core macrorole argument, in terms of the PSA selection hierarchy presented in Figure 3 (as is the case with the first noun phrase in *The boy is biting the dog*). Case assignment rules for direct core arguments in accusative languages such as Old English (different from case governed by adposition) stipulate that the highest ranking core macrorole in the PSA selection hierarchy is inflected for the nominative case. The other core macrorole takes accusative case. Non-macrorole direct core arguments take dative case (Martín Arista, 2000a, 2000b; see also Martín Arista, 2017, 2018).

As has been noted above, the main descriptive device of the linking between semantics and syntax is the logical structure. The logical structure is a layered representation originating in the lexical representation of the verb and incorporating semantic roles (macroroles) and syntactic functions (PSA, direct core arguments, oblique core arguments) into a tree-diagram representation that combines the argument projection and the operator projection (semantic and morphological features like external aspect, tense, modality, etc.). All these elements, together with the construction in which a certain instance of linking is found, constitute the linking algorithm semantics-syntax.

The linking algorithm operates clause by clause, in such a way that the layered structure of the clause is a hierarchical structure comprising several semantic layers defined by the scope of operators (especially the TAM -tense-aspect-modality- complex; Foley & Van Valin, 1984). The layers of the logical structure of the clause are the *core* (the verbal nucleus, its arguments and its argument-adjuncts, as in *eat beans* and *go to the station* respectively), the *clause* itself, which consists of the core and the *periphery* (as in *play tennis in the park*), and the *sentence*, which can be broken down into one or more clauses, as in *I always have a shower before going to bed*.

With the clausal layers just described, the RRG theory of complex sentences is based on the type of unit (juncture) and the type of relation (nexus). These two aspects of complex sentences are considered independently. The unmarked pattern for the construction of complex sentences is the combination of nuclei with nuclei, cores with cores, clauses with clauses, and sentences with sentences. These are called *levels of juncture*. On the basis of the

degree of complexity of the combining units, nuclear juncture, core juncture, clausal juncture, and sentential juncture are distinguished. Nuclear junctures, for instance, are complex constructions that contain several nuclei. For example, in *John forced open the door*, two nuclei, *force* and *open*, belong in a single core. Core junctures are made up of two or more cores, as in *I ordered Fred to force the door open*. In this type of juncture, a core argument is shared by two cores, in this case the participant *Fred*. In English, intransitive verbs can only appear in the linked predication of a nuclear juncture (Van Valin & LaPolla, 1997: 445). A clause juncture is the relevant type in more complex structures like *John phoned Mary yesterday and Jim phoned her too*. Further differences between the levels of juncture have to do with complementisers (*to, from, etc.*). For instance, nuclear junctures do not include complementisers, whereas core junctures may make use of these elements. Therefore, the two nuclei can be adjacent in a nuclear juncture, but this cannot happen in a core juncture.

The syntactic and semantic relations between the units in a juncture, called *nexus*, include coordination and subordination. Subordination can be further divided into daughter subordination, if the subordinate clause is an argument, as in *That she arrived resigned surprised everyone*; and peripheral subordination, if the subordinate clause is a periphery, as in *Kim had seen Pat before she left the party*. Daughter subordination and peripheral subordination are possible at the levels of the nucleus, the core, and the clause. However, it is a requirement of subordination that clefting and passivisation are possible. For instance, *Mary regretted Jim's losing his job* is an instance of subordination because *It was Jim's losing his job that Mary regretted* (cleft) and *That Jim lost his job was regretted by Mary* (passive) are possible (Van Valin & LaPolla, 1997: 445). RRG distinguishes a third nexus type, called *cosubordination*, or dependent coordination. In cosubordination, the dependence has to do with the scope of the operators. This is so because the units must share at least one operator at the relevant level of juncture. For example, in *Jack sat playing the piano* the operator of imperfect aspect has scope over both nuclei, considering that a paraphrase like *Jack sat and played the piano* is possible. The four levels of juncture combine with the three nexus types to give eleven possible complex sentence types only because there is no sentential cosubordination (there are no sentence-level operators and consequently sentences cannot share operators).

Previous research in the verbal classes of English has been conducted by the Lexematic-Functional approach, which applies structural and functional models of grammar to the verbal syntax and semantics of Old English. The Lexematic-Functional approach distinguishes constructions (recurrent associations of form and meaning) and alternations (recurrent contrasts of form and meaning). Constructions and alternations incorporate the semantics of verbs, by identifying the *Aktionsart* classes of RRG, and also make reference to the syntax of verbs (including the main components of RRG linking: argument realisation, case marking and prepositional government and clausal relations within the complex sentence). As in the theoretical bases presented above, class membership is based on shared meaning components and grammatical behaviour.

