THE LEXICAL REPRESENTATION OF ENGLISH VERBS OF ACTION. COMPLEX PREDICATES AND STRUCTURES

Ana Elvira Ojanguren López
Universidad de La Rioja, Spain

Abstract: This article aims at proposing a lexical representation for a set of English verbs of action. The analysis is carried out on the grounds of Role and Reference Grammar (RRG) and includes aspects like Aktionsart type, macrorole and syntactic function assignment, linking, as well as nexus and juncture. Against this background, the meaning components of the verbs in question are analysed, in such a way that a logical structure based on a lexical representation is defined for each verbal class. Conclusions fall on both the descriptive and the theoretical side. From the descriptive point of view, Fail and Try verbs constitute a unified verbal class as regards their meaning components and grammatical behaviour and, thus, they are represented by means of a unified logical structure. Conversely, Prevent verbs and Forbid verbs require different logical structures that account for their divergent grammatical behaviour, corresponding to the Causative Activity and Causative Achievement Aktionsart types respectively. On the theoretical side, the logical structures of End verbs, Fail verbs, Try verbs and Prevent verbs stick to the canonical representations of RRG, while those of Hinder verbs and Refrain verbs require complex predicates and complex logical structures which allow to incorporate extra meaning components and to combine different Aktionsart types.

Keywords: Lexical Representation, Logical Structures, Verb Classes, Role and Reference Grammar.

1. AIMS, SCOPE AND OUTLINE

The main aim of this article is to propose a lexical representation for some English verbs of action that includes a specification of the internal aspect of the verb and a projection of its argument structure. The discussion is based on the theory of Role of Reference Grammar (hereafter RRG; Foley & Van Valin, 1984; Van Valin & LaPolla, 1997; Van Valin, 2005, 2014), so that it is also an aim of this article to discuss the consequences of the lexical representation of these verbs for the system of *Aktionsart* types and logical structures posited by RRG.

The article is organised as follows. Section 2 lays the theoretical foundations of the analysis, which include the *Aktionsart* types, the assignment of thematic roles and semantic macroroles, as well as the nexus and juncture types of RRG. Section 3 makes some methodological remarks concerning the choice of verbs of action. Section 4 offers the lexical representations and logical structures for which no modification of the current framework of RRG is necessary. Section 5 proposes two lexical representations that deviate in some aspects from the canonical representations of RRG. Finally, section 5 draws the conclusions of the research.

2. LEXICAL REPRESENTATION AND LINKING IN RRG

This section summarises the aspects of the theory of RRG that are necessary for addressing the questions raised in this article.

RRG (Foley & Van Valin, 1984; Van Valin & LaPolla, 1997; Van Valin, 2005, 2014) is a theory of language whose main goals are interlinguistic applicability and the association between pragmatics, syntax and semantics. The

following areas of this theory are reviewed below: lexical representation, including verbal *Aktionsart*, thematic roles, and logical structures; and the assignment of semantic macroroles and Privileged Syntactic Argument (PSA), as well as the application of the different types of nexus and juncture. Some aspects of the linking between the semantic and the syntactic representation of the clause are also considered. These basic aspects of RRG are discussed in more detail in this section, which is based on the overview of the theory available from http://linguistics.buffalo.edu/people/faculty/vanvalin/rrg/RRG_overview.pdf.

The point of departure of the lexical representation in RRG is the *Aktionsart* class. The *Aktionsart* class is the internal aspect of the verb. It is different from the external aspect of the clause, which belongs to the TAM complex of operators (tense-aspect-modality) and expresses epistemic and deontic modality. The RRG typology of *Aktionsart* consists of four classes: State, Achievement, Accomplishment and Activity. State and Activity are the basic types. States are static, whereas activities are dynamic. The derived types include, in the first place, the Achievement and the Accomplishment. Achievements are punctual changes, whereas accomplishments are durative processes. Van Valin and LaPolla (1997:91-102) also distinguish the class of Active Accomplishments (involving the telic use of Activity verbs) and the causative versions of all *Aktionsart* classes. Van Valin (2005:32-34) puts forward the Semelfactive, or punctual event, 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]	*Leon is a fool.*
Activity [-static], [+dynamic], [-telic], [-punctual]	*The children cried.*
Semelfactive [-static], [± dynamic], [-telic], [+punctual]	*The light flashed.*
Achievement [-static], [-dynamic], [+telic], [+punctual]	*The window shattered.*
Accomplishment [-static], [-dynamic], [+telic], [-punctual]	*The snow melted.*
Active accomplishment: [-static], [+dynamic], [+telic],[-punctual]	*Paul ran to the store*

Figure 1. *Aktionsart* or internal aspect (Van Valin, 2005:33).

