THE INTERACTION OF SYNTAX AND SEMANTICS IN THE LEXICOLOGICAL ANALYSIS OF *COMBINE* VERBS

Grado En Estudios Ingleses

Pedro Daniel Albericio Martín

Francisco José Cortés Rodríguez
2015
San Cristóbal de La Laguna

DEPARTAMENTO DE FILOLOGÍA INGLESA Y ALEMANA

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0. INDEX

1. ABSTRACT

The goal of this project is to describe a subdomain of verbs of combination: *amalgamate*, *affix*, *attach*, *blend*, coalesce, *combine*, *compound*, *connect*, *join*, *link*, *merge*, *mix* and *unite*. These verbs have been chosen following a main criterion: the Principle of Lexical Domain Membership proposed by Pamela Faber and Ricardo Mairal (1999).

The theoretical basis of this project lies principally on the work by Faber—Mairal, *Constructing a Lexicon of English Verbs* (1999), in which they state that the best way to give a complete analysis of a group of words must take into account both paradigmatic and syntagmatic features. Therefore, this research seeks to analyze the correlation between syntax and semantics as a way to understand the overall grammatical behavior of the verbs selected. Beth Levin's *English Verb Classes and Alternations: A Preliminary Investigation* (1993) and Adele Goldberg's *Constructions: A Construction Grammar Approach to Argument Structure* (1995) introduce us to the concepts of "alternation" and "construction", through which we are able to see how verbs in particular interact with the whole semantics of a sentence, depending on the arguments and complements they are surrounded by, and on the position they occupy within such structures.

The first part of this study is devoted to the analysis of the verbs according to their basic meaning, in other words, the meaning that is prototypically associated to these lexical units, which will be divided into two subdomains: verbs of *mixing* and *blending* and verbs of *joining* and *linking*. Then, we will look at the lexical relations existing among all the verbs which constitute the object of our investigation.

The second part will look into the syntagmatic behavior of these verbs. Taking into account Levin's and Goldberg's works, we will cope with the alternations and the constructions in which they appear, trying to motivate the relation between lexical and constructional meanings. To accomplish descriptive adequacy, our analysis will be illustrated with examples from the British National Corpus.

Finally, a conclusion where the main results of this research are summarized is given at the end of this project.

Key words: alternations, *combine* verbs, constructions, lexical semantics

2. INTRODUCTION

The aim of this project is a study of the grammar and semantics of a group of verbs, more precisely those having in common the meaning of '*to combine or put together*; a project that I started last year in the subject *Estudios del Significado*. At the beginning of the degree, I was convinced that my final project would be dealing with poetry or theatre, as they were the two main aspects of literature I was interested in. But, as the degree developed and years passed by, the subjects involving linguistics –and the passion of the teachers giving those lessons, which I think was the key factor– were absolutely catching, so I changed my mind. *Gramática Inglesa I* and *II* initiated the process, and *Pragmática de la Lengua Inglesa* and *Estudios del Significado* culminated it, showing me how interesting the study of meaning can be, and how much one can discover analyzing just one single verb. Everything I learnt with those subjects marked my academic life, so that is the reason why I am continuing with this research for my TFG.

The study carried out in this project is based on the theoretical assumption that the behavior of a verb, understood here for our purposes as the grammatical features of its arguments –its expressions and interpretations–, is determined by its meaning. Thus, the establishment of the lexical meaning of verbs may be considered as the key factor in order to analyze their syntactic behavior, as Levin (1993: 1) points out. In fact, much in line with Levin's (1993) investigation on English verbs, and the analysis of other researchers from the field of lexicology (as Faber—Mairal, 1999) or construction grammar (Goldberg, 1995) the aim of this project is to show how the English verbal lexicon can be structured in terms of the syntagmatic and paradigmatic properties of its members, and that such an structuration is central to delimit all the factors which can contribute to explain the grammatical behavior of the group of verbs under investigation.

The structure of the remainder of this project is as follows: the next section will provide an outline of the main theoretical and methodological aspects on which the different analyses of the subdomain of 'combine' verbs will be supported. This will lead us to review briefly some of the central postulates for lexicological investigations as expressed in Faber—Mairal (1999), which in turn will be complemented with relevant

notions from other studies, especially the kind of semantically based syntagmatic descriptions provided in Levin (1993).

Section 4 can be considered as the first phase of the analysis carried out in this project, as it is devoted to the process of selection of the lexemes that will be the object of our study. This involves a thorough revision of some lexicographical sources, namely the *Longman Lexicon of Contemporary English* (1981), the *Collins COBUILD English Languaje dictionary* (1987) and the *Oxford Advanced Learner's Dictionary* (2010).

Once selected the group of *combine* verbs, the following section seeks to offer an organized structure of this subdomain by providing two types of paradigmatic descriptions: firstly, a lexematic analysis, which will enable us to dissect the meaning of the predicates into their semantic components; secondly, a description of the lexical relation in terms of which we will be able to understand the degree of semantic proximity or kinship that exists among our verbs. Section 6, in which we try to spell out the syntagmatic features of these lexemes, will revolve around the pairs of alternating constructions in which they can appear, and to explain how such structures are in fact meaning-based.

The information extracted from the syntagmatic axis of description (section 6) will also help us to refine the initial lexematic analysis proposed in section 5, and will lead us to give a deeper picture of the semantics of these verbs and an understanding on the tight interrelation that holds between lexical meaning and syntactic behavior. Section 7 is devoted to this.

Finally, the references and works cited in this project can be found in section 8; and in the appendix (section 9), a complete list with detailed descriptions of the verbs compiled in out corpus selection is offered.

3. THEORETICAL PRELIMINARIES

One area of consensus in different linguistic theories nowadays is the relevance of lexical information in the construction of grammatical descriptions. However, it seems contradictory that not much attention is paid in most grammars to the detailed description of such lexical information. One interesting exception is the proposal put forward by Faber—Mairal (1999) of a model that is truly lexically based, as is the Functional Lexematic Model. Such a theory starts by offering an exhaustive method for the lexicological analysis of verbs, which must be the prerequisite for further grammatical studies. This project seeks to offer an analysis along the lines proposed in this book and, in doing so, also contribute with a first preliminary investigation of the grammar of a small sample of English verbs.

The lexical description proposed in the Functional Lexematic Model relies heavily on the notion of onomasiological structure, which helps clustering words in groups based on semantic affinity, a kind of organization that is also proved to have psychological validity[1]. According to Faber—Mairal (1999: 58) onomasiological descriptions are a development of both Dik's Stepwise Lexical Decomposition and semantic analysis from the Lexematic School (Geckeler, Pottier, Coseriu, etc.), and is based on the following key notions:

- Lexical domains and subdomains: the Functional Lexematic model uses these terms instead of *semantic fields*, avoided in Faber—Mairal (1999: 79) as "the concept of semantic field has been and still is the object of much imprecision." Lexical domains take into account both paradigmatic and syntagmatic information as criteria for membership, thus describing this concept as "the set of lexemes which together lexicalize all or part of a conceptual domain." (Faber—Mairal, 1999: 59)
- Paradigmatic relations: these kinds of relations are based on the potentiality of occurrence of elements between elements that occur in combination with one another. It is highly relevant for our analysis as it describes the elements "prior to and independently of the linguistic system." (Faber—Mairal, 1999: 80)

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[1] Aitchison (1994) is a volume that deals extensively with this topic.

- Genus and Differentiae: according to Riemer (2010: 67), the strategy of definition by genus and differentiae, developed by Aristotle, can be described as follows: one has to specify the broader class to which a lexeme belongs (the genus), and then show the features (the differentiae) that will distinguish it from the rest of the members of the already mentioned broader class.

- Principle of Lexical Domain Membership: as stated by Faber—Mairal (1999: 87), "lexical domain membership is determined by the genus, which constitutes the nucleus of the meaning of a lexeme." Thus, the genus in the definition of a lexeme marks the semantic area which is covered in the domain

- Stepwise Lexical Decomposition: this theory developed by Dik states a semantic hierarchy within a given lexical domain, and stipulates that "the definition of a lexical unit L must contain only terms that are semantically simpler than L" (Faber—Mairal, 1999: 88). In line with this words, the differentiae will indicate how the lexemes of a given domain or subdomain are related. (Wierzbicka, 1992; in Faber—Mairal, 1999: 88)

- Lexical relations: the different possible existing relations among a group of lexemes, such as polysemy, synonymy, opposites or antonymy, hyponymy... which "represent characteristic examples of the networking of the vocabulary that a semantic description must reflect". (Saeed, 2009: 79)

- Syntagmatic relations: as Faber—Mairal (1999: 114) state: "In general terms, the syntagmatic axis specifies the complementation patterns for each verb". Furthermore, the syntagmatic analysis must not confine itself to just providing a list of the possible syntactic patterns, but to establish "the extent to which semantic information on the paradigmatic axis is relevant to the form and function of verb complementation when it is analyzed within the larger framework of the lexicon" (Faber—Mairal, 1999: 115). One of the recent developments in the syntagmatic axis of description of the FLM is the integration of the notions of construction and alternation as a means to describe the complementation patterns a given lexeme can be associated with. This in fact enriches the model with a truly lexically-based grammatical description, as predicate-argument constructions are understood as syntactic

form-meaning pairings[2]. This new view is enriched with Levin's (1993) approach to verbal classification. This work is an extensive analysis of the interaction between the syntax and semantics of English verbs, based on the notion of "diathesis alternation, described as alternations in the expression of arguments, sometimes accompanied by changes of meaning" (Levin, 1993: 2). In fact, an alternation involves two structural form-meaning pairs (i.e.: two constructions). The fact that a verb can (or not) appear in a given construction is often a symptom of the presence (or absence) of certain semantic features. Levin (1993: 2, 3) illustrates this by comparing the behavior of *break* and *appear* in the "Causative/Inchoative Alternation". In her examples, she illustrates how the verb *break* participates of this type of alternation (that is, the verb undergoing it shows both transitive and intransitive uses), whereas this phenomenon is impossible with the verb *appear*, as it cannot be used transitively, thus meaning that causative construction does not occur with this verb (Levin, 1993: 3):

    a.   The window broke. (inchoative variant)

    b.   The little boy broke the window. (causative variant)

    a.   A rabbit appeared out of the magician's hat.

    b.   *The magician appeared a rabbit out of his hat.