Several verb classes of English verbs and their Old English counterparts have been studied, including their logical structures, constructions and alternations, within the Lexematic-Functional approach: verbs of warning (González Orta, 2002), verbs of running (Cortés Rodríguez & Torres Medina, 2003), verbs of writing (Cortés Rodríguez & Martín Díaz, 2003), verbs of smell perception and emission (González Orta, 2003), verbs of speech (González Orta, 2004), *remember* verbs (González Orta, 2005), verbs of sound (Cortés Rodríguez & González Orta, 2006), verbs of feeling (C. García Pacheco, 2013), and verbs of existence (L. García Pacheco, 2013); as well as some specific verbs like *(ge)séon* and *(ge)lócian* (Sosa Acevedo, 2007), and some constructions, including the resultative (González Orta, 2006) and the conative (Sosa Acevedo, 2009). Of these, the work most

directly linked to this research is by González Orta (2006), who proposes a lexical template for the class of verbs of speech in English. A lexical template is an enriched version of the lexical representation of RRG that includes syntactic and semantic information within the same format, and is based on the logical structures of this theory. According to Levin (1993: 101), the resultative construction depicts the state that results from an action. For González Orta (2006), this construction is instantiated in subconstructions with verbs of speech. Verbs of speech, in this approach, code events that can be described as consisting of the subevents in Figure 4.

The activities [**do'** (y, z)] and [**NOT do'** (y, z)] regarding *command*, *ask* and *forbid* verbs;
 The state [**want'** (y, z)] with *persuade* verbs;
 The accomplishments [**BECOME believe'** (y, z)], [**BECOME think.again.about.something (a).be.in.mind.from.before'** (y, z)] and [**BECOME know'** (y, z)] concerning *persuade*, *remind* and *tell* verbs, respectively.

Figure 4: Subevents in events of speech (González Orta, 2006).

In the first subevent of the constructional template in Figure 5, the external variable (x) represents the effector that initiates an action (**do'**) by using (**use'**) verbal means (voice/words), in such a way that this effector causes (CAUSE) someone to do or not to do something.

Command verbs

[**do'** (x, [**use'** (x, voice/words))] CAUSE [**do'** (x, [**express.instructions.(a).to.(b).in.language.(c)'** (x, y))]] CAUSE [**do'** (y, z)], where y = b , z = a.

Figure 5: The resultative construction: constructional templates with command verbs (González Orta, 2006).

As can be seen in these figures, the constructional template gives rise to a set of construction-based templates for the related constructions. The analysis carried out in this article shares with the Lexematic-Functional approach the structural-functional orientation and the theory of RRG as the main theoretical basis. However, the canonical model of RRG is applied in the following sections of this article, rather than the enriched lexical representations shown in Figure 4 and 5, and more emphasis is made on the framework of verb classes and alternations.

3. SOME METHODOLOGICAL AND DESCRIPTIVE QUESTIONS

This section makes some methodological and descriptive remarks concerning the set of verbs of inaction. It presents them as a relatively unified group, which justifies the discussion that follows. However, the divergent grammatical behaviour of these verbs that is examined in Section 4 advises to make meaning definitions based on different lexical representations and logical structures. In terms of class membership, this means to consider several classes of verbs within the set of verbs of inaction.

The set of verbs of inaction discussed in this article partially draws on Faber and Mairal's (1999) lexical domains of English. These authors propose a list of thirteen lexical domains, including Action, which comprises the following subdomains: To not to do something [*fail*, *neglect*]; To cause somebody not to do something [*prevent*]; To stop doing something [*end*, *finish*]; and To make an effort in order to be able to do something [*try*, *attempt*]. These subdomains do not include the notions of abstaining from doing something

and making it difficult for someone to do something. For this reason, the set of inaction verbs can be classified into the subdomains presented in Figure 6.

- 13.2. To not do something [fail]: fail; neglect, omit; give up.
- 13.2.1. To stop doing something [end]: end, finish; cease, stop; desist, relinquish.
- 13.2.2. To make an effort in order to be able to do something [try]: try, attempt; strive, struggle, endeavour.
- 13.2.3. To make it difficult for someone to do something [hinder]: hinder, hamper
- 13.2.4. To refrain oneself from doing something [refrain]: refrain, abstain, forbear
- 13.2.5. To cause somebody not to do something [prevent]: prevent, restrain; constrain, impede; forbid, prohibit

Figure 6: *The revised classification of the subdomains in 13.2. To not do something [fail, neglect].*