The lexical representations in Figure 1 give rise to logical structures. The *Aktionsart* types with the associated logical structures can be seen in Figure 2. The main distinctions in logical structures arise between stative (**predicate´**) and dynamic (**do´**) *Aktionsart* types; and between non-causative and causative *Aktionsart* types. The variables *x, y* and *z* stand for verbal arguments (semantically compulsory). The labels *INGR(essive), SEM(e)L(factive), BECOME* and *CAUSE* represent, respectively, ingressives, semelfactives, accomplishments and causatives.

Aktionsart 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.

Given the logical structures in Figure 2, the first step towards the syntactic representation of the clause is the assignment of semantic macroroles. Macroroles are generalised semantic roles, called *Actor* and *Undergoer*, on which the semantic interpretation of verbal arguments depends. Macroroles make grammatical generalisations across the argument structure of verbs. In a transitive predication, the *x* argument of the verb is the Actor and the *y* argument bears the macrorole Undergoer. In an intransitive predication, the semantic properties of the verb determine whether the only argument functions as an Actor or as an Undergoer. The maximal number of macroroles that a verb can take is two. In ditransitives, such as like *to present someone with something* or to *give something to someone*, the third argument is called the *non-macrorole oblique core argument*.

The syntactic representation of the clause comprises PSA, direct core arguments and oblique core arguments. It must be noted in this respect the syntactic functions subject and object are not considered universal in RRG. For this reason, this theory posits the concept of PSA. The PSA is a construction-specific function resulting from the neutralisation of thematic roles and pragmatic functions for syntactic purposes. This means that the PSA is the controller of the agreement between the finite verb and the first argument; and/or the noun phrase around which the complexity of the construction revolves, that is to say, the noun phrase that is omitted, shared, raised etc. Any

argument in the sentence different from the PSA is either a direct core argument or an oblique core argument. For instance, in *someone gives something to someone else*, *someone* gets PSA, *something* is a direct core argument and *to someone else* is analysed as an oblique core argument because it is governed by preposition. As has been said above, *someone* gets the macrorole Actor and *something* the Undergoer.

Linking is the correspondence 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 realized in the syntax, and, conversely, that all the elements of the syntactic expression must be linked to some argument in the semantic representation in order to be interpreted. The main elements of linking are verb agreement, case assignment and prepositional government. The treatment of constructions is in accordance with these aspects.

To recapitulate, the main descriptive device of the linking between semantics and syntax is the logical structure. The logical structure is a layered representation that originates in the lexical representation of the verb and is expanded by means of the macroroles and syntactic functions. The resulting structure is a tree-diagram representation of the clause that displays the argument projection and the operator projection (semantic and morphological features like external aspect, tense, modality, etc.). All the elements involved in the realization of the arguments, like agreement, case assignment and prepositional government, together with the relevant construction, constitute the linking algorithm of RRG.

The linking algorithm operates clause by clause. The layered structure of the clause is a hierarchical structure that can be broken down into several semantic layers defined by the scope of operators (especially the TAM -tense-aspect-modality- complex; Foley & Van Valin, 1984:210). The following layers are distinguished in the layered structure of the clause: the *core*, including the verbal nucleus, its arguments and its argument-adjuncts, as in *eat cake* and *go to the mountains* respectively; the *clause*, which comprises the core and the *periphery* (as in *play football on Sunday*), and the *sentence*, which consists of one or more clauses, as in *I always read a novel before going to bed*.

The treatment of complex sentences in RRG is based on the hierarchical structure of the clause just described. RRG distinguishes the type of unit (juncture) from the type of relation (nexus) involved in the complex sentence. These aspects are considered independently. The default choice for the formation of complex sentences is the combination of nuclei with nuclei, cores with cores, clauses with clauses, and sentences with sentences. These are the different *levels of juncture*. According to the degree of complexity of the combining units, several levels of juncture arise: nuclear juncture, core juncture, clausal juncture, and sentential juncture. Nuclear junctures, to begin with, are complex constructions that contain several nuclei. For example, in *John forced open the can*, two nuclei, *force* and *open*, appear in a single core. Core junctures are made up of two or more cores, as in *I had Fred to force the can open*. In this type of juncture, a core argument is shared by two cores (the noun phrase *Fred*). In English, intransitive verbs only can be found in the linked predication of a nuclear juncture (Van Valin & LaPolla, 1997:445). A clause juncture can be identified in more complex structures like *John met Mary yesterday and Jim met her too*. Further differences between the levels of juncture are due to complementisers (*to, from*, etc.). Thus, nuclear junctures do not take complementisers, whereas core junctures may include them. Consequently, the two nuclei can be adjacent in a nuclear juncture, but not in a core juncture.

