THE CODIFICATION OF MOVEMENT IN LANGUAGE

AN ANALYSIS OF ENGLISH AND UNISH*

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Résumé

Nous traitons dans cet article de la classification sémantique des verbes de mouvement induit. Nous les organisons en deux groupes, avec des caractéristiques communes et différentes, selon les types de phrases prépositionnelles qu'ils prennent. Nous faisons également une analyse comparative des verbes de mouvement en anglais et en unish. Les résultats permettent d'identifier les caractéristiques sémantiques universelles des verbes de mouvement dans les deux langues. Nous défendons l'opinion que les langues artificielles sont utiles dans la communication *cross-countries* et globale ainsi que dans l'étude contrastive de la sémantique et de la syntaxe des langues naturelles. Cette étude est réalisée en suivant le cadre théorique de l'Analyse Componentielle, selon laquelle différents types sémantiques de verbes reflètent différentes structures syntaxiques et arguments sémantiques. Ceci explique la relation directe du type de verbe avec le type d'argument locatif qu'il prend[1] .

Abstract

This paper deals with the semantic classification of induced motion verbs. We organise them in two groups, with similar and contrasting features, according to the types of prepositional phrases they take. This acknowledges the essential role that locative expressions play in the lexical decomposition of movement verbs, and gives evidence for the interrelation of verbs with the rest of elements in the clause. Besides, We make a comparative analysis of these verbs in English and in Unish. The results allow the identification of the universal semantic features of movement verbs in both languages. Hence, we argue for the usefulness of artificial languages not only in global, cross-cultural communication, but also in the contrastive syntactic and semantic analysis of natural languages. This study is done within the semantic approach of Componential Analysis, according to which the different semantic classes of verbs reflect different syntactic and semantic argument structures. This explains the direct relation of the type of verb with the type of locative argument it takes.

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* This paper has been funded through the research grant ANGI 2005/14, awarded by CAR institution.

[1] I would like to thank my colleagues, Belinca Carbajo and Raquel Ureta, for their valuable help and guidance in the elaboration of this manuscript, especially in the French part of it.

Introduction

This paper is devoted to verbs of induced movement, here called, in terms of *Aktionsart* –as developed by Vendler (1957 [1967]) and later on by Van Valin and LaPolla (1997)- *causative accomplishment movement verbs*. These verbs, as it is described in the ongoing sections, are verbs of motion that evoke a state of affairs in which a participant causes another participant (either animate or inanimate) to move from one place to another. An example of this is *install* in *John installed the TV aerial on the roof*, where participant A (*John*) causes participant B (*the TV aerial*) to be *on the roof*. An analysis of samples from a corpus of 6,100 English verbs and 8,500 locative expressions (spatial prepositions and adverbs) has been carried out. Their semantic components have been studied at the semantics-syntax interface. According to the results, causative accomplishment movement verbs have been organized in two main groups. This paper is organized as follows: in order to highlight the areas under scrutiny, the **first section** presents the scope of analysis. After this, **section two** constitutes the centre of this piece of research, in which two subsections are established, according to the two types of verbs investigated. **Section three** is dedicated to Unish. Unish is an artificial language created in 2000, which results from gathering data of different languages. We find mainly English features regarding vocabulary, Romance languages regarding phonological features and Oriental languages regarding syntactic and morphological features. Causative accomplishment movement verbs are analysed in this artificial language in order to extract the differences and similarities between it and English. This permits the identification of the common semantic features of both languages, and consequently, common components in the encoding of induced movement in language. Finally, the **last section** presents the conclusions, which are revealing as regards a number of issues related to complement distribution, thematic relations and the grammatical organization in languages.

This study has been done within the semantic approach of Componential Analysis, according to which lexical decomposition is used as a basic device that provides a description of the meaning components of words (in this case, of movement verbs). These meaning components permit the organization of verbs into groups and provide a way to deal with their argument structure. Thus, the view is held that different semantic classes of verbs reflect different syntactic as well as semantic argument structures. This explains the direct relation of the type of verb with the type of prepositional phrase the verb takes[2]. The description of syntactic structures through an analysis of the semantic components of movement verbs is reached, which provides valid criteria for classifying them. In this line, we can state that a word has **meaning components** which are relevant to grouping and identifying its corresponding grammatical processes, and **meaning components** which contribute to establishing particular differences of this word from others in its group. Thus, for our study, we have grouped all the words in English that share the semantic features of causative accomplishment verbs of motion, such as [+telic], [+induced], etc. All these features are explained in section 2 below. Then, within this group, we can identify

[2] There are a few studies in Componential Analysis, related to the interaction between semantics and syntax, which are worth seeing: Pinker (1989), Gropen et al. (1991), Levin (1993) and Levin & Rappaport (1995) among others.

different subgroups of words with certain specific features, such as being [+dynamic] or [-dynamic], as is also explained below. This distinction has already been identified by Pinker (1989) in his *Grammatically Relevant Subsystem Hypothesis*, according to which those meaning components that are relevant to group words are labelled *semantic markers*, and those meaning components that permit distinguishing one group from another are called *semantic distinguishers*. This is equivalent to Grimshaw's (1994) distinction between *semantic structure* and *semantic content.* In this paper, the metalanguage used for the semantic representation of the verbs analyzed is the one adopted in Role and Reference Grammar, as developed by the main authors of such theory, Van Valin and LaPolla (1997).

1. Scope of the analysis and theoretical assumptions

The typology presented here is based on *Aktionsart*, which in German means 'form of action.' This term was originally proposed by Vendler (1957, 1967), and it has been adopted by Van Valin and LaPolla (1997) to Role and Reference Grammar.[3] According to this, verbs are classified in terms of their inherent temporal properties. There are four basic classes: states, activities, accomplishments and achievements. Thus, *Aktionsart* refers to such inherent properties of verbs, and it is defined through three main features (Van Valin and LaPolla, 1997, p. 93):

(1)	a. State	[+static], [-telic], [-punctual]
	b. Activity	[-static], [-telic], [-punctual]
	c. Accomplishment	[-static], [+telic], [-punctual]
	d. Achievement	[-static], [-telic], [+punctual]

The distinction between static and non-static verbs is essential for this classification. Hence, states code non-happenings, and so there is no change involved, while non-static verbs code happenings, and therefore involve internal change. For example, in a sentence like *John believes in fairies* there is not an external event taking place in the outside world. That is, nothing that can alter the state of affairs occurs. Hence, *believe* is [+static]. On the other hand, in sentences like *John runs in the park every morning* there is an event occurring. In this case, we have a situation in which one participant carries out an action in a concrete setting, and this action alters the original features of the state of affairs. If we were witnessing such a non-state we would be able to identify it very easily. On the other hand, if we witness a state we cannot easily distinguish when it starts or ends. How can we know that John believes in fairies just by looking at him? Hence, *run* is [-static]. Smith (1991) also divides situations into states, which are [+static], and events, which are [-static]. States hold, events occur. That is, events have an identifiable beginning and end within the state of affairs itself.