An initial analysis of the subdomains shown above is carried out by considering the meaning definitions provided by two authoritative sets of dictionaries (<https://en.oxforddictionaries.com>; <http://dictionary.cambridge.org>). The verbs in Figure 6 share a meaning component that could be described as the non-happening of an event, either because the action referred to by the verb ceases, as in *We ended the discussion*; or because it is never accomplished, as in *They attempted to walk sixty miles*. Consequently, these verbs are transitive in a general sense. Their intransitive use (*They finished yesterday*, *They abstained*, *They strove*) is irrelevant for this discussion because they are unspecific as to action, or grammatically unacceptable, thus **They prohibited*. The verbs in Figure 6, therefore, have been dubbed *verbs of inaction*. Notice that in the discussion that follows verbal classes are rendered in capital italics, as in *Try verbs*, *Fail verbs*. The term *verbs of inaction* (which is written in plain text below) does not make reference to a class of verbs, but rather to a set of verb classes that, as is shown below, share certain meaning components and argument realisations, but do not behave in a sufficiently consistent way to be considered a unified verbal class.

Verbs of inaction can be polysemic, but the meanings that presuppose the accomplishment of the action described by the verb are not considered here, thus instances like *He was constrained to confess to the crime*. When inaction verbs are used with non-verbal participants, the resulting expressions are not relevant for this discussion, as, for instance, *We neglected the wall*, *We finished the pizza*, *They prohibited alcohol* and *That battle ended the war*. The verb in the linked clause (or nominalised form of the verb) tends to be dynamic, such as *They refrained from telling him what they thought*. The termination of a state, as in *Their marriage ended two years ago*, is not relevant here.

Verbs of inaction give rise to two different presuppositions: the action referred to by the verb took place before it was terminated (*They stopped slamming the door*, that is: *the door had been slamming*); or the action referred to by the verb never took place, at least in a fully complete way (*They have failed to debate the proposal*, that is: *the proposal was never debated*; or *the proposal was never really debated*).

The sentences in which verbs of inaction appear show a considerable degree of event integration. This is reflected by the fact that when these verbs convey the meaning of *not doing something*, they may take a linked clause with a finite form of the verb and introduced by a conjunction; but far more frequently they select a linked clause with a non-finite form of the verb (infinitive or gerund) without subordinator marker; or a verbal noun (the gerund) governed by a preposition. For instance, *Prevent verbs* admit two of the possibilities just mentioned: *They prevented customers from sending spam* vs. *They prevented that people sent spam*; *The law prohibits minors from purchasing alcoholic drinks* vs. *The law prohibits that minors purchase alcoholic drinks*.

The first participant of inaction verbs is typically agentive, that is to say, an animate, volitional initiator, as in *He prevented her from committing a crime*. The second participant is

typically animate, expressing the goal of the verb of inaction. As for the linked clause, it can be replaced by a nominal argument that entails a nominalisation from a verbal predication, as in *end discussing vs. end a discussion*.

From the syntactic point of view, the linked clause of inaction verbs can be attached directly, as in *They have stopped shouting*; or obliquely, as in *He did not even try to complete the exam*, and in *I abstain from eating meat*. The dependent verb can share the subject with the main verb, as is the case with *He endeavours to keep his apartment clean*; or take its own subject, as in *Nothing can prevent us from going*. The subject of the dependent verb is sometimes unspecific, as in *The new law prohibits smoking*.

Morphologically, some verbs of inaction show variation between the infinitive and the gerund, as in *to forbid to leave/leaving* (although there is meaning difference between the two alternants in instances like *She finished working vs. She finished to work*).

Levin (1993) considers verbs of inaction only in passing. Specifically, this author deals with *Begin* verbs briefly and mentions the other as regards meanings different from the ones considered here. According to Levin (1993: 275), *Begin* verbs show specific sentential-complement taking properties, which she does not discuss. *Begin* verbs indicate the initiation, termination or continuation of an activity. They differ as to the types of sentential complements that they take. Some of them display the Causative alternation, as in *The meeting finished at 4 pm vs. We finished the meeting at 4 pm*. To this, other alternations proposed by Levin (1993) can be added. First of all, they can be found with the Oblique subject alternation (similar to Abstract Cause Subject alternation), in instances such as *The conflict ended with that meeting vs. That meeting ended the conflict*. Considering all six classes, with the exception of *Fail* verbs and *Hinder* verbs, these classes share the participation in what may be called the *Nominalisation alternation*. It is presented in example (3).

(3) The Nominalisation alternation

Fail verbs

She failed to score the goal.

*She failed the scoring of the goal.

End verbs

They finished discussing the proposal.

They finished the discussion of the proposal.

