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The Semantic Composition of Basque ‘Noun + egin’ predicates

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Abstract

Basque ‘Noun + egin’ (‘make’) expressions display striking properties for the Grammar of Basque: They have ‘defective’ morpho-syntax and semantics, involve discourse opacity, lack scope relations, and show a highly constrained combinatory. These are, however, typical features of (semantic) incorporation structures. A semantic analysis of bare nouns shows that they denote properties. Bounded and unbounded properties will be distinguished. Unbounded properties but not bounded properties project an inherent quantification phrase. This difference explains the distribution of the partitive in ‘Noun + egin’ expressions. Given the semantics of their components, the interpretation follows compositional rules. Nonetheless, some idiosyncrasies remain in these structures.

Keywords: semantic incorporation, inherent quantification, bare nouns, light verbs.

1. Introduction

This work concentrates on the semantics of the Basque expression ‘Noun + egin’ (‘make’). This structure was analyzed by Ortiz de Urbina (1986) as a regular verb-object group that forms a complex phrasal unit. As such, it selects an argument in a D-structure subject position. This analysis would make ‘Noun + egin’ units typical unergative verbs if they were not complex predicates with very striking linguistics properties.

1 I would like to thank Joaquin Gorrotxategui for his friendly disposition to help us all. His academic path has been guided by strong commitment to honesty. This paper has profited from its presentation at the Linguistic Seminar organized by the Basque Research Group in Theoretical Linguistics (HiTT) in Vitoria-Gasteiz. It has received support from the investigation Project IT769-13 of the Basque Government, UFI11/14, LIngTeDi/HiTeDi of the University of the Basque Country (UPV/EHU) and FFI2014-52196-P of the Spanish Department of Economy and Competitiveness.

2 For example, if ‘Noun + egin’ structure forms a complex predicate, it should be explained why the subject receives ergative case (Laka 1993). Another interesting question is why these ergative verbs exist, given that Basque has a quite productive way of forming verbs, simply adding to the base the suffix -tu (Uribe-Etxebarria 1989). Other unexpected properties are mentioned next.
There are a lot of detailed descriptions of the ‘Noun + egin’ structure (Ortiz de Urbina 1986, Laka 1993, Fernandez 1997, Rodriguez and Garcia Murga 2001, Etxepare 2003, Oyharçabal 2006, Martinez 2015), so that only the main aspects of this structure are mentioned here.

The first set of features of ‘Noun + egin’ structures is related to the non referentiality of the bare noun. The noun lacks a determiner, a fact completely unexpected in the grammar of standard Basque (Etxeberria 2014). The following examples show a bare noun in (1a), and a noun with a definite determiner, singular in (1b) and plural in (1c). These examples have different meanings, as the translations show. In (1a), dei egin ‘to call’ forms a complex predicate so that the bare noun has to be non specific. In contrast, in (1b) dei is combined with a determiner and shows the expected behaviour of DPs with count nouns in object position. It has a specific reading in (1b) and shows a specific / existential reading ambiguity in (1c).

(1) a. Dei egin dut I have called
     call make AUX
b. Deia egin dut I have made a (specific) call
     call.DETsg make AUX
c. Deiak egin ditut I have made (specific) calls / I have made (some) calls
     call.DETpl make AUX

Moreover, in contrast with nouns combined with definite determiners, the bare noun in ‘Noun + egin’ structures cannot be the antecedent of any anaphoric element:

(2) a. Dei egin dut. # Nazioartekoia izanda, proi garestia izango da
     I have called. # Being international, it will be expensive
     call make AUX International being expensive.DET be.FUT AUX
b. Deia egin dut. Nazioartekoia izanda, proi garestia izango da
     I have made a (specific) call. Being international, it will be expensive
     call.DETsg make AUX International being expensive.DET be.FUT AUX

Related to the absence of the determiner is the fact that the bare noun does not show scope ambiguities. In this sense, whereas the bare noun lan ‘work’ has necessarily a narrow scope, the DP lana ‘the work’ can have a wide scope:

(4) a. Ikasle guzkiek lan egin dute
     All the students have worked
     student all.pl.ERG work make AUX
b. Ikasle guzkiek lana egin dute
     All the students have done the work / There is a work all the students have done
     student all.pl.ERG work.DET make AUX

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3 See Etxeberria (2005, 2009) for a detailed explanation of these readings.
4 In Basque, meteorological verbs reflect the ‘Noun + egin’ structure, but the noun takes a definite determiner: euria egin ‘to make the rain’, ‘to rain’, elurra egin ‘to make the snow’, ‘to snow’. In this work, meteorological verbs will not be studied because cross-linguistically they show specific properties. It is also important to distinguish ‘Noun + egin’ structures from other expressions with the verb egin ‘to make’, like dirua egin ‘to make the money’, ‘to enrich’ or etxea egin ‘to make the house’.
5 That is, (4a) cannot mean that there is ‘work’ such that all the students have done it.
The second group of features of ‘Noun + egin’ structures has to do with a strict constraint on the combinatory of the noun. As the following examples show, the noun cannot be modified:

(5) a. *Lasaitasunerako dei egin dute  
serenity.to.post. call make AUX  
They have called for serenity
b. Lasaitasunerako dei egin dute  
serenity.to.post. call.DETsg make AUX  
They have made a call for serenity

Only some nouns can be modified, and, in those cases, the modification is related to some kind of quantification. In such cases, quantification can also be made adverbially. So, the following examples only differ in information structure:

(6) a. Lan asko egin dut  
work lot of make AUX  
I have worked a lot
b. Asko lan egin dut7  
lot of work make AUX  
I have worked a lot
c. Asko egin dut lan  
lot of make AUX work  
I have worked a lot

Moreover, given that handi ‘big’ is an adjective that has a quantificational reading, there is a contrast between the meaning of (7a) and (7b). Only the former can be interpreted as a ‘Noun + egin’ structure, as the specificity of the noun in (7b) shows:

(7) a. Lan handia egin dut  
work big.DETsg make AUX  
I have worked a lot / I have made a big work
b. Lan zaila egin dut  
work difficult.DETsg make AUX  
I have made a difficult work

In contrast, the noun ihes ‘escape’ does not accept quantificational modification in the ihes egin meaning even though the noun ihes can be counted, as the following examples illustrate:

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6 It is important to note that in (6a) the auxiliary takes a singular form. Even though the quantifier asko ‘a lot’ means some type of plurality, in ‘Noun + egin’ structures there is no agreement in number with the auxiliary (see examples (30)-(31)).