The feature [+/-telic] refers to whether the verb denotes a state of affairs with an inherent terminal point or not. Thus, *run* in the sentence above does not refer to a

[3] There are, nonetheless, other *Aktionsart* typologies. The most recent one is found in Bache (1997). I have selected the one of Role and Reference Grammar because it is functionally representative of real facts and because it is economic and reliable, as I show below.

temporal limit, so it is [-telic]. However, *run* in *John runs to his place of work every morning* implies that there is a terminal point for the activity of running, which will take place when John arrives to his final destination. Such an alternation, called *activity-active accomplishment alternation*, by way of which an atelic verb becomes telic (Dowty 1979, Levin 1993), is important for the hypothesis posed in this paper. Note the way this change takes place: it is the prepositional phrase *to his place of work* which modifies the verbal *Aktionsart*. Note that the verbal tense is not relevant for this alternation. It is the statement of a final location that transforms an activity into an active accomplishment. Thus, the same alternation holds for *John ran in the park every morning* and *John ran* ***to his place of work*** *every morning*. It is the expression of a final location where the action ends what makes an action verb such as *run* telic and therefore composes an active accomplishment *Aktionsart*. Dealing with accomplishment *Aktionsarts*, we should distinguish active accomplishments from plain accomplishments, which are those modes of action in which the verb already has the [+telic] feature, as is seen in (1.c) above. See, then, the difference between *John sat down* and the above sentences. In the latter, the verb codes a happening that is telic, without the need to specify the location in which the event takes place.

Finally, the feature [+/-punctual] refers to the internal duration of verbs. For example, the verb *run* involves a change of location, but it is different from a verb such as *explode* in that the former takes place over a certain period of time while the latter is instantaneous. According to the typology proposed in (1), accomplishments are [-punctual]. However, in this paper I demonstrate that within this class there are some differences that should be accounted for, since not all *causative accomplishment movement* verbs comply with the three features that are assigned to them in the same degree.

A further distinction is required before continuing: states of affairs may be induced or spontaneous. The four *Aktionsart* classes in (2) correspond to spontaneous states of affairs. Correspondingly, for each of these classes there is a causative class, which is related to an induced state of affairs. This is shown in (2):

(2)	a. State	John is angry
	a'. Causative state	*Mary angers John*
	b. Achievement	*The bomb exploded*
	b'. Causative achievement	*John exploded the bomb*
	c. Accomplishment	*The water freezes*
	c'. Causative accomplishment	*John freezes the water*
	d. Activity	*The ball moves around the park*
	d'. Causative activity	*John moves the ball around the park*

The causative versions of the non-causative ones can be distinguished by applying the following paraphrases:

(3) a'. Mary causes John to be angry
b'. John caused the bomb to explode

c'. John causes the water to freeze
d'. John causes the ball to move around the park.

Besides this, Van Valin and LaPolla (1997) distinguish another class, derived from activities: *active accomplishments*, which are accomplishment uses of activity verbs, as noted above when dealing with the feature [+/-telic]. As seen in the previous example, an activity verb such as *run* can become an active accomplishment thanks to the argument-adjunct[4] it takes (in this case, the prepositional phrase *to his place of work* in *John runs to his place of work every morning*).

Active accomplishments also have a causative version. An illustration of this is given in Van Valin and LaPolla (1997, p. 101) :

(4) a. The soldiers marched to the barracks (plain active accomplishment)
a'. The sergeant marched the soldiers to the barracks (causative active accomplishment)

In the light of the terminological criteria posed above, note that the term *active* is not used as opposed to *passive*, but as opposed to *non-active*. That is, it refers to those verbs that are [-static] and [-punctual]. Following all these criteria, I establish a typology of causative accomplishment movement verbs that completes the one posed by Van Valin and LaPolla (1997).

It must be pointed out that in this paper, all causative accomplishment movement verbs are assumed to have a semantic valence of three and a syntactic valence of two or three. For an example of this, see (5):

(5) a. Mary **fixed** the switch *on* the garden wall
a'. Mary **fixed** the switch
b. Mary **looked up** the wall

In (5.a) the syntactic valence is three, because the third argument (*the garden wall*) is expressed. However, if we say *Mary fixed the switch*, as in (5.a'), the syntactic valence is two –that is, this clause has two syntactic arguments: *Mary* and *the switch*-, but the semantic valence is still three, even if the third argument is not overtly expressed. This is because the semantic valence of a clause is tied to the argument structure of the verb, which is, from my position, invariable, while the syntactic valence is related to the actual realisation of the clause, that is, to form. Thus, in (5.a) we see that there are three arguments expressed: *Mary*, *the switch* and *the garden wall*, while in (5.b) there are just two: *Mary* and *the wall*. Thus, the syntactic valence of (5.a) and (5.b) is three and two, respectively.

[4] *Argument-adjunct* is the name given in Role and Reference Grammar to those expressions which stand in the middle between being arguments, that is, being essential for the logical structure of the clause, and being adjuncts, that is, being additional elements that modify the clause as a whole. Locative arguments are included within this group, due to the fact that the locative word that introduces them modifies the *Aktionsart* and the meaning of the verb as a whole. That is, saying *Put the book **on** the table* is not the same as saying *Put the book **down** the table*.

Another issue that should be noted is that both (5.a) and (5.b) are transitive constructions. Nevertheless, there is an important difference between them: in (5.a) the prepositional phrase *on* provides the new location for the second argument, *the switch*. This second argument has undergone a change of location, and this change has been caused by the first argument, *Mary*. In (5.b), by contrast, there is no movement of the second argument, expressed here by the noun phrase *the wall*. In this case, *up* functions as a particle, and such a particle indicates the orientation of the action predicated by the verb. There is not a causality element, and therefore the first argument, *Mary*, does not cause the second argument, *the wall*, to move. *Up* is working at the level of the nucleus (that is, the verb and its *Aktionsart*), not at the level of the clause. Thus, in (5.a) we have a causative construction, while in (5.b) we do not. Note, therefore, that all causative constructions are transitive, but that not all transitive constructions are causative. Causativity is related to semantics, and transitivity is related to syntax.