The study of the constructions involved in the alternations in which our verbs participate will be revealing for a deep understanding of the semantics of *combining* or *putting together* events, and for the motivation of the grammatical behavior of the lexemes encoding such events.

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[2] Goldberg & Jackendoff (2004: 533) define constructions as: "[…] any stored pairings of form and function; according to this definition, words and morphemes are technically constructions as well. In addition, stored (typically frequent) regularities between form and meaning are considered constructions even if they are fully compositional."

4. THE SCOPE OF ANALYSIS: VERBS OF *COMBINING* AND *PUTTING TOGETHER*

4.1.   CORPUS SELECTION

The first step in this project was that of producing a list of English verbs which expressed in their meanings the notion of *combining* or *putting together*. Taking into account Beth Levin's *English Verb Classes and Alternations. A Preliminary Investigation* (1993), the *Longman Lexicon for Contemporary English* (1981) and the online corpus FrameNet, three lists of verbs were obtained giving form to what was the initial corpus selection (see appendix 1 for complete list of verbs with definitions):

- The first one was extracted from Levin's *English Verb Classes and Alternations. A Preliminary Investigation* (1993). This is the longest by far out of the three, as she takes into account any subtle possibility of a verb having the same syntactic behavior as the main ones, *combine* or *put together*, to assign them to the class of "verbs of combining and attaching". She divides this class into five categories, *mix*, *amalgamate*, *shake*, *tape* and *cling* verbs, as it follows (Levin, 1993: 159-164):

  o *Mix* verbs
    - with the preposition *with*

    blend, combine, commingle, concatenate, connect, fuse, join, link, merge, mingle, mix and pool.

    - with the preposition *into*

    blend, cream and mix.

    - with the preposition *to*

    add, connect, join, link and network.

  o *Amalgamate* verbs
    - with the preposition *with*

    affiliate, alternate, amalgamate, associate, coalesce, coincide, compare, confederate, confuse, conjoin, consolidate, contrast, correlate, criss-cross, entwine, entangle, harmonize, incorporate, integrate, interchange, interconnect, interlace, interlink, interlock, intermingle, interrelate,

intersperse, intertwine, interweave, mate, muddle, pair, rhyme, team, total, unify and unite.

- with the preposition *to*

engage, introduce, marry, oppose and wed.

o *Shake* verbs

- with the preposition *with*

band, beat, bundle, cluster, collate, gather, glom, group, herd, jumble, lump, mass, package, pair, roll, scramble, shake, shuffle, stir, whip and whisk.

- with the preposition *into*

beat, collect, scramble, shake, shuffle, splice, stir, swirl, whip and whisk.

- with the preposition *to*

append, attach, baste, bind, bond, fasten, fuse, graft, moor, sew, splice, stick and weld.

o *Tape* Verbs

anchor, band, belt, bolt, bracket, buckle, button, cement, chain, clamp, clasp, clip, epoxy, fetter, glue, gum, handcuff, harness, hinge, hinge, hitch, hook, knot, lace, lash, lasso, latch, leash, link, lock, loop, manacle, moor, muzzle, nail, padlock, paste, peg, pin, plaster, rivet, rope, screw, seal, shackle, skewer, solder, staple, stitch, strap, string, tack, tape, tether, thumbtack, tie, trammel, wire, toke and zip.

o *Cling* Verbs

adhere, cleave and cling.

- A second list was devised by searching for verbs related to the notion of *combining* or *putting together* in the *Longman Lexicon of Contemporary English* (McArthur, 1981). There we found two clearly differentiated sub-groups of verbs; those of *mixing* and *blending* (meaning that physical or chemical properties of the entities involved can change) and those of *linking* and *joining* (meaning that the entities

involved in the action do not suffer any change in structure, but in proximity –both physically or emotionally– between them). The list would then be made up of the following lexemes, found in this lexicographical source:

- o Verbs of *mixing and blending*

blend, combine, compound, merge and *mix.*

- o Verbs of *linking and joining*

affix, amalgamate, attach, band together, coalesce, combine, connect, integrate, join, link, unify and *unite.*

- Finally, a third list created by analyzing the verbs as stored in the online database "FrameNet". We looked, in the first place, for the verb *combine*, which appears in the frames *cause to amalgamate* and *amalgamation*:
  - o **Cause to amalgamate**. These words refer to an AGENT joining PARTS to form a WHOLE. (The PARTS may also be encoded as PART_1 and PART_2.) There is a symmetrical relationship between the components that undergo the process, and afterwards the PARTS are consumed and are no longer distinct entities that are easily discernible or separable in the WHOLE. (FrameNet)

  admix, amalgamate, blend, bring together, coalesce, combine, combination, commingle, compound, conflate, consolidate, flux, fold, , fuse, intermix, join, jumble, lump, meld, merge, mix, pair, throw, unify and unite.

  - o **Amalgamation**. These words refer to PARTS merging to form a WHOLE. (The PARTS may also be encoded as PART_1 and PART_2.) There is a symmetrical relationship between the components that undergo the process, and afterwards the PARTS are consumed and are no longer distinct entities that are easily discernible or separable in the WHOLE. (FrameNet)

  amalgamate, band together, blend, coalesce, combine, combination, come together, commingle, consolidate, fuse, intermix, join, jumble, meld, merge, merger, mix, unify and unite.

Then, we also searched for the verb *put together*, which is involved in several frames, as are *Building*, *Cooking creation* and *Making arrangements*:

- o **Building.** This frame describes assembly or construction actions, where an AGENT joins COMPONENTS together to form a CREATED_ENTITY, which is profiled, and hence the object of the verb. ("FrameNet")

assemble, assembly, build, construct, construction [entity], construction, erect, fashion, fit together, glue, make, piece together, put together, raise and weld.

- o **Cooking creation.** This frame describes food and meal preparation. A COOK creates a PRODUCED_FOOD from (raw) INGREDIENTS. The HEATING_INSTRUMENTS and/or the CONTAINER may also be specified. ("FrameNet")

bake, concot, cook up, cook [entity], cook, make, prepare, put together, whip up.

- o **Making arrangements.** An AGENT performs a series of unspecified tasks to plan for an EVENT to take place at a TIME and PLACE. ("FrameNet")

make arrangements, organize, plan, put together and set up.

4.2.   LEXEME SELECTION

Once an initial corpus was obtained from the three above mentioned sources, we resorted to a lexicological model in order to select those items which would cluster together into one semantically coherent group. Such a model is the so called Functional-Lexematic Model (FLM), as proposed by Faber—Mairal (1999). Their approach differs from Levin's and "FrameNet" in the following aspect:

Beth Levin's and FrameNet's lists are made up following a syntagmatic criterion (that is, some verbs are included in these two lists for the mere reason that they share the same syntactic structure that *combine* or *put together* use), whereas the position that Faber—Mairal (1999) adopt follows a paradigmatic analysis. In their FLM, they present what is called the *Principle of Lexical Domain Membership*, which we repeat here: "Lexical domain membership is determined by the genus, which constitutes the nucleus of the meaning of a lexeme." (Faber—Mairal, 1999: 87) We can infer from this that the

genus in the definition of a lexeme provides the information necessary to allocate it to its semantic area, determining whether it would belong to a specific lexical domain, or not.

Thus, we have proceeded as follows in order to establish the final list of selected items for our analysis: firstly, we have set up the core meaning corresponding to our sub-domain, and have excluded those lexemes that do not really correspond to the basic genus in our domain, which is "to (cause to) come together". The verbs that will constitute the scope of analysis are: *affix*, *amalgamate*, *attach*, *blend*, *coalesce*, *combine*, *compound*, *connect*, *join*, *link*, *merge*, *mix* and *unite*.

Secondly, we will search for the differentiae, or the specific properties which define the lexeme in order to differentiate it from the rest of lexemes with the same genus, of the verbs listed above (this is done by inspecting the entries of these verbs in several dictionaries). The output of this analysis will provide us with an organized picture of the subdomain in terms of lexical hierarchies and relations; which will allow us to show how these words are interrelated (Saeed, 2009: 53).