7 It is worth saying that, in this example, asko has an adverbial position. In standard transitive constructions, adverbs appear between the direct object and the verb, as in (i):

(i) Sagarrak azkar jan ditut  
Apples quickly eat AUX.pl  
I have eaten the apples quickly

In this sense, example (6b) shows the intrinsically close relation between the bare noun and the verb egin in ‘Noun + egin’ structures (see Oyharçabal 2006).
Another combinatorial feature of ‘Noun + egin’ structure is that, in negative contexts the partitive morpheme -(r)ik is optionally attached to the noun, but not all nouns combine with it:

(9) a. Ez ezazu deirik egin neg AUX call.partitive make
Do not call
b. Ez ezazu dei egin neg AUX call make
Do not call

(10) a. *Ez ezazu ihesik egin neg AUX escape.partitive make
Do not escape
b. Ez ezazu ihes egin neg AUX escape make
Do not escape

A final combinatorial feature of ‘Noun + egin’ structures is that some nouns in ‘Noun + egin’ structures are necessarily combined and others can be combined with the adverbial suffix -ka, which has a pluriactional meaning (Berro 2018). Other nouns do not accept -ka:

(11) a. Harrika egin dut stone.cumulative make AUX
I have stoned (someone)
b. *Harri egin dut stone make AUX
I have stoned (someone)

(12) a. Oihuka egin dut shout.cumulative make AUX
I have shouted
b. Oihu egin dut shout make AUX
I have shouted

(13) a. *Deika egin dut call.cumulative make AUX
I have called
b. Dei egin dut call make AUX
I have called

The third remarkable feature of ‘Noun + egin’ structures is the constrained detachability of the noun from the verb. Some nouns, but not all, can be detached from the verb in focalization contexts:

Who has called?
Who has slipped?

8 In some corpuses, it is possible to find the noun ihes with the partitive. The dictionary of the Basque Academy collects some examples:

(i) Ez egizu ainñ laster igesik egiñ Neg AUX.imperative so quickly escape make
Do not escape so quickly

The combination of ihes with the partitive seems to be a highly restricted construction, maybe related to a kind of semantic coercion.

9 Examples of the noun labain detached from egin can be found. However, those cases are scarce.
The final features to be taken into account seem to reflect the lexical nature of this structure. First, ‘Noun + egin’ structure is not productive, in the sense that not any noun can take part in this structure:

(15) a. *Eski egin  
    ski make

b. Eskiatu  
    To ski

(16) a. *Funtzio egin  
    function make

b. Funtzionatatu  
    To function

Second, some but not all ‘Noun + egin’ predicates have a single verb counterpart formed with the suffix -tu:

(17) a. Dantza egin / dantzatu  
    dance make

b. Dei egin / deitu  
    call make

To dance

To call

c. Negar egin / *negartu  
    cry make

d. Ele egin / *eletu  
    word make

To cry

To speak

Given all these data, it can be said that ‘Noun + egin’ structures show the following features: (i) they have a reduced morpho-syntax, (ii) they involve discourse opacity and lack of scope relations and (iii) they show a highly constrained combinatory and gaps in Noun + egin combination. However, the behaviour of Basque ‘Noun + egin’ structures is not as tricky as at first glance it could appear. In fact, the features of this structure are very similar to those of incorporation structures founded in a lot of typologically unrelated languages (Baker 1988, van Geenhoven 1998, Dayal 2003, Farkas and de Swart 2003 between others).\(^{10,11}\)

Incorporation has consequences on argument structure and, therefore, on the transitivity / unergativity of the predicate in question. An interesting observation is that even though phenomena like incorporation and unergativiy show regularities across languages, there are a lot of differences in the cross-linguistic realization of these phenomena. In this sense, ‘Noun + egin’ structures pose an interesting challenge to the question mentioned at the beginning of this work: the trade-off between variation and universality in grammar.

The goal of this paper, however, is modest. Attention will be paid to the semantic combination of the elements embedded in the ‘Noun + egin’ structure. This paper is, then, structured as follows. In the next section, the syntactic structure of ‘Noun + egin’ expressions will be analysed in the light of so-called ‘inherent’ quantification in Spanish and non-agreeing quantification in Basque. The section will end

\(^{10}\) Incorporation is the technical label Baker (1988) used to refer to “processes by which one semantically independent word comes to be ‘inside’ another.” (Baker 1988: 1). Baker’s implementation of incorporation consists in a syntactically constrained X\(^0\) movement. Incorporation has semantic transcendence as well, as the semantic nature of some features mentioned in (ii) show.

\(^{11}\) Another characteristic feature of incorporated nouns is their number neutrality, a fact that will be addressed later.
up proposing two different syntactic structures underlying ‘Noun + egin’ expressions, one for unbounded nouns and other for bounded nouns. In section 3, a semantic analysis of the elements founded in ‘Noun + egin’ structures are offered. These analyses establish the semantic combination of the components of ‘Noun + egin’ structures. Finally, in section 4, some conclusions are drawn.

2. Inherent quantification, non-agreeing quantification, and the syntax of ‘Noun + egin’ structure

As has been said before, ‘Noun + egin’ structures, if taken as complex predicates, show the properties of unergative verbs in Basque: They predicate on an external argument with the semantic features of proto-role agent, and take *edun/ukan ‘do’ as auxiliary.