The syntactic and semantic relations between the units in a juncture, called *nexus*, are coordination, subordination and cosubordination. Subordination can belong to two types: if the subordinate clause is an argument, as in *That they got married surprised everyone*; and peripheral subordination, if the subordinate clause is a periphery, as in *The news was everywhere before they noticed*. Daughter subordination (involving linked predications as arguments of the matrix predication) and peripheral subordination (consisting of a linked predication as periphery of a matrix predication) can take place at the levels of the nucleus, the core, and the clause. However, subordination requires the possibility of clefting and passivisation. For example, *Mary criticised Jim´s resigning his position* is an instance of subordination because *It was Jims´s resigning his position that Mary criticised* (cleft) and *That Jim resigned his position was criticised by Mary* are possible (passive; Van Valin & LaPolla, 1997:445). The third nexus type of RRG is called *cosubordination*, or dependent coordination. In cosubordination, the dependence results from the scope of the operators. In other words, the units must share at least one operator at the relevant level of juncture. For example, in *Jack sat drinking beer* the operator of imperfect aspect has scope over both nuclei, considering that a paraphrase like *Jack sat and drank beer* is possible.

3. SOME METHODOLOGICAL REMARKS

The selection of verbs for this article draws on Faber and Mairal's (1999) lexical domains of English. These authors provide a list of thirteen lexical domains, including Action. Within this domain, the following subdomains belong in a group that can be described as *verbs of inaction*: To not to do something; To cause somebody not to do

something; To stop doing something; and To make an effort in order to be able to do something. Two subdomains not included in Faber and Mairal (1999:279-293) are taken into consideration in this work so that the group of verbs of inaction is coherent and exhaustive: To make it difficult for someone to do something; and To refrain oneself from doing something. This is shown in Figure 3.

To stop doing something [*end, finish*] relinquish, cease, stop, desist;

To make an effort in order to be able to do something [*try, attempt*] strive, struggle, endeavour;

To not do something [*fail, neglect*] desist, omit, give up, abandon;

To cause somebody not to do something [*prevent*] forbid, prohibit, restrain (someone from), detain, constrain, impede;

To make it difficult for someone to do something [*hinder*] hamper, impede;

To refrain oneself from doing something [*refrain*] restrain, abstain, forbear.

Figure 3. The classes of verbs of inaction.

The subgroups of verbs of inaction in Figure 3 are considered, in line with Levin (1993), verbal classes. This means that each set constitutes a unified and consistent inventory that is justified on the basis of the semantics and the syntax of the verbs that belong to the class. As in Levin (1993:10), the semantics of a given verb determines the range of expressions in which it is found, while the syntactic configuration of the class of verbs is a criterion of class membership. Put differently, the number and form of the arguments of a verb are determined by the meaning components of the verb in question; and the verbs that belong to the same class on the grounds of their grammatical behaviour are expected to share meaning components. The grammatical behaviour of verbs in this framework include argument realization, diathesis alternations and morphological properties.

According to two authoritative sets of dictionaries (https://en.oxforddictionaries.com; http://dictionary.cambridge.org), the verbs in Figure 3 share a meaning component that can be described as the non-happening of an event, either because the action referred to by the verb ceases, as in *We stopped the collaboration*; or because it is never completely accomplished, as in *They tried to break into the apartment*. Consequently, these verbs call for a secondary predication expressing the action that finished or never occurred.

The sentences in which verbs of inaction appear show a considerable degree of semantic and syntactic integration. The integration of events is reflected in the syntax, so that these verbs take a secondary predication of the form of a linked clause with a finite form of the verb and introduced by a conjunction; or a linked core with a non-finite form of the verb (infinitive or gerund) without subordinator marker; or a gerund governed by a preposition. For instance, *Prevent* verbs admit two of these configurations: *The law prohibits drivers from using mobile phones* vs. *The law prohibits that drivers use mobile phones.*

Regarding the morpho-syntactic alternations presented by the different argument realizations, but for *Fail* verbs and *Hinder* verbs these classes are found in the Nominalisation alternation, which can be identified in pairs like *The board attempted to approve the new policy* vs. *The board attempted the approval of the new policy*. Of the alternations proposed by Levin (1993), *Try* verbs appear in the To/for alternation, thus *The country struggled to survive* vs. *The country struggled for survival*; and the Understood reflexive object alternation is found with *Refrain* verbs, thus *He refrained from bursting out* vs. *He refrained himself from bursting out*.

With these premises, the research method consists of three main steps. In the first place, the meaning components of the verb are analysed with a view to defining a lexical representation. Secondly, the following parts of the semantic representation and the syntactic representation are dealt with: *Aktionsart* type, macrorole and syntactic function assignment, nexus and juncture and linking. Finally, the layered representation (based on the lexical representation) of each verbal class is provided. Section 4 concentrates on the verbal classes whose lexical representation can be proposed without deviation from the canonical model of RRG. Section 5 proposes two modifications of the canonical model of lexical representation of RRG that are required by the data and, moreover, are compatible with other modifications that have already been proposed.

