Aktionsart in Word Formation: Verbal Prefixation*

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Abstract
This paper deals with the restrictions that operate on prefixation with iterative prefix re- in Spanish. These restrictions are based on aspectual information carried by verbs. We argue that the prefix re- is attached to telic bases, i.e., Accomplishment and Achievement verbs in the aspectual classification of Vendler (1967) and Dowty (1979). Besides the feature «telic» we actually need two new conditions related to verbal telicity in order to fully characterize this process: object affectedness (Tenny (1987)) and object initiation delimitness. These restrictions allow to explain the contrasts among some verbs of movement, possession and origin. In this paper, we take into account only complex words which maintain a compositional meaning, in the sense that the complex word inherits at the same time the prefix meaning and that of the base.

Key words: aktionsart, morphology, prefix, word formation, complex verbs.

Resum. Aktionsart en la formació de mots: prefixació verbal

Aquest article tracta de les restriccions que actuen sobre la prefixació amb el prefix iteratiu re- en espanyol. Aquestes restriccions es basen en informació aspectual que porten els verbs. Aquí sostenim que el prefix re- s'adjunta a bases tèliques, és a dir, a verbs del tipus accomplishment i achievement en la classificació aspectual de Vendler (1967) i Dowty (1979). A més del tret «telic», necessitem dues noves condicions relacionades amb la telicitat verbal per a caracteritzar completament el procés: la condició d'objecte afectat (object affectedness) (Tenny (1987)) i la condició de delimitació de la iniciació de l'objecte (object initiation delimitness). Aquestes restriccions permeten d'explicar els contrastos entre alguns verbs de moviment, de possessió i d'origen. En aquest article, només tenim en compte els mots complexes que mantenen un significat composicional, en el sentit que el mot complex hereta al mateix temps el significat del prefix i el del radical.

Paraules clau: aktionsart, morfologia, prefix, formació de mots, verbs complexos.

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1. Introduction

The restrictions specified in Word Formation Rules are based on phonological, morpho-syntactical or semantic principles (Scalise (1984)). Among the semantic restrictions it is common to consider theta roles especially with verbal bases; however, such thematic restrictions are insufficient to explain certain word formation processes.

In this paper we will try to demonstrate the significance of lexical aspect or Aktionsart for word formation in Spanish. For that we will centre our attention on the aspectual content of the iterative prefix re-, i.e., the one which denotes the repetition of the action, and we will try to fix the aspectual restrictions conveyed by this verbal prefixation process.

We will start in section 2 by showing the characteristics of the samples dealt with in this paper, basically the ones focused on the compositional meaning of the word. In section 3 we will develop the notion of «lexical aspect» related to the Subevent Theory and to the concept of «object affectedness». In section 4 we will discuss the aspectual restrictions of the iterative prefix re- in Spanish on the basis of three verbal groups: verbs of motion, verbs of possession, and verbs of origin. In section 5 we will conclude by showing some consequences brought about by the aspectual restrictions concerning the Spanish iterative prefix re-.

2. The Compositional Meaning

We will assume that the iterative prefix re- contains a precise meaning expressed through the periphrasis volver a ('to ... again') and the adverbial phrases de nuevo and otra vez ('again'). As a morpheme it is attached to a verbal base giving rise to a derived verb which may be paraphrased by means of an expression which binds the prefix meaning and that of the base; in other words, its meaning is compositional.

Thus, the compositional meaning involves two consequences. Firstly, the meaning of the complex word can be formulated by means of a compositional paraphrase which contains the meaning of each part of the complex word. Secondly, the input of an affixation process is an existing word.

According to the compositional paraphrase, we can distinguish two types of complex words. On the one hand, the affixed words which, while allowing a formal analysis as prefix+X or X+suffix, do not involve a compositional meaning (les mots complexes non construits of Corbin (1987)); on the other, the derivative words, analysed as prefix+X or X+suffix, which permit a compositional meaning (les mots construits of Corbin (1987)).