5. PARADIGMATIC DESCRIPTION OF THE VERBS SELECTED

A paradigmatic analysis investigates and seeks to identify the various paradigms which underlie in a linguistic unit (Chandler, 2014). The paradigms we are going to work with through this chapter are the sets of items resulting from our selection of verbs, which are grouped in the same category –or family–, but are different in some aspects. Following John Saeed's *Semantics* (2009), we will look at the different possible existing relations among the list of lexemes presented above, paying attention to the concepts of polysemy, synonymy, opposites or antonymy, hyponymy… which "represent characteristic examples of the networking of the vocabulary that a semantic description must reflect". (Saeed, 2009: 79)

5.1. ORGANIZATION OF SUBDOMAINS

Before starting with the analysis of the verbs selected in this project, and taking into consideration the organization of McArthur's *Longman Lexicon of Contemporary English* (1981), we are going to divide our list of lexemes in two differentiated subdomains: verbs with the meaning of *mixing* and *blending* (with physical or chemical

properties of the entities involved changing, as stated above) and those of *joining* and *linking* (in which no change in the structure of the entities involved is suffered, but in their proximity –both physically or emotionally). The resulting subdivision would stay as follows:

- o **Verbs of *mixing* and *blending*:** *blend*, *combine*, *compound*, *merge* and *mix*.
- o **Verbs of *linking and joining*:** *affix, amalgamate, attach, coalesce, combine, connect, integrate, join, link* and *unite.*

5.2.   SEMANTIC COMPONENTS. LEXEMATIC ANALYSIS

In this section, we are going to analyze the semantic components present in the definitions (meaning) of our list of lexemes. These semantic components are the parts of the meaning of a word which occur in each member of a group of lexical units and which can also serve us to differentiate one lexical unit from another (i.e.: "male" is the semantic component that distinguishes *man* from *woman*; whereas "human" would be a component shared by both *man* and *woman*).

First of all, and before we start with the analysis itself, some introduction to the theories of content analysis and clarifications about the concepts we are going to work with throughout this section should be made, taking into account the work by Horst Geckeler, *Semántica Estructual y Teoría del Campo Léxico* (1984).

The first field in which linguistic analysis methods were developed was that of phonetics, but all those theories were soon absorbed into other fields, as Geckeler (1984) points out:

> Las ideas metodológicas adquiridas en la fonología fueron llevadas rápidamente a la gramática, en primer lugar por R. Jakobson (1936). Corresponde a L. Hjelmslev (1943) el mérito de haber propuesto el primero (según creemos) para la investigación del vocabulario los métodos elaborados para el plano de la expresión. (247)[3]

In relation to the purpose of this section, one of the most highlighted linguists in the field of content analysis is B. Pottier, who developed a series of concepts in lexematic

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[3] My translation: "The methodological ideas acquired in phonology were rapidly extrapolated to grammar, in the first place by R. Jakobson (1936). It corresponds to L. Hjelmslev (1943) the merit of being the first one to propose (as it is believed) the methods elaborated for the field of expression for the investigation of vocabulary."

analysis in French, parallel to others existing in phonology (Geckeler, 1984: 255, 256). The following is a description of each of these terms, as far as we are going to make use of them below:

- Sema (*sème*): rasgo distintivo en la lexemática.[4]
- Semema (*sémème*): conjunto de rasgos pertinentes (o semas) que entran en la definición de la sustancia de un lexema.[5]
- Lexema (*lexème*): expresión léxica de un *sémème*.[6]
- Archilexema (*archilexème*): denominado por la realización léxica del conjunto de rasgos semánticos que son ellos solos pertinentes en la posición de neutralización.[7]
- Archisemema (*archisémème*): conjunto de semas comunes a varios sememas; esta última concepción corresponde también a la que E. Coseriu da del archilexema.[8]

While the European variant of content analysis constitutes the most important research on this field (E. Coseriu and B. Pottier, for example) and, as we mentioned above, was started by L. Hjelmslev, little investigation has been made outside the barriers of German, French or Spanish. English lacks such an intensive research in this area, but as far as the concepts proposed by Pottier and collected in Geckeler (1984) can be used also in this language, we are going to make use of them in the analysis presented below.

The following figure shows a list of the semantic components or semes considered significant to our analysis, according to the definitions given by the *Longman Lexicon for Contemporary English* (1981). Verbs marked with the symbol + do include the component in their meaning; while on the contrary, those verbs marked with the symbol – do not include the component in their definitions. Verbs marked with the symbol ± may have the component in some entries of the dictionary, but not in others:

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[4] My translation: "Seme: distinctive feature in lexematic studies."
[5] My translation: "Sememe: the ensemble of distinctive features or semes which underlie in the definition of the substance of a lexeme."
[6] My translation: "Lexeme: lexical expression of a sememe."
[7] My translation: "Archilexeme: denominated by the lexical realization of the ensemble of semantic features which are pertinent by themselves in the position of neutralization."
[8] My translation: "Archisememe: the group of semes common to various sememes; this conception corresponds also to the one given by E. Coseriu for the archilexeme."

Fig. 1: semantic components present in our list of lexemes.

	to (cause to) come together	people	things	cooking	business	to form something new
combine	+					
affix	+	-	+	-	-	-
amalgamate	+	-	+	-	+	+
attach	+	+	+	-	-	-
blend	+	+	+	+	-	+
coalesce	+	-	+	-	+	±[9]
compound	+		±	+	-	+
connect	+	+	+	-	-	-
join	+	+	+	-	+	-
link	+	+	+	-	+	±
merge	+	-	+	+	+	+
mix	+	+	+	+	-	+
unite	+	+	+	-	+	±

Figure 1 shows clearly that *combine* would be the archilexeme of our group of verbs, as it is the one whose semantic features (its sememe) are present in the full series of lexemes we have presented.

The seme s_1 "to (cause to) come together" has been chosen as the genus of our group of lexemes (see above); and as we can see, it is the only seme common to all the lexemes in our list, alongside with the seme s_2 "things", thus being the two semes which constitute the archisememe of our subdomain of verbs.

One important aspect when dealing with all the definitions given in the different dictionaries used was that of whether the action happening involved people, things, or both. That is the reason why these two semes are considered to be relevant. These semes have an impact on the syntagmatic behavior of our verbs, as they are selectional

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[9] In the case of *to coalesce*, this "something new" is specifically a group or body.

preferences on the semantics of the expressions that can appear as their complements. Therefore, they can be interpreted as selection restrictions[10] for our verbs.

The context of the action can be also highlighted as an important seme for our analysis. The fields of "cooking" and "business" can be clearly seen in the following examples of *mix* ("cooking"), *amalgamate* ("business") and *merge* (both "cooking" and "business"):

(1) *mix*: **2** [D1 (for); T1] to prepare such a combination of different substances*.*
His wife mixed him a hot drink of milk, sugar, and chocolate.

(2) *amalgamate*: **1** [I0] (of businesses) to join or unite. **2** [T1] to join (businesses) into one.
The two companies (were) amalgamated.

(3) *merge*: [I0; T1] to (cause to) become part of something else, or parts of something larger; to blend[11].
The two businesses merged. They merged the two companies.
Sugar, flour and eggs were merged before baking the cake.

Finally, it is also worth commenting that the seme "to form something new" has been included in the semantic components for some verbs, and marks a very relevant distinction among them. The cases of *coalesce* and *unite* deserve special analysis.

The *Longman Lexicon for Contemporary English* defines *coalesce* as "to grow together or unite so as to form one group, body, mass, etc." No mention to anything new is made here, but analyzing example (4) gives us a clue that this seme can be present in the verb *coalesce*:

(4) Their ideas *coalesced* into a *new theory*.

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[10] Selection restrictions are semantic specifications that words must have for their combination to result in non-anomalous sentences. Such semantic conditions refer to the type of entities encoded by their arguments.

[11] Notice that *mix* has been included as it contains the seme "cooking", because the dictionary entry adds "to blend" to its definition; concomitantly, the verb *to blend* contains this seme.

The case of *unite* is somehow different, as it has to do with what is being united. If we look at example (5):

(5) The two colors were mixed and *united* into a new one.

The verb *to mix* refers just to the action of combining the two colors, but the verb *to unite* is the one that states that the new color is created.

5.3. LEXICAL RELATIONS

Once the subdomains are delimited, we can proceed with the analysis of the lexical relations existing among the group of predicates which falls under the scope of our analysis, following what Saeed proposes in *Semantics* (2009).