4. THE REPRESENTATION OF *END* VERBS, *FAIL* VERBS, *TRY* VERBS AND *PREVENT* VERBS

The *Aktionsart* class of *End* verbs is the Achievement, which corresponds to an ingressive and telic event. Thus, the lexical representation shows that the ongoing activity has a punctual endpoint. *End* verbs take one macrorole only. In an expression like *John finally stopped playing the drum*, the x argument plays the thematic role Effector and receives the macrorole Actor.

End verbs
ACHIEVEMENT
INGR **do´** (x, [**stop´** (x, y)])
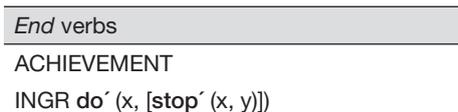
Figure 4. The logical structure of *End* verbs.

The y argument in the logical structure in Figure 4 is a linked predication. In an expression such as *She stopped working,* the juncture takes place at the nuclear level because there is no complementiser between the two nuclei and the second verb is intransitive (Van Valin & LaPolla, 1997:460). The nexus type is cosubordination given that one argument that receives the macrorole Actor is shared by the matrix predication and the linked predication. The complex sentence, therefore, is an example of nuclear cosubordination. In expressions such as *She ceased to work,* the juncture takes place at core level because the two nuclei are not adjacent. The nexus relation is also cosubordination because the Actor is not the controller of the pivot missing in the linked predication (or the dependent clause has its own subject, in traditional terminology. The complex construction is an instance of core cosubordination.

Try verbs and *Fail* verbs can be represented by means of an Accomplishment logical structure which expresses that the first participant is not successful in doing something, as in *The party failed to attract new voters*. Although the presupposition involved in this type of expression is that the action does not take place, there is a change because the main participant realizes that they will not be able to perform the intended action and give up. Considering that failing and trying are durative, the BECOME component of the logical structure of the Accomplishment stands for both the feature of change and the component of duration. The x argument plays the thematic role Experiencer and receives the macrorole Undergoer, while the second is typically a linked predication.

Try verbs, *Fail* verbs
ACCOMPLISHMENT
BECOME (NOT **successful´** (x, y))
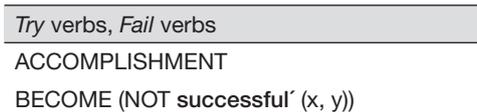
Figure 5. The logical structure of *Fail* verbs.

The logical structure in Figure 5 represents expressions like *The visitors tried to take pictures of the hall*. In such expressions, the juncture takes place at core level because the two nuclei are not adjacent but separated by the complementiser *to*. The nexus relation is cosubordination because deontic modals have scope over the two cores (as, for instance, in *The visitors should not try to take pictures of the hall*). The complex sentence, therefore, is an instance of core cosubordination.

Prevent verbs express an event in which someone precludes the happening of an action, in such a way that both the verb in the matrix predication and the verb in the linked predication are related to each other by causation. The *Aktionsart* type is the Causative Activity because the event is durative, so that both expressions in pairs like the following are possible: *A software issue prevented customers from updating their profiles* and *A software issue was preventing customers from updating their profiles*. The logical structure of the linked predication of *Prevent* verbs contains the lexical representation NOT **do´** (y, z). The x argument of the Activity, which plays the thematic role Agent and gets the macrorole Actor, impedes that the y argument of the linked predication performs an activity. This is also the y argument and the Undergoer of the matrix clause. When it gets PSA, passives on the Undergoer result like *They were prevented from joining the club*.

CAUSATIVE ACTIVITY
[**do´** (x, [**predicate´** (x, y)])] CAUSE [NOT **do´** (y, [**predicate´** (y, z)]]
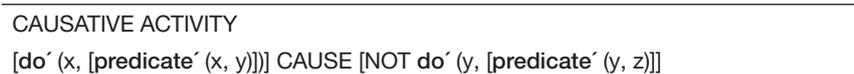
Figure 6. The logical structure of *Prevent* verbs.

As can be seen in the logical structure in Figure 6, the juncture takes place at core level because the two nuclei are separated by the complementiser *from*. The nexus type is coordination. Although the Undergoer of the matrix clause is also the Actor of the linked core (in traditional terminology, the dependent clause has its own subject), the nexus cannot be cosubordination because this type of nexus requires the same subject in the matrix clause as in the linked core; and operators with scope over the two cores. It cannot be subordination, either, because it is a requirement of subordination that the linked predication is a macrorole argument of the matrix predication. In this respect, it must be taken into account that passives like the following cannot be made: **That customers updated their profiles was prevented by a software issue/*For customers to update their profiles was prevented by a software issue*. The complex sentence, consequently, is an instance of core coordination.