1. Faitelson-Weiser (1993) proposes a similar distinction, although she uses a different terminology.
The distinction between affixed words and derivative words can be justified by the speaker linguistic competence. Our assumption will be that native speakers will be able to understand the meaning of a derivative word having previous knowledge of the semantics of the affix and that of the base. However, the meaning of affixed words is not transparent, i.e., they have a lexicalized meaning, although the speaker can segment affixed words on the basis of the analogy with other words of the lexicon.

In this paper, we will take into account only those words functioning in the present synchronic stage of Spanish and we will leave aside Latin word formations which do not obey the compositional condition, i.e., derivative words prefixed with re-. Thus, we will not deal with words like reducir ("to reduce"), referir ("to refer") or remitir ("to remit") since their bases do not conform words in Spanish in the absence of the prefix re-. On the contrary, we will include a word like reponer ("to replace") because, although it is a Latin formation, it keeps in current Spanish the meaningful value of each component in the sense of "to put an object on a surface again" (1a), not in the sense of "to put an object which has run out" (1b):

(1) a. Juan repone los libros *(en la estantería).  
   ‘Juan re-places the books on the shelf.’

b. Juan repone los libros (en la estantería).  
   ‘Juan replenishes the books on the shelf.’

In the same way, we will also exclude all derived words which do not develop a meaning which can be deduced from their components. For example, the verbs recorrer ‘to go through’ or reprobar ‘to reprobate’ do not denote that the action of correr or probar is carried out for a second time, but rather the action of ‘walking a particular distance’ for recorrer or the action of ‘condemning something’ for reprobar. Other verbs such as recoger (‘to take again’) display meanings with a lexicalized denotation (e.g. ‘to give shelter to a poor person’) as well as meanings with a deducible denotation (e.g. ‘to pick something up’). Consequently, we will take into account only those meanings obeying the criteria of compositionality we have fixed. In other words, the point of view adopted in this paper follows the line of investigation based on the Word-Based Hypothesis proposed initially by Aronoff (1976).

3. Lexical Aspect and the Subevent Theory

The concept of «lexical aspect» refers to an inherent semantic property contained in the verb. Such information allows a classification of verbs according to the state of denoted facts. Among the several aspectual classifications proposed we have chosen to follow Vendler (1967) and Dowty (1979). These authors distinguish four types of verbs depending on the lexical aspect: States, Activities,
Accomplishments, and Achievements. These four types can be further reduced to two groups: those denoting telic situations, or actions addressed to a goal or end, and those expressing atelic situations without a fixed end. States and Activities are atelic since they do not reach the end point through the development of the event. On the contrary, Accomplishments and Achievements reach the end at some point of the process, and for this reason they are considered telic actions. The next examples may clarify this distinction:

(2) a. States:
   - tener, ser, sentir, existir
     'to have, to be, to feel, to exist'

b. Activities:
   - correr, trabajar, empujar el cochecito
     'to run, to work, to push a cart'

c. Accomplishments:
   - escribir una carta, construir una casa, comer una manzana
     'to write a letter, to build a house, to eat an apple'

d. Achievements:
   - darse cuenta, perder, comenzar, ganar una carrera
     'to realize, to lose, to start, to win a race'

That is, States denote situations with undetermined time reference in which no change is fulfilled. Activities are also developed within unspecified period of time and the event they denote is realized in every moment of this period. On the other hand, Accomplishments and Achievements point to an end and the event they denote will not happen if they stop occurring before they reach the end point. Achievements lack a process previous to the attainment of the end in the sense that this end point is reached instantaneously. On the contrary, Accomplishments do imply such previous process before the denoted event reaches the end point.

Besides these verbal aspectual classifications, some proposals like those of Pustejovsky (1988) and Grimshaw (1990) point out to the difference between simple events—which express a state or an activity—and complex events—which consist of an activity and a resulting state. For example, the verb escribir ('to write') is a complex event because it denotes the action of writing and at the same time the result of this action, i.e., a book or a paragraph. On the contrary, the verbs tener ('to have') and correr ('to run') are simple events since they can indicate only a state (tener) or an activity (correr) but not both types of event at the same time.