Now that this is clear, my concern focuses on the establishment of an adequate logical structure[5] for causative accomplishment movement verbs. The prototypical logical structure for the verbs I am studying, according to Van Valin and LaPolla (1997), is given in (6):

(6) Peter **put** the book **on** the table
[**do'** (x, Ø)] CAUSE [BECOME **be-LOC'** (z, y)]

With regards to the logical representation of the above sentence, it is explained in section 2 below. For the time being, it is important to note that causative accomplishment movement verbs are examined here from the perspective of their interrelation with spatial items. Spatial words perform the essential function of orientation, which is basic for human cognition. Despite this, spatial constructions have been usually consigned to a marginal position in grammatical and semantic theories. Orientating can be realised by two types of elements: situating and linking elements. Situating is a property of adverbs, while linking is a property of prepositional phrases. Thus, the prepositional phrase *on the table* in (6) links the argument that is represented by *the book* to the place in which it is finally located, that is, *the table*, through the preposition *on*. On the other hand, in *Peter put the book near* we have an adverb, *near*, that situates *the book* around a certain location, although it does not provide a referent to a concrete location such as *the table*. Apart from this semantic distinction, they perform the same role in the logical structure of verbs of movement. This role is that of granting the clause with a complete meaning. That is, the causative accomplishment verb of motion *put* has a number of features that characterize it as such. However, in order for it to function as a whole accomplishment verb in a clause, a spatial expression has to be included. Thus, **John put the book* is ungrammatical. A spatial expression such as *on the table* has to be included in order for the clause to be complete. This example shows the importance of spatial expressions for accomplishment verbs of movement. Going further, in this article I show another important role of spatial items when these verbs are concerned:

[5] Note that in Role and Reference Grammar the concept logical structure refers to the semantic argument structure of the verb, not to its syntactic structure.

they permit the distinction of these verbs into two different groups with different logical structures, as is shown in the following sections.

If one looks at locative words in detail, a very powerful and complex system of organization arises. This system plays an essential role in human languages and must therefore be carefully studied. I have analysed these elements with respect to the types of verbs they are realized with, first in English, and then in Unish, in order to extract information about the specific behaviour of such verbs both semantically and syntactically. Due to the limitations of this article, I have only focused on the analysis of spatial items functioning as prepositional phrases. There is general agreement, from works like Dik (1978) or Chomsky (1981) onwards, that the semantic and the syntactic properties of predicates are interrelated. This is followed by the Lexico-Grammar Model (Faber and Mairal 1999, Mairal 2001, Mairal and Faber 2002, Mairal and Cortés 2002), and it is taken as a starting point in this piece of research. Nonetheless, since this model is still under construction, I have selected the Role and Reference Grammar's system of semantic representation as a starting point for my explanations, as I have mentioned above.

2. A semantic typology of causative accomplishment movement verbs

Although all the verbs of the corpus correspond to the same type of verbs (causative movement verbs), important semantic differences can be found between some verbs and others, and such differences in meaning constrain the type of argument-adjuncts they can take and the number of prepositional phrases they admit in one clause. All these verbs can be divided into two main groups, and within each group some features allow for further subdivisions. The differences among each group are called *variables*. The two groups of verbs are *causative* active *accomplishment verbs* and *causative accomplishment verbs*. Both groups are similar in that they are accomplishments. This is represented in the logical structure by 'BECOME'. This means that they are "temporally extended (not instantaneous) changes of state leading *to a terminal point*" (Van Valin and LaPolla, 1997, p. 92). The BECOME feature makes them durative in the sense that the event does not take place in a punctual way. It extends in time, despite having an end. In this sense, note the difference between *explode* and *freeze*. *Explode* refers to an instantaneous happening, while *freeze* implies that the event has an end, but that it happens along a certain time interval. Therefore, telicity is an inherent feature of all these verbs. The third verbal argument is the one that carries and expresses such a feature: a LOCATION argument. Furthermore, they are both [-punctual], that is, the change of state is not instantaneous, and, evidently, [-static]. Hence, according to the three basic features that define *Aktionsart*, both types of verbs coincide.

However, the *Aktionsart* of each group differs, and the states of affairs they encode are also different: causative active accomplishments encode a state of affairs that goes from the point of origin of the UNDERGOER[6] to the endpoint. That is, the

[6] The semantic macroroles ACTOR and UNDERGOER are generalizations across thematic roles. That is, under the label ACTOR and UNDERGOER -coded as the participant most affected by the action- they embrace a number of thematic roles, also called *microroles*. The

language user can mentally represent any of the moments that compose the activity from the beginning to the end and express it linguistically through the addition of many locative prepositional phrases, as seen below:

> (7) John escorted the politicians ***from*** *their hotel*, ***through*** *the city*, ***to*** *the secret* meeting point.

Depending on whether the GOAL[7] is specified or not we can have an activity or an active accomplishment *Aktionsart*, as already mentioned. On the other hand, **causative accomplishment** verbs only encode that state of affairs at the endpoint. They express the resulting state of a non-active process of change. A change is understood as extended in time, but it is not the change that is evoked by these verbs; only the result is. That is, in both kinds of verbs one can imagine the whole process, but this is a product of epistemic knowledge, since we all know that if an UNDERGOER is in one location it is due to the fact that an ACTOR has placed it there. Thus, in (non-active) accomplishment verbs their referring scope is the endpoint, in time and in space. Consequently, (non-active) accomplishment verbs always take a GOAL prepositional phrase, which functions as an argument-adjunct and specifies the endpoint location. They do not admit other locative prepositional phrases, as active accomplishments do. This is shown in (8):

> (8) John placed the picture (****from*** *the box*) (****through*** *the corridor*) ***on*** *the wall*.

Nonetheless, up until now there has not been a clear distinction in Role and Reference Grammar between these verbs of movement as regards their semantic features and

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ACTOR is the generalized AGENT-type role, and the UNDERGOER is the generalized PATIENT-type role. In this way, in an active construction the ACTOR is the subject and the UNDERGOER is the object, while in a passive construction it is the other way round. With respect to intransitive verbs, the single argument they have can be either an ACTOR or an UNDERGOER. One may wonder, if there are various argument-types in a logical structure, which one will be selected for the ACTOR macrorole and which for the UNDERGOER one. In fact, there are principles that govern *macrorole assignment*, which are not going to be developed here in full. For a complete overview, I refer to Van Valin & LaPolla (1997:144-146). In this work I will just mention that the unmarked choice for ACTOR is the 'argument of DO' (AGENT), and that the unmarked choice for UNDERGOER is the 'argument of **pred'** (x)' (PATIENT). Apart from this, it is important to note that in the case of the verbs under study here the UNDERGOER is a THEME, because they do not have a PATIENT in their logical structure. A THEME, in terms of participant roles, is similar to a PATIENT, but with the difference that it does not suffer an internal change. Similarly, an EFFECTOR is similar to an AGENT, but the action it carries out is not necessarily willful.

[7] In relation to locative expressions, in the clauses we are analyzing they play the role of argument-adjuncts, as already mentioned. Such argument-adjuncts represent a LOCATION. Nonetheless, it must be specified which kind of location it is. Thus, spatial prepositions can be divided into different types, and depending on that, the prepositional phrase they head will perform one role or another. Bennett (1975) divides them into five basic cases: LOCATIVE, SOURCE, PATH, GOAL and EXTENT. In the case of the verbs under analysis here, the LOCATION is expressed by a GOAL argument adjunct. If it is not a GOAL, then it is just an adjunct, and it consequently does not belong to the logical structure of the verb.

their logical structure, despite the admittance of their different *Aktionsarts*. Thus, in what follows, a detailed analysis of these verbs is carried out. A different logical structure is proposed for each type, since the common logical structure rendered in Van Valin and LaPolla (1997) –the one in (6)- does not account for the differences between them. Furthermore, the feature [+/-] dynamic is applied at a clausal level in order to account for such differences.