Try verbs

The parliament attempted to proclaim the new law.

The parliament attempted the proclamation of the new law.

Hinder verbs

*The ministers impeded that the president resigned.

The ministers impeded the resignation of the president.

Prevent verbs

It is forbidden to consume alcohol.

The consumption of alcohol is forbidden.

The Understood reflexive object alternation is found with *Refrain* verbs, as can be seen in example (4).

- (4) *Refrain* verbs
 He refrained from taking vengeance.
 He refrained himself from taking vengeance.
 She restrained from going back.
 She restrained herself from going back.
 The senator abstained himself from voting.
 The senator abstained from voting.
 He forebore himself from defying the king.
 He forebore from defying the king.

As example (5) shows, the To/For alternation is found with *Try* verbs.

- (5) *Try* verbs
 They tried for success.
 They tried to succeed.
 We attempted to deliver the order.
 The order was attempted for delivery.
 They strove for fund raising.
 They strove to raise funds.
 The party struggled for recognition.
 The party struggled to be recognised.
 They have endeavoured for a reformation of the institution.
 They have endeavoured to reform the institution.

There are some divergences between the classes of inaction verbs that are worth commenting on. *Begin* verbs are different from the other classes in participating in the Causative alternation, as in *The meeting finished at 4 pm* vs. *We finished the meeting at 4 pm*. *Fail* verbs do not show the Nominalisation alternation (*She failed to score a goal* vs. **She failed the scoring of a goal*). Neither do *Hinder* verbs partake in this alternation (**The ministers impeded that the president resigned* vs. *The ministers impeded the resignation of the president*). Also with respect to *Fail* verbs, *give up* is intransitive, which makes it clearly different from the rest, and *abandon* does not take a verbal object, but a nominal one, which also constitutes a remarkable difference with respect to the others. The verb *desist* does not comply with the requirements of *Refrain* verbs because it does not partake in the Understood reflexive object alternation (*To desist from doing something* vs. **To desist oneself from doing something*).

4. THE LEXICAL REPRESENTATION AND LOGICAL STRUCTURES OF VERBS OF INACTION

The different classes of verbs of inaction are now discussed in turn. Their logical structures represent a formalised synthesis of their semantics and syntax, which are considered before presenting the logical structure of each class.

End verbs can be represented by means of an Achievement logical structure indicating that the end point of the ongoing activity is punctual. In an expression like *Jane eventually stopped sending e-mail messages*, the first argument is an Effector and bears the macrorole Actor, while the second can be a noun phrase (so that the verb is not a verb of inaction, properly speaking), or a predication. The predication can only be verbal, so that the y part of

the lexical representation **stop'** (x, y) stands for expressions like *They stopped*. The predication cannot be non-verbal because the end of a state is a change and, for this reason, a processual *Aktionsart* like the Achievement or the Accomplishment is required for expressions like *He stopped being rude* (which can be paraphrased in a lexical representation as *He became unrude*). The relevant juncture with *End* verbs is nuclear juncture and the nexus type is cosubordination because there is argument and operator sharing. That is to say, the Actor of the matrix clause also functions as Actor of the linked clause, while operators can be shared by the matrix and the linked clause. In traditional terminology, the main clause and the dependent clause have the same subject and, therefore, the nexus is cosubordination. This description can be applied to expressions like *She stopped working*. In expressions like *She stopped to work*, the juncture takes place at core level and the nexus type is coordination because the two nuclei are not adjacent, but separated by a complementiser. In either case, the interclausal semantic relation is Phase. These aspects can be seen in the logical structure given in Figure 8.

End verbs
 ACHIEVEMENT
 INGR **do'** (x, [**stop'** (x, y)])

Figure 8: *The logical structure of End verbs.*

It must be said, with respect to the logical structure in Figure 8, that it represents the intransitive version of the verb, as in *to stop doing something*. The transitive version of this verb, such as, for instance, in expressions like *Nothing stops me from coming back*, is synonymous with *Prevent* verbs (*Nothing prevents you from coming back*) and abides by the logical structure proposed for *Prevent* verbs below.

Try verbs and *Fail* verbs can be represented by means of an Accomplishment logical structure in such a way that it is stated that the first participant fails (that is to say, is not successful) in doing something, as in *The speaker failed to convince the audience*. The action eventually does not take place, but there is a change when the first participant gives up after realising that they will not be able to perform the intended action. Since failing and trying are durative, the BECOME component of the logical structure of the Accomplishment represents both the component of change and the component of duration. The first argument is an Experiencer and receives the macrorole Undergoer, while the second can be a noun phrase that entails a verbal predication or a typical verbal predication. When it is a predication, the juncture takes place at core level and the nexus type is coordination because the two nuclei are not adjacent, but separated by a complementiser. The interclausal semantic relation in point is Phase. The logical structure of *Try* verbs and *Fail* verbs is shown in Figure 9.