5.3.1. HYPONYMY AND HYPERNYMY

When looking at the different definitions we have used in this analysis, we were lead to the conclusion that the verb *to combine* would be the best candidate as the hypernym of this group, with its core meaning being "to (cause to) come together". That is, *to combine* is the concept whose meaning would be present, in a direct or indirect way, in the definitions of all the rest of verbs in our analysis. Thus, the other verbs we will be working with are considered direct or indirect hyponyms of our main verb. Following the procedure of Stepwise Lexical Decomposition (Dik, 1978), the subdomain would be structured as follows (notice that definitions from the dictionaries used have been adapted in order to make the relations easier to identify):

Verbs of *mixing* and *blending* (*to combine*)
combine: to (cause to) come together
　　mix: to (cause things to) be combined
　　　　compound: to mix (things) together into a whole
　　　　blend: to (cause to) mix
　　　　　　merge: to blend; to (cause to) become part of something else

Verbs of *joining* and *linking* (*to put together*)

combine: to (cause to) come together

    join: to come together (to become near one thing)

        connect: to (cause to) become linked or joined together

        attach: to join or fix (one thing to another) in action or function

            affix: (formal) to attach (one thing to another) by sticking

        unite: to join together into one

            coalesce: to unite or grow together to form a group, body...

            amalgamate: to join or unite (into one) to form a new

            business, institution...

        link: to join or connect by or as is by a link or links

5.3.2. SYNONYMY AND HYPONYMY

It is often difficult, if not impossible; to draw a decision about whether a specific given pair of lexemes are synonyms or rather they hold a hyper/hyponymy relation. On the one hand, it seems clear that absolute synonymy is impossible as two terms never mean exactly the same on all possible occasions on which any of them can be used. Somehow they must differ in at least one relevant way. However, dictionaries are often useless to offer relevant information, and confine their definitions to just proposing possible synonyms, not detailing the exact differences among such words. To find out such differences often requires making use of a lot of information from extensive number of real language fragments or samples, something which would lie much beyond of what can be handled within the limits of a small-size research piece like this one.

Based on these premises, we will deal with synonymy and hyponymy as two interrelated terms, assuming that these subtle differences that mark the distinctions between our verbs are not available in our analysis, insofar they would require a more extensive and fine-grained research.

Now, the first issue to comment on would be the synonyms our main verbs may have. They are divided in two groups: verbs of *mixing* and *blending*, and verbs of *joining* and *linking*. Following the Stepwise Lexical Decomposition for verbs of *mixing* and

blending, we have decided that *mix* and *blend* can be synonyms because they can be interchanged in a sentence not varying significantly its meaning as examples (6) and (7) show:

(6) *Blend* the sugar, flour and eggs. */ Mix* the sugar, flour and eggs.

(7) She put the flour, eggs, etc. into a bowl and *mixed/blended* them together*.*

Another related word in this sense would be *compound*, which also means "to mix things together", but with the difference that something new or different is created.

The second group of verbs is that of verbs of *joining* and *linking*. The verbs *unite* and *join* can be interchangeable synonyms. As it happened with the case of *mix* and *blend*, one can say either:

(8) They *united/joined* to form a club.

(9) They *united/joined* the two pipes.

We may consider *amalgamate* as an immediate hyponym of *unite* and, at the same time, hyponym of *join*. However, if we include *amalgamate* as an immediate hyponym of *join*, then it would not be a hyponym of *unite*. Due to this fact, we have decided that it is more convenient to include it under *unite*, in order to have *amalgamate* as a hyponym of both *join* and *unite*.

5.3.3. HOMONYMY AND POLYSEMY

The verbs which this project deals with show no real cases of polysemy, but of duplicity of behavior based on transitivity. This in turn is based on the availability of the seme "to cause" for our verbs. Some of the lexemes analyzed in this project would seem to show cases of polysemy, but only when treated as nouns. That is, it is the homonyms of some of our verbs that exhibit polysemy. Homonymy is defined as follows:

> El término *homonimia* hace referencia a la relación entre dos o más palabras que se
> pronuncian y/o se escriben igual, pero tienen un significado diferente y también un
> origen etimológico distinto. *Semántica* (Espinal—Macià—Mateu—Quer, 2013: 83)[12]

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[12] My translation: "The concept *homonymy* makes reference to the relationship between two or more words which are pronounced and/or written the same way, but which have different meanings and also a different etymological origin."

When dealing with homonymy, we have found that the words *affix* and *link* can work both as verbs and nouns, thus completely changing their meaning. They are words with unrelated senses, and written in the same way (homographs). The examples below belong to different categories, but we can notice that they share the same spelling:

Examples of *link* as a verb and as a noun are:

(10)   v.: The road *links* all the new towns.

(11)   n.: You should include the *link* of that webpage in your list of references.

In the example (11), *link* (n.) refers to the field of "computer science". However, it is also possible to find *link* (n.) as "one of the rings forming a chain", showing a clear case of polysemy.

Examples of *affix* as a verb and as a noun are:

(12)   v.: He *affixed* the stamp to the letter.

(13)   n.: We are learning about *affixes* in our linguistic lessons.

In the case of (13), *affix* (n.) just refers to the term in linguistics.

6. SYNTAGMATIC ANALYSIS OF THE VERBS UNDER STUDY

The syntagmatic analysis of lexemes involves the study of their properties in the combination axis. This analysis is often driven by different tests that allow us to see how the units we are working with (in our case, verbs of *combining* and *putting together*) behave in different linguistic situations on contexts.

Throughout this part of the analysis, a syntagmatic approach to our selection of lexemes will show us the alternations –and therefore the constructions– in which our verbs take part. Those alternations relevant for the development of the analysis of our list of verbs are, following Levin (1993)[13]: (a) "Transitivity Alternations", which involve a change in the transitivity of the verb (Levin, 1993: 25); the "Causative/Inchoative Alternation" and the "Middle Alternation" in our case. And (b) "Alternations Involving Arguments Within the VP", which do not show any change in the transitivity of the

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[13] Notice that during the analysis below, the verbs *affix*, *attach* and *compound* are not mentioned. This is due to the fact that Levin (1993) does not include them in any list, or merely states that these three verbs are "Non-Alternating".

verbs, but that are verbs (both transitive or intransitive) that take more than one argument and which "allow more than one way of expressing these arguments" (Levin, 1993: 45); useful for our analysis is the "Simple Reciprocal Alternation".

6.1. CONSTRUCTIONS AND ALTERNATIONS

According to Goldberg's theory (1995), grammar consists of an inventory of constructions, which are in turn defined as form-meaning pairings. Furthermore, alternations are pairs of constructions which, roughly speaking, describe a change in the realization of the arguments of a given verb. So, these alternations expressed above will be represented by constructions below (or what is the same, pairs of sentences).

We will carry out an analysis going alternation by alternation, thus giving both an explanation of the type of alternation under consideration, as well as an account of all the verbs in our lexeme selection (see section 4.2.) which participate in them. The first case of study would be the "Causative/Inchoative Alternation".

"Causative/Inchoative Alternations" involve verbs with both transitive and intransitive uses, were "the transitive use of a verb V can be paraphrased as roughly 'cause to V-intransitive'", as stated in Levin (1993: 26-27). In causative constructions, there is an explicit cause that leads to a change of state or location of the entities, whereas in the inchoative construction, the cause is not expressed, but the entities still maintain the change of state or location already mentioned.

From the subdomain of verbs we are dealing with, those which appear in Levin (1993) undergoing this alternation would be: *amalgamate*, *blend*, *coalesce*, *combine*, *connect*, *join*, *link*, *merge*, *mix* and *unite*. Examples from Levin (1993), Wordreference, the *Collins COBUILD* dictionary (1987) and the British National Corpus (BNC) have been extracted in order to illustrate the cases in which this alternation can be found –or not[14]– with each of the verbs listed above.

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[14] Levin (1993: 159) indicates in the examples given for the "Causative/Inchoative Alternation" that it is an alternation exhibited by most of the verbs she includes in the group. As a result, we are going to see through this analysis how, from our list of lexemes, not all of the verbs which are included in Levin's list have such a behavior.

(14)a. **F7J 429** And you're trying to ***amalgamate*** all the unions together to make it easier for them.

b. The two companies ***amalgamated***.

In example (14), sentence (a) represents the causative variant, where the verb is used transitively, with the subject *you*, as the "causer" of the action, and the object *all the unions* expressing the affected entity, whereas sentence (b) is an instance of the inchoative variation of this alternation, where the verb is intransitive, since it is the subject *the two companies* what undergoes a change of state. The same explanation holds for examples (15) to (23):

(15)a. **C9F 813** If you are using fresh yeast, pour 150ml/¼ pint of the onion liquid into a small bowl, crumble over 15g/½oz fresh yeast and ***blend***, using a teaspoon.

b. Yellow and red ***blended***, giving a bright tone of orange to the sky.

(16)*a. The government will not ***coalesce*** its conservative ideals with the most liberal ones from their opponents.

b. **EEC 1195** Parliamentary support began to ***coalesce***, deriving mainly from the analogy which was seen between compensation for criminal injuries and the existing welfare provision for people who had sustained injuries in the course of their work.

(17)a. **ABM 1349** What he has done, he explains, is to ***combine*** the belief of his philosophical predecessors that 'the things immediately perceived, are ideas which exist only in the mind' with the common-sense belief that 'those things…[we]immediately perceive are the real things'; and these two, put together 'do in effect constitute the substance of what I advance'.

b. **HGR 2390** A central issue for many linguists is how do syntax and semantic information ***combine*** in language systems.

(18)a. **CTX 1495** Expert comes with an RS232 lead and a disk of utilities, so you can ***connect*** the box to your PC's serial port and run a variety of configuration and diagnostic tools.

*b. 32mm, 40mm or 50mm waste pipes and an existing PVC soil track ***connect***.