While the logical structure in Figure 8 is valid for verbs such as *prevent*, it cannot be applied to verbs like *forbid* or *prohibit*. Unlike *prevent*, *forbid* and *prohibit* do not presuppose that the forbidden action does not take place. Thus, for instance, expressions like *The directors prevented the members from objecting to the proposal,* which presuppose that the action was not accomplished; as opposed to others like *The directors prohibited the members to object to the proposal,* which do not presuppose that the action was not accomplished. Furthermore, *Prevent* verbs, unlike *Forbid* verbs, take the complementiser *from*.

To represent *Forbid* verbs, the Causative Achievement logical structure has been selected. It describes a process initiated and terminated by someone as a result of which someone else is no longer allowed to do something. The component INGR in the logical structure in Figure 9 indicates that there is telicity and the change is punctual. This logical structure is a simplified version of the representation of *promise* (Van Valin & LaPolla 1997:551): [**do´** (w, [**express.**(a).**to.**(b).**in.language.**(c)´ (w, x)])]. As in this segment of the logical structure of *promise*, the logical structure of *forbid* specifies that the verb is a speech verb and that the activity relates an addresser to an addressee, so that the first argument of [**do´** (x, [**predicate´** (x, y)])] performs the thematic role of Actor and the second argument is the Recipient. The remaining element in the complementation pattern is the Theme, which is performed by the second argument of INGR (NOT **allowed´** (y, z)).

| *Forbid* verbs |
| --- |
| CAUSATIVE ACHIEVEMENT |
| [**do´** (x, [**predicate´** (x, y)])] CAUSE [INGR (NOT **allowed´** (y, z))] |
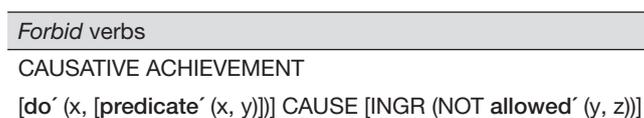
Figure 7. The logical structure of *Forbid* verbs.

Both the x, the y and the z argument can be macrorole arguments and get PSA status, depending on the nexus relations and juncture levels. As regards the assignment of macrorole, this constitutes a case of competition between two arguments for receiving the status of macrorole: the Patient and the Theme.

If the x argument in the matrix clause is the PSA of the construction, an active expression results such as *The directors prohibited that the members objected to the proposal.* It has to be noted that this construction is infrequent in English and usually found with fixed expressions like *God forbid that…* or *Heavens forbid that….* Nevertheless, the nexus relation is subordination because the linked predication is Undergoer of the matrix predication. The juncture takes place at core level because the clause is an argument of the verb. There is a complementiser and the linked predication contains a finite verb, so that the linked unit is a clause. The construction, consequently, is clausal subordination (note that the linked predication is a clause, thus the name, and that it belongs in the core of the matrix predication).

If the y argument is the PSA, the construction in point is *The directors forbid the members to object*. A passive can be formed on the argument y, which is shared by the matrix predication and the linked predication: *The members were forbidden to object by the directors*. Given that, as has been remarked above, only macrorole arguments can be PSAs (in traditional terminology, only arguments with macrorole can become subjects of the active or the corresponding passive), the Patient (*the members*) receives the macrorole Undergoer and then the y argument in the logical representation in Figure 7 is assigned PSA. It has to be taken into account that the y argument is shared by the matrix and the linked predication, but it is the second argument of the matrix predication (less marked as Undergoer) and the first argument of the linked predication (more marked as Undergoer). If the y argument receives the macrorole Undergoer and is the PSA, the juncture takes place at core level because the complementiser *to* separates the two nuclei. The nexus relation is coordination because a deontic modal operator like *must* does not have scope over the two cores (Van Valin & LaPolla 1997:460). Therefore, the resulting construction is an instance of core coordination.

When the z argument in the linked predication is the PSA of the construction, the resulting construction is a passive like *That the members objected was prohibited by the directors*. The juncture involves a clause because the linked predication is introduced by a complementiser and contains a finite verb. The linked clause is the Undergoer of the matrix clause and, consequently, the nexus relation is subordination. Put another way, the linked predication is an argument in the core of the matrix predication. The term *clausal subordination* makes reference to the linked predication rather than to the matrix predication, given that a clause is inserted into a core.