Try verbs, *Fail* verbs
 ACCOMPLISHMENT
 BECOME (NOT **successful'** (x, y))

Figure 9: *The logical structure of Fail verbs.*

It is worth pointing out with respect to Figure 9 that the representation of logical structures in RRG makes two basic distinctions: between stative and dynamic *Aktionsart* types, on the one hand, and between non-causative and causative *Aktionsart* types, on the other. An important consequence of this is that, considering that the difference between non-causative and causative is not relevant in these cases, the y in BECOME (NOT **successful'** (x, y)) represents the linked core. It may be dynamic, as in *He failed to reach the summit*; or stative, as is the case with *They tried to be polite*.

The logical structure of *Hinder* verbs is related to the one for *Fail* verbs presented in Figure 9. However, *Hinder* verbs are transitive and *Fail* verbs are not. Furthermore, *Hinder* verbs are durative and atelic. For these reasons, the logical structure of *Hinder* verbs is causative, in order to express that someone or something makes an action become difficult or impossible. The logical structure of *Hinder* verbs is also atelic, which accounts for the fact that the activity of hindering does not have clear-cut temporal boundaries. The logical structure proposed for *Hinder* verbs is the Causative Activity type. The first argument of the Activity, which gets the thematic role of Agent and receives the semantic macrorole Actor, makes the first argument of the linked clause not to do something. The juncture takes place at core level and the nexus type is coordination because the passive is possible on the argument that receives the thematic role Patient (*They were hindered*), but not on the one that gets Theme (**The improvement of the rate was hindered by delays*). The interclausal semantic relation is Cause. Notice that the complex predicate **do.successfully** has been incorporated. This can be seen in Figure 10.

Hinder verbs
 CAUSATIVE ACTIVITY
do' (x, [**predicate'** (x, y) CAUSE [NOT **do.successfully'** (y, z)]

Figure 10: *The logical structure of Hinder verbs.*

Prevent verbs are similar to *Hinder* verbs in that both classes of verbs preclude the happening of an action and that this can take place for a while, that is to say, both are durative and as such correspond to an active *Aktionsart* type: both *A software issue prevented customers from updating their profiles* and *A software issue was preventing customers from updating their profiles* are possible. On the other hand, *Prevent* verbs presuppose that the action in question does not take place, whereas *Hinder* verbs do not. For this reason, a complex representation of the type NOT **do.successfully'** (y, z) has been defined for *Hinder* verbs, while the logical structure of the linked clause of *Prevent* verbs contains the lexical representation NOT **do'** (y, z). The first argument of the Activity, which performs the function of Agent and gets the macrorole Actor, causes the first argument of the linked clause not to do an activity (typically). This is the Undergoer of the matrix clause. The second argument of the linked clause can be a noun phrase or a predication. If it is a predication, the juncture is core juncture and the nexus type is coordination because operators cannot be shared and the Undergoer of the primary predication also functions as Actor of the secondary one. In traditional terminology, the dependent clause has its own subject and, consequently, the nexus cannot be cosubordination, which requires the same subject in the matrix clause and the linked core, but coordination. The interclausal semantic relation is Cause. The logical structure for *Prevent* verbs is presented in Figure 11.

CAUSATIVE ACTIVITY
[do' (x, [**predicate'** (x, y)])] CAUSE [NOT **do'** (y, [**predicate'** (y, z)])]

Figure 11: *The logical structure of Prevent verbs.*

The logical structure in Figure 11, however, cannot be applied to all verbs listed as *Prevent* verbs. It holds good for verbs like *prevent*, but it is not suitable to other verbs like *prohibit*. Since this may result into a new class after the analysis of the corresponding Old English verbs; and verbs of prohibition have not been considered in this discussion so far, they are discussed in detail below.

In the first place, forbidding is a speech act. It has the illocutionary force of a negative imperative of the form *Don't do X*. Secondly, verbs like *prohibit* do not presuppose that the

forbidden action does not take place. In this respect, verbs of prohibition are substantially different from *Prevent* verbs, which presuppose that the action was not accomplished (*The ministers prevented the president from resigning*). *Prevent* verbs, unlike *Prohibit* verbs, take the complementiser *from*. Thirdly, the first argument of the verb *prohibit* is a prototypical agent: a volitional human initiator with authority over the addressee, as for instance, in *The new government has forbidden to sell chewing gum*. The addressee undergoes a punctual change of state whereby they are no longer allowed to do something. This is typically a change controlled by the addressee. The change of state is punctual, from being allowed to not being allowed to do something. The logical end of this process is that someone is effectively forbidden to do something. The Causative Achievement logical structure has been selected to indicate that a process has taken place whereby someone is no longer allowed to do something. Typically, an action is forbidden but the stative option must be considered too (thus, for example, *Minors are forbidden to be candidates*). In both options, the metapredicate INGR indicates that there is telicity and the change is punctual. The logical structures of verbs of prohibition such as *forbid* can be seen in Figure 12.