(19)a. He ***joined*** one piece of wood to the other with nails.

b. **H7X 411** Sometimes the laws of physics states that atoms and molecules ***join*** like Ezekiel's dry bones, and sometimes they split apart.

(20)a. **A9W 183** But Sir Donald Acheson, the Government's chief medical officer, highlighted paragraphs of the report which ***link*** sugar consumption with obesity, diabetes, high blood pressure, heart disease, and gallstones.

*b. The two cities ***link*** thanks to the new road.

(21)a. In the story he ***merged*** his mind with the robot's and shared its thoughts.

b. **ABG 1759** James Arbuthnot, of Wanstead and Woodford, argues that if the Labour-run Association of London Authorities and the Tory-run London Boroughs Association ***merged***, they could provide the 'voice for London' its voters still apparently hanker after.

(22)a. I ***mixed*** the soap into the water.

b. The soap ***mixed*** into the water.

(23)a. **AB4 1097** Soane concludes, 'I have been more anxious to produce utility in the plans than to display expensive architecture in the elevations; the leading objects were to ***unite*** convenience and comfort in the interior distributions, and simplicity and uniformity in the exterior.'

b. The two independent Boer republics of the Orange Free State and the South African Republic (Transvaal Republic) ***united*** in 1901 into the Union of South Africa.

As we can see throughout the examples given above, although some of the verbs from our lexeme selection appear in Levin's list, they seem not to participate in the "Causative/Inchoative Alternation". Due to the fact that they may be related to the rest of the group because of existing similarities concerning syntax, Levin (1993) adds them to the same group, but as far as some of them are just transitive or just intransitive, they do not really comply with the features of the "Causative/Inchoative Alternation". This is why, regarding the verb *coalesce*, example (16a) is impossible as the verb shows no transitive behavior, as well as with *connect* and *link* (18b and 20b, respectively), which do not show an intransitive one. This involves that *coalesce* encodes exclusively internally caused changes of state (that is, it is an inchoative-only verb). On the contrary, *connect* and *link* must necessarily have as part of their meaning a [+cause] semantic feature.

Let us turn now to briefly review the behavior of our verbs with regard to middle structures. The intransitive variant or construction of the so called "Middle Alternation" is "characterized by a lack of time reference and by an understood but not expressed agent." (Levin, 1993: 26) Generally, this kind of construction makes use adverbial or modal elements, such as "well", "bad", "easily" or "difficult(y)". But there are other possibilities, as Cortés—Mairal (2013) point out:

> Negation (*this bread doesn't cut*), or simply contrastive stress, as in *this bread CUTS/ this bread DOES cut*; example from Roberts (1987: 195). Even it is not uncommon to have middles with no overt modifier, as in *Dan Brown's novels sell*. (227)

We could say that the "Middle Alternation" can be considered as a generalized property of the verbs which undergo it[15].

Again, we have followed Levin (1993) in order to find which of the verbs we are analyzing appear in this alternation. Subsequently, the examples we will see below correspond to the verbs *amalgamate*, *blend*, *coalesce*, *combine*, *connect*, *join*, *link*, *merge*, *mix* and *unite*.

(24) a. The government ***amalgamated*** the two companies.
b. The two companies ***didn't amalgamate***.
(25) a. I ***blended*** Wild Ethiopian coffee with Colombian coffee and it was delicious!
b. **ABB 694** Wild Ethiopian coffees are spicy and ***blend*** well with a rich coffee such as Colombian or Javanese.
(26) a. There is a tendency for both political and industrial systems to ***coalesce*** into large units.
b. Political and industrial systems ***don't coalesce*** easily.
(27) a. I painted my bedroom ***combining*** the walls in pale blue and soft pink; now it is the most beautiful room in the house.
b. **C9X 91** Pale pastel tones ***combine*** well for a pretty bedroom.

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[15] For a detailed description of the middle constructions in English see Cortés–Mairal (2013).

(28)a. I will add the passacaglia variations at the end; I think people will understand and appreciate how I ***connected*** them.

b. **ED6 1070** The finale begins with a somewhat pedantic statement of the theme, but the passacaglia variations always ***connect*** well with each other, and here at last Brahms's strength of personality emerges.

(29)a. He ***joined*** one piece of wood to the other with nails.

b. The two pieces of wood ***weren't joined*** by Peter.

(30)a. The report **links** sugar abuse to children's obesity.

b. Sugar abuse ***is not linked*** to children's obesity.

(31)a. In the story he ***merged*** his mind with the robot's and shared its thoughts.

b. **FA2 624** This unpleasant structure ***merges*** well with the rocks cape around it and was used, during the Second World War, as a prison.

(32)a. I ***mixed*** the eggs with cream.

b. Eggs ***mix*** well with cream.

(33)a. The two independent Boer republics of the Orange Free State and the South African Republic (Transvaal Republic) ***united*** in 1901 into the Union of South Africa.

b. The Boer republics which constituted the Union of South Africa ***didn't unite*** in 1936.

The "Reciprocal Alternation" is typical of verbs that show two constructions "in a near paraphrase relationship." (Levin, 1993: 60) We are lead to the reciprocal construction indicating a relation of coordination –using "and"–, from a relation previously established via a prepositional phrase PP (prepositional variant), as it is shown in example (34) with the verb *amalgamate*[16]:

(34)a. The government amalgamated La Caixa *with* Caja Canarias. (transitive)

b. The government amalgamated La Caixa and Caja Canarias.

c. La Caixa amalgamated *with* Caja Canarias. (intransitive)

d. La Caiza and Caja Canarias amalgamated.

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[16] Note that the reciprocal variant involves reducing the number of syntactic elements by coordination. In line with this, Rubinstein (2006: 1) explains that "reciprocal verbs, which are intransitive predicates, usually have a non-reciprocal counterpart. So, for example, both *John kissed Mary* and *John and Mary kissed* would be derived by a transformation from one and the same structure.

Verbs from our list of lexemes which also fall under the group connected to the preposition *with* and present a reciprocal variation would be *coalesce*, *combine*, *merge* and *unite*.

Blend is one of the verbs using the preposition *with* which allows the same alternation as *amalgamate*, but it can be also seen connected to the preposition *into*, as we can see in examples (35) and (36). The use of *into* evidences that the change of state is simultaneous to a change of position on the part of the first element that is affected by the event depicted in the meaning of the predicate:

(35) a. She blended the sugar *with* the butter.

    b. She blended the sugar and the butter.

(36) a. She blended the eggs *into* the butter.

    b. She blended the eggs and the butter.

    Also seen in the intransitive alternation as:

    c. The eggs blended *into* the butter.

    d. The eggs and the butter blanded

This is exactly the same that happens with the verb *mix*, as illustrated in examples (37) and (38):

(37) a. Herman mixed the eggs *with* the cream.

    b. Herman mixed the eggs and the cream.

(38) a. Hannah mixed the cream *into* the flour.

    b. Hannah mixed the cream and the flour.

The case of the verbs *connect*, *join* and *link* are somehow different as they refer also to motion prior to change of position or state. This means that they can be used with the preposition *with* (in a similar fashion to the other verbs mentioned above), but also allow for the usage of the preposition *to* introducing one of the affected complements, as shown in examples (39), (40) and (41):

(39) a. Linda connected the computer *to* the television.

    b. Linda connected the computer and the television.

(40)a. I joined one pipe *to* the other.

b. I joined one pipe and the other.

(41)a. The report links sugar abuse *to* children's obesity.

b. The report links sugar abuse and children's obesity.

7. CONCLUSIONS

As we have seen throughout the different sections of this project and, especially, in the analysis of section 6 concerning the causative/inchoative and reciprocal constructions and alternations, one important aspect of all these verbs we have been working with are the prepositions they are accompanied by, *with*, *into* and *to*, which can express a considerable amount of information about our lexeme selection, such as changes of state, changes of position or even movement.

First of all, our verbs which expressed in their meanings the notion of *combining* or *putting together* imply a change of state. This can be reflected in the analysis we have made when dealing with the inchoative constructions, which were those intransitive variants of the causative construction in which the cause of the action was not expressed, but the change of state was still maintained, as we proved in the examples:

a. ***I** mixed the soap into the water.*
b. *The soap mixed into the water.*

Another result can be drawn from this type of constructions, as far as when studying the "Causative/Inchoative Alternation" from Levin (1993), we discovered that from our selection of verbs, not all of them fixed in the causative construction –they had no transitive variation; this is the case of the verb *coalesce*– or in the inchoative one, as *connect* and *link* –they had no intransitive variation. The fact that one verb does not appear in the inchoative construction means no problem for our project, but as far as there is one case which does not present the causative construction, modifications in the semantic components are needed in order to offer a more precise analysis (see below).

Regarding the usage of prepositions for the prepositional variation in the "Reciprocal Alternation" in Levin (1993), we were shown how various verbs from our subdomain could take either the preposition *into* or the preposition *to.*

Into, in the case of our analysis, makes reference to a change in the position of the entities involved in the action, as in the example "*I mixed the sugar into the cream*", in which what it is said is that the sugar is placed *into* the cream. Analyzing the preposition *to* changes the understanding of the action as it is a preposition linked to a movement of any kind, thus the example "*Linda connected the computer to the television*" implies that

some sort of movement had to be made in order to fulfill that connection, i.e.: the one made by Linda with the wires from the computer to the television[17].