2.1. Causative active accomplishment movement verbs

The verbs that form this group take GOAL prepositional phrases as a third argument, but they also admit PATH prepositional phrases. However, PATH prepositional phrases cannot work as LOCATION arguments, since they do not express an endpoint, but refer to a transitional stage. PATH prepositional phrases are those headed by prepositions such as *through*, *across* or *along*, while GOAL prepositional phrases are those headed by prepositions such as *to* or *into*. If the movement verbs in this section take a GOAL prepositional phrase, they are called *active accomplishments*. If they are not followed by such prepositional phrase, but only by a PATH prepositional phrase or by no prepositional phrase at all, they are called *activity verb*s. This is because, as noted above, the accomplishments are realised through the semantic feature of telicity, which is expressed through GOAL prepositional phrases. For an illustration of this, see the examples below:

(9) a. John guided the tourists *through the field* (Path prepositional phrase) [causative active verb]

b. John guided Mary *to the house* (Goal prepositional phrase) [causative active accomplishment verb]

c. John guided Mary *from the house* (Source prepositional phrase) *through the big avenue* (Path prepositional phrase) *to the school* (Goal prepositional phrase) [causative active accomplishment verb]

Guide is a prototypical[8] example of a causative active accomplishment movement verb. It has the three maximally possible arguments: ACTOR, UNDERGOER and LOCATION, if we focus on macrorole assignment (ACTOR, UNDERGOER) and primitive abstract predicates (LOCATION), and AGENT, THEME and GOAL, if we specify the correspondent microroles. However, as can be observed in (9.a), *guide* can also be a causative active verb if the GOAL prepositional phrase is omitted. Additionally, it may admit more than one prepositional phrase, as in (9.c), although only the GOAL prepositional phrase is relevant for its logical structure. Van Valin and LaPolla (1997, p. 182) provide evidence for such *activity-active accomplishment alternations* in languages which meet three criteria: morphological evidence, generality (that is, this alternation is not limited to a small number of verbs) and predictability according to a putative lexical rule. This is not the case in English, where there is no morphological evidence. However, according to theory internal

[8] The concept of prototypicality is based on Taylor (1989).

criteria - economy, motivation and predictability - these authors (1997) demonstrate that English has lexical rules to derive this alternation, as well as lexical rules to derive the causative version of predicates.

According to Van Valin and LaPolla (1997, p. 101), active accomplishments are not causative, but there are simply causative versions of active accomplishment verbs, as seen in the example shown in (4) above. However, in this piece of research, it is further demonstrated that there are causative active accomplishment verbs, not only versions of non-causative ones, since all the verbs which have been selected for the corpus of analysis are only causative, and do not have an alternative non-causative version from which they (supposedly) derive. For some instances of this fact, see (10) below:

(10) a. * That man **transported** *to* the north of the state
b. That man **transported *the goods*** *to* the north of the state.
c. * John **guided** *to* the new house
d. John **guided *us*** *to* the new house

As these examples show, these verbs, together with the ones in (11) below, only have this causative *Aktionsart*. For such cases it is not possible to look for any of the three criteria posed by Van Valin and LaPolla (1997) related to alternations between active accomplishment verbs and causality, since there is not an alternative non-causative version. It is true that the causative versions are usually derived from the four basic types of *Aktionsart:* states, activities, accomplishments and achievements, but in many cases use brings about a weakening of the original verbal types. Historically, English verbs from the Old English period onwards have evolved, in a significant number of cases, from non-causative (typically strong ones) to causative (typically weak)[9,10]. This is a universal tendency of languages. In many cases, verbs maintain both forms, but in others they have lost their original non-causative version. As a result, from a synchronic perspective we cannot state that causative verbs are secondary to non-causative ones. Thus, I defend the view that there are ten classes of *Aktionsart*, with a similar status:

(11) states, activities, accomplishments, achievements, active accomplishments, causative states, causative activities, causative accomplishments, causative achievements, causative active accomplishments.

[9] As has been noted in section 1, transitivity is a different notion from causativity, but both are interrelated, in the sense that for a verb to be causative it necessarily has to be transitive, though a transitive verb does not need to be causative. With respect to this diachronic phenomenon, see Martín Arista (2001).

[10] Old English verbs were of two main types: strong or weak. Strong verbs such as *sincan* 'sink' had irregular conjugations (*sanc* as first person past singular, *suncon* as first person past plural, *suncen* as past particple), and they are the origin of Present Day English irregular verbs such as s*ink*, while weak verbs such as *murnan* 'mourned' had a regular conjugation (*murnde* past simple tense), always adding a dental character to form the past tenses. They are the origin of regular verbs in Present Day English, which form the past tenses by adding *–ed.*

Taking this into account, the verbs verbs under analysis in this section are listed below:

> (12) Guide, lead, conduct, escort, accompany, show, direct, draw, tow, usher, carry, bear, bring, fetch, transport, deliver, ship, dispatch, despatch, take, propel.

These verbs belong to different lexical fields, in such a way that further subgroups could be established[11]. In this paper, however, I focus only on their core sense, related to their common logical structure, which could be paraphrased as: 'to cause an object to be on a specific location.'

Jolly (1991, p. 90 and 1993) states that these verbs take GOAL, PATH and SOURCE prepositional phrases as part of their logical structures. In this line, Van Valin and LaPolla (1997:161) claim that "there can be more than one argument-adjunct […] They are specifying the range of motion with a verb of motion (e.g. *run*, *walk*) or induced motion (e.g. *push*, *pull*, *move*), which includes specification of a SOURCE, a PATH and/or a GOAL". I disagree with this because the feature [+telic], which is the essence of their logical structure, is just provided by the GOAL argument-adjunct, so the rest of adjuncts (SOURCE and PATH) are superfluous, and this should be reflected in semantic representation. Besides, Van Valin and LaPolla (1997) themselves state that verbs allow for a maximum of three arguments (which includes argument-adjuncts).