CAUSATIVE ACHIEVEMENT

[do' (x, [predicate' (x, y)]] CAUSE [INGR (NOT allowed' (y, z))]

Figure 12: *The logical structure of the verb to forbid.*

To summarise, the logical structure posited for verbs of prohibition is a Causative Achievement expressing a punctual change whereby someone is no longer allowed to do something. To link the semantics to the syntax of verbs of prohibition, it must be borne in mind that the second argument of the linked clause can be a noun phrase based on the nominalisation from a verb (*the use of mobile phones*) or a predication (*to use mobile phones*). If it is a predication, the juncture is a core juncture because there is a complementiser (*to*) between the two nuclei, which are not, as a result, adjacent. The nexus type is coordination because the Actor of the matrix clause is not the controller of the pivot in the linked clause (the non-finite verbal form does not share the subject with the finite verbal clause, in traditional terminology). In the active, the PSA is the Actor.

Refrain verbs are basically stative, but also convey a meaning of action. They are verbs of volition expressing an act of will that excludes a certain action of the main participant. There are not other participants, neither is there interaction with other participants. *Refrain* verbs are either syntactically intransitive (*He refrained from taking vengeance*) or reflexive (*He refrained himself from taking vengeance*), but cannot be used causatively: **He refrained her from taking vengeance*. An argument in favour of a State *Aktionsart* for *Refrain* verbs is that they do not easily admit progressive tenses: **He was refraining himself from taking vengeance*. This also happens to other verbs of volition and preference, such as to want, to like, etc.: **I am wanting...*, **I am liking...* *Refrain* verbs can be interpreted as verbs of obligation, although the target of obligation is oneself. The alternation involving the reflexive pronoun can be understood as a question of emphasis: the construction with the explicit reflexive is more emphatic than the one with implicit reflexive. *Refrain* verbs are semantically complex and this complexity is also present in their syntax. Refraining presupposes that the action from which someone refrains does not take place. At the same time, it is necessary to want something in order to be able to refrain from it. Furthermore, *Refrain* verbs are semantically transitive. That is to say, expressions like *?They refrained* are possible but unacceptable without a specific context. This points to a compound logical structure of *Refrain* verbs, consisting of a first part of volition and a second part of inaction.

In the part of volition (the state) of the logical structure of *Refrain* verbs, the first argument receives the thematic role of Wanter and gets the Macrorole Undergoer. In the inaction part (the activity) of the logical structure, the first argument realizes the thematic role Effector and is assigned the semantic macrorole Actor. It is also the Undergoer of the stative part of the logical structure. When the construction is reflexive, the first argument of the state is realised twice. The second argument of the volition part in the logical structure of *Refrain* verbs is Desire. This is a non-macrorole that can be realised by means of a noun phrase or a verbal predication. When it is a noun phrase, it can be described as a non-macrorole oblique constituent governed by a preposition. When it is a verbal predication, it can be analysed as a non-macrorole core linked to the matrix predication by a complementiser. The complex structure is a core juncture because the two nuclei are not adjacent. With respect to the nexus, the matrix clause and the linked core share the first argument. In traditional terminology, the dependent clause does not have its own subject, but shares it with the main clause. Therefore, the nexus is co-subordination. The interclausal semantic relation is Phase. The logical structure of *Refrain* verbs is presented in Figure 13.

STATE & ACTIVITY

[want' (x, y)] & [NOT do' (x, [predicate' (x, y)]]

Figure 13: *The logical structure of Refrain verbs.*

The discussion above shows that there are certain meaning coincidences in the set of verbs that have been considered, but also that there are significant differences in grammatical behaviour. This can be seen from two angles, according to the framework of verb classes and alternations. From the perspective of the consistency of the set of verbs of inaction, the differences in grammatical behaviour make it impossible to regard these verbs as a single class. As many classes as logical structures need to be distinguished. From the point of view of the components of meaning, the aspects that have been considered in order to define the lexical representation of the verbal classes can be used to define meanings in a clearly distinguished and well-motivated way. This is done in section 5.