Hale and Keyser’s general theory on the syntactic structures projected by lexical heads has become the standard syntactic analysis of unergative verbs (Hale & Keyser 1993, 2002). These authors claimed that unergative verbs initially project a transitive structure, as in (18):

\[
\begin{array}{c}
V \\
V & N
\end{array}
\]

(18)

Then, for example, the English unergative verb ‘to dance’ and its Basque equivalent dantza egin would have respectively the following underlying structure:

\[
\begin{array}{c}
V \\
V & N & N & V \\
dance & dantza & egin
\end{array}
\]

(19) a. b.

Given the ‘defective’ nature of V in the structure of the English verb ‘dance’, Hale and Keyser proposed a syntactically constrained process, incorporation (Hale and Keyser 1993) or conflation (Hale and Keyser 2002).12

Even though V in the structure of the Basque verb dantza egin is not clearly defective, the syntactic properties of the ‘Noun + egin’ structure invite one to hypothesize that the same or a similar process of linking V and N together in (19a) is at work in (19b) too. In fact, given that it cannot be modified, the noun in ‘Noun + egin’ structures can be taken as a non-projected head. However, as has been shown in the previous section, N in this structure can, in some cases, be modified, be separated from the verb, and be combined with the partitive. The debate between an incorporation and a regular transitive analysis of ‘Noun + egin’ structures was on the table (Uribel-Etxebarria 1989, Laka 1993, Ortiz de Urbina 1986, Fernandez 1997). Oyharçabal (2006) offers an excellent presentation of the debate; a debate that put three structures in conflict. The first structure consists of a combination of the verb

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12 Hale and Keyser (2002) define conflation as “the process of copying the p-signature of the complement into the p-signature of the head, where the latter is ‘defective.’” (2002: 63). These authors use the term ‘p-feature’ to represent the phonological features of the heads.
egin ‘make’ with a DP, as an expression like lan handia egin ‘to make a lot of work’ seems to require (see example (7a)):

(20)  
```
          VP
         /   \  
        DP   V
         |    /   \
        D'  egin
          |   /     \
         AP   D
          |   /     \  
         NP  A'   -a
          |    /   \  
         lan  A   handi
```

This structure impedes the syntactic incorporation of N0 and V. The second syntactic structure underlying ‘Noun + egin’ expressions explains the ‘static’ behaviour of the bare noun as complement of V by means of the verb’s assignation of case to it (Laka 1993). In this structure, the verb may move leaving the NP aside, as in expressions like asko egin dut lan (see example (6c)):

(21)  
```
          VP
         /   \  
        asko   VP
          |    /   \  
         egin-AUX   VP
          |   /     \  
         NP   V
          |    /     \  
         lan   t_i
```

The third syntactic structure corresponds to an incorporated structure, and seems to be necessary for an expression like asko lan egin dut (see example (6b)):

(22)  
```
          VP
         /   \  
        asko   VP
          |    /   \  
         NP   V
          |    /   \  
         t_i   N_i   V
          |    |    |   
         lan   egin
```
Given the combinatory differences found in ‘Noun + egin’ predicates, Oyharçabal concludes that the three structures are available in Basque. Our goal now is not, however, to discuss the syntactic structures in (20)-(22) but to propose the existence of a new element, a degree quantification phrase, in some ‘Noun + egin’ structures. Thanks to this new element, the three structures can be brought together, so that the unpleasant need for three different syntactic structures for the same expression is avoided.

The proposal developed here comes from the analysis of inherent quantification for Spanish verbs (Bosque and Masullo 1998) and from the analysis of non-agreeing quantifiers in Basque (Etxeberria and Etxepare 2008). According to Bosque and Masullo, Spanish verbs show four types of quantification: Event, durative, argument and inherent quantification. Event quantification quantifies over the event variable introduced, following Davidsonian semantics, by all non stative verbs. Durative quantification quantifies over the time span required by activities and accomplishments. Argument quantification quantifies over the ‘measuring out’ of the argument. Finally, inherent quantification quantifies over an unbounded predicate associated with the lexical content of the verb.

Given the appropriate semantics features, the quantification of a verb in Spanish gives rise to different readings. The following example illustrates this point:

(23) He corrido mucho
run. PERF.1.per.sg a lot

Under an event quantification reading, (23) has a multiple event interpretation, meaning something like ‘I have ran a lot of times’. Being an activity, (23) can receive a durative interpretation such as ‘I have been running for a long time’. Moreover, verbs of movement involve a path the theme is going through. Given the ‘measuring out’ of the path, (23) has an argument quantification reading, according to which the path I have run through has been long. Finally, (23) has a reading where the running has been fast. This is the inherent reading of Spanish correr mucho. Other examples of an inherent quantification reading are the following:

(24) a. He trabajado mucho
To work.PERF.1.per.sg quantifier mucho
b. He gritado mucho
To cry.PERF.1.per.sg quantifier mucho
c. Ha llovido mucho
To rain.PERF.1.per.sg quantifier mucho

According to Bosque and Masullo, inherent quantification is ruled out if the verb contains a bounded predicate, like legal ‘legal’ in (25a) or ver ‘to see’ in (25b). In this last case, (25b) is grammatical, but only under an eventive or a durative quantification reading:

(25) a. *El notario ha legalizado mucho el testamento
DET notary PRET legalize a lot DET testament
The notary has legalized a lot the testament
b. He visto poco al presidente en la calle
PRET see little to.DET president in DET street
Few times have I seen the president in the street / I have seen the president in the street for a short time span
Inherent quantification, as any quantification, requires a variable to be quantified over and a restrictor. Bosque and Masullo’s proposal is that the restrictor is a noun coming from the lexical relational structure of the verb. That is, the verb *trabajar* ‘to work’ has the structure *hacer trabajo* ‘to make work’. Likewise, it will be claimed here that the variable that is quantified over is a variable introduced by the noun (see section 3). It has to be kept in mind that I-quantification is necessarily projected from the unbounded predicate.