In this line, Pustejovsky (1991) develops the following scheme to characterize the change of state:

(3) a.  
   \[
   \begin{array}{c}
   \emph{T} \\
   \emph{S} \\
   \emph{P} \\
   [-Q(y)] \\
   [Q(y)]
   \end{array}
   \]

b.  
   \[
   \begin{array}{c}
   \emph{T} \\
   \emph{S} \\
   \emph{P} \\
   [\text{act}(x,y) \& \neg Q(y)] \\
   [Q(y)]
   \end{array}
   \]
The lexical Transition (T) in the events consists of a Process subevent (P) and a State subevent (S) and each subevent (P or S) includes the stage of the transition of the object (y): \([-Q(y)]\) and \([Q(y)]\). The change of state \([Q(y)] > [Q(y)]\) may be present in two kinds of events: Achievements, lacking the activity part in the Process subevent (P), and Accomplishments, which contain an activity in the Process subevent (P) plus the first stage of change of state (3b). The expression «&» indicates simultaneity of these two expressions within the subevent (P). The change of state in (3) includes the concept of ‘object affectedness’ (Tenny (1987)).

To sum up, we take into account the distinction between telic and atelic verbs and the concept of «object affectedness» in order to determine the restrictions of iterative prefix re-.

4. The Iterative Prefix Re-

The importance of the lexical aspect in re- prefixation has been discussed for English by Wechsler (1989). As opposed to this proposal, which states that the English prefix re- is attached uniquely to Accomplishments, it can be claimed that the Spanish iterative prefix re- chooses telic verbal bases (i.e., Accomplishments like reescribir un libro ‘re-write a book’ as well as Achievements like realcanzar la cima ‘re-reach the top’).

In fact, as we can notice in the following examples, the iterative prefix re- in Spanish cannot be attached to states (4a) nor Activities (4b). It only appears with telic verbs, Accomplishments (4c) or Achievements (4d):

(4) a. *reestar, *reparecer, *retener
   ‘re-be, re-seem, re-fear’

b. *retrabajar, *recaminar, *recaciciar
   ‘re-work, re-walk, re-stroke’

c. reconstruir, reeditar, rehacer, reincorporar
   ‘re-build, re-publish, re-make, re-incorporate’

d. reaparecer, realcanzar, resurgir
   ‘re-appear, re-reach, re-appear unexpectedly’

This means that the repetition carried out by the prefix is applied to the last stage of the first action. So, the action of calcular illustrated in (5b) represents the same action as the one in (5a) plus the repetition. The essential difference between (5a) and (5b) is that the sentence of (5b) implies that ‘the quotient has been previously calculated’, i.e., the result state of the action calcular el cociente de la división of (5a):

(5) a. Juan calcula el cociente de la división.
   ‘Juan calculates the division quotient.’

3. This behaviour is kept only partially in some cases of the English re- and French re-. See Dowty (1979) and Gauger (1971).
(5)  b. Juan recalcula el cociente de la división.
    ‘Juan re-calculate the division quotient.’

As we can notice in the examples of (6)-(8), the feature «telic» is not sufficient to explain some of the following contrasts between verbs of motion (6), verbs of possession (7) and verbs of origin and end (8). As a matter of fact, although the verbs of (6b), (7) and (8) are telic verbs, they do not allow the prefix re- in all the cases:

(6)  a. *rellevar/reconducir
    ‘re-carry’/’re-lead’
    b. *redejar/recolocar
    ‘re-leave’/’re-place’

(7)  *reobtener/readquirir
    ‘re-obtain’/’re-acquire’

(8)  *reacabar/reempezar
    ‘re-finish’/’re-start’

These examples show that we are in need of other restrictions if we want to limit prefixation with the Spanish iterative affix re- explaining, in that manner, why this prefix is attached to some verbal bases but not to others.

On a first approach it might be thought that the reason for these contrasts stems from the argument structure of the verbal bases or the theta roles of the arguments. However, this hypothesis is not borne out by the facts, since many verbs with a similar argument structure and a direct object with the same theta role do not behave similarly in relation to re- prefixation, as can be seen in the following examples:

(9)  a. Martín lleva a María al salón.
    ‘Martín takes María to the lounge.’
    a’. El pastor conduce el ganado al monte.
    ‘The shepherd leads the cattle to the mountains.’
    b. Hemos obtenido el primer premio del concurso.
    ‘We have obtained the first prize in the competition.’
    b’. Hemos adquirido un coche de segunda mano.
    ‘We have acquired a second-hand car.’
    c. Juan deja los libros en la mesa.
    ‘Juan leaves the books on the table.’
    c’. La bibliotecaria coloca los libros en la estantería.
    ‘The librarian places the books on the shelf.’
    d. He acabado el libro.
    ‘I have finished the book.’
    d’. He empezado el libro.
    ‘I have started the book.’
The explanation of the differences shown in (6), (7) and (8) has to be looked for in the aspectual restriction theory. In our opinion, these contrasts are explained by some restrictions on object affectedness and object initiation delimitness imposed by the Spanish iterative prefix re-. The concept of «object affectedness» refers to any change in the object (in its nature, state, possession...) brought about by the verb action, so that the altered object can delimit the action (Tenny (1987)). In other words, the end point of the action is denoted by the change of the object. As for the idea of «object initiation delimitness», it means that when the verb action reaches its end point the object will still exist.

The next parts of this paper will be devoted to explain the contrasts observed in (6), (7) and (8) on the basis of the aspectual restrictions just mentioned.

4.1. Verbs of motion

The verbs of (6a), llevar and conducir, are verbs of motion, but they differ in their event denotation: llevar implies an action which does not reach its end. On the contrary, conducir involves a change of state of the object and this change of state is precisely the end point of the event. Therefore, llevar can be classified as an Activity and conducir as an Accomplishment. As expected, the feature «telic» would exclude the verb llevar from re-prefixation. However, although the verbs of motion in (6b), dejar and colocar, are considered telic actions, dejar does not accept re-. Both actions involve a change of state; however, dejar does not include an affected object. For instance, the difference between Juan coloca los libros en la mesa ‘Juan places the books on the table’ and Juan deja los libros en la mesa ‘Juan leaves the books on the table’ is based on the fact that in the first sentence Juan sets out the books in a certain order. Thus, the prefixation with re- in recolocar affects the object for a second time (that is, the disposition of the books can be changed). The second sentence, on the contrary, refers to a situation in which ‘the books remain on the table’; that is, dejar entails a simple change of place. As a consequence, the object is not affected and so the verbal base will not accept re-. In other words, the object affectedness restricts the application of the iterative prefix re-.

The restriction of object affectedness mentioned above is also present in the examples of (6a). The object of conducir is affected by the action of the subject, since conducir only accepts objects which have the capacity to move by themselves. On the other hand, the object of the verb llevar is not endowed with movement and thus refers only to the action of ‘moving an object’. This should explain the difference in grammaticality to be noted in the sentences of (10). The object of (10a) loses its capacity to move with the Prepositional Phrase (PP) en sus brazos and because of that (10c) is less acceptable than (10a). The sentence (10c), on the contrary, is perfectly grammatical without this PP. In the same way, the object of (10b) has no capacity to move by itself and is not, therefore, acceptable with the verb conducir (10d).

4. In the meanings of conducir la conversación, la decisión (‘to conduct the talk, the resolution’), the verb conducir is not considered a verb of motion.
In accordance with the telicity/affectedness hypothesis discussed so far, the repetition of the action conveyed by the iterative prefix re- will modify the object for the second time in order to change this object or to create a new one5.

4.2. Verbs of possession

The verbs of (7) can be all considered telic actions, although they do not belong to the same group according to Vendler’s classification (Accomplishments and Achievements). As can be deduced by the definition of some dictionaries,6 obtener is ‘to begin to have something given or awarded by someone’, which implies that the subject of the verb can reach the possession without a former activity implicit in the verb action. On the other hand, the verb adquirir is defined like ‘managing to possess something by paying money for it’, in the sense that it requires a previous activity on the part of the subject in order to accomplish the possession. So, the sentence of (11a) is grammatical in Spanish, but not the one in (11b), since in this latter case the possession of the grant would involve the agentivity of Juan. In other words, in (11b) Juan would buy the grant. In Vendler and Dowty’s classification obtener would be considered an Achievement and adquirir an Accomplishment.

(11) a. Juan obtiene una beca.
   ‘Juan gets a grant.’

   b. *Juan adquiere una beca.
     ‘Juan receives a grant.’