5. APPLYING LEXICAL REPRESENTATION TO MEANING DEFINITION

This section applies the lexical representations and the logical structures given in the previous section to a definition of the meaning of verbs of inaction that can be adopted in lexicographical work. The definitions in Figure 14 are restricted to the transitive uses of verbs of inaction and take the following aspects into account: whether the verb is active or stative; whether an activity or a change are implied; whether the meaning is punctual or durative; whether the initiator is volitional or non-volitional; whether the initiator acts independently or is forced by another participant to act; and, finally, if the action is effectively impeded. The typical characterisation of each verb with respect to each of these choices has been selected. Even though it would always be possible to find a durative use of a punctual verb, the durative use can be discarded as atypical.

All these aspects can be directly related to the lexical representations and logical structures of verb of inaction proposed in section 4. Thus, the grammatical behaviour of these verbs guides the definition of their meaning.

end, finish; cease, stop; desist, relinquish: to discontinue the performance of an activity deliberately at a certain time;

try, attempt; strive, struggle, endeavour; fail, neglect, omit, give up: to become unsuccessful in doing an activity for a certain time;
hinder, hamper: to deliberately cause someone to become unsuccessful in doing an activity for a certain time;
refrain, abstain, forbear: to undergo such a state that a certain course of action is avoided by oneself at a given time;
prevent, restrain; constrain, impede: to effectively impede that someone performs an activity for a certain time;
forbid, prohibit: to deliberately and punctually disallow someone to perform an activity at a certain time.

Figure 14: The meaning definitions of verbs of inaction.

The definitions in Figure 14 have several advantages. As has already been said, they are based on the grammatical behaviour of the verbs of inaction. Secondly, they define verbs by means of verbs. Thirdly, of the problems identified by Adamska-Sałaciak (2012), these definitions clearly avoid circularity and obscurity, single-clause-when definitions and lack of precision due to the limitations of the defining language. They may be said to entail a hierarchical structure because the individual verbs are first of all inserted into a verbal class and the verbal classes are later on related to a set of classes. With respect to the hierarchical structure, it must also be remarked that these are skeletal meaning definitions, shared by all the verbs in the class, and compatible with additional meaning components if required throughout lexicographical practice. For example, *neglect* tends to be volitional, whereas *omit* is usually understood as non-volitional; *stop* is neutral with respect to duration, while *desist* often implies that an action has been attempted several times or for a long time; *try* has a neutral value, while *strive* or *struggle* convey a meaning of effort; *abstain* has religious connotations, whereas *forbear* has a more general meaning.

Finally, the definitions presented in Figure 14 concur with several of the requirements of systematic Lexicography defined by Apresjan (2000, 2002). They rely on an explicit conceptualization of clausal semantics by means of *Aktionsart* types, thematic roles and semantic macroroles; they take a step towards the unification of grammatical descriptions (carried out by means of logical structures) and meaning descriptions (that take the form of lexical representations of *Aktionsart* type and argumental structure); and the formulation of the rules that determine the interaction of syntax and semantics (which is guaranteed in RRG by linking principles and hierarchies).

6. CONCLUDING REMARKS

This article has dealt with the definition of the meanings of verbs of inaction in English. Within the frameworks of verbal classes and alternations and RRG, the article has proposed lexical representations, logical structures and some aspects of the linking semantics-syntax of *Fail* verbs, *End* verbs, *Try* verbs, *Hinder* verbs, *Refrain* verbs and *Prevent* verbs. The lexical representations of these verbs in RRG terms have then been applied to the definition of meanings characteristic of lexicographical work. The main conclusion of this work is that the resulting meaning definitions contribute to a more systematic lexicographical practice and avoid some of the problems identified in the field of Lexicography when it comes to defining meanings, such as circularity, obscurity, single-clause-when definitions and lack of precision due to the limitations of the defining language. From the applied perspective, it remains for future research to define the meaning of other verbal classes on the basis of lexical representations, logical structures and linking. On the theoretical side, it is also pending for future research to determine if further aspects of the theory of RRG, such as focus structure, are necessary in order to explicitly conceptualise clausal semantics.

ACKNOWLEDGMENTS

This research has been funded through the grant FFI2107-83360P, which is gratefully acknowledged.

REFERENCES

Adamska-Sałaciak, A. (2012). Dictionary definitions: problems and solutions. *Studia Linguistica Universitatis Iagellonicae Cracoviensis*, 129, 7-23.

Apresjan, J. (2000). *Systematic Lexicography*. Oxford: Oxford University Press.