To summarise, this section has discussed the lexical representation of *End* verbs, *Fail* verbs, *Try* verbs and *Prevent* verbs. The similarity of the meaning components and especially the coincidence of the grammatical behaviour of *Fail* verbs and *Try* verbs advises to provide them with a unified logical structure. For the opposite reason, that is, the divergence of the grammatical behaviour of *Prevent* verbs with respect to *Forbid* verbs, two different logical structures have been proposed for these classes.

5. THE REPRESENTATION OF *HINDER* VERBS AND *REFRAIN* VERBS

It has not been necessary to deviate from the canonical lexical representation of RRG so as to define the logical structures discussed in section 4. The verbs discussed in the following section require a less canonical representation, although it is convergent and compatible with similar solutions adopted within the framework of RRG. Two questions are addressed in this section, namely the representation of complex predicates, with respect to *Hinder* verbs; and complex logical structures, with respect to *Refrain* verbs.

Complex predicates may require complex representations involving predicates with further lexical decomposition. In general, RRG does not favour this solution, although lexical decomposition below the level of the predicate has already been used. The Lexematic-Functional approach has analysed several classes of English and Old English verbs, including 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 (García Pacheco, 2013), and verbs of existence (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).

González Orta (2006) proposes a lexical template for the class of verbs of speech. A lexical template is an enriched version of the lexical representation of RRG that includes syntactic and semantic information within the same format, which is based on RRG logical structures. According to González Orta (2006), the resultative construction, which describes the state resulting from an action (Levin, 1993:101), can subsume subconstructions with verbs of speech. Verbs of speech, in this approach, code events that consist of certain subevents. With these subevents, the constructional template appears in a set of construction-based templates that represent the related constructions. This can be seen, with respect to verbs of command, in Figure 8.

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 8. Constructional templates with *command* verbs (González Orta, 2006).

The lexical decomposition of **do´** as **express.instructions.(a).to.(b). in.language.(c)´** explicates this predicate as the action of a an addresser (a) who gives instructions to an addressee (b) in a certain language (c). This is lexical decomposition below the level of the predicate and with a detail comparable to the description of clausal semantics. It draws on Van Valin & LaPolla (1997:551), who propose a logical structure for the verb to promise that is also based on a verb of speech decomposed lexically as **express.(a).to.(b).in.language.(c)´**. The logical structure in Figure 9 shows that the speaker expresses an obligation to someone and this causes that they become obligated (BECOME **obligated**) to do something.

Promise
CAUSATIVE ACCOMPLISHMENT
[**do´** (w, [**express.(a).to.(b).in.language.(c)´** (w, x)])] CAUSE [BECOME **obligated´** (w...)]

Figure 9. The logical structure of *to promise*.

A solution similar to the ones just reviewed, which rely on lexical decomposition below the predicate level is adopted for representing *Hinder* verbs. The logical structure of *Hinder* verbs is related to the one for *Fail* verbs presented in Figure 7. However, *Hinder* verbs are transitive. While *They failed* is acceptable, *They hindered* is not. Like *Fail* verbs, *Hinder* verbs are considered durative because they can be found in expressions such as *The meeting was failing for the position of some of the delegates* and *The position of some of the delegates was hindering the meeting*. On the other hand, *Fail* verbs are usually telic (the state of failure reaches its logical end) whereas *Hinder* verbs tend to be atelic (the hindrance can go on while the hindered action is not implemented). For these reasons, the logical structure of *Hinder* verbs is causative, expressing that someone or something makes an action become difficult or impossible; and atelic, meaning that the activity of hindering does not have clear-cut temporal boundaries. The *Aktionsart* proposed for *Hinder* verbs is the Causative Activity type, in such a way that the first argument of the Activity, which typically gets the thematic role Agent and receives the semantic macrorole Actor, causes the first argument of the linked clause not to do something.

Hinder verbs appear in two syntactic configurations: a simplex clause and a complex sentence. In the simplex clause, the thematic role Patient is played by a noun phrase that frequently entails a predication, as in *The arrest of the two women hindered the success of the talks* (*Two women were arrested, which hindered the success of the talks*). In the complex configuration, the maximum of arguments with realization is two, but the passive is possible on the argument that receives the thematic role Patient (*They were hindered from gathering by the speed of the wind*). It is not possible to assign PSA to the Theme if it is a verbal predication: **That the emergency services arrived was hindered by the speed of the wind/*For the emergency services to arrive was hindered by the speed of the wind*. A nominalization is necessary, in which case we cannot speak of a complex sentence: *The arrival of the emergency services was hindered by the speed of the wind*. In the complex configuration, the juncture takes place at core level because the two nuclei are not adjacent, but separated by a complementiser. As for the nexus relation, the dependent clause (in traditional terminology) has its own subject and, consequently, the nexus cannot be cosubordination, which requires the same subject in the matrix clause and the linked clause. Moreover, modal operators do not have scope over the two cores, which is a requisite of cosubordination. The nexus is one of coordination because the linked predication cannot become the PSA in passives based on the Theme (if such a passive was possible, the resulting nexus would be subordination). The complex sentence, then, is an instance of core coordination. This can be seen in Figure 10.