All these aspects lead us to the conclusion that some semes should be included in the list of semantic components we presented in section 5, with new columns resulting as follows:

Fig. 2: revision of the semantic components present in our list of lexemes: columns regarding causative variation, changes of position and motion.

	causative	intransitive (w/o cause)	change of position	motion
combine	+			
amalgamate	+	+	-	-
blend	+	+	+	-
coalesce	-	+	-	-
connect	+	-	-	+
join	+	+	-	+
link	+	-	-	+
merge	+	+	-	-
mix	+	+	+	-
unite	+	+	-	-

In brief, we could say that throughout this research concerning the group of verbs of *combining* and *putting together*, we have came to make manifest that an analysis taking into account only a paradigmatic approach would have been useless or incomplete as we would have never discovered, for examples, some of the semes which are worth including in our sememe, such as the ones listed above. Concomitantly, taking into account only a syntagmatic approach would have left us without such an essential part of words as it is their meaning. The combination of both analyses has helped us in order to obtain a better comprehension of the verbs we have been working with, and their behavior inside the compendium of the English language.

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[17] For the description of the basic meaning of *to* as final point or destination of a motion event, see Greenbaum–Quirk (1999: 191,192).

8. REFERENCES AND WORKS CITED

Aitchison, J. (1994). *Words in the mind: An introduction to the mental lexicon*. Oxford: Blackwell

Chandler, D. (2014, March 7). Semiotics for beginners. Retrieved June 15, 2015, from Daniel Chandler's website: http://visual-memory.co.uk/daniel/Documents/S4B/sem05.html

Cortés, F. and Mairal, R. (2013). Constraints on English middle structures: A lexical-constructional analysis. *ONOMAZEIN*, 220-240.

Dik, S. (1978). *Stepwise lexical decomposition*. The Peter de Ridder Press.

Espinal, M., Macià, J., Mateu, M. & Quer, J. (2013). *Semántica*. Madrid: Akal.

Faber, P. and Mairal, R. (1999). *Constructing a lexicon of English verbs*. Berlin: Mouton de Gruyter.

FrameNet site search. (n.d.). FrameNet data search for combine. Retrieved February 23, 2015, from https://framenet.icsi.berkeley.edu/fndrupal/framenet_search

Geckeler, H. (1984). *Semántica estructural y teoría del campo léxico* (M. Martínez-Hernández, trans.). Madrid: Editorial Gredos.

Goldberg, A. (1995). *Constructions. A construction grammar approach to argument structure*. Chicago: The University of Chicago Press.

Goldberg, A. and Jackendoff, R. (2004). The English resultative as a family of constructions. *Language 80*, 532-568.

Greenbaum, S. and Quirk, R. (1999). Prepositions and prepositional phrases. In *A students grammar of the English language* (188-203). Harlow, Essex: Longman

Levin, B. (1993). *English verbs classes and alternations. A preliminary investigation.* Chicago: The University of Chicago Press.

McArthur, T. (1981). *Longman lexicon of contemporary English.* London: Longman Group Limited.

Riemer, N. (2010). Definition by genus and differentia. In *Introducing semantics* (67-68). New York: Cambridge University Press.

Saeed, J. (2009). *Semantics.* Oxford: Wiley & Blackwell.

Sinclair, J. (1987). *Collins COBUILD English language dictionary*. London: William Collins Sons & Co.

The British National Corpus, version 3 (2007). Retrieved July, 2015, from: http://www.natcorp.ox.ac.uk/

Turnbull, J. (Eds.). (2010). *Oxford Advanced Learner's Dictionary.* Oxford University Press: Oxford.

WordReference.com: Online Language Dictionaries (n.d.). Retrieved June, 2015, from: http://www.wordreference.com/es/

9. APPENDIX

The following is a complete list of the corpus selection containing full definitions of the verbs included in Levin's *Verb Classes and Alternations: A Preliminary Investigation* (1993), the *Longman Lexicon of Contemporary English* (1981) and FrameNet.

Beth Levin's *Verb Classes and Alternations: A Preliminary Investigation* (1993)

VERBS OF COMBINING AND ATTACHING

- *Mix* Verbs
  - *with*:
    - blend: 1 to mix smoothly together. 2 to prepare by mixing various types or varieties. 3 to fit or combine in a pleasing way. 4 to have no visible separation into parts.
    - combine: 1 to join in a close union; unite to form one thing. 2 to have or show (qualities, etc.) in union. 3 to unite for a common purpose; join.
    - commingle: to mix or mingle together; combine.
    - concatenate: to link together as in a series or chain.
    - connect: 1 to (cause to) become linked together; join or unite. 2 to establish telephone communication with or for. 3 to link to an electrical or telephone system; hook up. 4 to associate in the mind. 5 (of trains, etc.) to run so as to make connections. 6 *Informal* to meet or establish communication; make contact. 7 to hit successfully or solidly.
    - fuse: 1 to (cause to) combine or blend by melting together. 2 to cause to unite; blend.
    - join: 1 to (cause to) come into or be in contact or connection with; connect. 2 to come into contact or union with. 3 to (cause to) come together in a particular relation or for a specific purpose; unite. 4 to become a member of. 5 to enlist (in), as a branch of the armed forces. 6 to come into the company of; meet or accompany (someone), so as to participate with or in some activity. 7 to bring into close relationship. 8 **join in**, to take part in; become involved in.

- link: 1 to connect or be connected with or as if with links. 2 to connect by association.

- merge: 1 to (cause to) become combined; (cause to) lose identity by blending. 2 to combine into a single body, etc. [*no obj*].

- mingle: 1 to mix in company. 2 to mix or combine; put together in a mixture; blend.

- mix: 1 to (cause to) become combined into one mass. 2 to put together in a confused way. 3 to combine or unite. 4 to form or make by combining ingredients. 5 to enjoy the company of people. 6 **mix up**, to confuse completely; to mistake (one thing) for another; to rearrange the order of

- pool: 1 to combine (investments, money, interests, etc.) into a common fund, as for a joint enterprise. 2 to organize a pool of (enterprises).

o *into*:
  - blend: 1 to mix smoothly together. 2 to prepare by mixing various types or varieties. 3 to fit or combine in a pleasing way. 4 to have no visible separation into parts.

  - cream: 1 to mix (butter and sugar, etc.) to a smooth, creamy mass. 2 to take the best part of.

  - mix: 1 to (cause to) become combined into one mass. 2 to put together in a confused way. 3 to combine or unite. 4 to form or make by combining ingredients. 5 to enjoy the company of people. 6 **mix up**, to confuse completely; to mistake (one thing) for another; to rearrange the order of

o *to*:
  - add: 1 to unite or join so as to bring about an increase. 2 to find the sum of. 3 to perform arithmetic addition. 4 to say or write further. 5 to be an addition; **add up**, to amount to the correct total; [*no obj*] to seem reasonable or consistent. 6 **add up to**, to amount to

  - connect: 1 to (cause to) become linked together; join or unite. 2 to establish telephone communication with or for. 3 to link to an electrical or telephone system; hook up. 4 to associate in the mind. 5

(of trains, etc.) to run so as to make connections. 6 *Informal* to meet or establish communication; make contact. 7 to hit successfully or solidly.

- join: 1 to (cause to) come into or be in contact or connection with; connect. 2 to come into contact or union with. 3 to (cause to) come together in a particular relation or for a specific purpose; unite. 4 to become a member of. 5 to enlist (in), as a branch of the armed forces. 6 to come into the company of; meet or accompany (someone), so as to participate with or in some activity. 7 to bring into close relationship. 8 **join in**, to take part in; become involved in.

- link: 1 to connect or be connected with or as if with links. 2 to connect by association.

- network: 1 to broadcast on stations throughout the country. 2 (of computers, terminals, etc.) to connect or be connected. 3 to form business contacts through informal social meetings

- *Amalgamate* Verbs
    - *with*:
        - affiliate: to attach or bring into close association or connection
        - alternate: 1 to interchange regularly with one another in time or place. 2 to change back and forth between states, actions, etc. 3 to take turns.
        - amalgamate: 1 to mix or merge so as to make a combination; blend. 2 to mix or alloy (a metal) with mercury.
        - associate: 1 to connect or bring together in the mind:I associate rainy days with spring. 2 to unite; combine. 3 to keep company as a friend, companion, or ally. 4 to join together as partners or colleagues.
        - coalesce: 1 to unite; join together. 2 to blend or come together.
        - coincide: 1 to occupy the place or time. 2 (of two objects) to correspond exactly. 3 to agree; concur.
        - compare: 1 to examine (two or more things, etc.) to note similarities and differences. 2 to consider or describe as similar; liken. 3 to be worthy of comparison. 4 to be in similar standing; be alike. 5 to appear in quality, progress, etc. 6 to give the forms for the comparison of (an adjective or adverb).