The lexical relational structure projected by the Spanish verb *trabajar* ‘to work’, then, is as follows:

(26) \[
\begin{array}{c}
\text{VP} \\
\text{V} \\
\text{hacer} \\
\text{I-Q' } \\
\text{I-Q} \\
\text{N} \\
\text{trabajo}
\end{array}
\]

Even in the absence of a quantifier like *mucho* ‘a lot’, the verb carries in its meaning some standard amount of work. This idea is supported by the possibility of creating a contrast through the adversative particle *pero* ‘but’ (Bosque and Masullo 1998):

(27) *He trabajado, pero poco*

*I have worked, but a little*

Moreover, Inherent Quantification can be modified by a Prepositional phrase like *para ser domingo* ‘for being in Sunday’:

(28) *Para ser domingo, he trabajado*

*For being Sunday, I have worked*

Given the structure in (26), the syntactic structure of *trabajar mucho* ‘to work a lot’ is the following (Bosque and Masullo 1998):

(29) \[
\begin{array}{c}
\text{VP} \\
\text{VP mucho,} \\
\text{V} \\
\text{hacer} \\
\text{I-Q' } \\
\text{I-Q} \\
\text{N} \\
\text{trabajo}
\end{array}
\]
It is tempting to hypothesize that Basque lan egin ‘to work’ has a lexical relational structure similar to Spanish trabajar. This hypothesis is reinforced by the behaviour of non-agreeing quantifiers in Basque. Remember that the quantifier asko ‘a lot’ can modify some nouns in ‘Noun + egin’ structures. This is the case of the noun lan ‘work’, which gives rise to the expression lan asko egin ‘to work a lot’.

The quantifier asko can be used with or without number agreement in the auxiliary as the following examples show (Etxeberria and Etxepare 2008: 4):

(30) a. Liburu asko erosi dut
    book many bought
    I bought many books

   b. Liburu asko erosi ditut
      book many bought
      I bought many books

As for the use of asko in ‘Noun + egin’ expressions, it cannot agree in number. If there is number agreement, the expression cannot be interpreted as containing a complex predicate:

(31) a. Lan asko egin dut (=6a)
    work a lot make
    I have worked a lot

   b. Lan asko egin ditut
      work a lot make
      I have made a lot of works

Etxeberria and Etxepare take non-agreeing quantifiers as degree quantifiers that measure their domain of quantification. This means that the predicates in the domain of quantification have to be cumulatively interpreted. Moreover, non-agreeing quantifiers, as bare nouns in ‘Noun + egin’ structures, do not allow anaphoric relations, as is illustrated in (32b) (Etxeberria and Etxepare 2008: 26):

(32) a. Ikasle asko presaka etorri dira, eta proi mahaia altxatu ondoren
    student many hurry-in come AUX.pl and
    table lift after
    proi alde egin dute
    go do AUX.pl

   Many students came in a hurry, and after lifting the table they left

   b. *Ikasle asko presaka etorri da, eta proi mahaia altxatu ondoren
      student many hurry-in come AUX.sg and
      table lift after
      proi alde egin du
      go do AUX.sg

   Many students came in a hurry, and after lifting the table he/she left

However, number agreement is made in the following example (Oyharçabal 2006):

(i) Pellok barre galantak egin ditu
    Pello.ERG laugh nice.pl make AUX
    Pello has laughed a lot

This example poses a problem for the number neutrality of the complement of egin (see examples in (46) and their discussion).

See Etxeberria and Etxepare (2008) for the arguments against a mass interpretation of non-agreeing quantification.
Given these data, Etxeberria and Etxepare propose a Measure Phrase projected from NPs with the semantic properties that are required for measurement: a cumulative interpretation of NPs and lack of referential interpretation:\textsuperscript{15}

\begin{equation}
\text{(33) Measure Phrase}
\end{equation}

\begin{equation}
\text{MP}
\end{equation}

\begin{equation}
\text{NP}
\end{equation}

\begin{equation}
\text{asko}
\end{equation}

\begin{equation}
\text{ikasle}
\end{equation}

The Measure Phrase has, then, some of the semantic requirements of inherent quantification.\textsuperscript{16}

If the syntactic structure in (26) is adopted for Basque ‘Noun + \textit{egin}’ expressions with a cumulative and an unbounded reading of N, then quantificational modification will have two semantically equivalent options: \textsuperscript{17}

\begin{equation}
\text{(34) a. Asko lan egin}
\end{equation}

\begin{equation}
\text{VP}
\end{equation}

\begin{equation}
\text{DegreeQ}
\end{equation}

\begin{equation}
\text{asko}_i
\end{equation}

\begin{equation}
\text{VP}
\end{equation}

\begin{equation}
\text{I-QP}
\end{equation}

\begin{equation}
\text{V}
\end{equation}

\begin{equation}
\text{egin}
\end{equation}

\begin{equation}
\text{I-Q’}
\end{equation}

\begin{equation}
\text{N}
\end{equation}

\begin{equation}
\text{I-Q}_i
\end{equation}

\begin{equation}
\text{lan}
\end{equation}

\textsuperscript{15} Etxeberria and Etxepare (2008) include a phrase, Classifier Phrase, between MP and NP for ‘portioning out’ the denotation of N when N is a count noun. This intermediate phrase is not relevant for the argument at issue.

\textsuperscript{16} Non-agreeing quantification is not restricted to gradable predicates, as the following example show:

\begin{equation}
\text{(i) Espetxe honetatik presoek ihes asko egin dute}
\end{equation}

\begin{equation}
\text{Prision this.Abl prisoners.ERG escape a lot make AUX.sg}
\end{equation}

\begin{equation}
\text{From this prison, prisoners have made a lot of escapes}
\end{equation}

Non-agreeing quantification applies to properties without internal structure [-i]. Inherent quantification, in addition to [-i], requires unboundedness [-b] (see Jackendoff 1991 for the use of these features).