In a nutshell, causative active accomplishment verbs allow for the occurrence of multiple locational prepositions. That is, PATH and SOURCE prepositional phrases can be specified, and this is due to their inherent nature as derivations of active predicates, which are dynamic and therefore provide the verb with a complex combination of temporal and spatial indeterminacy. However, the only inherent and necessary prepositional phrase to complete their logical structure is the GOAL prepositional phrase, which is the one that carries the telicity feature. In order to finish up this subsection, it must be noted that the logical structure of the verbs presented here differs from the general logical structure given in Role and Reference Grammar for causative accomplishment movement verbs, which has been given in (6). A proposal is provided below:

> (13) DO (x, [**do'** (x, Ø)] CAUSE [**do'**(z,[**go'**(z)]) & BECOME **be-at'** (y, z)])

In the first place we have the activity part: DO (x, [**do'** (x, Ø)]. This structure is crucial for distinguishing active from non-active accomplishment movement verbs. In terms of semantic features, this part provides these verbs with an additional feature that Van Valin and LaPolla (1997, p. 95) add to distinguish activities from achievements and accomplishments: dynamicity. Thus, activities are [+dynamic], while the other two are [-dynamic]. This feature turns out to be essential for the

[11] The further subgroups into which they can be divided are: a. guide, lead, conduct, escort, accompany, show, usher, direct, draw, tow; b. carry, bear, transport, ship, despatch/dispatch; c. bring, fetch, deliver, take; d. propel. For a deeper analysis to each of them see Ibáñez Moreno & Ortigosa Pastor (2004) and Ibáñez Moreno (2005).

distinction between active and non-active accomplishment movement verbs, as is shown below:

(14) a. *Causative Accomplishment* [+induced], [-static], [+telic],[-punctual] **[-dynamic]**
Mary painted the walls green

b. *Causative Activity* [+induced], [-static], [-telic],[-punctual] **[+dynamic]** →
Mary exercised her students around the tennis court

c. *Causative Active Accomplishment*: [+induced], [-static], [**+telic**], [-punctual], **[+dynamic]**
Mary drove the dog to the park

As can be observed, if we only take into account the three basic features present in (1) we cannot distinguish active from (non-active) causative accomplishments. This feature provides active accomplishment movement verbs with the ability to co-occur with prepositional phrases that do not involve a goal, that is, that do not encode an endpoint, but that refer to the time that lies between the beginning and the end of the action encoded by the verb: PATH prepositional phrases. The novelty of this work, with respect to Van Van and LaPolla (1997), is double: first, I add the quality of codifying such a transitional period of time to this dynamic feature. For Van Valin and LaPolla (1997), the fact that a verb is [+dynamic] simply implies that it can coocur with adverbs such as *actively* or *vigorously*. These adverbs modify the action predicated by the verb, but do not refer to the middle of the bounded action or process. However, the fact that active accomplishments are dynamic also implies such a quality - that is, they encode the middle of the action or process - and hence it has to be represented in the logical structure of such verbs. Note that the fact that this quality is realised through PATH prepositional phrases demonstrates the importance of locative expressions for the analysis of the logical structure of movement verbs. Second, by admitting this feature for active accomplishment verbs I go a step further than Van Valin and LaPolla (1997), who only recognise it as a property of activity verbs.

However, the logical structure as a whole, as presented in (13), brings about some problems that need to be solved: in the first place, there is no specification of the type of action carried out. In the second place, it must be observed that the predicate [**go'**(z)] has been used after (**do'**) to further represent the fact that these verbs carry the [+dynamic] feature. With such logical structure, one cannot extract any differences from any of the verbs in (12). This means that this logical structure is incomplete. Thus, in order to specify the type of action encoded by each verb, a logical structure as the following should be used:

(15) DO (x, [**do'** (x, [**guide'** (x, z)]))

Here, the predicate (**go'**) has been substituted by a more specific one: (**guide'**). This logical representation is more specific, since it is only applied to the verb *guide*. However, as can be seen, this logical structure is not complete enough, since *guide* is not a primitive verb. Unfortunately, Role and Reference Grammar does not provide

the lexical decomposition of all verbs, but it constitutes an excellent starting point to develop it. This has been followed by the Lexico-Grammar Model, but it is still in an evolving process. For my purposes a representation as the one above is enough, although just as an example in (16) I conjecture about the lexical primitives of the verb just mentioned, *guide*, in order for the reader to see more clearly how these verbs fit into my proposed formula:

(16) DO (x, [**do'** (x, [**go.with'** (x, z)]) CAUSE [**do'**(z,[**go'**(z)]) & BECOME **be-at'** (y, z)])

Nonetheless, further studies on this issue may contribute to enriching the common logical structure given in (15) and to improving the one given in (16) as a proposal.

2.2. Causative accomplishment movement verbs

Causative accomplishment verbs are the result of a process of change. Additionally, they are telic. The only feature that distinguishes them from active accomplishments is dynamicity, as seen in (14). However, this small difference is the origin of big differences between them. Again, such differences become apparent in the clause through locative prepositional phrases. As in the case of active accomplishments, we may suppose that if the GOAL prepositional phrase is not specified the verb cannot be considered an accomplishment verb. However, the difference lies precisely in that this is not the case: even if no prepositional phrase is realised in the clause, these verbs are invariably accomplishments. This fact is shown in (17):

(17) a. John guided Mary *to the house* (GOAL prepositional phrase) [causative active accomplishment verb]

b. John guided the tourists (no GOAL prepositional phrase) [causative active verb]

c. John placed the book *on the table* (GOAL prepositional phrase) [causative accomplishment verb]

d. **??** John placed the book (no GOAL prepositional phrase) [causative accomplishment verb][12]

In (17.a) and (17.b) we have the verb *guide*, which functions as an active accomplishment verb when it co-occurs with a GOAL prepositional phrase (17.a) and adopts a different *Aktionsart* when it does not (17.b). On the other hand we have *place*, which always functions as a causative accomplishment verb. However, note the question marks in (17.d), indicating that although this sentence is not grammatically wrong, it is odd. This is because (non-active) accomplishment movement verbs do not allow for alternations as the activity-active accomplishment

[12] Please note that the two question marks are used to show that the sentence is not grammatically nor semantically fully correct.

alternation that concerns active verbs, and they are prototypically realised with their locative prepositional phrases functioning as argument-adjuncts.

As a result, their logical structure is always the same, so when no argument-adjunct is overtly specified a slot should be left empty to show that there may be some location there. Their logical structure has already been given in (6), and it is repeated below:

(18) [**do'** (x, Ø)] CAUSE [BECOME **be-LOC'** (z, y)]

In the semantic field of movement, these are the only verbs accounted for in Van Valin and LaPolla (1997) because they are more frequent. In fact, these authors (1997:102) state that in case of doubt, a verb will more likely be an accomplishment than an active accomplishment:

> "Causative accomplishments are derived from a state predicate, whereas causative active accomplishments are derived from an activity predicate. […] It should also be noted that causative accomplishments are much more common than causative active accomplishments, and therefore in unclear cases it is more likely that the verb would be a causative accomplishment rather than a causative active accomplishment."

Nonetheless, movement verbs are very clearly differentiated. The following verbs constitute the group under study in this subsection, that is, **causative accomplishment movement verbs:**

> (19) Fit, fix, install, place, space, clap, locate, situate, site, position, station, stick, remove, wrench, extract, withdraw, eject, bar, jam, seal, stuff (in the sense of 'put into'), scatter, sprinkle, cast, chuck, toss.