Hinder verbs
CAUSATIVE ACTIVITY
do´ (x, [**predicate´** (x, y) CAUSE [NOT **do.sucessfully´** (y, z)]
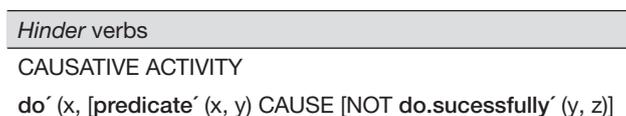
Figure 10. The logical structure of *Hinder* verbs.

It must be taken into account that the complex predicate **do.sucessfully** has been incorporated into the lexical representation of *Hinder* verbs. This has been done in order to explain the fact that a hindered action is not an action that never takes place, but an action that does not take place as planned or that does not take place successfully enough. This means that this logical structure accounts for the unspecific version of the verb in the linked clause (it is unclear whether the action referred to by the verb took place or not); or for the imperfective version of the verb in the linked core (the action referred to by the verb may have taken place despite the difficulties). That is to say, given expressions like *Huge debts hindered them from buying a house*, the logical structure in Figure 10 is accurate if the reading is unspecific or imperfective. If the reading is perfective (i.e. *they never bought the house*), the expression is synonymous with *Huge debts prevented them from buying a house* and, in consequence, the logical structure of *Prevent* verbs (presented in Figure 6) is more accurate.

As has been said above, this section discusses complex logical structures with respect to *Refrain* verbs. Complex logical structures have been used so far in RRG to account for two different phenomena: the causative version of the *Aktionsart* types presented in Figure 2 and the Active Accomplishment or telic version of Activity verbs, as in *eat pizza* (Activity) vs. *eat the pizza* (Active Accomplishment) or *run in the park* (Activity) vs. *run to the park* (Active Accomplishment). According to Van Valin (2014), the lexical representation of accomplishments must consist an activity and a resulting state in order to account for the processual part of durative telic events. As Van Valin (2014) remarks, running, writing and eating are incremental processes measured out by the incremental path or theme. The process should belong in the Active Accomplishment logical structure, but as simultaneous with the Activity. The logical structures of verbs of creation and consumption include an incremental Theme, while the ones of verbs of motion include an incremental Path. As can be seen in Figure 11, an activity and a process result in a change of location.


Sally ran two miles to the park

[**do´**(x, [**run´** (x)]) ∧ PROC **cover.path.distance´**(x, (y))] & INGR **be-at´**(z, x)

'x runs and simultaneously effects a process of covering a path of distance *y*, both of which terminate, and this leads to the result that *x* is located at *z*´

Sally ran two miles in only twenty minutes

[**do´**(x, [**run´** (x)]) ∧ PROC **cover.path.distance´**(x, (y))] & INGR **be-at´**(**path.endpoint**, x)

'x runs and simultaneously effects a process of covering distance *y*, both of which terminate, and this leads to the result that *x* is located at the endpoint of a path of length *y*'

Figure 11: Incremental paths in active accomplishments of motion (Van Valin, 2014).

Two aspects of the representation in Figure 11 deserve some comment. Firstly, complex lexical representations are used to express incrementality: **cover.path.distance´** and **be-at´**(**path.endpoint**, x). Secondly, the Activity is

parallel to the Accomplishment, which is represented by means of the symbol ∧. A similar solution is proposed for *Refrain* verbs.

Refrain verbs are different from the other verbs discussed here because they are basically stative, but also convey a meaning of action. *Refrain* verbs are verbs of volition that make reference to an act of will that excludes a certain action on the part of the main participant. There is no interaction with another participant. *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 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 suggest that the logical structure of *Refrain* verbs is a compound one, with a first part of volition and a second part of inaction. A compound logical structure is the solution adopted given the problem of representing causativity when there is one participant only. *Refrain* verbs can be interpreted as verbs of obligation, in such a way that the target of obligation is oneself, thus the explicit or implicit reflexivity. In other words, the existence of a single participant excludes a causative structure, while a compound logical structure suitably displays the volition component and the inaction component when the main participant is the same.