- confederate: to unite in a league, alliance, or conspiracy.
- confuse: 1 to bewilder; perplex. 2 to mix up (things, ideas, etc); jumble. 3 to make unclear. 4 to fail to recognize the difference between; mistake (one thing) for another. 5 to disconcert; embarrass. 6 to cause to become disordered.
- conjoin: 1 to join together; unite; combine; associate. 2 to join as coordinate elements.
- consolidate: 1 to (cause to) unite; bring together (parts) into a single, larger form, organization, etc. 2 to (cause to) be made solid, firm, or secure.
- contrast: 1 distinction or emphasis of difference by comparison of opposite or dissimilar things, qualities, etc.). 2 a person or thing showing notable differences when compared with another. 3 (in painting) the effect of the juxtaposition of different colours, tones, etc. 4 (of a photographic emulsion) the degree of density measured against exposure used. 5 the extent to which adjacent areas of an optical image, esp on a television screen or in a photographic negative or print, differ in brightness. 6 the phenomenon that when two different but related stimuli are presented close together in space and/or time they are perceived as being more different than they really are.
- correlate: 1 to show or establish a connection between. 2 to have a relation or connection.
- criss-cross: 1 to move or cause to move in a crosswise pattern. 2 to mark with or consist of a pattern of crossing lines.
- entwine: (of two or more things) to twine together or (of one or more thing) to twine around (something else).
- entangle: 1 to catch or involve in or as if in a tangle; ensnare or enmesh. 2 to make tangled or twisted; snarl. 3 to make complicated; confuse. 4 to involve in difficulties; entrap.
- harmonize: 1 to make or become harmonious. 2 to provide a harmony for (a melody, tune, etc.). 3 to sing in harmony, as with other singers. 4 to collate parallel narratives.

- incorporate: 1 to include or be included as a part or member of a united whole. 2 to form or cause to form a united whole or mass; merge or blend. 3 to form (individuals, an unincorporated enterprise, etc) into a corporation or other organization with a separate legal identity from that of its owners or members.
- integrate: 1 to bring together, combine, or incorporate into a whole or into a larger unit. 2 to (cause to) become part of a larger unit, as by giving equal opportunity and consideration to. 3 to make (a school, etc.) open or available to all racial and ethnic groups.
- interchange: to cause (one thing) to change places with another.
- interconnect: to (cause to) be or become connected.
- interlace: 1 to cross one another as if woven together. 2 to mix together.
- interlink: to connect or link (two or more things) together.
- interlock: 1 to fit into each other, as in machinery, so that various parts work together. 2 to interweave, interlace, or interrelate, one with another.
- intermingle: to mingle, one with another; intermix.
- interrelate: to bring or enter into a relation or connection.
- intersperse: 1 to scatter or distribute among, between, or on. 2 to diversify (something) with other things scattered here and there.
- intertwine: to twine together.
- interweave: to weave together; intermingle.
- mate: to pair (a male and female animal) or (of animals) to pair for reproduction. 2 to marry or join in marriage. 3 to join as a pair; match.
- muddle: 1 to mix up (objects, items, etc); jumble. 2 to confuse. 3 to mix or stir (alcoholic drinks, etc)
- pair (?): 1 to arrange or fall into groups of two. 2 to group or be grouped in matching pairs. 3 to join or be joined in marriage; mate or couple. 4 to form or cause to form a pair.
- rhyme: 1 to use (a word) or (of a word) to be used so as to form a rhyme; be or make identical in sound. 2 to render (a subject) into rhyme. 3 to compose (verse) in a metrical structure

- team (?): to join together in a team.
- total: 1 to bring to a total; add up. 2 to reach a total of; amount of. 3 to wreck beyond repair.
- unify: to cause to become a single unit; unite; merge.
- unite: 1 to (cause to) be joined so as to form a single whole or unit. 2 to (cause to) adhere or stick together. 3 to (cause to) be in a state of mutual sympathy or agreement, or to have a common opinion, attitude, goal, etc.

- *to*:
  - engage: 1 to occupy the attention or efforts of; involve. 2 to hire; arrange for (someone) to provide a special service. 3 to attract and hold fast. 4 to enter into conflict with. 5 (of gears or the like) to interlock or cause to become interlocked.
  - introduce: 1 to present (someone) by name (to another person). 2 to cause to experience for the first time. 3 to present for consideration or approval, esp before a legislative body. 4 to bring in; establish. 5 to present (a radio or television program, etc.) verbally. 6 (followed by *with*) to start. 7 (often followed by *into*) to insert or inject. 8 to place (members of a species of plant or animal) in a new environment with the intention of producing a resident breeding population
  - marry: 1 to take (someone) as husband or wife. 2 to take a husband or wife; wed. 3 to perform the marriage ceremony for (a couple). 4 to arrange the marriage of. 5 to gain through marriage. 6 to join or unite closely.
  - oppose: 1 (transitive) to fight against, counter, or resist strongly. 2 (transitive) to be hostile or antagonistic to; be against. 3 (transitive) to place or set in opposition; contrast or counterbalance. 4 (transitive) to place opposite or facing. 5 (intransitive) to be or act in opposition.
  - wed: to marry.

- *Shake* Verbs
  - *with*:
    - band: to mark with or attach a band to.

- beat: **1** when *intr,* often followed by *against, on*, etc: to strike with or as if with a series of violent blows; dash or pound repeatedly (against) **2** (transitive) to punish by striking; flog **3** to move or cause to move up and down; flap **4** (intransitive) to throb rhythmically; pulsate **5** (transitive) sometimes followed by *up*: to stir or whisk (an ingredient or mixture) vigorously **6** (transitive) sometimes followed by *out*: to shape, make thin, or flatten (a piece of metal) by repeated blows **7** (transitive) to indicate (time) by the motion of one's hand, baton, etc, or by the action of a metronome **8** when *tr*, sometimes followed by *out*: to produce (a sound or signal) by or as if by striking a drum **9** to overcome (an opponent) in a contest, battle, etc **10** (tr; often followed by back, down, off etc) to drive, push, or thrust **11** (transitive) to arrive or finish before (someone or something); anticipate or forestall **12** (transitive) to form (a path or track) by repeatedly walking or riding over it **13** to scour (woodlands, coverts, or undergrowth) so as to rouse game for shooting **14** (transitive) slang to puzzle or baffle **15** (intransitive) to steer a sailing vessel as close as possible to the direction from which the wind is blowing
- bundle: **1** to wrap in a bundle **2** to send or push away hurriedly **3** to supply or include (products or services) in one sale for one price.
- cluster: to form or gather in a cluster
- collate: **1** to arrange (pages) in their proper order **2** to compare (texts, etc.) critically
- gather: to bring or come together into one group, collection or place; collect
- glom: to steal, catch or grab; to look at
- group: to (cause to) place or form together in a group.
- herd: **1** to unite or move in a her **2** to gather into or as if into a herd
- jumble: to mix in a confused mass
- lump: to (cause to) be united into one collection or mass
- mass: to (cause to) come together in or form a mass

- package: **1** to make or put into a package **2** to combine or offer (related elements) into or as a unit
- pair: to arrange or group in pairs or groups of two
- roll: to move along a surface by turning over and over
- scramble: to climb using one's hands and feet, as up or down a hill
- shake: to move (something, esp. in a container) briskly to and fro or up and down, as in mixing
- shuffle: to rearrange (objects, etc.) by mixing together randomly
- stir: to mix or agitate with a continuous movement of a spoon, a stick, etc.
- whip: to beat with a flexible piece of rope or leather, as a lash
- whisk: to blend with a whisk

- *into*:
  - beat: **1** when *intr,* often followed by *against, on*, etc: to strike with or as if with a series of violent blows; dash or pound repeatedly (against) **2** (transitive) to punish by striking; flog **3** to move or cause to move up and down; flap **4** (intransitive) to throb rhythmically; pulsate **5** (transitive) sometimes followed by *up*: to stir or whisk (an ingredient or mixture) vigorously **6** (transitive) sometimes followed by ***out***: to shape, make thin, or flatten (a piece of metal) by repeated blows **7** (transitive) to indicate (time) by the motion of one's hand, baton, etc, or by the action of a metronome **8** when *tr*, sometimes followed by *out*: to produce (a sound or signal) by or as if by striking a drum **9** to overcome (an opponent) in a contest, battle, etc **10** (tr; often followed by back, down, off etc) to drive, push, or thrust **11** (transitive) to arrive or finish before (someone or something); anticipate or forestall **12** (transitive) to form (a path or track) by repeatedly walking or riding over it **13** to scour (woodlands, coverts, or undergrowth) so as to rouse game for shooting **14** (transitive) slang to puzzle or baffle **15** (intransitive) to steer a sailing vessel as close as possible to the direction from which the wind is blowing
  - collect: to gather together

- scramble: to move (something, esp. in a container) briskly to and fro or up and down, as in mixing
- shake: to move (something, esp. in a container) briskly to and fro or up and down, as in mixing
- shuffle: to rearrange (objects, etc.) by mixing together randomly
- splice: to join ropes together by weaving strands together
- stir: to mix or agitate with a continuous movement of a spoon, a stick, etc.
- swirl: to move around or along with a whirling motion; whirl
- whip: to beat with a flexible piece of rope or leather, as a lash
- whisk: to blend with a whisk