\textsuperscript{17} Remember that the third option, \textit{asko egin dut lan} is marked with respect to information structure.
b. Lan asko egin

\[ \begin{array}{c}
\text{b. Lan asko egin} \\
\text{VP} \\
\text{I-QP} \\
\text{egin} \\
\text{N} \\
\text{lan} \\
\text{I-Q} \\
\text{asko}
\end{array} \]

Other degree quantifiers are elements like handi ‘big’ and galant ‘nice’. These last degree quantifiers are adjectives. The presence of a definite determiner in the degree quantifier is not related to any kind of referentiality of N, but will have the function of picking a property out of the set of properties denoted by the unbounded noun (see section 3):

(35) a. Lan handia egin dut (=7a) b. Negar galanta egin dut
work big.DEFsg make AUX cry huge.DEF.def make AUX
I have worked a lot I have cried a lot

As has been said, only unbounded predicates project a I-Q that makes a Degree Phrase acceptable. Unbounded predicates are cumulative in Krifka’s sense. In its turn, bounded predicates are quantized. So, whereas cumulative predicates in combination with verbal predicates use to make up atelic predicates, quantized predicates yield telic predicates.

According to these properties, the predicate ihes ‘escape’ is a quantized predicate. It forms telic predicates, as the following examples show:

(36) a. Anek labirintotik hamar minututan ihes egin du
Ane.ERG labyrinth.ABL ten minute.INES escape make AUX
Ane has escaped from the labyrinth in ten minutes

18 There seems to be a lexical constraint in the combination of N and degree quantifiers:

(i) a. lan hadia egin / *lan galanta egin \\
b. lo ederra egin / *lo handia egin \\
c. negar galanta egin / *negar ederra egin
work big make / work nice make / sleep nice make / sleep big make
cry nice make / cry nice make

These constraints are similar to the constraints on degree quantifiers in Romance languages (Espinall 2004):

(ii) a. hacer un sol de justicia \\
b. hacer un frío que pela \\
make a sun of justice \\
make a cold that peel

19 Given that ‘∪’ represents the join operation of two individuals characterized by the predicate S and ‘⊂’ represents the proper part relation, cumulative and quantized predicates are defined as follows (Krifka 1989):

(i) a. A Predicate P is cumulative if and only if ∀x∀y (P(x) ∧ P(y) → P (x ∪ y))
b. A Predicate P is quantized if and only if ∀x∀y (P(x) ∧ P(y) → ¬y ⊂ x))
b. *Anek labirintotik hamar minutuz ihes egin du
   Ane.ERG labyrinth.ABL ten minute.INST escape make AUX
   Ane has escaped from the labyrinth for ten minutes

The quantized predicate ihes contrasts with the cumulative predicate lo ‘sleep’:

(37) a. *Anek hamar minututan lo egin du
    Ane.ERG ten minute.INES sleep make AUX
    Ane has slept in ten minutes

   b. Anek hamar minutuz lo egin du
    Ane has slept for ten minutes

Now, our claim is that the lexical relational structure of ihes egin ‘to escape’ lacks an I-Q because ihes is a quantized predicate. So, its syntactic structure is:

(38) VP
    N
    ihes egin

This means that there is no degree variable and, therefore, the predicate cannot receive the inherent quantification reading, as it was shown in example (8a) (repeated here):

(39) a. *Ihes asko egin dut
    b. *Asko ihes egin dut

The prediction, then, is that quantificational modification of the noun goes hand by hand with the possibility of inherent quantification. Both cases are possible if the noun is an unbounded, cumulative predicate.

Assuming the characteristics of unbounded, cumulative predicates, the following nouns would be cumulative: nouns related to unbounded activities (lan ‘work’, lo ‘sleep’, igeri ‘swim’, oihu ‘cry’, min ‘pain’, dantza ‘dance’, iseka ‘mockery’, kalte ‘pain’...).

In contrast, the following nouns would be quantized predicates: (i) nouns related to bounded movements ihes ‘escape’, alde ‘side’ and figuratively, hanka ‘leg’ between others, and (ii) nouns related to endpoints irrist and labain ‘slip’, kale ‘street’, figuratively meaning ‘to fail’).

Only cumulative predicates are gradable and give rise to a I-Q structure. As predicted, only cumulative predicates can be modified by quantification:

(40) a. lo handia egin ‘to sleep a lot’ / negar galanta egin ‘to cry a lot’ / jaramon eskasa egin ‘to pay a slight attention to’ / kalte handia egin ‘to hurt a lot’)…

   b. *ihes asko egin ‘to escape a lot’ / *murgil asko ‘to swim underwater a lot’ / *irrist asko ‘to slip a lot’ / *leber asko ‘to explode a lot’…

There seems to be, then, a relation between the unboundedness, cumulativity and gradability of the noun and its quantificational modification. However, dubious cases can be encountered. Problems arise from near synonyms that do not follow the same pattern, from apparently quantized predicates that are quantifiable and from cumulative predicates that cannot be.
The first type of problem is illustrated by *leher egin* and *eztanda egin* ‘to explode’. Even though they are very close in meaning, only *eztanda* can be quantified over (*eztanda handia egin* ‘to explode a lot’).\(^{20}\) An example of the second problem is the noun *talka* ‘collision’, which would be expected not to be quantifiable. However, *talka handia egin* ‘to crash a lot’ is completely acceptable.\(^{21}\) Finally, the third type of problem is found in the nouns *bultza* ‘to push’ and *hitz* ‘word’, cumulative predicates that cannot be quantified over *bultza handia egin* ‘to push a lot’, *hitz asko egin* ‘to speak a lot’. These cases merit further attention in future works.\(^{22}\)