   This aspectual distinction implies that obtener lacks the previous activity —the activity part of the Process subevent (Pustejovsky (1991))— and therefore, the object cannot be affected, while that of adquirir is affected. If obtener is a

5. Varela’s remark (1990:16) about the prefix re- can be explained in the same way: «el tipo de prefijo re- del esp. que aparece en formas como re-modelar, re-construir o re-scribir, sólo puede añadirse a bases verbales que permitan que el contenido expresado por ellas se realice de nuevo con mayor precisión y exactitud. Es decir, a verbos que implican o entranan un cambio de estado en su objeto. No a verbos estativos como estar (*re-estar) o perfeccionados como morir (*re-morir).»

6. For example, Moliner (1968).
punctual verb without an affected object, the corresponding derived verb with the prefix re- would not affect or modify this object for the second time, and therefore such formation would be excluded from the Spanish lexicon.

4.3. Verbs of origin and end

The third group of verbs (8) to be considered belongs to the kind of verbs of origin (empezar ‘to start’, nacer ‘to be born’) and to the kind of verbs of end (terminar ‘to finish’, morir ‘to die’). These verbs are punctual and semelfactive —i.e., events which take place only once—, and are thus considered Achievements. In this sense, as a logical consequence, the repetition with re- should be excluded from these unique events. However, this is not the fact in all cases.

As expected, the iterative prefix re- does not combine with certain perfective verbs such as morir (*Re-muere la esperanza ‘The hope re-dies’) but, curiously, it may be attached to verbs with similar characteristics, like nacer (Renace la esperanza ‘The hope is re-born’). The same contrasts can be noticed in the pair *reacabar ‘re-finish’/reempezar ‘re-start’. With these telic semelfactive verbs, the iterative prefix re- selects the bases which denote origin as opposed to the bases which denote end. This opposition works with temporal notions (*reacabar/ reempezar) as well as space notions, i.e., with verbs of motion (*resa& ‘re-go out’/reentrar ‘re-enter’).

Both groups of verbs point to a change of state but they differ in the denotation brought about by the change of state in their objects. The verbs of origin imply the permanence of their objects, so the repetition of the action marked by re- can affect the object. On the contrary, the verbs of end involve the disappearance of their objects in the last stage of the change of state; therefore, the action cannot be repeated with the same object. For example, if a meeting starts, it will last beyond the end of the event and so the repetition of the action is possible with the same object; however, if a meeting finishes, the object disappears and the repetition of the action with the same object will be excluded.

In summary, we can formulate two aspectual restrictions that the Spanish iterative re- imposes to the verbal bases to which it attaches. Firstly, the verbal base must denote a telic action with an end state represented by the affected object, which will be later modified by the repetition of the action. Secondly, in the case of telic semelfactive verbs, the iterative prefix re- is attached only to those bases denoting origin (object initiation delimitness).

7. The sentence *Juan renace (‘Juan is re-born’) is not grammatical because the action of being born can take place only once. However, the idea of being born again can be possible with an abstract noun as argument.

8. As we will see later, the direct object, called by Williams (1981) ‘internal argument’, refers to the object of transitive verbs and the only argument of inaccusative verbs, such as nacer, empezar or morir.

9. The iterative prefix re- affects the object in two ways: by modifying the object in order to improve it, although it points to the same entity as the previous one (repintar un cuadro ‘to re-paint a picture’), or by creating a new object through the repetition of the action (replantear un problema ‘to re-state a problem’). (See Keyser and Roeper (1992) for the same distinction applied to English re-.)
5. Consequences of the Aspectual Restrictions

Once the restrictions of the iterative prefix re- have been established we will briefly discuss some of the consequences of this hypothesis.

In the case of verbs with several meanings, the iterative prefix re- is attached to that meaning of the verb which holds the feature of telicity, as it can be shown in (12) and (13):

(12) ordenar
a. ‘to put in order’ —> reordenar los programas de educación ‘to re-organize the educative programs’
b. ‘to order’ —> *reordenar la expulsión de cinco delegados ‘to re-order the expulsion of five delegates’

(13) calcular
a. ‘to make arithmetic operation’ —> recalcular el cociente de la división ‘to re-calculate the division quotient’
b. ‘to imagine’ —> *recalcular que vendrán cinco invitados a cenar ‘to re-imagine that five guests will come to dinner’

Furthermore, the prefixation with re- is excluded in the case of intransitive verbs—inergative verbs—, as it can be proven by the ungrammatical sentences of (14). This can be explained by the fact that inergative verbs are atelic.