Contrary to active accomplishment verbs, they are not derived from an active verb, but from a state verb. Note that this does not mean that they are [+static]. In order to show this clearly, let us look at the following example:

(20)	a. The glass is on the cupboard	[+static]
	a'. John has placed the glass on the table	[-static]
	b. The tourists walked in the park	[-static]
	b'. John guided the tourists to the park	[-static]

Clauses (20.a) and (20.b) are non causative versions of (20.a') and (20.b') respectively. As can be observed, the clause in (20.a') has a causative accomplishment movement verb, *place*, and in order for the situation presented in it to take place there must have been a previous situation such as the one presented by the clause in (20.a), which contains a state verb, *be*. The fact that causative accomplishments derive from state verbs determines their logical structure and the kind of prepositional phrases they admit. In this case, they are characterized as causative accomplishment verbs because they do not admit any other directional or locational prepositional phrase apart from the GOAL prepositional phrase, which functions as an argument-adjunct. Hence, although they are [-punctual], which

implies that they last in time, their scope of reference only accounts for the last part of the process of change of location. Consequently, they can not admit PATH prepositional phrases, which express the transition from one point to another. These accomplishment verbs express that the action is finished and that the affected argument of the action has been located in a certain place. They focus on this terminal point. This explains why Lindstromberg (1997) calls them *endpoint verbs*. According to this codification of states of affairs, accomplishments lie in between active accomplishments and achievements:

(21)	a. *Active Accomplishment*	[-punctual], [+dynamic]
	b. *Accomplishment*	[-punctual], [-dynamic]
	c. *Achievement*	[+punctual], [-dynamic]

As comes out from this figure, an example of an achievement would be *explode*, which evokes a punctual event that codifies an internal change on the part of the argument(s). For example, in *The bomb exploded*, the event accounted for by the verb takes place at a precise moment and the argument *the bomb* undergoes a sudden change but, what is more important, the verb does not codify such change. For this, we cannot say *The bomb exploded along the meeting*. This codification takes place in active accomplishments, where verbs such as *carry* encode all the process of movement from the original setting to the goal. Thus, in *Mary carried the bags all the way along the path to the house* we can include the phrases *all the way* and *along the path* precisely because carry is [+dynamic] and allows for the linguistic representation of this process. Note the difference with an accomplishment such as *Mary placed the bag on the chair*. We can not include a phrase such *as all the way through* in it: **Mary placed the bag all the way through on the chair*. Another example of an accomplishment verb would be arrive. *Arrive*, in *John arrived at the station late*, codifies the precise moment in which **John** is **at the station**, and therefore, it does not refer to the entire process that John has undergone to get to the **goal**. Thus, arrive is [-dynamic]. However, it is not [+punctual] since the event of arriving at a place does not take place in a sudden way. It is extended in time, although the verb only codifies the last part of that process. That is why we can *say The train is arriving*. The reason for this is that this verb is not [+dynamic].

In my opinion, neither of these two features alone can explain the *Aktionsart* of (non-active) accomplishment movement verbs, that is, the fact that they do invoke the state of affairs at the endpoint, despite being [-punctual]. It is the interrelation between not being punctual and at the same time not being dynamic (which accounts, as I have stated above, for the fact that a verb codifies the internal process of change) that explains this. Thus, (non-active) accomplishment movement verbs refer to an extended process of change but only encode the result of this process.

Of course, there are other types of causative (active) accomplishments besides movement ones. Movement verbs are just one subgroup of verbs that refer to a specific semantic field, that is, motion. Some examples of other causative accomplishments are *transform*, as in *Mary transformed that piece of ice into a beautiful statue*; *freeze*, as in *John froze the bread*; or *corrupt*, as in *Power has corrupted the president*. In all cases, we have the same structure: we have an ACTOR (*Mary, John, Power*) that causes an UNDERGOER (*that piece of ice, the bread, the*

president) to change (BECOME a statue, BECOME frozen, BECOME corrupted). The fact that I analyze only movement verbs is due to the need to limit the field of analysis so as to get higher accuracy in the description and explanation of data. It is also due to the idea that movement is a universal event that may not be always be codified in the same way in different languages. Therefore, a meta-linguistic and cross-linguistic analysis of how different languages encode movement seems necessary in order to ensure the validity of the semantic representations being used here, as well as of the accuracy and naturalness of the languages analyzed.

3. Causative movement verbs in Unish: a role and reference grammar analysis

So far, I have presented the hypothesis that causative movement verbs are divided into two different groups. I have also suggested that their logical structure must always include an argument-adjunct that refers to the location where the action finishes. In this section, then, I re-analyse some of the examples I have provided with the novelty that I compare them to Unish. This analysis shows that this artificial language is correctly adapted to language structure and use and that it constitutes a step further in human communication. Going further, the purpose of this comparative study is to provide evidence that the system of semantic analysis and representation used by functional theories - in this case, more specifically, by Role and Reference Grammar - can be applied to all languages and that it constitutes a highly applicable tool in the development of artificial languages. In fact, the typology of verbs put forward by Van Valin and LaPolla (1997) is said to have universal validity. Actually, examples are provided for more than one hundred languages. Among them, we find French, Spanish, Icelandic, Barai, Yagua, Georgian, Basque, Russian, Hausa, Japanese, Piraha, Mandarin, Italian, Lakhota, Tepehua, Qiang, etc. Accordingly, verbs in Unish should also admit such classification in order to fulfil the requirements of human natural languages. My aim is also to show that by investigating artificial languages we can gather further and more useful evidence for the internal processes that underlie linguistic use. At the same time, Role and Reference Grammar should be a complete tool that allows the identification and systematisation of these processes, and that contributes to the further elaboration of Unish.

Unish is an international auxiliary language of very recent creation (2000). It is based on 16 different languages: Arabic, Chinese, English, Esperanto, French, German, Greek, Hindi, Italian, Japanese, Korean, Latin, Malay, Portuguese, Russian, and Spanish. Since it is still under construction, at the moment it is composed of about 10,000 words. It adopts English word order as a general rule, with the difference that interrogative and imperative sentences do not vary in word order. It is only the intonation that changes in the case of spoken Unish. If it is written, a question mark or an exclamation mark will be added at the end and at the beginning of the sentence. Unish constitutes, then, an attempt to simplify language so that it can be easily acquired and communicated.[13] This is related to the fact that it is an analytic

[13] This statement implies that there are languages that are easier to learn than others. I must point out, then, that this is just my personal opinion based on certain epistemological beliefs about the nature of language. For an analysis of language learners' beliefs and how they

language with no exceptional rules. In the case of lexical items, they are created according to frequency of use. The word that is dominant, among the 16 languages that are surveyed, is borrowed. In many cases, it undergoes phonological and graphemic changes, in such a way that the created word is simpler and more faithful to the distinction between form and pronunciation. Thus, the English word *house* becomes *haus*, since this latter item is more representative of how *house* is pronounced in English: /haus/. Due to this method, most words in Unish have been adopted from Present Day English, since English is, as we know, one of the primary spoken languages in the world and the most widely used as a first or as a second language.