Pushing the proposal one step further, it can be hypothesized that the partitive -\textit{rik} is possible in ‘Noun + egin’ structures only if the noun projects an I-Q. Basque partitive -\textit{rik} has been analyzed as an element that involves quantificational force (Ortiz de Urbina 1986, Etxebarria 2010). Given the different syntactic structures that have been assigned to cumulative and quantized nouns in ‘Noun + egin’ structures, it sounds reasonable to make the hypothesis that the partitive -\textit{rik} occupies the I-Q position. When this position is not available, the presence of the partitive gives rise to ungrammaticality. This means that unbounded, cumulative predicates, but not quantized predicates, can combine with the partitive.\(^{23}\) Following the examples in (40), it can be seen the correlation between the acceptability of quantificational modification and partitive:

\begin{enumerate}[noitemsep]
\item[(41)]
\begin{enumerate}[noitemsep]
\item lorik egin / negarrik egin / jaramonik egin / kalterik egin…
\item *ihesik egin / *murgilik egin / *irristik egin / *leherrik egin…
\end{enumerate}
\end{enumerate}

Summing up, in this section it has been argued that there are two different syntactic structures underlying Basque ‘Noun + egin’ structures:

\(^{20}\) In this case, it is worth mentioning that *eztanda* but not *leher* functions as an isolated noun:

\begin{enumerate}[noitemsep]
\item[(i)]
\begin{enumerate}[noitemsep]
\item Eztanda entzun dut explosion.DEF hear AUX
\item *Leherra entzun dut explosion.DEF hear AUX
\end{enumerate}
\end{enumerate}

\(^{21}\) In these cases, it can be proposed that even though the predicate is bounded, it can project an unbounded property based, for example, on the strength of the explosion or of the collision.

\(^{22}\) Javier Ormazabal (p.c.) noted that *bultza* has a marginal use as noun; the extended form for the noun ‘push’ is *bultzada*. Likewise, *hitz* ‘word’ has unexpected morphological features. For example, it combines with the suffixes -\textit{keta} and -\textit{kuntza} that take verbs as bases.

\(^{23}\) Remember that the I-Q is always projected from an unbounded property. That is, I-Q is present even though it has no phonetic realization (as was demonstrated by examples (27) and (28)). This can explain the optional nature of the partitive for unbounded properties:

\begin{enumerate}[noitemsep]
\item[(i)]
\begin{enumerate}[noitemsep]
\item Gaur ez dut lorik egin today not AUX sleep PARTITIVE make
\item Gaur ez dut lo egin today not AUX sleep make
\end{enumerate}
\end{enumerate}

There may be a slight difference in meaning between (ia) and (ib); a difference related to the expressive level of meaning. This point is not going to be pursued here.
The syntactic structure in (42a) corresponds to bounded, quantized, non-gradable nouns. In this case, the noun cannot be modified by degree quantification and cannot receive the partitive morpheme. In contrast, the syntactic structure in (42b) is projected from unbounded, cumulative, gradable nouns. In this case, the noun accepts quantificational modification and the partitive morpheme.

It is tempting to say that (42a) is an incorporated structure, whereas (42b) is not, due to the interposition of the I-Q between N and V. It is also tempting to say that only the structure in (42b) allows the noun to be detached from the verb under focalization. However, there is a tendency but not an absolute correlation between the acceptance of partitive and the possibility of the noun to be detached from the verb (Martinez 2015). So, for instance, *ihes egin* (*to escape*) is an expression that does not accept partitive, but can be detached under focalization:

(43) a. *Anek ez du ihesik egin*  b. Nola egin ihes?
Ane.ERG no AUX escape.partitive make How make escape
Ane has not escaped How to escape?

This point will have to be addressed in future research. In any case, it is worth underlying that what determines the unique initial syntactic structure of a *Noun + egin* expression is the semantic nature of the noun.

Before finishing this section, a note about the morpheme *-ka* is in order. The morpheme *-ka* has been analyzed as a lexical plural directly attached to the root (Berro 2018). Assuming that *oihu* *cry* is an unbounded predicate, the syntactic structure of an expression like *oihuka egin* *to cry* is, then, the following:

(44)

---

24 However, Spanish verb *trabajar* *to work* would be the result of an incorporation process even though I-Q interferes between N and V.
The difference, then between oihu egin ‘to cry’ and oihuka egin ‘to cry’ would be that the latter implies iterative cries whereas the former is compatible with a unique cry as well as with iterative cries.

Lexical and grammatical plural has to be syntactically distinguished (Berro 2018). According to Etxeberria and Etxepare (2008), Number Phrase triggers number agreement with the verb and has to be situated over the Measure Phrase. However, the morpheme -ka does not force number agreement with the auxiliary:

(45) *Mutilak oihuka egin ditu
    Boy.DET.ERG cry.cum make AUX.pl
    The boy has cried (multiple cries)

Now, our next concern will be the analysis of the semantic values and the semantic combination of the elements the ‘Noun + egin’ structures are made out.

3. The semantic composition of ‘Noun + egin’ structures

As has been established in the previous section, ‘Noun + egin’ structures combine syntactically in two ways. In order to see how these structures are semantically composed, the semantics of all the components in ‘Noun + egin’ structures has to be clarified.

Let us start by the semantics of Basque bare nouns (BBN). As has been said before, in (standard) Basque BBNs are not allowed in argument position. Only very few structures, then, accept BBN, at least in (standard) Basque. One of them is the predicative use in stage-level predicates (Etxebarria 2014):

    Miren shepherd go AUX America-to
    Miren went to America (as a) shepherd
b. Jon eta Miren artzain joan ziren Ameriketara.
    Jon and Miren shepherd go AUX America-to
    Jon and Miren went to America (as a) shepherd

It is interesting to observe that the bare noun artzain ‘shepherd’ remains unaffected by the singular or plural nature of the subject. These examples, as Etxebarria convincingly says, show that BBNs are number neutral.25 Number neutrality is also a characteristic feature of incorporated nominals (Dayal 2003).

As for the denotation of BBNs, it is going to be claimed that they denote properties. Remember that the bare noun in ‘Noun + egin’ structures cannot be the antecedent of any anaphoric expression. This fact rules out the e type denotation for BBNs. In fact, BBNs do not make reference, be it reference to individuals or to kinds. On the other hand, BBNs are not general quantifiers, that is, their semantic type is not <<e,t,>,t>. As has been shown, BBNs do not produce scope ambiguities with respect to quantifiers or operators.