(14) a. *Juan retrabaja mucho.
   ‘Juan re-works hard.’
   ‘The clock re-works well.’

The direct object, called by Williams (1981) "internal argument", characterizes not only transitive verbs but inaccusative or ergative verbs as well. As expected, the iterative prefix re- will be attached to inaccusative verbs: reaparecer ('to re-appear'), resurgir ('to re-appear unexpectedly'), reflorecer ('to re-flower').

In the prefixation process we are dealing with, sentential complements, both with finite or non-finite verbs, are excluded, as shown in (15a) and (15b) respectively. This can be explained since verbs with sentential objects are atelic:

(15) a. *Juan reescribe [que María vendrá mañana].
   ‘Juan re-writes [that María will come tomorrow].’

10. This fact was first noticed by Keyser and Roeper (1984) for the English prefix re-. From that, the authors conclude that this prefix must be considered transitive.
11. See Grimshaw (1990:74-80) for a restriction on sentential complements based on the difference between complement and argument.
(15) b. *Atila reordenó [asaltar Roma].
   'Atila re-ordered [to attack Rome].'

   Other complements, such as the predicative ones of sentences (16) and (17), are ruled out with the prefixed verb (16) although they are accepted with the base verb (17).

(16) a. Fermín repinta la pared (*verde).
   'Fermín re-paints the wall green.'
   b. Carlos reconstruyó la casa (*grande).
   'Carlos re-built the house big.'

(17) a. Fermín pinta la pared verde.
   b. Carlos construyó la casa grande.

Carlson and Roeper (1980) explain the fact that non-nominal complements are excluded from the derived verbs on the basis of the Case-Complement Restriction. However, these complements may appear with some verbs prefixed with re-, as shown in the examples of Randall (1982) repeated here in (18) for convenience's sake:

(18) a. resatellite the news [to the station]
   b. reinterest John [in Shakespeare]

Similar facts can be noticed in Spanish, as shown in the examples of (19):

(19) a. reenviar la autorización [al juez]
   'to re-send the permission to the judge'
   b. reponer los libros [en la estantería]
   'to re-place the books [on the shelf]'

Predicative complements are excluded from the prefixation with re- if they involve a resultative predicate12 (as in (16) and (17)). However, non-resultative predicatives can appear with verbs prefixed with re-, as shown in the examples of (20):

12. Demonte (1988:388) distinguishes two types of secondary predicates: descriptive ones which denote the state in which the object appears at the moment the action happens (ia) and resultative ones which indicate states produced when the action is completed (ib):

   (i) a. Juan se comió la carne cruda.
       'Juan ate the meat raw.'
   b. Juan pintó la casa roja.
       'Juan painted the house red.'
(20) a. Juan revende la casa cara.
   'Juan re-sells the house expensive.'

   b. Juan reenvía el paquete envuelto.
   'Juan re-sends the parcel wrapped.'

Resultative predicates are excluded from the re- prefixation since the sentences including this kind of predicates denote two resulting states: one indicated by the change of the affected object and another represented by the resultative predicate. Thus, the prefix re- seems to presuppose both resulting states, which should meet together in both actions. However, the prefix re- can have scope only over the internal argument (as the affected one), which is the only one that has to be present in both actions. Consequently, resultative predicates cannot be interpreted as such if the verb is prefixed with re-. On the contrary, non-resultative predicates do not denote a result state, but they emphasize a characteristic of the object when the action happens. Therefore, these predicates can be interpreted out of the scope of re- since this prefix does not imply such characteristic of the object, which can be different in both actions.

To conclude, it has been proven that the prefixation process carried out by Spanish iterative re- requires the existence of a Noun Phrase-object, other complements being optional. Furthermore, this nominal object must be affected and must last after the end of the action, i.e., the two conditions of telicity just mentioned: object affectedness and object initiation delimitness.

References