In the stative part of the logical structure of *Refrain* verbs, the first argument receives the thematic role of Wanter and gets the Macrorole Undergoer. In the active part of the logical structure of these verbs, 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. This conflict is solved by including the negation NOT before the active predicate **do´**, which indicates that the Actor does not perform any action and that the Undergoer (which certainly undergoes a given state) has preference over the Actor in the interpretation. If the expression is reflexive, the first argument of the stative part of the logical structure is realized twice, but both realizations correspond to the thematic role Wanter and the semantic macrorole Undergoer. The second argument of the stative part of the logical structure of *Refrain* verbs is Desire. This argument does not get a semantic macrorole. For this reason, when it is realized verbally, it gives rise to a non-macrorole core linked by means of a complementiser; and if it is realized nominally, it gives rise to a non-macrorole oblique constituent governed by a preposition. When the thematic role Desire is realized by a verbal argument, the complex structure is core juncture because the two nuclei are not adjacent to each other. In traditional terminology, the dependent clause shares the subject with the main clause. This indicates that the nexus relation is cosubordination, for which it is a condition that the matrix clause and the linked core share this argument. The logical structure of *Refrain* verbs can be seen in Figure 12.

STATE & ACTIVITY

[**want´** (x, y)] ∧ [NOT **do´** (x, [**predicate´** (x, y)]]]

Figure 12. The logical structure of *Refrain* verbs.

The representations in Figure 11 and Figure 12 are based on resources available from the theory of RRG itself that, furthermore, are convergent with the solutions proposed in other problematic areas like speech act verbs (*to promise*, for instance) and the active version of durative processes (active accomplishments). Complex predicates like **do.sucessfully´** and complex logical structures containing ∧ [NOT **do´** (x, [**predicate´** (x, y)]] allow us, respectively, to incorporate meaning components and to represent hybrid verbs that combine two *Aktionsart* types.

6. CONCLUSION

This article has analysed the meaning components of a set of English verbs of action in order to propose a lexical representation for each class. Then, their grammatical behaviour has been discussed on the basis of RRG, including macrorole and syntactic function assignment, nexus and juncture and linking. The verbal classes under analysis have been represented in terms of logical structures based on different types of *Aktionsart*: Achievement (*End* verbs), Accomplishment (*Try* verbs and *Fail* verbs), Causative Activity (*Prevent* verbs, *Hinder* verbs), Causative Achievement (*Forbid* verbs) and State and Activity (*Refrain* verbs). Several syntactic constructions have been identified: cosubordination (*End* verbs, *Try* verbs and *Fail* verbs), subordination (*Forbid* verbs) and coordination (*Prevent* verbs). Given these results, conclusions can be drawn from the descriptive and the theoretical perspectives.

From the descriptive point of view, the meaning components and the grammatical behaviour of *Fail* verbs and *Try* verbs indicate that they constitute a unified class and that, consequently, they should be represented by means of a unified logical structure. On the other hand, the divergent grammatical behaviour of *Prevent* verbs with respect to *Forbid* verbs calls for two separate logical structures: *Forbid* verbs correspond to the Causative Achievement *Aktionsart*, whereas *Prevent* verbs represent the Causative Activity *Aktionsart*.

On the theoretical side, it has not been necessary to deviate from the canonical lexical representation of RRG to propose logical structures for *End* verbs, *Fail* verbs, *Try* verbs and *Prevent* verbs. The representation of *Hinder* verbs and *Refrain* verbs, on the other hand, needs additional resources: complex predicates for *Hinder* verbs, and complex logical structures for *Refrain* verbs. Complex predicates and complex logical structures have already been used by RRG to deal with, respectively, speech act verbs (*to promise*, for instance) and the active version of durative processes (active accomplishments). These resources have the advantage of allowing us to incorporate extra meaning components and to represent combined *Aktionsart* types. It remains for future research to determine if these procedures can be generalised in the system of RRG lexical representation.

ACKNOWLEDGEMENT

REFERENCES

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

Faber, P. & R. Mairal. (1999). *Constructing a Lexicon of English Verbs*. Berlin: Mouton. https://doi.org/10.1515/9783110800623

Foley, W. & R. Van Valin. (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*, 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. https://doi.org/10.14198/raei.2005.18.05

González Orta, M. (2006). "The resultative construction in Old English: Towards a semantic network of verb classes", *Studia Neophilologica, 78*: 123-137. https://doi.org/10.1080/00393270601022282

Koopman, W. F. (1992). "The study of Old English syntax and the Toronto *Dictionary of Old English*", *Neophilologus, 76*/4: 605-615. https://doi.org/10.1007/BF00209877

Levin, B. (1993). *English Verb Classes and Alternations*. Chicago: University of Chicago Press.

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. https://doi.org/10.2478/v10121-009-0005-6

Van Valin, R. (2005). *Exploring the Syntax-Semantics Interface*. Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9780511610578

Van Valin, R. (2014). *Some questions concerning accomplishments*. Lecture delivered at the 2014 Symposium on Verbs, Clauses and Constructions, held at the University of La Rioja.

Van Valin, R. & R. LaPolla. (1997). *Syntax: Structure, meaning and function*. Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9781139166799