25 See Etxeberria (2014) for other arguments for the number neutrality of Basque bare nouns.
The obvious alternative is to take BBNs as properties, that is, as expressions of type \(<e,t>\). In fact, bare count nouns in Catalan, Spanish and other Romance languages have been analysed as properties (Espinal 2001, 2004, Dobrovie-Sorin, Bleam and Espinal 2006, Espinal and McNally 2007):

\[
\begin{align*}
(47) \ a. \ & \text{Hace sol} \quad \text{make sun} \\
& \text{It is sunny} \\
(47) \ b. \ & \text{Lleva sombrero} \quad \text{wears hut} \\
& \text{She wears hut}
\end{align*}
\]

However, bare count nouns do not denote extensional objects in the sense that there are not distinguishable individuals in their denotation. If this idea is on the right track, then bare count nouns share with bare mass nouns and bare plurals, expressed in Jackendoff’s terms, the lack of internal structure.

With respect to unbounded count bare nouns, the denotation will be taken to be the divisible and joinable stuff of individuals. This idea makes unbounded BBNs very close to mass terms. Semantically, the denotation of an unbounded BBN is a lattice where the parts of individuals’ stuff are successively joined. The result is projectable to a scale on a certain dimension ‘S’. To illustrate this point, assuming that there are three ‘stuff’ of work in the model M, a, b, and c, the denotation of lan ‘work’ in M is the following:

\[
[[\text{lan}]]^M = \begin{array}{ccc}
\text{a} & \cup_S & \text{b} \\
\text{b} & \cup_S & \text{c} \\
\text{a} & \cup_S & \text{b} \\
\text{a} & \cup_S & \text{c} \\
\text{b} & \cup_S & \text{c} \\
\end{array} \rightarrow \begin{array}{c}
d_3 \\
d_2 \\
d_1 \\
\end{array}
\]

Up to now, it has been claimed that unbounded BBNs are number neutral and denote a property. This property lacks internal structure in the sense that it does not distinguish individuals. The property is, then, made of parts of stuff and projects into an ordered scale, that is, a degree structure. As for the semantic representation of unbounded BNs in Basque, they are dyadic predicates; predicates that relate parts of ‘stuff’ and degrees. So, for example, the lexical entry of lan ‘work’ would be the following:

\[
(49) \ \lambda x \lambda d [\text{lan} (x, d)]
\]

The variable d has to be bounded by a degree quantifier. That is, the degree is selected by the degree quantifier from the scale (see Neeleman et al 2004). If there is no overt degree quantifier, a standard degree covert quantifier is applied. So, the following semantic representations are built up at the I-QP level:

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26 Properties can be taken extensionally as \(<e,t>\) type predicates or intensionally, as \(<s,<e,t>\) type predicates. The problem here is that even though BBNs are not taken as extensional predicates, egin is not an intensional verb. It will be claimed that even though the properties are extensional, they apply to non structured individuals (that is, on individuals’ stuff).

27 Standard features are, of course, contextual dependent. This contextual dependency is going to be semantically marked by the contextual variable ‘C’.
At the level of I-QP, a space of the scale projected by N has been selected. This space is, in itself, a property.

If the partitive occupies the I-Q place and semantically is an existential quantifier, the interpretation of lanik ‘work.Partitive’ goes as follows:28

\[ \text{I-QP} \left[ \text{lanik} \right] : \neg \exists d \left( \text{lan} \left( x, d \right) \right) \]

At this point, the semantics of bounded BBNs has to be taken up. As has been said, these nouns too lack internal structure. They denote properties but, now, these properties are not cumulative and, therefore, do not project scales. So, bounded BBNs denote a non cumulative stuff property. This means that the lexical entry of a bounded BBN lacks a degree variable, as the following entry for ihes ‘escape’ illustrates:

\[ \lambda x \left[ \text{ihes} \left( x \right) \right] \]

Summing up. It has been claimed that there are two different syntactic structures underlying ‘Noun + egin’ expressions. In both cases, the interpretation process gives us a property without internal structure as the denotation of the element to be combined with the denotation of the verb egin ‘to make’. So, the question to be addressed now is the semantics of egin and its semantic composition with the property denoted by Q-I Phrase (as in (42b)) or N (as in (42a)).

The verb egin ‘to make’ is, in examples like (53a) below, a verb of creation. As such, it denotes an event where an agent causes something to come into being. The verb egin, then, selects two arguments and assigns the theta-roles ‘agent’ and ‘theme’ to them. The semantic representation of (53a) is (allowing for some simplification) (53b):

\[ \text{Umeak marrazkia egin du} \]

\[ \text{The child has made the drawing} \]

\[ \exists e \left( \text{egin} \left( e \right) \land \text{agent} \left( e \right) = x \land \text{theme} \left( e \right) = y \right) \]

In ‘Noun + egin’ structures, the status of the bare noun as argument can be called into question. As has been said before, the absence of determiners in Basque involves the absence of individuals able to become discourse referents in the semantic interpretation of bare nouns. Since theta-roles define ways of participation in eventualities, it is hard to see how properties unable to become discourse referents can be taken as participants. If this point is on the right track, the verb egin in ‘Noun + egin’ structures does not assign any theta-role to N. In this sense, the verb egin in these structures is characterized as a light verb.29

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28 The partitive -rik is, in the structure under discussion, a negative polarity item. So, negation comes from the negative operator that has to be present in the sentence.

29 Grimshaw and Mester (1988: 210) say that a light verb "is one whose argument structure is skeletal or incomplete".
If N does not receive theta-role from the verb and, therefore, semantically is not an argument, it can be maintained that N semantically is a modifier of the verb (Dayal 2003). In other words, the property denoted by BBN characterizes the event denoted by egin.