Other international auxiliary languages are Esperanto, Ido or Interlingua, of which the most widespread and commonly known in Esperanto. All international auxiliary languages try to accomplish the same goal: to serve as a common language to different speaking communities and be used at institutional and educational levels. That is, they are intended to comply with the requirement of being a tool to transmit knowledge and information, respecting the cultural richness of other natural languages and the other functions of natural languages, such as producing literary works - that is, art through language, beauty - or thought. In a nutshell, they are "languages for practical purposes" (Gobbo, 2005, p. 7)

Each of these languages has its supporters and its opponents. Gobbo (2005, p. 9) is one of the supporters of Esperanto: "Structural analysis will reveal how many European citizens may find the candidate language familiar without studying it due to its phonology, writing system and lexicon and after non-intensive study because of its morphology and syntax." Esperanto is aimed, then, at being a language of the European Union, according to this author, although it may also be spread all over the world. In any case, what is important is that all of them have been created deliberately by man, and as such, they lack the irregularities that natural languages have. Thus, an artificial language has a phonetic alphabet (which means that words are pronounced as they are written), contrarily to English, which was originally phonetic but which underwent a shift in the XVIth century. Besides, English has many vowels (at least 12), which in an auxiliary language are reduced to a maximum of five (Jung 2004: 35). Also, natural languages are full of syntactic and morphological irregularities which are avoided in artificial languages. For instance, verbs in English can either be regular or irregular, and depending on this they are conjugated in one way or another. As regards syntax, there are lots of "illogical" - but diachronically explicable - rules that have to be followed, such as the use of *got* in *I have got two cars* or the use of the Saxon Genitive in order to express possession. In this sense, all international auxiliary languages are simple, regular and neutral.

Nevertheless, there are no important differences between the English and Unish with respect to their internal logical structure. Some of the differences and similarities are analysed here. First of all, let as compare the sentence given in (22.a) to its correspondent one in Unish:

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influence second language learning, see Horwitz (1988) and Mori (1999). Nonetheless, not everybody agrees with this.

(22) a. Mary fixed the switch on the garden wall
[**do'** (Mary, Ø)] CAUSE [BECOME **be-on'** (garden wall, switch)]

b. Mary fixed switch um garden mur
[**do'** (Mary, Ø)] CAUSE [BECOME **be-um'** (garden mur, switch)]

As can be observed in (22), the same logical structure can be applied to Unish and to English. Only the terms vary. This is a proof of the adequacy of Unish to the internal requirements of a language. Even more, if we pay attention to (22.b), we can see that the system of semantic representation used for such logical structure is more faithful to Unish than to English. This is because in Role and Reference Grammar, articles are not represented in semantic logical structures, and in Unish articles are not used. This elision of articles seems to be coherent with internal mechanisms of the linguistic construction of meaning. Articles are functional words that perform a number of auxiliary functions in the building of meaning of the sentence as a whole. Nouns, Adjectives, Adverbs and Verbs are content words, and they are thus basic in the transmission of meaning. Going further, Nouns and Verbs are present in all languages, while Adjectives and Adverbs are not typologically universal. Then, as long as an artificial language contains verbs and nouns it can be considered to be complete.

The omission of articles in Unish also shows that this language is basically a scientifically objective instrument of communication which gets rid of those elements of languages that are not essential for this aim. That is, articles are mainly functional words, and although they are present in many uses of language, with regards to communication alone they are not strictly necessary. This means that Unish is an auxiliary linguistic system devised to be mainly used for communication purposes. A fact that proves this is that it is not possible to distinguish a reference to an already known entity from one that is firstly introduced into discourse. In the first case we would use the definite article *the* in English, and in the second case we would use the indefinite article *a/an*. In Unish, since articles are not used, this distinction is not produced. This may be explained by the fact that such functions of language are not primary or basic and so are not essential for the transmission of information. Evidence for this is that the distinction of the definite and the indefinite articles is not universal. In fact, the Chinese language does not have functional equivalents of the English definite and indefinite article. This poses problems for Chinese learners of English, who usually omit the article where native speakers of English would use one. Moreover, the fact that a referent is already known or not to the addressee(s) can actually be easily deduced from the context, as already noted in the Unish grammar which is available online at http://.www.unish.org/STATIC/english/gram_detail.html. Thus, there is no need to have another device that carries out the same function. Redundancy is avoided. An example of this is provided in the above web site, and it is repeated it below:

(23) Albert has a dog. The dog barked last night.
Albert hav dog. Dog barked last nait.

With respect to the use of personal pronouns in causative constructions of movement, there is a formal difference between English and Unish: in Unish, object

pronouns have the same form as subject pronouns. Only the function of such pronouns in the clause changes. Thus, word order is essential for the identification of clausal constituents. This means that Unish is an analytic language, as opposed to synthetic languages such as Spanish, where the word function is given through inflections, and therefore word order does not need to be so strict. As an example of this, see (24) below:

(24) a. John guided *us* to his new house.
a'. John guided *des* tu le's neu haus.
b. *We* guided John to his new house.
b'. *Des* guided John tu le's new haus.

This proves to be highly economic, since it reduces the number of words to be learned an also the forms these words take. Again, word order and the context is essential for a correct understanding of the word. Apart from this, it must be noted that the causative active accomplishment movement verb *guide* possesses the same meaning and the same argument structure in both languages. That is, its logical structure is the same. In fact, if we elide the object pronoun, the clause is incorrect in both of them, as can be observed in (25):

(25) a. * John guided to his new house
b. *John guided tu le's neu haus

With regards to the clause in (25.b), we know that it is ungrammatical even if there are not native speakers of the language because in order to assess its grammaticality we apply the rules that have been elaborated in order to construct Unish. Artificial languages in general cannot be evaluated through native speaker intuitions, as natural languages can. The only way to test their accuracy is to see whether they fit the rules that have been designed for them and to compare their internal semantic and syntactic structures to the internal structures of natural languages. This is what I do in this study.

Thus, with respect to (25), the reason for these clauses being incorrect is that in the logical structure of *guide*, as well as all the verbs under study, we have, as I have shown above, three arguments: an AGENT, a THEME, and a LOCATION (GOAL). The THEME is the entity that undergoes the action carried out by the AGENT. It is equivalent to what has traditionally been called *object*. Thus, *us* in (24.a) and *des* in (24.b) are the THEME, so they are essential for the logical structure of the verb. This phenomenon has an important implication for the creation process of Unish. In Unish, the word *guide* has been borrowed, together with its meaning. This, consequently, implies that also the logical structure of *guide* has been adopted. Therefore, there are three elements to take into account in the borrowing of a lexical item: its form, its meaning, and its logical structure. In this sense, it would be possible, for instance, to borrow the form of a word without borrowing its content, i.e. its meaning. This shows that the different existing processes in the creation of words are universal, and that they are the same as the ones used in the creation of artificial languages. In the case of Unish, such a language follows a basic rule of simplicity, so that the three elements - form, content, and logical structure - are adopted simultaneously from the pertinent dominant language, which is, as already mentioned, the language that is most

frequently used in order to represent a certain item out of all the languages from which vocabulary is borrowed.