- *to*:
  - append: to add as a piece at the end of a writing
  - attach: to fasten or affix, join; connect in action or function
  - baste: to sew with long, loose temporary stitches
  - bind: to fasten or tie
  - bond: to connect or bind two materials
  - fasten: to attach firmly or securely in place or to something else
  - fuse: to (cause) to combine or blend by melting together
  - graft: to insert (a graft) intro a tree or other plant
  - moor: to hold and attach (a ship, etc.) in a particular place, as by ropes or anchors
  - sew: to join or attach (one or more things) by stitches
  - splice: to join together by weaving strands together
  - stick: to (cause to) be fastened or attached by adhering
  - weld: to unite (metal or plastic pieces) by hammering or squeezing them together, esp. after applying heat

- *Tape* Verbs
  - anchor: to hold fast by or as if by an anchor
  - band: to unite in a troop, company or group
  - belt: to fasten on by means of a belt
  - bolt: to fasten with or as if with a bolt

- bracket: to group in a class together
- buckle: to fasten with a buckle or buckles
- button: to fasten or attach with or as if with a button or buttons
- cement: to unite or join by or as if by cement
- chain: to fasten, tie up or confine with or as if with a chain
- clamp: to fasten with a clamp or as if by a clamp
- clasp: to fasten with or as if with a clasp
- clip: to cut off or out, as with scissors
- epoxy: to bond (two materials) by means of an epoxy resin
- fetter: to put fetters upon
- glue: to join or attach firmly with or as if with glue
- gum: to smear, stiffen, or stick together with gum
- handcuff: to put handcuff on
- harness: to put a harness on; attach by a harness
- hinge: to be dependent on; depend on
- hitch: to fasten or tie by means of a rope or strap
- hook: to seize, fasten or catch hold off with or as if with a hook
- knot: to (cause to) become tied or tangled in a knot
- lace: to fasten, draw together or compress by or as if by means of a lace
- lash: to strike or beat, as with a whip or something similar
- lasso: to catch with or as if with a lasso
- latch: to close or fasten (with a latch)
- leash: to secure or control by or as if by a leash
- link: **1** to connect or be connected with or as if with links. **2** to connect by association.
- lock: to (cause a door, window, building, etc., to) become fastened or made secure by the operation of a lock or locks
- loop: to form into a loop
- manacle: to handcuff; fetter
- moor: to hold or attach (a ship, etc.) in a particular place, as by ropes or anchors
- muzzle: to put a muzzle on (an animal or its mouth)
- nail: to fasten with a nail or nails

- o padlock: to fasten with or as if with a padlock
- o paste: to fasten or stick with paste
- o peg: to fasten with or as if with pegs
- o pin: to fasten or attach with or as if with a pin or pins
- o plaster: to cover, fill, or smear with plaster
- o rivet: to fasten with or as if with a rivet or rivets
- o rope: to tie or fasten with a rope
- o screw: to (cause to) be fastened with or as if with a screw or screws
- o seal: to fasten by or as if by a seal
- o shackle: to constrain, restrain, or prevent free movement of (a person or animal) by a shackle or shackles
- o skewer: to fasten by piercing with or as if with a skewer
- o solder: to join (metal objects) with solder
- o staple: to fasten by a staple or staples
- o stitch: to work upon, mend, or fasten with or as if with stitches; sew
- o strap: to secure, put in place, or fasten with a strap
- o string: to thread on or as if on a string
- o tack: to fasten with tacks
- o tape: to tie up, bind or attach with tape
- o tether: to fasten or confine with or as if with a tether
- o thumbtack: to push into a board by the pressure of a thumb
- o tie: to bind or fasten with a cord
- o trammel: to restrain or hold back
- o wire: to connect to a television cable and other equipment so that cable television programs may be received
- o yoke: to join with or as if with a yoke
- o zip: to (cause to) be fastened or unfastened with a zipper

- *Tape* Verbs
  - o adhere: to stick or hold fast
  - o cleave: to (cause to) split or divide by or as if by a cutting blow
  - o cling: to adhere closely; hold tight

Longman Lexicon of Contemporary English (1981)

- affix: [T1 (to)] often fml to attach, stick or fasten (one thing to another thing)

- amalgamate: **1** [I0] (of businesses) to join or unite. **2** [T1] to join (businesses) into one

- attach: **1** [T1 (*to*)] to join or fix (one thing to another)

- band together: [v adv; I0] to come together; unite: they banded together to form a new political party.

- blend**: 1** [T1; I0] *sometimes tech* to (cause to) mix **2** [I0] to become combined into a single whole **3** [T1] *esp tech* to produce (tea, coffee, whisky, etc) out of a mixture of several varieties

- coalesce: [I0] to grow together or unite so as to form one group, body, mass, etc.

- combine: [I0; T1; (*with, into*)] to (cause to) come together; join or mix

- compound: **1** [T1] to mix (things) together to make something new or different. **2** to add to or increase

- connect**:** [T1; I0; (*together, up, with, to, by*)] *esp fml & tech* to join; to fix together

- integrate: [T1] **1** to make (something) complete from a number of parts **2** to bring (something or someone) into a group from a position outside it

- join**:** [T1; I0; *(together, up, with)*] **1** to (cause to) come together; to (cause to) become one or nearly one thing **2** to become one (of); to enter

- link: **1** [T1 (*together*)] to join or connect **2** [I0 (*together, up*)] to be joined

  - merge: [I0; T1] to (cause to) become part of something else, or parts of something larger; to blend

  - mix**: 1**[T1 (up); I0 (with)] to (cause (different substances, things, etc) to) be combined so as to form a whole, of which the parts no longer have a separate shape, appearance, etc, or cannot easily be separated one from another **2** [D1 (for); T1] to prepare such a combination of different substances) **3** [I0 (with)] (fig) (of a person) to be, be put or enjoy being in the company of others

  - unify: [T1] **1** to make all the same **2** to make (parts) into one (whole)

  - unite: **1** [T1; I0] *esp emph* to join together into one **2** [I0 (*in*); I3] to act together for a purpose **3** [T1] to join in marriage

FrameNet

CAUSE TO AMALGAMATE

- admix: mix with something else.
- amalgamate: combine or unite to form one organization or structure.
- blend: to mix something with something else.
- bring together: join two or more items.
- coalesce: bring together.
- combine: unite; merge; unite to form a compound.
    - o combination: The act of combining, or the result of agentive combining.
- commingle: to cause on item to blend together with another item.
- compound: mix or combine (ingredients or constituents).
- conflate: combine into one.
- consolidate: combine into a single unit.
- flux: treat (a metal object) with a flux to promote melting.
- fold: to combine by gently adding one part to another, usually used in baking.
- fuse: to cause two or more entities to blend together.
- intermix: to cause two or more items to become blended together.
- join: cause to be fused with and connected to.
- jumble: mix up in a confused way.
- lump: put in an indiscriminate mass or group.
- meld: to cause one item to blend with at least one additional item.
- merge: to cause one or more entities to become one.
    - o merger: the act of combining two or more entities into one.
- mix: combine to form a whole.
- pair: join two items to form a pair.
- throw together: cause two or more things to be merged.
- unify: make or become united or uniform.
- unite: to cause two or more entities to blend together to form a whole.

AMALGAMATION

- amalgamate: combine or unite to form one organization or structure.

- band together: people forming a group, usually for some specific purpose.
- blend: to mix with something else.
- coalesce: to come together to form one mass.
- combine: unite; merge; unite to form a compound.
    - combination: a mixture of two or more parts which forms a single, new whole.
- come together: coalesce to make a whole.
- commingle: to blend together with another item or substance.
- consolidate: to come together to form a single unit.
- fuse: to blend together with one or more additional entities.
- intermix to blend together with one or more additional items.
- join: to come together to form a single unit.
- jumble: to come together in an unorganized or confusing manner.
- meld: to blend together with at least one additional item.
- merge: to be combined into one.
    - merger: the combining of two things, especially companies, into one.
- mix: to come together to form one unit.
- unify: make or become united or uniform.
- unite: to combine with one or more additional entities to form a whole.

BUILDING

- assemble: fit together the component parts of something.
- assembly: the action of assembling component parts.
- build: construct by putting parts or materials together.
- construct: build or erect.
    - construction [entity]: the physical manifestation of the act of construction.
    - construction: the action or process of constructing.
- erect: to construct.
- fashion: make into a particular form or article.
- fit together: join or cause to join together to form a whole. no obj.4
- glue: construct a whole product by means of gluing piece together.

- make: form by putting parts together (form by putting parts together or combining substances).
- piece together: assemble something from individual parts.
- put together: attach constituent parts together to form.
- raise: construct or build (a structure).
- weld: cause to combine and form a whole.

COOKING CREATION

- bake: cook food by dry heat without direct exposure to a flame, typically in an oven.
- concoct: make a dish or meal by combining ingredients.
- cook up: make something to eat.
    - cook: a person who has cooked (a particular meal) or who cooks (in general).
    - cook: prepare food by mixing, combining, and heating the ingredients.
- make: produce a meal or a component of a meal.
- prepare: make food ready for cooking or eating.
- put together: make food by mixing ingredients; mix ingredients.
- whip up: make or prepare something, especially food, very quickly.