Apresjan, J. (2002). Principles of systematic lexicography. In M. H. Corréard (Ed.), *Lexicography and Natural Language Processing. A Festschrift in Honour of B.T.S. Atkins* (pp. 91-104). Grenoble: Euralex.

Cortés Rodríguez, F. & Martín Díaz, M. A. (2003). The meaning-syntax interface of writing verbs: templates, constructions and linking rules within a lexical grammar of Old English verbal predicates. *Revista Canaria de Estudios Ingleses*, 47, 13-35.

Cortés Rodríguez, F. & Torres Medina, D. (2003). Old English verbs of running: linking semantic representation and morphosyntactic structure. *Folia Linguistica Historica*, XXIV/I, 153-174.

Cortés Rodríguez, F. & González Orta, M. (2006). Anglo-Saxon verbs of sound: semantic architecture, lexical representation and constructions. *Studia Anglica Poznaniensia*, 42, 249-284.

Foley, W. & Van Valin, R. (1984). *Functional Syntax and Universal Grammar*. Cambridge: Cambridge University Press.

García Pacheco, C. L. (2013). *Los verbos de sentimiento en inglés antiguo: arquitectura léxica e interfaz semántica-gramática*. PhD Dissertation, Universidad de La Laguna.

García Pacheco, L. M. (2013). *El dominio verbal de la existencia en anglosajón. Análisis semántico-sintáctico*. PhD Dissertation, Universidad de La Laguna.

González Orta, M. (2002). Linking syntax and semantics in Old English verbs of warning. *Estudios Ingleses de la Universidad Complutense*, 10, 157-182.

González Orta, M. (2003). The Old English verbs of smell perception and emission: analysis of the interface of their semantic and syntactic representation. *SELIM*, 12, 33-48.

González Orta, M. (2004). *Diccionario sintáctico del léxico verbal del inglés antiguo: verbos de habla*. La Laguna: Servicio de Publicaciones de la Universidad de La Laguna.

González Orta, M. (2005). The interrelation of semantic structure and syntactic variation in Old English verb classes: catalogue of syntactico-semantic constructions. *Revista Alicantina de Estudios Ingleses*, 18, 111-128.

- González Orta, M. (2006). The resultative construction in Old English: towards a semantic network of verb classes. *Studia Neophilologica*, 78, 123-137.
- Levin, B. (1993). *English Verb Classes and Alternations*. Chicago: University of Chicago Press.
- Martín Arista, J. (2000a). Sintaxis medieval inglesa I: complementación, caso y sintaxis verbal. In I. de la Cruz Cabanillas & J. Martín Arista (Eds.), *Lingüística histórica inglesa* (pp. 224-312). Barcelona: Ariel.
- Martín Arista, J. (2000b). Sintaxis medieval inglesa II: funciones, construcciones y orden de constituyentes. In I. de la Cruz Cabanillas & J. Martín Arista (Eds.), *Lingüística histórica inglesa* (pp. 313-377). Barcelona: Ariel.
- Martín Arista, J. (2017). El paradigma derivativo del inglés antiguo: alternancias, recursividad y desajustes en la formación basada en los verbos fuertes. *Onomazeín*, 37, 144-169.
- Martín Arista, J. (2018). The semantic poles of Old English: toward the 3D representation of complex polysemy. *Digital Scholarship in the Humanities*, 33(1), 96-111.
- Schierholz, S. (2015). Methods in lexicography and dictionary research. *Lexikos*, 25, 323-352.
- Solomonick, A. (1996). Towards a comprehensive theory of lexicographic definitions. In M. Gellerstam, J. Jäborg, S. Malmgren, K. Norén, L. Rogström & C. Røjder Pammehl (Eds.), *EURALEX '96 Proceedings. Papers submitted to the Seventh EURALEX International Conference on Lexicography* (pp. 481-488). Göteborg: Department of Swedish of Göteborg University.
- Sosa Acevedo, E. (2007). The semantic representation of Anglo-Saxon *(ge)séon* and *(ge)lócian*: syntactic evidence for meaning decomposition. *RÆL. Revista Electrónica de Lingüística Aplicada*, 6, 92-107.
- Sosa Acevedo, E. (2009). Lexical classes and the conative construction in Old English. *Studia Anglica Posnaniensia*, 45, 69-90.
- Van Valin, R. (2005). *Exploring the Syntax-Semantics Interface*. Cambridge: Cambridge University Press.
- Van Valin, R. (2014). *Some questions concerning accomplishments*. Lecture delivered at the 2014 Symposium on Verbs, Clauses and Constructions. Logroño, La Rioja, Spain.
- Van Valin, R. & LaPolla, R. (1997). *Syntax: structure, meaning and function*. Cambridge: Cambridge University Press.