To finish up this section, I focus on Unish vocabulary. If we pay attention to the range of causative accomplishment movement verbs available in English, which totals 48 as extracted from the *Lexicon of Contemporary English* (1985), we can observe that most of them have already been accounted for in Unish. They have been adopted either from English itself, which is the most frequent case, such as *guide* or *lead*, or from another language, such as *dirig*. Below we have the verbs in English and their correspondent ones in Unish. A verb that is not yet in Unish is indicated by two question marks:

(26)**Causative active accomplishment verbs of motion:**
Guide-guide, lead-lead, conduct-kondot, escort-eskort, accompany-akompani, show-sho, direct-dirig, draw-dro, tow-taun, usher-??, carry-kari, bear-forber, bring-bring, fetch-fech, transport-transport, deliver-deliver, ship-leadit, dispatch-dispach, despatch-??, take-teik, propel-??.

Causative (non-active) accomplishment verbs of motion: Fit-fit, fix-fix, install-instal, place-plas, space-spas, clap-klap, locate-loki, situate-??, site-sito, position-poz, station-staso, stick-stik, remove-remuv, wrench-rench, extract-estrat, withdraw-widro, eject-ejet, bar-bar, jam-jam, seal-selo, stuff-??, scatter??, sprinkle-??, cast-gips, chuck-chuk, toss-??

As can be seen, most of the verbs that do not have an equivalent in Unish are of low frequency of use. One reason for this incompleteness is that this language is still under construction. Another reason may be that such verbs are not of primary importance for a language, since they have many synonyms which are more frequently used and that can perform the same function. That is, there is not a clear need for creating more terms in order to cover a meaning which has is already been acknowledged. For instance, *dispatch* and *despatch* are explained by a free variation in spelling in English. In Unish, these two variants are unified into the most frequent one: *dispatch*, which is the only one that has an equivalent verb, *dispach*. As regards the verbs that have a counterpart in Unish, it can be seen that most of them have been adopted from English, with some graphemic changes so as to make them more loyal to their phonological features, as in *akompani* for *accompany*, or *teik* for *take*. There are, nonetheless, exceptions, such as *leadit* for *ship*, or *gips* for *cast.*

At that point, however, it would be necessary to unify the range of correspondences between one language and the other. The problem is, therefore, that if one looks up the verb *despatch* in Unish, no equivalent verb is obtained. The correct way to get a satisfactory system of equivalences must not be based on creating a new term that is equivalent to *despatch*, since the meaning of this verb is already covered by another term, *dispach*, adopted from *dispatch*. Such processes would go against the rule of simplicity, followed in the construction of Unish. The solution would be to implement the same equivalent term for *despatch* in the computerised database, i.e. *dispach*. Thus, the term *despach* in Unish could be translated as both *dispatch* and *despatch*. This would provide Unish with an economic range of vocabulary that follows the principle of non-synonymy. That is, in Unish just one

term exists for one meaning, independently of how many terms exist in other languages to cover that same meaning. Again, this grants such language with a scientific status, free of ambiguities, so that it can be used as an instrument to communicate information objectively, and, above all, with a high degree of economy. In a nutshell, Unish, as it is currently devised, is an artificial language aimed at fulfilling one specific function of natural languages: communication of information. That is, this language lacks other devices that are used to achieve other aims, such as thinking or creating art through language. Unish has not been created to be used for literary aims. It is just an auxiliary system of communication that could be internationally applied in order to satisfy specific communicative needs.

Conclusion

In this paper I have demonstrated that causative accomplishment movement verbs are of two different *Aktionsart* types, and that, consequently, they respond to two different logical structures. Going further, I have shown how this is directly reflected in the types of prepositional phrases they take, which assume different semantic and syntactic functions. In this sense, the GOAL thematic relation is expressed differently in causative active accomplishment movement verbs than in causative accomplishment movement verbs. Active accomplishments can admit multiple directional or locational prepositional phrases, and accomplishments only admit one, which can either be a SOURCE or a GOAL prepositional phrase, but never a PATH prepositional phrase, which encodes the process of extended duration in space and/or time.

Additionally, causative active accomplishment movement verbs have a [+dynamic] feature which is not present in causative non-active accomplishment movement verbs, and it is this feature which influences the verbal logical structure as a whole. The result of the action or of the process is the same, which is obtained from their accomplishment *Aktionsart*. However, the preposition *to* (and related ones: *into, onto…*) as a GOAL for active accomplishment verbs shows that there is a PATH role to undergo first, either if it is explicitly realised in the clause as a PATH prepositional phrase or not. All this should be reflected in the logical structure. I have made a proposal in this line in subsection 2.1.

Furthermore, I have proved that causative accomplishment movement verbs in Unish possess the same logical structure as those in English, and that they respond to the same grammatical and semantic phenomena. Moreover, clausal constructions in Unish are nearer to their semantic representation in the sense that articles are elided and that pronouns always have the same form, independently of their function. Only their position in the clause changes. In the same way, articles are omitted in logical structure and content words are used in their bare form, i.e. without any inflectional morpheme. Additionally, the place they occupy in logical structure is what determines their role in the clause, and more importantly, with respect to the verbal predicate. Thus, the position of the first term is filled by the AGENT, the one of the second term by the LOCATION, and the one of the third by the THEME, as seen in *Mary* (AG) *fixed switch* (TH) *um garden mur* (LOC). Word order is therefore of

primary importance. This shows that Unish follows the principle of simplicity, which contributes to its status as an auxiliary language.

SOURCE and GOAL are similar in terms of argument-adjuncts - though verbs which take a SOURCE prepositional phrase as an argument are less frequent -, because a location is specified. The PATH role cannot be represented as an argument-adjunct because, according to the logical structure of both kinds of induced motion verbs, a resulting location should be specified. A PATH role does not carry the telicity feature needed in this case. The case with SOURCE is different: it codes a state of affairs in which an object has been displaced from its original location, and so a new situation has begun, leaving the old one behind. For this process to take place, that old situation must have had an ending. Accomplishment movement verbs which take a SOURCE prepositional phrase as a general rule instead of a GOAL prepositional phrase are given in (27), together with their corresponding logical structure[14]:

(27) Remove, wrench, extract, withdraw, eject
[**do'** (x, Ø) CAUSE [BECOME NOT **be-LOC'** (y, z)]

With respect to each of these *Aktionsart* types in semantic representation, we have seen that the Role and Reference Grammar typology constitutes a useful tool to codify states of affairs universally, although it shows some insufficiencies in order to represent some variables, especially in the case of causative active accomplishment movement verbs. For this, I have proposed a new logical structure and added some additional features to explain them. Nonetheless, further proposals that contribute to complete them would be welcome.

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[14] These verbs have not been fully developed. For a better understanding of their logical structure and mode of action, see Ibáñez Moreno and Ortigosa Pastor (2004).

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