One possible implementation of this idea is to take BBNs as predicates of events. So, taking information from qualia structures à la Pustejovsky (1995), the lack of a determiner coerces BBN to be a predicate of an event. Following this idea, the interpretations of lan egin ‘to work’ and of ihes egin ‘to escape’ are, respectively, as follows:

\[(54) \ a. \ [v \ [\text{LQP} \ [n \ \text{lan} \ \emptyset] \ egin] : \ egin(e) \land \text{standard}_c \ d \ (\text{lan}(e, d))]
\n\[b. \ [v \ [n \ \text{ihes} \ egin] : \ egin(e) \land \text{ihes}(e)]\]

In this sense, lan egin ‘to work’ does not mean to make work, but to cause a working-event of a standard degree. Similarly, hitz egin ‘to speak’ does not mean to make word, a working-event of a standard degree.

As can be observed, the interpretation of ‘Noun + egin’ predicates follows the syntactic structure by application of standard combinatory rules. There are, however, idiosyncratic aspects of this structure. Basically, the idiosyncrasy lies in the impossibility of N modification and in the non productivity of the structure.

These facts strongly suggest that ‘Noun + egin’ expressions are stored in the lexicon. Idioms, constructions with light verbs and collocations are not marginal in human languages (see Jackendoff 1995, Bosque 2001). It is widely accepted that the Lexicon stores elements below and above X\(_0\) categories. In other words, the connexion between syntax and lexical meanings is not only made at X\(_0\) level.

‘Noun + egin’ structures have an idiomatic flavour (Rodriguez and Garcia Murga 2001). The basic feature of idiomatic expressions is their non-compositionality. However, in line with Marantz (1996), two conceptions of non-compositionality have to be distinguished: (i) non-compositional semantic composition of syntactic structures and (ii) non-compositional meaning of a syntactic string.

The first type of non-compositionality does not exist. As has been proposed for idioms (Nunberg, Sag and Wason 1994) and for light verb structures (Espinal 2004), if syntactic components are identified, semantic compositional rules are going to be applied. In this sense, the main point of this section has been to show that ‘Noun + egin’ structures are interpreted following standard compositional rules.

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30 That is, BBN has to receive eventive interpretation. This eventive interpretation will be a proper reading of N (like in lan ‘work’ or lo ‘sleep’, or comes from N’s qualia structure (as in the case of hitz ‘word’), or it is acquired figuratively (as in the case of banka ‘leg’ or kale ‘street’).

31 Of course, it is possible to explain combinatorial constraints on semantic grounds. Dayal’s analysis of (pseudo) incorporation in Hindi includes the condition for the resulting event to be ‘appropriately classificatory’ (Dayal 2003). Beyond its descriptive adequacy, it is clear that this is not the case in Basque ‘Noun + egin’ structures.

32 As is the case in some idioms, there are ‘Noun + egin’ structures in which the noun does not exist out of this structure (leher ‘explosion’, turrut ‘stink’, etc.).

33 See Pelletier (1994) for a wide conception of compositionality.
The second type of non-compositionality has to do with the conventional nature of lexical items’ denotation. This type of non-compositionality appears in the Lexicon or, if Marantz’s proposal is adopted, in what he calls the Encyclopedia.34

Finally, it is worth noting that the semantic interpretation of ‘Noun + egin’ predicates gives rise to a combination of two properties of the denoted eventuality: the causation coming from the verb egin ‘to make’ and the property contributed by the noun. The general picture, as Dayal (2003) suggests, is not far from typical lexicalization patterns. So, for example, Basque movement verbs lexicalize movement and direction:

(55) a. ‘igo’ (‘to go up’): igo (e) ≡ movement (e) ∧ upwards (e)
    b. ‘jeitsi’ (‘to go down’): jeitsi (e) ≡ movement (e) ∧ downwards (e)

In this section, then, it has been claimed that ‘Noun + egin’ structures are compositionally interpreted but, at the same time, they have a lexical character. This lexical character is at the heart of the lexical gaps observed in examples (11)-(13) and (15)-(17).

4. Conclusions

‘Noun + egin’ expressions show features that constitute the hallmark of incorporated structures: (i) the noun lacks a determiner and is, from a discursive point of view, opaque, (ii) the noun does not enter into scope relations with quantifiers and operators, (iii) the noun is number neutral, and (iv) there are strong constraints and gaps in the combination of the noun and egin. However, the fact that the noun and the verb egin show some syntactic freedom moves this structure away from incorporation.

‘Noun + egin’ structures are not syntactically homogeneous. Nouns that denote unbounded properties obligatorily project an inherent quantification phrase. This quantification phrase explains the possibility of (i) quantificational modification of the noun and (ii) partitive use. Bounded properties, on the other hand, directly combine with the verb egin.

The semantic analysis of the components of ‘Noun + egin’ structures has offered the following picture: If the noun is semantically bounded, it simply denotes a property without internal structure. If the noun in unbounded, the noun establishes a relation between the property of individual’s stuff and degrees.

The verb egin is, in its ‘full’ interpretation, a creation verb that assigns two theta-roles: the agent role to the external argument and the theme role to the internal one. Nevertheless, in ‘Noun + egin’ structures, there is no theta-role to assign to its complement. The complement, i.e., the bare noun, semantically becomes a modifier of the event denoted by egin. Noun and egin compositionally contribute to the characterization of the denoted eventuality.

Lexical gaps and a strong constraint in the nouns that participate in this structure invite the taking of ‘Noun + egin’ structures as a lexicalization pattern in Basque and,

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34 Marantz defines Encyclopedia as follows: “Encyclopedia entries connect (pieces) of the output of the grammar —derivations of PF and LF connections— to non-compositional meanings.” (Marantz 1996: 4).
therefore, open the door to the non-compositionality of items stored in the Encyclo-
pedia à la Marantz.

A lot of problems have been left for future research. The most urgent topics are
the counterexamples to the generalizations proposed and the conditions for detach-
ability of noun and *egin under focalization.

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